

THE IMPACT OF CASH AND BENEFITS IN-KIND ON INCOME DISTRIBUTION IN INDONESIA

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ABSTRACT

It is generally accepted that one of government's responsibilities is to reduce income inequality. The direct way to support poor people is through cash and benefits in-kind. Since 1998 in Indonesia, cash and benefits in-kind have tended to increase, especially public spending on health and education. Here, cash and benefits in-kind include cash transfers, subsidies and public expenditure on health and education. This paper uses benefit incidence analysis to analyze the impact of cash and benefits in-kind on income distribution in Indonesia. An important finding is that cash transfers and public expenditure on health and education improve income distribution. However, subsidies benefit the richest most. We suggest that if the aim is to reduce income inequality, cash transfers and public expenditure on health and education need to increase further and the subsidy system can be improved by better targeting subsidies.

Field of research: *cash transfers; benefits in-kind; income distribution; Indonesia*

1. Introduction

The Indonesian government has recognised its responsibility to redistribute income through increasing incomes of the poorest households. Forms of doing this are through cash and benefits in-kind. Here, cash and benefits in-kind consist of cash transfers, subsidies and public expenditure on health and education. This paper seeks to evaluate the impact of cash and benefits in-kind on income distribution and particularly on the poor to middle income households. We address the question of government programs to improve income distribution - do the poor to middle households get more benefits from government programs than the richest?

There is scant literature on this topic for developing economies, concentrating on health or education and using old National Socioeconomic Survey (Susenas) data. Lanjouw et al (2001) analysed the public health and education spending on poor households in Indonesia using benefit incidence analysis. They found that consumption, primary education and basic health in Indonesia is pro-poor and spending on high education and hospital is pro-rich. Lanjouw et al used the Susenas for 1995 and 1998. Similar findings were found in Thailand - that public expenditure on health and education produce significant reduction in poverty incidence (Warr 2003).

This paper also evaluates cash and benefits in-kind and the impact on income distribution from the poorest to the richest income groups. Here, we estimate all incidence of public spending on cash

and benefits in-kind using the benefit incidence method. This method is used by the Australian Bureau of Statistics (ABS) to analyse the impact of government spending and taxes on income distribution in Australia (ABS 2007). In Indonesia, cash transfers are government transfers of money to the poor to middle income groups on education (grants and scholarships), health (basic health and standard hospital) and social security (conditional and unconditional cash transfers). Grants for education, called BOS (Bantuan Operasional Sekolah), are given to schools based on the number of students in that school. Most cash transfers are received by targeted individuals while some are received by institutions, such as hospitals and public health centres. Public health centres, called Puskesmas (Pusat Kesehatan Masyarakat), are in each subdistrict or Kecamatan and usually the services are used by the poor to middle households.

Benefits in-kind are government programs for all households including subsidies (energy, food and public service obligation) and government expenditure on education and health. Most subsidies are price subsidies that are given to producers. Government expenditure on education and health consists of wages and salaries, infrastructure and programs in Line Ministries and local government budget. Most benefits in-kind are received by people that consume the commodities and services, whatever their income.

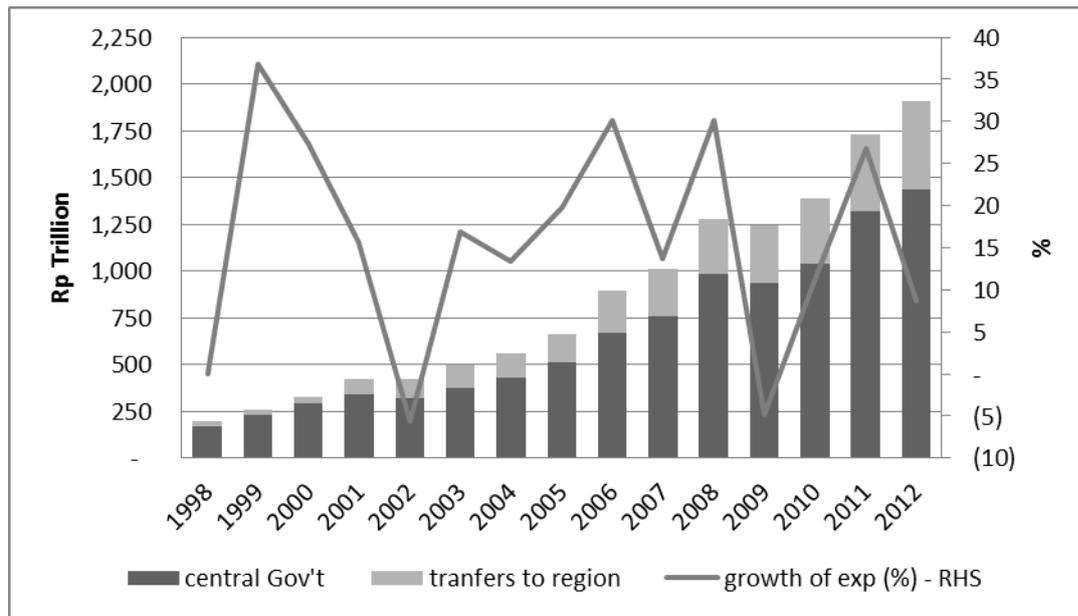
We merge the individual characteristics (Susenas Core) with household characteristics (Susenas Module) to analyse the information of individual characteristic, such as the number of children that go to school, the frequency of visiting basic health facilities and hospital, and the consumption of commodities subsidised for each household. All of the information was used to obtain cash and benefits in-kind distribution of each household from poorest to richest income groups. The Gini coefficient and dispersion of income were used to analyse income inequality.

The organisation of the paper is as follows. In the next section, cash and benefits in-kind in Indonesia are discussed. Section 3 explains the methodology and data. Section 4 discusses the findings and finally section 5 draws conclusion from the results.

1. Cash and Benefits In-Kind in Indonesia

During 1998 – 2012 in Indonesia, total government expenditure, on average, increased by 17.9 per cent per year (Ministry of Finance 2012). The expenditure consists of central government expenditure and transfers to regions. Total government expenditure during 1998 - 2012 is shown in Figure 1, both in nominal and percentage terms. The percentage of transfers to regions increased sharply after 2001 and became stable at around 30 per cent after that. This is in line with the decreasing role of central government expenditure. Growth of public expenditure fluctuates and is correlated with the state of the economy. For instance, negative growth of government expenditure occurred in 2002 and 2009. In 2002, government spending decreased because of the impact of tax reform and in 2009 because of the impact of global financial crisis.

Figure 1: Government Expenditure, 1998 - 2012



Source: Ministry of Finance RI, Indikator Ekonomi dan APBN 2012 (*Economic Indicator and State Budget 2012*).

Cash and benefits in-kind made up almost 50 per cent of total government expenditure in 2008. Cash and benefits in-kind consist of cash transfers, subsidies and public expenditure on health and education. This spending consists of central government expenditure and transfers to regions. Subsidies make up almost 56 per cent of cash and benefits in-kind. Public spending on health and education is 37 per cent and the rest, 7 per cent is cash transfers.

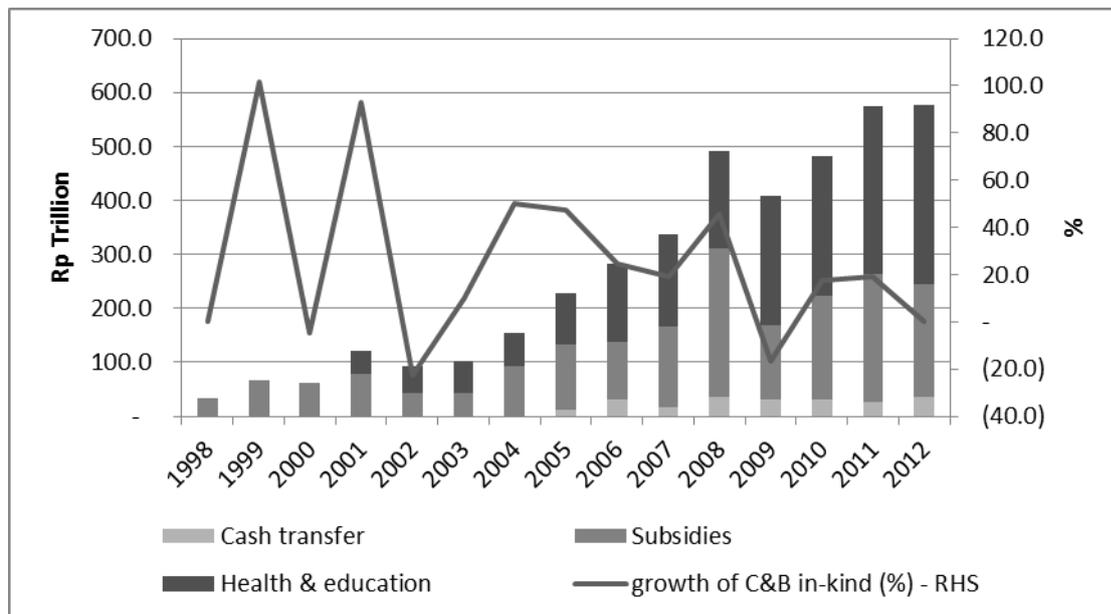
Subsidies consist of energy subsidies (fuel and electricity), food subsidies (fertilizer, paddy and rice) and public service obligation (PSO – public train and ship, post office and public news agency), around Rp275 trillion (Ministry of Finance 2009). Most subsidies in Indonesia are price subsidies which means everybody benefits from subsidies, not only poor people. The fuel subsidy makes up almost 51 per cent of total subsidies and is applied to unleaded petrol, diesel, kerosene and LPG. Some regions still have a kerosene subsidy, but most of the regions have replaced it with a LPG subsidy. Central government gradually decreased the distribution of kerosene in the market that makes the poor households change their behaviour to LPG. Electricity subsidies are around 31 per cent of total subsidies and only apply to households that used under 6,600 watts of electricity. The rest, around 18 per cent is for food subsidies and PSO.

Public spending on health and education is allocated to salaries, non-salaries, infrastructure, incentives and government programs in Line Ministries and local government budget. Total public spending allocated to health is around Rp27 trillion and education is around Rp154 trillion (Ministry of Finance 2009).

Cash transfers consist of BOS, scholarships, basic health, unconditional and conditional cash transfers - around Rp35 trillion (Ministry of Finance 2009). BOS is a grant for attendance at Primary and Junior High Schools targeting 41.9 million students. Each student gets Rp254 thousand per year for Primary School and Rp354 thousand per year for Junior High School. Scholarships are grants for poor students in Primary, Junior and Senior High School and University (see Table 1 for detail explanation of scholarship). Basic health subsidies, both for Puskesmas and basic hospital, are used for operational costs. Each Puskesmas gets Rp120 thousand per each visiting poor patient and a basic hospital gets Rp550 thousand. Unconditional cash transfers are given to 19.1 million poor

households with the amount of Rp100 thousand per month for 7 months (June – December). The conditional cash transfer is money from government with some requirements, such as that school age children must enter school and that sick children must go to a public health centre (Puskesmas) or basic hospital. The value of conditional cash transfers is Rp600 thousand – Rp2.2 million per household for 720 thousand households (Ministry of Finance 2008).

Figure 2: Cash and Benefits In-kind During 1998 - 2012



Source: Ministry of Finance RI, Indikator Ekonomi dan APBN 2012 (*Economic Indicator and State Budget 2012*).

Figure 2 shows the cash and benefits in-kind during 1998 – 2012. The growth of cash and benefits in-kind fluctuated depending on the amount of energy subsidies. The fluctuation is affected by international crude oil prices. Subsidies reached a peak in 2008, and then decreased after that. In 2008, the crude oil price reached a price of more than US\$100 per barrel for the first time. Cash transfers increased significantly during 2005 - 2008, then stabilised around Rp30 trillion. The higher cash transfers in 2008 were to compensate for the impact of the Asian financial crisis. Public spending on health and education increased gradually around 20 per cent on average during 2001 – 2012. The significant increase occurred in education spending because the government has to fulfil the requirement in education law to allocate 20 per cent of total government expenditure to education.

2. Methodology and Data

The conventional model of benefit incidence analysis was used to analyse the impact of cash and benefits in-kind in Indonesia. This method is used by ABS to calculate government benefits, taxes and household income in Australia (ABS 2007). Even in recent literature where the conventional model, combined with a computable general equilibrium (CGE) model is explored, it is found that it is still best to use just one of the standard model types (Davies 2004). Also the conventional model is needed to capture the effect of fiscal policy on income distribution. The changes in income inequality were analysed using the Gini coefficient and dispersion of income ranking the household income from the lowest to the highest.

We use the latest Susenas data at the time of this research has undertaken – Susenas 2008 - both the household characteristics (Susenas Module) and individual characteristics (Susenas Core) produced by the Central Bureau of Statistic Indonesia (BPS 2009). Susenas is a survey collected from a sample that is individually weighted to be representative of the population. Susenas Core which has a sample size of around 1.1 million individuals, concentrates on household members' jobs, education, health and own properties. Susenas Module which has a sample size of around 282 thousand households concentrates on consumption and income of each household. The data in both Susenas can be classified by subdistrict, district and province.

The method can be divided into three steps. First, we merge the Susenas Core with Susenas Module and analyse the individual characteristic that support the consumption of certain commodities and services. We analyse the detail information for each household, such as the number of children that go to school, the frequency of visiting basic health and hospital, and the consumption of subsidised commodities. Based on this information, we then calculate the distribution of education, health and consumption of subsidised commodities by household. Then, we calculate the net value of providing these commodities and services - the difference between government spending and households expenditure on these commodities and services. We need to take into account the net value because it provides a complete accounting of benefit incidence. Rich households benefit significantly from their own higher spending than poor households (Demery 2000).

The general formula for cash transfer, subsidies and public spending on education and health is as follows:

$$B_i = \sum_{j=1}^j (C_{ij} * (\frac{V_j}{N_j}))$$

Where B_i is household benefits for household i , C_{ij} is consumption of commodities and services j for household i , V_j is net value of providing commodities and services j and N_j is total number of consumers of commodities and services j .

The second step is to calculate per capita incidence of cash and benefits in-kind spending. Here, we use adjusted per capita incidence using the Ree scale to account for household size (Ree et al 2010). The detail explanations of the Ree scale are given in Nugraha and Lewis (2011a). The formula for the Ree scale is:

$$Y_{eq} = \frac{Y_i}{(a_{i1} * 1) + (n_i - a_{i1}) * 0.5 + (0.5 * a_{ic}) + (n_{ic} - a_{ic}) * 0.3}$$

where Y_{eq} is adjusted per capita cash and benefits in-kind, Y_i is cash and benefits in-kind of each household, a_{i1} is the first adult in household i that takes the value one or zero, n_i is the number of subsequent adults in household i , a_{ic} is the first child in household i that takes the value one or zero and n_{ic} is the number of subsequent children in household i . We then rank individual households according to adjusted per capita income, grouping them into ten groups of equal size. The bottom decile represents the poorest 10 per cent of the population and the top decile the richest 10 per cent.

The third step is to calculate the Gini coefficient and dispersion of earning to measure income inequality. The Gini coefficient is a well-known indicator of income inequality ranging from 0 to 1 where 0 is perfectly equal distribution and 1 is perfectly unequal distribution. Dispersion of earning can also be examined by comparing the lowest and the highest deciles earnings relative to median earnings (Lewis et al. 2010).

Table 1: Cash and Benefits In-kind Information Required

Items	Definition	Information Required	Values per year
1 Cash Transfer			
Education			
- BOS	Grant for operational school for 41.9 million students	number of children go to school (Primary & Junior School)	Primary Rp254,000/student Junior Rp354,000/student
- Scholarship	Grant for poor students - 2.4 million students in SD&SMP - 0.9 million students in SMA - 0.2 million students in Univ	number of children go to school (Primary, Junior, senior High School & Univ)	Primary Rp380,000/student Junior Rp380,000/student Senior Rp780,000/student Univ Rp2,400,000/student
Health			
- Basic Health	Grant for operational of Puskesmas	number of patient visit Puskesmas	Rp120,000/patient
- Standard Hospital	Grant for standard hospital	number of patient visit hospital	Rp550,000/patient
Social Security			
- Conditional	Grant for poor household for 720,000 households	Number of poor household with children	Rp600,000 - Rp2,200,000/household
- Unconditional	Grant for poor household for 19,1 million households	Number of poor household	Rp700,000/household
2 Subsidies			
Energy			
- Fuel	Price subsidy on unleaded, diesel, kerosene and gas	Consumption of unleaded, diesel, kerosene and gas and the frequency using public transportation	Amount of fuel subsidy in Budget
- Electricity	Price subsidy on electricity below 6,600 Watt	Consumption of electricity below 6,600 Watts	Amount of electricity subsidy in Budget
Food			
- Fertilizer	Price subsidy on fertilizer	Consumption of fertilizer	Amount of fertilizer subsidy in Budget
- Paddy	Price subsidy on paddy	Consumption of paddy	Amount of paddy subsidy in Budget
- Rice	Price subsidy for poor household for 15 kg/month	Consumption of rice for poor household	subsidy Rp3,100/kg or in average Rp434,000/household
Public Service Obligation			
- Train (KAI)	Price subsidy for KAI, Pelni, Posindo and Antara	Frequency using KAI, Pelni, Posindo and Antara	Amount PSO in Budget
- Ship (Pelni)			
- Post Office			
- News Agency			
3 Public Spending			
- Education	Central and local expenditure on education	number of children go to school	different weighted and net benefits
- Health	Central and local expenditure on health	number of patient visit hospital or Puskesmas	different weighted and net benefits

Table 1 shows the information required to calculate cash and benefits in-kind. The information required for cash transfer and public spending for education is the number of children that go to school from Primary School, Junior and Senior High School and University. The information required

for cash transfers and public spending on health is the frequency with which individuals go to a public health centre (Puskesmas) or a basic hospital. For subsidies, the individual information we need depends on the commodities. For fuel subsidies we need information of the amount of fuel consumed including public transportation used. The same is required for diesel, kerosene and gas. For electricity, we need information of the consumption of electricity for household that use power below 6,600 Watts.

3. Findings and Discussion

All of the estimates are in US\$ using the purchasing power parity (PPP) exchange rate for 2008 of Rp5,410.1 per US\$. Table 2 shows the distribution of cash and benefits in-kind per year ranked from the lowest to the highest on the basis of household income. In total, households in the lowest decile gets more benefits than those in the second to ninth deciles. The benefits decrease from the lowest until fifth deciles then increase again until the highest decile. Cash transfers and public spending on health and education is pro-poor in that the poor get more benefit than the rich. The poorest get more benefits from public spending on health and education because the richest tend to send their children to private schools or executive hospitals. However, some households in all deciles benefit from public education and only the ninth and the highest deciles do not get benefits from public health.

Table 2: Distribution of Cash and Benefits In-kind by Income Groups per Year (US\$ - PPP 2008)

Deciles	Cash Transfers	Benefit In-Kind			Total
		Subsidies	Health	Education	
Lowest	121.7	294.9	31.4	196.6	644.7
Second	87.1	224.6	36.4	148.8	496.9
Third	83.4	233.9	25.0	144.4	486.6
Fourth	41.2	253.3	28.5	140.8	463.8
Fifth	19.8	269.3	19.3	138.1	446.6
Sixth	19.7	279.0	17.8	137.5	453.9
Seventh	19.5	301.0	10.7	139.2	470.5
Eighth	18.5	350.0	1.0	135.5	504.9
Ninth	18.8	424.1 -	0.8	130.4	572.5
Highest	16.4	656.2 -	37.7	106.2	741.1

Subsidies are pro-rich, since most of the subsidies are price subsidies. The higher the consumption of the subsidised commodities and services the higher the benefits are. Overall, the dollar amount of cash transfers and benefits in-kind are similar for households in each decile with the exception of the lowest income groups and this makes up a substantially greater proportion of their incomes.

Table 3 shows the more detailed distribution of cash transfers by income groups. Cash transfer consists of education, health and social security. The benefit of grants (BOS) is almost equal across deciles, because the government gives the grant to all students that study in Primary and Junior High School. Scholarships are only for children from poor households that study in Primary School to University, so the benefits are concentrated in the lowest decile. Scholarships are more pro-poor than grants (BOS). For health, both public health centre (Puskesmas) and basic hospital, the poorest get more benefit than the highest decile.

Table 3: Distribution of Cash Transfers by Income Groups per Year (US\$ - PPP 2008)

Deciles	Education		Basic Health		Social Security	
	BOS	Scholarship	Puskesmas	Hospital	Un-conditional	Conditional
Lowest	14.1	19.7	1.8	7.0	63.5	15.6
Second	14.2	2.3	2.2	6.7	61.8	-
Third	14.1	0.7	1.9	5.3	61.5	-
Fourth	13.6	0.3	1.8	6.0	19.6	-
Fifth	13.3	0.1	1.4	5.0	-	-
Sixth	13.3	-	1.4	5.0	-	-
Seventh	13.8	-	1.1	4.6	-	-
Eighth	13.4	-	1.0	4.1	-	-
Ninth	13.6	-	0.9	4.3	-	-
Highest	13.4	-	0.5	2.5	-	-

The rich get fewer benefits because they tend to use executive hospitals. Both basic health centre and hospital programs are pro-poor. For social security, both conditional and unconditional, the benefit is pro-poor with only the lowest decile benefiting. Benefits of unconditional social security are received only by the lowest to the fourth deciles. The conditional cash transfer applies only for the lowest decile.

Table 4: Distribution of Subsidies by Income Groups per Year (US\$ - PPP 2008)

Deciles	Energy		Food		Public Service Obligation
	Fuel	Electricity	Fertilizer	Rice/Paddy	
Lowest	171.3	90.8	18.3	12.4	2.1
Second	125.8	67.2	15.6	14.7	1.4
Third	130.5	71.6	16.3	14.0	1.5
Fourth	141.1	80.0	17.4	13.2	1.7
Fifth	149.4	88.5	17.5	12.0	1.9
Sixth	153.5	94.0	18.0	11.5	1.9
Seventh	163.9	104.6	19.5	11.0	2.0
Eighth	194.9	121.3	21.4	9.9	2.5
Ninth	235.1	153.7	24.0	8.3	2.9
Highest	374.6	238.3	32.7	5.6	5.0

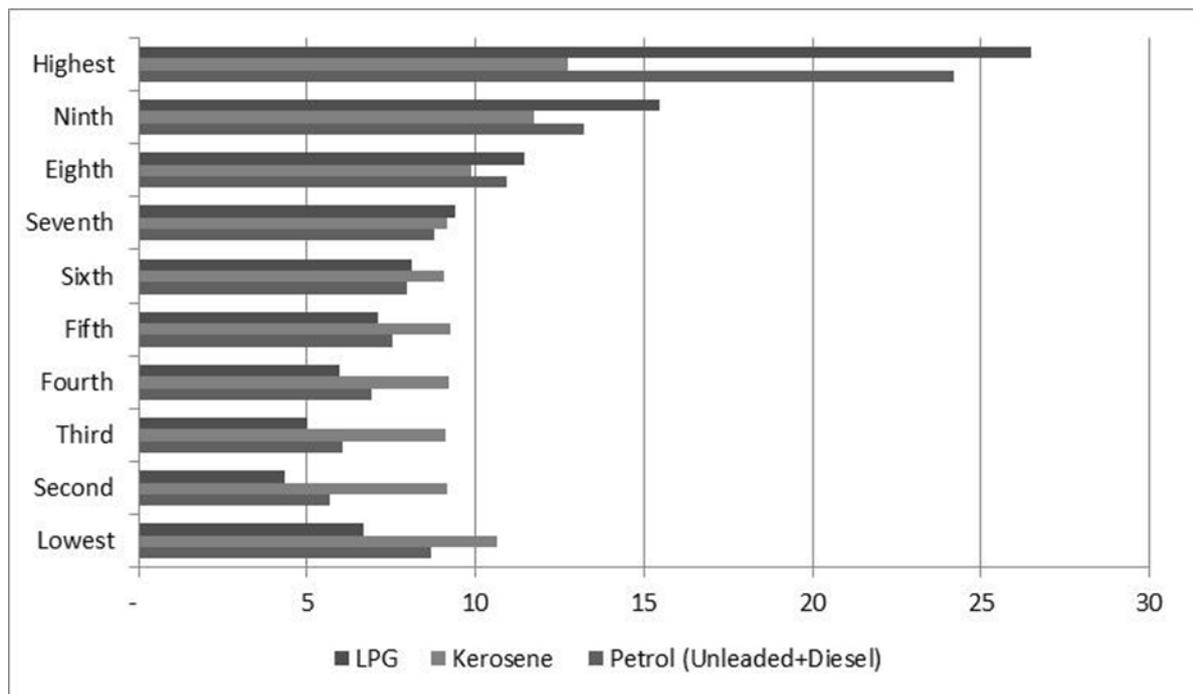
Table 4 shows the distribution of subsidies by income groups. Here, fuel subsidies for petrol unleaded and diesel are not only passed on to households through consumption itself, but also through the use of public transportation. The poor tend to use public transportation and the richest

tend to buy the petrol unleaded and diesel. Most of the benefits of energy subsidies, both fuel and electricity, go to the richest households. The richest get more benefits than the lowest, even though the electricity subsidy is restricted only to household that use electricity below 6,600 Watts. The fuel and electricity subsidies are clearly not well targeted. Energy subsidies are pro-rich. The same pattern is observed for PSO, but the difference between deciles is not high.

The distribution of rice and paddy subsidies is different to that of energy subsidies and PSO. The poorest households get more benefits than the highest decile in rice and paddy subsidies. This is because the rice subsidy is only for targeted households. Only households that have a card, allocated by local government to poor people, can buy the cheaper rice. Sometimes the government intervenes in the market to control rice prices making rice cheaper. The richest still get modest benefits from paddy subsidies and possibly from market operations. It is a different story for fertilizer subsidies with most of the benefit going to the richest. There is no targeting or limitation of household consumption of fertilizer. As a result, the fertilizer subsidy is pro-rich and the rice and paddy subsidy is pro-poor.

Figure 3 shows the distribution of benefits of fuel subsidies by percentages. Most of the benefits go to the ninth and highest deciles.

Figure 3: The Distribution of Benefits of Fuel Subsidies by Percentage



The highest decile gets around 25 per cent of benefits from LPG and petrol (unleaded and diesel) subsidies. For kerosene subsidy, the highest decile gets less than 15 per cent of benefits. The poorest households get less than 10 per cent of benefits from LPG and petrol (unleaded and diesel) subsidies, but get more than 10 per cent of kerosene subsidies. From these findings, kerosene subsidy is more pro-poor and the replacement of kerosene subsidy by LPG hurts the poor. Another finding is the second to seventh deciles get less than 10 per cent of the subsidy payments.

Table 5 shows the distribution of benefits from grants (BOS), scholarships and education spending. The interesting finding is that the distribution of benefits does not differ between deciles, even for University. Although the Primary School scholarships are paid to children in the poorest households, most deciles benefit fairly equally. The distribution of benefits in Primary School and Senior School is flat across deciles. For University education, the highest decile gets the highest benefits, but the lowest decile gets more benefits than the second until sixth deciles. We can say that distribution of benefits on grants (BOS), scholarships and education spending for University is pro-rich with the exception of the poorest.

Table 5: Distribution of benefits of Grant, Scholarships and Education by Deciles per Year (Rp billion)

Deciles	Primary	Junior	Senior	University
Lowest	6,094	3,225	3,221	1,874
Second	6,064	2,715	2,827	1,241
Third	6,666	3,034	3,061	1,292
Fourth	6,887	3,265	3,480	1,503
Fifth	6,882	3,492	3,666	1,634
Sixth	6,915	3,618	3,530	1,744
Seventh	7,190	3,892	3,838	2,041
Eighth	7,417	4,146	3,960	2,438
Ninth	7,431	4,480	4,527	2,847
Highest	7,906	4,890	5,706	4,782

Table 6: Definition of All Types of Adjusted Per Capita Income

Type of Income	Definition
Market Income	
1 Market income	net income + income tax
2 Net income	wages and salaries, business and non-business income
3 All market income	net income + financial income (withdrawal)
Market and Non-Market Income	
4 Actual income <i>income in-kind</i>	all market income + consumption of own production + income in-kind <i>gift, money transfers, undefined income, etc</i>
5 Income after taxes <i>taxes on production</i>	actual income - taxes on production <i>taxes on value added, international trade and controllable consumption</i>
6 Disposable income <i>cash transfers</i>	income after taxes + cash transfers <i>BOS, scholarship, basic health and social securities</i>
7 Final income <i>benefits in-kind</i>	disposable income + benefits in-kind <i>subsidies, public spending on health and education</i>

Table 6 shows the definition of all types of adjusted per capita income. The detailed explanation of how these measures is contained in Nugraha and Lewis (2011b). Net income is per capita income after income tax consisting of wages and salaries, business and non-business income. Market income is gross income calculated from net income and imputing income tax rate for each household. All market income is net income plus financial income (net withdrawals). Actual income

is calculated by adding non-market income to all market income. Non-market income consist of consumption of own production, income in-kind and other undefined income.

To obtain income after taxes, we deduct taxes on production from actual income. Taxes on production are taxes on value added, international trade and controllable consumptions. Disposable and final income is found by adding cash transfers and benefits in-kind. Adding cash transfers to income after taxes yields disposable income and after adding benefits in-kind to disposable income yields final income. Adjusted per capita final income is all income that households receive, both market and non-market income, after subtracting all taxes and adding all benefits from government.

Table 7 shows the distribution of all type of adjusted per capita income by deciles. For market income, households in the lowest decile receive only 1.5 per cent of total income and the highest receive 34.8 per cent. After adding financial income and non-market income and deducting income tax and taxes on production, the share of the lowest decile increases to 8 per cent and the highest decreases to 22.5 per cent. After adding cash transfers, the lowest decile increases its share to 8.4 per cent. Interestingly the distribution of most deciles is flat. In final income, the share of the lowest decile increases to 8.9 per cent and the highest decile decreases to 20.6 per cent. The share of the lowest is higher than the second up to the sixth deciles, based on market income. The “near poor” get less benefit than the poorest households from government programs, even though the distribution of income improves significantly. It means cash transfers and benefits in-kind reduce income inequality.

Table 7: Distribution of All Type of Adjusted per Capita Income by Deciles, per cent

Deciles	Market Income			Market Income and Non-Market Income			
	Market Income	Net Income	All Market Income	Actual Income	Income After Taxes	Disposable Income	Final Income
Lowest	1.5	1.5	2.2	8.1	8.0	8.4	8.9
Second	3.5	3.5	4.2	6.8	6.8	7.1	7.3
Third	4.6	4.6	5.0	7.1	7.0	7.3	7.5
Fourth	5.6	5.7	6.0	7.6	7.6	7.6	7.8
Fifth	6.7	6.8	7.0	8.2	8.1	8.0	8.2
Sixth	7.9	8.1	8.1	8.5	8.5	8.4	8.5
Seventh	9.4	9.6	9.6	9.2	9.2	9.1	9.2
Eighth	11.3	11.5	11.4	10.2	10.2	10.1	10.1
Ninth	14.7	15.0	14.5	12.1	12.2	12.0	11.9
Highest	34.8	33.7	32.0	22.2	22.5	22.0	20.6

Table 8 shows the Gini coefficient and dispersion of income. The Gini coefficient improves from 0.42 for market income to 0.18 for final income - there is significant improvement in the Gini coefficient. The result is in line with the observation that the ratio of highest income to median income decreases from 3.39 to 1.86 times. For market income, the highest deciles income is 3.39 times the middle income, but after adding non-market income and deducting all taxes and adding government benefits to get the final income, the ratio decrease to 1.86 times.

Table 8: Gini Coefficient and Dispersion of Adjusted per Capita Income

	Market Income			Market and Non-Market Income			
	Market Income	Net Income	All Market Income	Actual Income	Income After Taxes	Disposable Income	Final Income
Gini Coefficient	0.42	0.41	0.40	0.20	0.21	0.20	0.18
Percentile Ratios							
P90/P10	9.88	9.67	7.28	2.48	2.51	2.37	2.19
P90/P50	3.39	3.27	3.07	2.06	2.08	2.02	1.86
P10/P50	0.34	0.34	0.42	0.83	0.83	0.85	0.85
P75/P25	2.47	2.48	2.26	1.35	1.36	1.33	1.29

The ratio of the lowest income to the middle income increases from 0.34 in market income to 0.85 in final income.

4. Conclusion

The results suggest that cash and benefits in-kind have a positive impact on income distribution in Indonesia. The Gini coefficient improves significantly after adding government spending on cash transfers, subsidies, health and education. Cash transfers and public spending on health and education generally benefit the poorest more than the richest. On the other hand, subsidies are pro-rich, because most of the subsidies are price subsidies which apply to all consumers. In general, cash and benefits in-kind are pro-poor.

The findings suggest that the Indonesian government can reduce inequality by maintaining and increasing further cash transfers and public spending on health and education. Reform of the subsidy system from overall price subsidies to targeted subsidies should be considered. The impact of targeted subsidies on income distribution is positive.

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