Summing Up

Results of a recent CGE (Computable General Equilibrium) model suggest:

1. A doubling of government spending on social assistance for the poor through cash transfers in Indonesia would reduce real GDP. The size of the GDP decline varies depending on how the increase in cash transfers is financed and on which segment of the poor receives the transfers.
2. The negative impact of increased cash transfers on real GDP is smaller if the transfers are not concentrated on the poorest households. The reason for this is that if the cash transfers are focused on the poorest households, the resulting increase in demand will be mainly for primary products that have low multiplier effects for the rest of economy.
3. In terms of reducing overall poverty (urban and rural), there is a clear benefit to targeting increased cash transfers on only the poorest 10% of households. However, because the poorest 10% of households in Indonesia are predominantly rural, the bulk of the poverty reduction would occur in rural areas.
4. There are clear tradeoffs between targeting a doubling of social assistance to the poor more narrowly (for example, to the poorest 10% of households) as opposed to giving such assistance more broadly. The size of the overall poverty reduction (urban and rural) is maximized if the cash transfers are distributed among (roughly) the poorest 30% of the households because then more of the urban poor will benefit.

The review of economic growth and the service sector has four key findings:

1. When compared with the agricultural and industrial sectors of the economy, the services sector—a large and heterogeneous sector including retail trade, construction, transport, domestic services, government, etc.—has made the largest contribution to the annual rate of country GDP growth in the developing world over the last 20 years.
2. The services sector is crucial for economic growth because it absorbs labor from the low-productivity sectors of the economy, like agriculture. In many developing countries, including Indonesia, the movement of labor and capital has not been from agriculture to industry but rather from agriculture to the services sector.
3. In Indonesia the services sector is especially important for the poor. Over the last 20 years the services sector has been the only sector of the Indonesian economy—outside of "other"—where the poor actually increased their share of the labor force.
4. The services sector is vital for the poor because it offers employment and income for unskilled and uneducated workers. In Indonesia the two largest subsectors of the services sector—retail trade and construction—mostly employ people with less than a primary education.

Introduction

In Indonesia and other developing countries, cash transfer programs are increasingly being used both as tools for long-term poverty alleviation and/or to avoid the adverse effect of certain kinds of policy reforms on the poor. For example, in 2007 the Government of Indonesia started a conditional cash transfer program called Program Keluarga Harapan (PKH) that is designed to increase the access of the poor to medical and educational opportunities. This PKH Program now operates in 33 provinces and costs about Rp. 1.8 trillion ($0.2 billion) a year.

Any cash transfer program requires financing, and the government therefore needs to reallocate funds either by increasing government revenue (such as increasing taxes) or by reducing spending on other items. Either way, such a reallocation of funding will have both a direct and an indirect impact on the economy. For instance, an increase in the value added tax will have a contracting effect on industries, while an increase in income tax may reduce labor supply. In addition, the type of targeting employed by the cash transfer program will have various effects on the poor and the non-poor. To analyze all of these various effects, SEADI contracted with Dr. Arief Yusuf from Padjadjaran University, Bandung, Indonesia, to analyze the impact of an increase in cash transfer programs in Indonesia using the INDONESIA-E3 CGE model. This model is well-designed for making such policy simulations, because it is a multi-sector, multi-household CGE model of the Indonesian economy with a strong emphasis on distributional analysis.[1]

Modeling and Simulation Strategies

Dr. Yusuf used the INDONESIA-E3 model to simulate the effect of a Rp. 50 trillion ($5.4 billion) increase in cash transfers on GDP growth, poverty and inequality in Indonesia. The analysis reviewed three separate approaches to financing the increase in cash transfers: (1) raising the value added tax; (2) reducing the rate of fuel subsidy; and (3) increased foreign assistance. In each of the simulations the beneficiaries of the

1 For more on the INDONESIA-E3 model, see Yusuf, A., 2008, "An Indonesian Applied General Equilibrium Model for Analyzing the Economy, Equity and the Environment, *Working Papers in Economics and Development Studies*, Department of Economics, Padjadjaran University, Indonesia.

PUBLISHED BY USAID/SEADI (SUPPORT FOR ECONOMIC ANALYSIS DEVELOPMENT IN INDONESIA) FOR TNP2K.

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cash transfers are estimated for three different definitions of the poor: (1) the poorest 10% of households; (2) the poorest 20%; and (3) the poorest 50%.

Simulation Results: Cash Transfers, GDP, Poverty and Inequality in Indonesia

In all of the simulations, a doubling of government spending on social assistance for the poor through cash transfers in Indonesia would reduce real GDP. The size of the GDP decline varies depending on how the increase in cash transfers is financed and on which segment of the poor receives the transfers. For example, if the increase in cash transfers was financed by an increase in the value added tax and targeted to the poorest 20% of households, then real GDP would fall by 0.36%. If such an increase in cash transfers was financed by reducing the rate of fuel subsidy, then real GDP would only fall by 0.18%.

The simulations show that the costs of increased cash transfers to real GDP are smaller if the transfers are not concentrated on the poorest households. For example, if the cash transfers are distributed to the poorest 10% of households (VAT financed), real GDP will fall by 0.38%. However, if the same amount of transfers is distributed to the poorest 50% of households, real GDP will only fall by 0.33%. The reason for this is that if the cash transfers are focused on the poorest, the resulting increase in demand will be mainly for primary products that have relatively low multiplier effects for the rest of economy.

In terms of reducing overall poverty (urban and rural), the simulations show that there is a clear benefit to targeting the poorest 10% of households. If all of the Rp. 50 trillion increase in cash transfers is targeted to the poorest 10%, then the current incidence of poverty (using national poverty lines) would fall by 6.1%, or almost half the current level of poverty (12.4%). However, because the poorest 10% of households in Indonesia are predominantly rural, the bulk of the poverty reduction would occur in rural areas. In fact, according to the simulations, the incidence of poverty in urban areas would actually rise slightly.

In other words, there are clear tradeoffs between targeting an increase in cash transfers more narrowly (for example, to the poorest 10%) as opposed to giving them more broadly. According to the simulations, the size of the overall poverty reduction (urban and rural) is maximized if the cash transfers are distributed among (roughly) the poorest 30% of the households because in this manner more of the urban poor benefit.

In general, the simulations show that a Rp. 50 trillion increase in cash transfers reduces inequality in Indonesia regardless of how such a program is financed and how it is targeted (narrowly or more broadly). However, it is interesting to note that the simulations show that inequality falls the most when the cash transfers are financed by a reduction in the fuel subsidy. For example, targeting cash transfers to the poorest 20% of households reduces the Gini coefficient by 0.018 when financed by VAT, but by 0.021 when financed by reducing the fuel subsidy. This is because the fuel subsidy mainly benefits richer households and so reducing the fuel subsidy helps reduce inequality.

Policy Implications for Indonesia

The simulations show that a Rp. 50 trillion increase in cash transfers in Indonesia would have a negative effect on real GDP growth. One way to reduce this negative effect on growth is for policymakers to carefully consider the source of domestic financing for such an expanded cash transfer program. In Indonesia policymakers would be wise to finance an increase in the cash transfer program by reducing the rate of fuel subsidy. Currently, the fuel subsidy program in Indonesia is one of the dominant sources of domestic public spending.

According to the simulations, a doubling of government spending on social assistance for the poor through cash transfers in Indonesia would reduce both poverty and inequality. The simulations also show that the largest positive changes in poverty and inequality would occur if the increase in cash transfers were funded by reducing fuel subsidies, rather than through an increase in the value added tax. These results suggest that the existing fuel subsidies are regressive and that reallocating the money being spent on these subsidies towards more cash assistance to the poor would be a desirable policy option.

Economic Growth and the Services Sector

In recent years there has been a lively debate over the sources of economic growth in developing countries, like Indonesia. This debate has focused on the question of which economic sector—agriculture, industry or services—is most responsible for economic growth in the developing world. This debate is important because decision makers have to constantly decide how to devise policies for different sectors of the economy.

In the past the common assumption has been that industry (or manufacturing)[2] will make the largest contribution to

2 According to ISIC codes, industry (ISIC divisions 10-45) includes manufacturing (ISIC divisions 15-37).

economic growth. The idea here is that labor and capital in the low-productivity sectors of the economy—like agriculture—need to move into the higher productivity sectors—like industry—in order to foster overall economic growth.

However, recent evidence from a number of developing countries is beginning to throw doubt on this assumption. Specifically, new data is suggesting that the services sector—a large and heterogeneous sector including retail trade, construction, transport, domestic services, government and professional services—is likely to make the largest contribution to economic growth. For example, a simple econometric model based on 45 developing countries that regresses the annual rate of country GDP growth over the last 20 years on three variables—the annual rate of country change in value added in agriculture, industry and services—shows that the annual rate of change in value added in the services sector has the largest and most significant impact on the annual rate of country GDP growth. In other words, it is growth in the services sector—and not in the industrial sector (which includes manufacturing)—that is most closely associated with annual GDP growth over the last 20 years in the developing world.[3]

Economic Growth, Poverty Reduction and the Services Sector

One of the reasons that growth in the services sector is so important for economic growth has to do with the ability of this sector to absorb labor from the low-productivity sectors of the economy, like agriculture. In many developing countries, including Indonesia, the movement of labor and capital has *not* been from agriculture to industry but rather from agriculture to the services sector. In general, unskilled labor from agriculture has not been able to find employment in industry, and so it has been forced to find employment in the traditional "retail trade" part of the services sector. This is the reason why street stalls, markets and other informal activities are so prevalent in many developing countries.

Table 1 illustrates the dynamics of this process in Indonesia. Between 1993 and 2010 the share of the total labor force employed in agriculture and manufacturing fell by 10 percent and 1.8 percent, respectively, while the share of the total labor force employed in the services sector increased by 7.1 percent. In other words, while the share of the total labor force employed in agriculture and manufacturing was falling, it was increasing in the services sector.

Table 1 also shows that the services sector is very important for the poor in Indonesia.[4] Between 1993 and 2010 the services sector was the only sector of the Indonesian economy—outside of "other"—where the poor actually increased their share of the labor force, from 15.3 to 24.5 percent. In 2010 the share of the poor employed in the services sector was about four times higher than that employed in manufacturing.

Table 1. Sectors of Employment in Indonesia, 1993 and 2010 (percent)

	1993 Total	1993 Poor	2010 Total	2010 Poor
Agriculture	50.6	71.6	40.6	59.4
Manufacturing	10.5	8.4	8.7	6.7
Services (including trade)	33.1	15.3	40.2	24.5
Other	5.8	4.7	10.5	9.4
Total	100.0	100.0	100.0	100.0

[1] Other includes mining and quarrying, electricity, gas and water, and construction.
Source: Susenas data as cited in Asian Development Bank, "From Poverty to Prosperity: A Country Analysis for Indonesia," draft manuscript, June 2006.

One of the main reasons why the services sector is so important for the poor is that it offers employment and income for unskilled workers. Table 2 shows that the two largest subsectors of the services sector in Indonesia—retail trade and construction—mostly employ people with less than a primary education. Three other subsectors of the services sector—road transport, domestic service and other organizational—also employ mostly people with very little education.

Policy Implications and Challenges for Indonesia

Three policy challenges face Indonesia with regards to the services sector. First, since the services sector is so important for economic growth, it is essential to raise the productivity of the mainly unskilled people working in this sector. This can best be done by providing the workers in this sector with the type of improved physical infrastructure—roads, electricity and sanitation—emphasized in the last Poverty Policy Brief. More paved roads will enable service sector workers to increase their earning opportunities, and better sanitation will raise their health status and improve their productivity.

The second policy challenge follows closely from the first. In addition to improving the physical capital of service sector workers, it is also important to raise their human capital. On

3 These econometric results should be regarded as correlates of the relationship between economic growth and value added in the services sector, because causality could run both ways between the two variables. For more on the role of the services sector in economic growth, see B. Eichengreen and P. Gupta, 2011, "The Service Sector as India's Road to Economic Growth," National Bureau of Economic Research, Working Paper 16757.

4 For more on this point, see A. Suryahadi, G. Hadiwidjaja and S. Sumarto, 2012, "Economic Growth and Poverty Reduction in Indonesia Before and After the Asian Financial Crisis," SMERU Working Paper, Jakarta, Indonesia.

the whole, better educated workers are also more productive workers. Since 1980 the Government of Indonesia has done a fine job of raising school enrollment rates at the primary level. However, now more attention needs to be placed on raising school enrollment rates at the secondary level, so that more of the service sector workers in trade, construction and transport have a junior (or senior) secondary education. Government efforts to increase the human capital of these workers will have very positive effects on poverty, household incomes and overall economic growth.

The third policy challenge is more long-term. As shown in Table 2, a small minority of those working in the services sector—specifically, those working in education, government administration and finance—already have high levels of education. Therefore, the long-term challenge facing the Government is how to move workers from the "traditional, less productive" subsectors of services—like retail trade, construction and domestic services—into the "modern, highly productive" subsectors—like education and finance. This process will take time, and considerable government attention to raising the physical and human capital of those people who are already working in the services sector.

Table 2. Employment in Subsectors of the Service Sector, Indonesia, 2010 (in percent)

Subsector	Distribution of Total	Educational Status, Primary or Less	Educational Status, Tertiary or More
Retail trade	32.1	41.7	2.2
Construction	10.8	51.6	2.9
Education	9.2	2.3	46.8
Other organizational	7.4	32.7	3.5
Road transport	7.3	47.8	0.8
Government administration	6.6	3.3	23.5
Domestic service	4.7	60.4	0.6
Finance and business	3.4	7.4	21.7
Other services[1]	18.5	NA	NA
All	100.0	33.9	9.2

[1] Other services include hotel and restaurants.
Source: Sakernas data as cited in Manning and Aswicahyono, "Trade and Employment in Services: Indonesia," draft manuscript, May 2012.

This brief is made possible by the support of the American people through the United States Agency for International Development (USAID). The contents of this brief are the sole responsibility of the authors and do not necessarily reflect the views of USAID or the U.S. Government.