Regional Development, Natural Resources and Public Goods in Indonesia During the Global Financial Crisis

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INTRODUCTION

Poverty remains a crucial issue in current development literature. In 2000, the Millennium Development Goals (MDGs) was initiated with the target of halving global poverty by 2015 (United Nations 2011). However, global poverty rates have not diminished significantly in the last two decades. The United Nations (2010) indicates that in the period of 1990-2005, poverty declined from 1.8 billion to 1.4 billion people. This amount remains large, considering persistent supports from the international community and intensive poverty alleviation programs by governments in developing countries (Baulch 2006; Hayman 2007; Nordtveit 2008).

In the last decade, main stream paradigms in combating poverty world-wide have shifted from concentrating on improving growth performance and expecting this growth to pull poor people out of poverty, into direct government assistance to the poor through its fiscal policy. This shift took place despite many empirical studies (Ravallion 1995; Dollar and Kraay 2002; Balisacan et al. 2003; Adams 2004; Miranti and Resosudarmo 2005) which have shown that growth has a strong relationship with poverty reduction. The main arguments for direct government intervention are as follows. First, the lack of access to public services such health and education. This destines the poor to be unskilled labour, which means there are fewer opportunities for them to be absorbed in the labour market (Jung and Thorbecke
Second, the poor are also associated with not having access to capital since they have no eligibility to receive credit. This means they do not have the opportunity to become entrepreneurs or self-employed (Buckley 1997; Navajas et al., 2000; Amin et al. 2003). Thus, direct government assistance through its fiscal policy should be able to target the provision of health and education to the poor and to provide them with the capital they need.

The debate as to whether this shift has been effective is ongoing. Some empirical works show that direct government assistance is an effective way to reduce poverty. For example, Van De Walle (1998) evaluates the enhancement of public spending, especially with reference to the education sector, with the sample case of Tunisia. The study shows that education will improve social welfare and hence reduce poverty. Blaxall (2000) emphasises that competent public spending will create institutional credibility and thus reduce poverty by providing better public services and economic opportunities. This kind of intervention becomes vital in an economic downturn. Dhanani and Islam (2002) examine poverty in Indonesia and state that government intervention is essential, particularly during crisis periods. It is proven that the social safety net program in Indonesia during the 1997-1998 financial crisis strengthened household coping mechanisms and prevent those defined as vulnerable from becoming poor. Moreover, recent studies have developed an effective method to embolden the poor to participate in the program (Alatas et al. 2012; Gertler et al. 2012). The method should involve better targeting or effective distribution if the programme is in the form of a cash transfer.

On the other hand, several studies show that government participation also creates some distortions. Gupta et al. (1998) and Deininger and Mpuga (2005) show that public spending in developing countries is prone to corruption behaviour and this potentially interrupts the efficacy of the programs. Ravallion (1999) reports that
states or provincial governments have a fundamental problem in identifying the poor, which makes them less capable of targeting public spending to reduce poverty. Empirically, governments in nations with high-poverty rates have been trapped by ambitious poverty programs, in that they do not have the capability and accountability to implement plans in an effective manner (Hickey 2005; Bhardan and Mookherjee 2006). A recent study by Alatas et al. (2012) finds that community based programs in Indonesia perform worse at detecting the poor since communities are using different concepts in poverty measurement. Moreover, using a randomised experiment, Gertler et al. (2012) examine the effectiveness of a cash transfer program from Mexican Progresa since the method has become a popular tool for combating poverty in developing countries. However, they are concerned that the cash transfer could make poor households dependent and create new problems when the following program is introduced.

It is important to note that most studies that evaluate government poverty programs observe the impact in micro perspectives or in particular cases such as the social safety net (Jaring Pengaman Sosial/ JPS) and rice to poor (Beras Miskin/Raskin) in Indonesia, Progresa in Mexico, food for education in Bangladesh, or the rural employment program in India. Although the studies review the programs meticulously and suggest better policy recommendations, the analyses barely explain how the evaluation might link with other poverty programs and what the cumulative impact might be on poverty at a broader regional level such as a provincial or district level.

Simulation and experimental observation such as in Alatas et al. (2012) and Gertler et al. (2012) do not indicate the impact on poverty rates on a larger scale. Preferably, government contributions to reducing poverty through its intensive programs should be estimated by the decline in poverty rates. The purpose is to discover how much the reduction in poverty rates can be attributed to growth and how
much to government contribution, which will allow us to look at the intervention’s impact at the macro level. Therefore, we need an instrument that can represent all the interventions, and by analysing the government budget, specifically the component related to development and public services, we can examine the relationship between poverty rates and government intervention.

This chapter aims to determine the impact of regional government spending on the alleviation of poverty in Indonesia. Indonesia is one of the largest developing countries whose government has put combating poverty as its priority for a long time. Poverty has been reduced from half the population in the 1950s to less than 15% in the mid 1990s. In 1997 poverty rates jumped by more than double from 22.5 million to 49.5 million, but then declined again persistently until 2010. We conduct empirical analysis of regional poverty in Indonesia using panel data analysis at the provincial level from 1977 to 2010.

POVERTY IN INDONESIA

Poverty incidence in Indonesia has fallen significantly from approximately 40% in the early 1970s to 13.3% in 2010, although the reduction effort was interrupted by the crisis. In the period of the 1970s until the late 1980s, the poverty profile in Indonesia remains concentrated in rural areas, and by using not only the cost of the reference food bundle, but also non-food prices, we find more poverty incidence in the rural areas than in urban areas (Bidani & Ravallion 1993). The government strategy during the period was to focus on the agricultural sector and apply an ownership approach to farmers, which means government assists the whole production chain from providing quality seeds to collecting crop surplus to controlling a suitable market price (Susanto 2006).

In addition, public facilities like schools and clinics are also
established in rural areas (Bappenas 2009). One of the outcomes Huppi and Ravallion (1991) have revealed is that, even in a difficult macroeconomic climate, Indonesia could maintain sufficient growth in agricultural production with diversification and non-farm employment strategies, and it reached a peak in rice procurement self-sufficiency in 1984. Moreover, they also stress that the gain from rural sectors in the 1980s is the key achievement in poverty reduction.

Nevertheless, this strategy also creates some distortions. The development strategy in rural areas brings a significant shift only in the region of Java, and the side effect of this approach is that poverty starts to concentrate in urban areas. In the early 1990s, the portion of poor in Java’s urban area is 72.3% compared with 49.4% in rural areas. The effort has less impact outside Java, especially Kalimantan and provinces in Eastern Indonesia, where the poor remains concentrated in rural areas (Booth 1993). The difference is caused by regional income disparity. Resosudarmo and Vidyattama (2006) measure provincial income per capita and find that the distribution is relatively severe.

Furthermore, to show there is a large disparity in regional development, Miranti and Resosudarmo (2005), using data from 1993-1996, find that poverty is declining at a faster rate in the Western provinces than in the Eastern ones. The empirical study shows that the significant gap in income distribution from the centre to the regions is caused by inadequate public services, which hampers regional development and the poverty reduction effort.

Regional economic structure is also implicated in the dynamics of Indonesian poverty. Hill et al. (2008) examine the wide-range diversity in economic and social performance among provinces. The provinces with abundant natural resources tend to become fast growers. However, they find no obvious relationship between provinces with a large mining sector and better income per capita, and therefore with poverty reduction. This finding has prompted
several empirical studies to exclude the mining sector from the GDP when analysing growth impact on the lowest income per capita group.

The financial crisis in the late 1990s dramatically interrupted the down trend in poverty rates. The number of poor increased from 22.5 million or 13.7% in 1996 to 49.5 million or 24.2% in 1998. Consequently, the recession effect also changed the poverty profile in Indonesia. Suryahadi et al. (2003) emphasise that the crisis caused a significant deterioration in the Indonesia people's welfare, with 36 million people living in absolute poverty. Additionally, Suryahadi and Sumarto (2003) find that the rise in poverty rates was also due to a large increase of chronically poor people categorised as households that have high-vulnerability to poverty. They assert that this group has increased from below one-fifth before the crisis to more than one-third afterwards.

The change in the poverty profile prompted the government to allocate more of their budget to social protection. Daly and Fane (2002) analyse the anti-poverty spending before and after the crisis. They find that government expenditure for poverty grew from 0.1% to 0.3% of GDP between 1994-1997 to 1.4% by the end of 1999, due to the introduction of a social safety net programme designed to help the poor and the newly poor. This programme essentially consists of four major programmes, which include food security, employment creation, education grants for the poor, and a health programme providing free medical services, especially for pregnant women and children. In the implementation of the programme there was a substantial benefit leakage to the non-poor as officials in district areas lacked accurate data. This raises the issue of targeting the poor and institutional commitment to distribute benefits, especially for local and regional authorities (DFID policy brief 2006).

Furthermore, there was an interesting finding in the regional development process after the crisis. As the inequality issue assumed importance with regard to provincial development, the demand for
autonomy escalated in district and provincial government. Fiscal decentralisation and regional autonomy was implemented in 2001, and it had a tendency to reduce this previously problematic regional income disparity. It meant that regional areas had the opportunity of convergence growth and income per capita. Additionally, the concentration of economic activities in Java created more disincentives for businesses. Sjafrizal (2011) states that this additional factor of agglomeration diseconomies in Java, indicated by high land price, unemployment, and high production costs and logistics, encouraged people to seek new opportunities. As a result, it promoted the expansion of areas outside of Java Island, thus reducing regional disparity.

However, the decentralisation policy has yet to be applied effectively after almost one decade of implementation. Table 1 presents the chronology of regional poverty rates and per capita income in the period of 1984-2010. The data affirms that regional income disparity was severe before the policy was applied (1984-1996), particularly in Eastern Indonesia. The pattern has not altered significantly since the implementation in 2001. Provinces in Eastern Indonesia such as East Nusa Tenggara and Maluku remain far below other provinces in the distribution of per capita income and have a slow pace of poverty reduction.

The post-crisis era is also marked by numerous government interventions in the form of anti-poverty programmes. The key strategy as stated in the 2004-2009 National Medium-Term Development Planning (Rancangan Pembangunan Jangka Menengah/RPJM) programme, which was divided into three clusters, was targeting the poor. Cluster 1 was designed to provide basic needs and restore consumption level of the poor. Anti-poverty programmes in this cluster include rice to the poor (Raskin), affordable health service and insurance (Jaminan Kesehatan Masyarakat/Jamkesmas), educational assistance (Beasiswa Siswa Miskin), and the family hope programme.
(Program Keluar Harapan/PKH), known as the pilot program for conditional cash transfers (CCT).

The other two clusters focus on community development and support for small businesses. The programme of community empowerment (Program Nasional Pemberdayaan Masyarakat/PNPM) under cluster 2 aims to encourage local people to improve their welfare by allowing communities to formulate their own plan for which government provides the funding. Cluster 3 is running a microcredit program (Kredit Usaha Rakyat/KUR) for small-medium enterprises, especially in rural areas. This program was developed in response to high interest rates which increased the cost of capital and discouraged small companies from borrowing. The government provides access to funding and also assistance to support small businesses. Together with this strategy, the government also ran unconditional cash transfer (Bantuan Tunai Langsung/BLT) from 2005 to 2008 as compensation for

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<th>1984</th>
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<tr>
<td>Poverty Rates (%)</td>
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<td>Poverty Rates (%)</td>
<td>Income Per Capita (US$)</td>
<td>Poverty Rates (%)</td>
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<td>1109</td>
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<td>1183</td>
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</table>

* Calculated from regional GDP and total population exchange rates based on Bank Indonesia's rates.

Sources: Central Bureau Statistics (BPS) and Susenas.
the poor when authorities decided to reduce the fuel subsidy, caused by a large increase in oil prices.

Although the nation has a variety of intensive anti-poverty programmes, there is no guarantee that the outcome will meet expectations. Statistics Indonesia (BPS) reports that, although the level of poverty in 2010 was back to a similar level —13%— as before the crisis in 1996, the number of poor people actually increased from 22 million to above 30 million. Additionally, it is a complex issue as to how anti-poverty programmes will support others when applied simultaneously. Several studies assess these programmes and find redistribution issues in the implementation. For example, Olken (2006) examines the distribution of Raskin and finds that almost 18% of the rice disappears on the way from government warehouses to the household recipients.

The interesting aspect of government intervention in the last decade is that since 2004, there have been specific allocations in their budget for anti-poverty programs. Previously, all spending related to public services and social welfare was defined generally as development spending. Currently, particularly where fiscal decentralisation has been fully implemented, development spending is fragmented into specific items and the government assigns spending specifically allocated to poverty reduction.

**REGIONAL GOVERNMENT SPENDING**

Prior to decentralisation, the structure of the Indonesian government budget was simply divided into two major categories. The first was routine spending on government agents (*belanja pegawai*) including salary, allowances, and regular spending for operational activities. The second was development spending (*belanja pembangunan*) used for public services such as education, health, and other social benefits. Development spending becomes crucial as the continuity of the
development process relies heavily on what proportion has been allocated to it, and therefore the government involvement in poverty reduction can be represented by this factor.

In general, development budget is arguably an overall budget that will help the poor. Correlation between the development budget and poverty in a way represents the impact of targeting and poverty alleviation at a macro level. The data shows that in the period of 1977-2010 development spending in 26 provinces increased on average by 25%. The growth pattern has increased in the last decade (2001-2010) by 32% as a result of regional autonomy. The central government has to provide specially allocated funds for provinces and districts (Dana Alokasi Umum/DAU and Dana Alokasi Khusus/DAK) which automatically raise their income. The fundamental aim is to achieve equalisation based on regional characteristics and to encourage regional economic growth. However, during this period the growth pattern in development spending is still less than the growth in total spending which amounts to 35%.

It can be seen that this policy does not simply solve the issue of regional disparity. Table 2 shows the proportion of regional budget from 1984 to 2010 classified as development spending, and total spending. We can see that even when the allocation has been adjusted by regional characteristics after 2001, the area of Sumatera and Java still have a larger portion of budget allocation compared with other areas. The provinces in Eastern Indonesia clearly still receive the lowest government budget.

In addition, the story is definitely different when we analyse the ratio between development spending and total expenditure. For example, using Table 3, we compare the ratio before and after regional autonomy and find that the ratio between 1984 and 1996 averages almost 0.4. Subsequently, the average ratio falls to 0.38 between 2001 and 2010. The consistently low ratio is widely acknowledged as being due to high bureaucratic costs, which consume more than half of the
Table 2. Regional Government Budget–Development and Total Spending 1984-2010*

<table>
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<td>814</td>
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<tr>
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<td>1022</td>
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<td>Nusa Tenggara Barat</td>
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<td>41</td>
</tr>
<tr>
<td>Nusa Tenggara Timur</td>
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<td>55</td>
<td>31</td>
<td>52</td>
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<tr>
<td>Kalimantan</td>
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<td>335</td>
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<tr>
<td>Sulawesi</td>
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<td>209</td>
<td>123</td>
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<tr>
<td>Maluku</td>
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</tr>
<tr>
<td>Papua</td>
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<tr>
<td>Indonesia</td>
<td>501</td>
<td>2333</td>
<td>1852</td>
<td>4975</td>
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</tbody>
</table>

*Conversion based on Bank Indonesia’s rates.

Sources: Government Budget (APBN) Handbook, BPS. Directorate General of Budget Allocation (DIPK), Department of Finance (DepKeu).

budget. Moreover, regional autonomy has created a new distortion where local authorities increase their government agents’ income, and as a result it reduces the portion for development.

Table 3. Ratio between Development Spending and Total Spending 1984-2010

<table>
<thead>
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<th>1984</th>
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<tr>
<td>Jawa and Bali</td>
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<td>Nusa Tenggara Barat</td>
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<tr>
<td>Kalimantan</td>
<td>0.38</td>
<td>0.62</td>
<td>0.51</td>
<td>0.50</td>
</tr>
<tr>
<td>Sulawesi</td>
<td>0.20</td>
<td>0.48</td>
<td>0.29</td>
<td>0.38</td>
</tr>
<tr>
<td>Maluku</td>
<td>0.28</td>
<td>0.62</td>
<td>n/a</td>
<td>0.48</td>
</tr>
<tr>
<td>Papua</td>
<td>0.15</td>
<td>0.42</td>
<td>0.61</td>
<td>0.27</td>
</tr>
<tr>
<td>Indonesia</td>
<td>0.23</td>
<td>0.46</td>
<td>0.36</td>
<td>0.41</td>
</tr>
</tbody>
</table>

Sources: Government Budget (APBN) Handbook, BPS. Directorate General of Budget Allocation (DIPK), Department of Finance (DepKeu).
Therefore, the proportion and ratio of development budget are essentially crucial as they represent the commitment of government to social welfare, and thus to the poverty reduction effort. In a simple correlation between development spending and poverty, we can see that in 1996 when the ratio reached the highest point at 0.46, the poverty rate was at its lowest at 11.3%.

In addition, with the intention of accelerating the poverty alleviation effort, from 2004 onwards the Indonesian government officially allocated a specific fund for poverty reduction in their budget. The allocation is part of social spending to support several anti-poverty programmes. Therefore, the government actually had two instruments in its budget to apply simultaneously to reduce poverty.

**EMPIRICAL STRATEGY**

First, we have poverty as a function of government expenditure, represented by total spending and its decomposition: development spending (belanja pembangunan) and spending for salaries and allowances (belanja pegawai). We include in this equation variables representing the structure of the economy. Second, we also include in the equation social variables such as health, which are proxied by the infant mortality level, and average household income. Third, we create a variable of government quality as the ratio of provincial government’s own revenue to its total revenue. The belief is that the more successful a local government in collecting its own revenue will lead to a more efficient allocation of public resources and promote a better local preference in the development process (Miranti and Resosudarmo 2005).

Figure 1 shows the plots of poverty with government expenditure and government quality. It can be seen that although poverty has a downward sloping curve for government expenditures, the trend is almost flat for development spending but relatively significant for
total and operational spending. In contrast, the inclination of poverty to government quality fluctuates during the analysis period. Initially the poverty trend is positive. However, it reverses to become negative in the middle period.

Figure 1. Plots between Poverty, Government Spending, and Government Quality (1977-2010)

The empirical estimation uses the standard Ordinary Least Square (OLS) with fixed-effects and a dummy year. The panel data consists of 26 provinces between 1977 and 2010.

The basic fixed-effect equation is as follows:

$$ p_{it} = \alpha_0 + \alpha_1 gsi_{it} + \alpha_2 X_{it} + \alpha_3 Z_{it} + \alpha_4 gqi_{it} + \alpha_5 d_t + \delta_i + \epsilon_{it} $$  \hspace{1cm} (1)

where $p_{it}$ is the proportion of poor people in province $i$ at year $t$ (povint), $gsi_{it}$ is government spending: total government spending (totalspenreal), development spending (devspenreal) and government expenditure for salaries and allowances (belpegreal); $X_{it}$ is a vector...
representing the structure of the economy; i.e. ratios between value added from agriculture to the total provincial gross domestic product (agri), from manufacturing (manu) and from mining (min); $Z_{i,t}$ is a matrix representing social conditions such as the rate of infant mortality (infant) and average provincial household expenditure in 1993 prices (hhcons1993); $g_{q_{i,t}}$ is the government quality variable (govquality); $d_{i}$ is year dummies; $\delta_{i}$ is the unobserved time-invariant individual effect; and $e_{i,t}$ is the error term.

All variables are in natural logarithm form and all variables on the right hand side are a year lag to reduce the possibility of having a simultaneous problem.

**DATA SOURCES**

The data sources in this study are mostly obtained from Statistics Indonesia (BPS). The poverty rates are based on a consumption module calculated from the National Socioeconomic Survey (Susenas). The survey was conducted on a yearly basis and contains detailed information of more than 65,000 households, particularly on their consumption expenditure. BPS measures poverty on the household capacity to meet their basic needs and hence it converted as poverty lines. The Regional Gross Domestic Product (RGDP) is also obtained from BPS calculations. The analysis utilises RGDP data based on prices in the year 2000.

The data on government spending is obtained from the Directorate General of Budget Allocation (Direktorat Jenderal Pajak dan Keuangan/DJPK), which is a bureau under the Department of Finance. In the arrangement of the state budget (Anggaran Pendapatan dan Belanja Negara/APBN), first the government and parliament form the draft of the state budget (Rancangan APBN) a year before. Subsequently, additional changes in the implementation create a budget adjustment (Perubahan APBN), and after the budget is
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completely disbursed, it results in budget realisation (Realisasi APBN). This study applies the amount of the government budget realized at the provincial level from 1977 to 2010, and for the consistency of the data, they are converted into a real price.

In addition, the analysis also includes an additional variable to represent health condition. It utilises the data from the Demography and Health Survey (Survei Demografi dan Kesehatan/SDKI) for infant mortality rates. SDKI is a five year survey funded by USAID covering more than 40,000 households in 33 provinces. Descriptive statistics of variables utilised in this chapter can be seen in Table 4.

Table 4. Descriptive Statistics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Min</th>
<th>Max</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent Variable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>povint</td>
<td>18.88</td>
<td>2.48</td>
<td>54.75</td>
<td>8.38</td>
</tr>
<tr>
<td>Independent Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>totalspenreal</td>
<td>165,649.89</td>
<td>23,012.67</td>
<td>1,157,530.70</td>
<td>155,457.66</td>
</tr>
<tr>
<td>devspenreal</td>
<td>63,211.07</td>
<td>5,352.61</td>
<td>606,645.32</td>
<td>75,527.07</td>
</tr>
<tr>
<td>belpegreal</td>
<td>102,438.83</td>
<td>-81,050.93</td>
<td>762,792.47</td>
<td>91,185.93</td>
</tr>
<tr>
<td>agri</td>
<td>0.28</td>
<td>0.00</td>
<td>0.66</td>
<td>0.13</td>
</tr>
<tr>
<td>manu</td>
<td>0.13</td>
<td>0.01</td>
<td>0.45</td>
<td>0.09</td>
</tr>
<tr>
<td>min</td>
<td>0.11</td>
<td>0.00</td>
<td>0.85</td>
<td>0.17</td>
</tr>
<tr>
<td>infant</td>
<td>59.30</td>
<td>14.00</td>
<td>116.90</td>
<td>19.60</td>
</tr>
<tr>
<td>hhcons1993</td>
<td>6.38</td>
<td>0.37</td>
<td>56.61</td>
<td>9.65</td>
</tr>
<tr>
<td>govquality</td>
<td>0.24</td>
<td>0.01</td>
<td>0.95</td>
<td>0.17</td>
</tr>
</tbody>
</table>

Note:
- povint is log of the proportion of poor people in province i at year t
- totalspenreal is log of a year lag of total government spending per capita
- devspenreal is log of a year lag of government development spending per capita
- belpegreal is log of a year lag of government expenditure per capita for salaries and allowances
- agri is log of a year lag of ratios between value added from agriculture to the provincial GDP
- manu is log of a year lag of ratio between value added from manufacturing to the provincial GDP
- min is log of a year lag of ratio between value added from mining to the provincial GDP
- infant is log of a year lag of the rate of infant mortality
- hhcons1993 is log of a year lag of the average household expenditure in 1993 prices
- govquality is log of a year lag of ratio between own revenue and total revenue.
ESTIMATION RESULT

The results of the regression are shown in Table 5: Panels A, B, C and D. From each panel in Table 5, the main models are Models 3 and 4 in Panel A, 7 and 8 in Panel B, 11 and 12 in Panel C.

Table 5. Estimation Results

<table>
<thead>
<tr>
<th>Panel A</th>
<th>Variables</th>
<th>Model</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>totalspenreal</td>
<td></td>
<td>0.024</td>
<td>0.001</td>
<td>-0.091*</td>
<td>-0.362***</td>
</tr>
<tr>
<td></td>
<td>agri</td>
<td></td>
<td>0.088</td>
<td>0.092</td>
<td>0.034</td>
<td>0.067</td>
</tr>
<tr>
<td></td>
<td>manu</td>
<td></td>
<td>-0.028</td>
<td>0.031</td>
<td>0.046</td>
<td>0.061</td>
</tr>
<tr>
<td></td>
<td>min</td>
<td></td>
<td>-0.059***</td>
<td>-0.052***</td>
<td>-0.053***</td>
<td>-0.049**</td>
</tr>
<tr>
<td></td>
<td>infant</td>
<td></td>
<td>0.219***</td>
<td>0.189***</td>
<td>0.178***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>hhcons1993</td>
<td></td>
<td>-0.256**</td>
<td>-0.256**</td>
<td>-0.277**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>govquality</td>
<td></td>
<td>-0.258***</td>
<td>1.161***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>govquality*totalspenreal</td>
<td></td>
<td>-0.145***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Panel B</td>
<td>devspenreal</td>
<td></td>
<td>-0.012</td>
<td>0.009</td>
<td>-0.013</td>
<td>-0.332***</td>
</tr>
<tr>
<td></td>
<td>agri</td>
<td></td>
<td>0.083</td>
<td>0.096</td>
<td>0.074</td>
<td>0.095</td>
</tr>
<tr>
<td></td>
<td>manu</td>
<td></td>
<td>-0.041</td>
<td>0.032</td>
<td>0.045</td>
<td>0.056</td>
</tr>
<tr>
<td></td>
<td>min</td>
<td></td>
<td>-0.063***</td>
<td>-0.051***</td>
<td>-0.046***</td>
<td>-0.050***</td>
</tr>
<tr>
<td></td>
<td>infant</td>
<td></td>
<td>0.221***</td>
<td>0.213***</td>
<td>0.253***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>hhcons1993</td>
<td></td>
<td>-0.260**</td>
<td>-0.260**</td>
<td>-0.212**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>govquality</td>
<td></td>
<td>-0.076**</td>
<td>1.459***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>govquality*devspenreal</td>
<td></td>
<td>-0.145***</td>
<td>-0.145***</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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Table 5. (Continue)

<table>
<thead>
<tr>
<th>Panel C</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
<td>9</td>
</tr>
<tr>
<td>belpegreal</td>
<td>0.029</td>
</tr>
<tr>
<td></td>
<td>(0.024)</td>
</tr>
<tr>
<td>agri</td>
<td>0.088</td>
</tr>
<tr>
<td></td>
<td>(0.060)</td>
</tr>
<tr>
<td>manu</td>
<td>-0.018</td>
</tr>
<tr>
<td></td>
<td>(0.047)</td>
</tr>
<tr>
<td>min</td>
<td>-0.058***</td>
</tr>
<tr>
<td></td>
<td>(0.015)</td>
</tr>
<tr>
<td>infant</td>
<td>0.221***</td>
</tr>
<tr>
<td></td>
<td>(0.068)</td>
</tr>
<tr>
<td>hhcons1993</td>
<td>-0.252**</td>
</tr>
<tr>
<td></td>
<td>(0.102)</td>
</tr>
<tr>
<td>govquality</td>
<td>-0.124***</td>
</tr>
<tr>
<td></td>
<td>(0.039)</td>
</tr>
<tr>
<td>govquality*belpegreal</td>
<td>-0.025</td>
</tr>
<tr>
<td></td>
<td>(0.026)</td>
</tr>
</tbody>
</table>

Notes:
The reported coefficients are included with its standard error in bracket
* Indicates statistical significance at 10% level
** Indicates statistical significance at 5% level
*** Indicates statistical significance at 1% level

It can be seen in the main equations in Table 5 that real government (province) total spending, development spending and expenditure for salaries and allowances are significant determinants of provincial poverty rates. For example, empirical models which include all parameters, i.e, Model 4 in Panel A and Model 8 in Panel B show that an increase in the government expenditure by 10% will reduce poverty rates in range between 0.3-0.4%. It should also be noted that change in total spending has a stronger impact compared to change in development or operational spending. These results show the significant impact of increasing government spending on poverty reduction. This finding supports previous studies arguing that public spending makes a significant contribution to social welfare (Van De Walle 1998; Dhanani and Islam 2002).
Another key finding of this study is related to government quality. In Models 3, 7 and 11, it can be seen that government quality has a negative relationship with the poverty level; meaning the better the quality of a provincial government, the lower its poverty rate. When we put an interaction variable between government quality and government spending, government quality has a positive sign and the interaction variable has a negative sign (Models 4, 8 and 12). The interpretation is that the higher the government spending, the more important better government quality becomes to reduce the poverty level.

Control variables from social indicators are consistently linear with poverty. A decreasing trend of infant mortality and improving household consumption indicate lower rates of poverty. Furthermore, there is also a weak influence of the agricultural sector. Although, the coefficient value corresponds with our hypothesis where poverty movement is linear with the agriculture portion, there is no significant result in all model estimations. The same applies to the manufacturing sector, where there is no significant result in all of the model estimations. However, they do all show that the mining sector has a strong influence, as all estimations show statistically significant results. The finding is contradictory to the result obtained by Hill et al. (2008) which showed no obvious relationship between provinces with a larger mining sector and poverty reduction.

CONCLUSION

The global trend regarding poverty issue urges an eradication strategy that relies not only on economic growth, but also on direct government intervention. The combined approach should reduce poverty faster and might achieve the MDG’s target, particularly in developing countries. Many studies review the effectiveness of government intervention on poverty at micro levels. This chapter reviews the
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government role in poverty reduction at the macro (provincial) level in Indonesia. Government spending has been used as a proxy for government intervention.

This study finds that government spending bears a significant relationship to poverty, and the higher the government spending, the more important better government quality becomes to the poverty alleviation effort. It is an indication that government credibility is crucial for the effectiveness of anti-poverty programmes.

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