

# The Impact of Private Sector Growth on Poverty Reduction: Evidence from Indonesia

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# **The Impact of Private Sector Growth on Poverty Reduction: Evidence from Indonesia**

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## **ABSTRACT**

This paper assesses the effect of public and private sector growth on poverty in Indonesia. We use fixed capital formation growth as the proxy for the private sector and growth in government spending as the indicator of the public sector. We find that growth in both sectors significantly reduces poverty; moreover, they have the same elasticity. Therefore, growth in both public and private sector spending will reduce poverty twice as fast as just relying on public spending. The implication is that it is crucial for governments to improve the business climate in their countries so that the private sector will be able to flourish and in the end expedite poverty reduction.

Keywords: private sector; investment; government expenditure; poverty reduction; Indonesia

JEL classification: H50, I32, O49

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# I. INTRODUCTION

In principle, economic growth is the first requirement for poverty reduction, while the second is ensuring that growth is pro-poor (Quibria 2002; Dollar and Kraay 2002; Bourguignon 2003; Ravallion 2004; Kraay 2006). Specifically discussing the former, it is now widely accepted that overall economic growth is necessary but not sufficient. Many studies find that each country has a specific sector with the most poverty reducing power (Ravallion and Datt 1996; Timmer 1997; Mellor 1999; Warr and Wang 1999; Hasan and Quibria 2004; Suryahadi, Suryadarma, and Sumarto 2006). In developing countries, the sector with the highest elasticity of poverty is usually agriculture. Therefore, if this sector is growing slowly, overall economic growth in these countries will do very little in reducing poverty.

In addition to sectoral classification, a country's economy can also be classified into its expenditure components: consumption, government spending, fixed capital formation, change in stock, export, and import. This classification allows a clear separation of the agents in a country's growth: private consumer (household), public sector (government), and the private sector.

It is quite plausible that each agent also has different impact on poverty reduction. For example, if a country's growth is mainly driven by consumption, then it will not reduce poverty very much since the economy will not have a very large job-creating capability. In contrast, investing in new factories will create jobs, which in turn will reduce poverty. Similarly, government spending may create jobs or increase wages, and eventually reduce

poverty. Hence, we expect that there will be differences in each type of expenditure's growth elasticity of poverty.

Out of the expenditure components, most published studies look at the impact of government spending on poverty as this is the type of spending that policymakers can directly influence. More elaborate studies try to see the determinants of government expenditure and then relate the size of government expenditure to economic growth, and finally look at the impact of economic growth on poverty. Fan and Rao (2003) conduct this exercise using cross-country data to look at the impact of sectoral government spending on poverty. They find that spending on agriculture, irrigation, education, and roads contribute significantly to agricultural growth, and agricultural growth is the most crucial engine for poverty alleviation in rural areas. Meanwhile, Fan, Hazell, and Thorat (2000) conduct a similar study using Indian data and find that rural roads and agricultural research have the highest impact on reducing rural poverty and increasing productivity growth.

Our objective in this paper is to empirically ascertain the relationship between private sector growth and poverty reduction. While it has been widely argued that private sector growth would help poverty reduction (World Bank 2006a), empirical evidence of the correlates is scarce. We take a more rounded approach by empirically estimating the impact of growth in different types of expenditure in the economy on poverty reduction in Indonesia.

We find that in addition to the public sector, the private sector, especially through capital investments, indeed plays a significant role in reducing poverty. Since for many governments in developing countries it is sometimes easier to enact business-friendly policies than to generate the amount of income needed to increase public spending, these governments should promote private sector growth as much—and as soon—as possible.

The rest of this paper is organized as follows: Section II discusses how the private sector could help in the fight against poverty and the public-private partnership; Section III provides the macro context of the Indonesian economy; Section IV explains the data we use in this study; Section V looks at the trends of economic growth and poverty in Indonesia during the period of 1984 – 2002; Section VI describes the empirical model; Section VII describes the results of our estimation; and finally, Section VIII concludes the paper.



## II. THE ROLE OF PRIVATE SECTOR IN REDUCING POVERTY

Private firms, through their investments and spread of best practices, are increasingly important to developing countries' growth. There are several channels through which private firms could reduce poverty and benefit the society as a whole. The first is through the taxes they pay to the government, which then could be used to finance public services. Assuming that basic services are pro-poor, then the poor would benefit the most from the taxes. This is certainly the case in Indonesia, whose public spending on basic health and education is determined to be pro-poor (Sparrow et al 2001).

The second channel is through capital investments. Construction of a new factory—or to a smaller extent opening a new store—for example, would create jobs. Narayan et al (2000) in their consultations with the poor find that one of the most effective ways to escape poverty is to find employment.

Finally, the third channel is by providing competition, which will improve efficiency and increase productivity, and in turn will lead to reduced prices and an efficient production process that benefit the society as a whole. Klein (2003) argues that this productivity-enhancing characteristic is one of the main differences between the private sector and public sector.

A clear example of a country that benefits from the private sector growth is Vietnam, whose Enterprise Law has resulted in a rapid private sector growth. Steer and Taussig

(2002) find that in just two years after the law was passed, private companies are significantly better off and that the expansion has provided jobs to the booming Vietnamese workforce down the road. In addition, Loc, Lanjouw, and Lensink (2006) use a difference-in-difference method to measure the impact of privatization on firm performance in Vietnam and find that privatization is indeed associated with performance improvement.

Since it is clear that a robust private sector would theoretically spur the overall economic growth, which then would reduce poverty. It is in the government's best interest to enable such condition to occur. The government's role in supporting growth of the private sector cannot be overstated. Moreover, as stated by Psacharopoulos and Nguyen (1997), the public-private relationship should be complementary rather than substitutional. According to the World Bank (2004), it is imperative that the government provide a positive investment climate, which would boost both domestic and foreign investments.

A conducive investment climate could be achieved by focusing on domestic stability and security; guaranteeing property rights; and improving regulations, taxation, and infrastructure. Many developing countries, however, could start creating a positive investment climate by simply not punishing companies that are performing well—for example, by imposing excessively progressive tax system or nationalizing profitable companies—but rather allowing them to grow.

In empirically ascertaining the relationship between private sector growth and poverty, we use data from Indonesia. It had been one of the fastest growing economies and had

achieved similarly rapid poverty reduction in the 1980s and 1990s before grinding to a halt during a severe economic downturn in 1997-1999. However, its recovery has been impressive so far, averaging close to 5% annual economic growth between 2002 and 2005. The next section provides a brief account of the Indonesian economy.

### III. INDONESIA: MACRO CONTEXT

After around a decade of relying more on income from the oil boom to make public spending the main driver of economic growth, the Indonesian government increasingly opened the country to private investment in mid-1980s due to a sharp contraction in its oil revenue caused by the large drop in oil prices in the early 1980s (Hill 1996). The previous decade's import substitution strategy had left Indonesian industries inefficient and unable to compete in the world market at the maintained exchange rate. In 1986, the import substitution strategy was therefore abandoned and replaced with export orientation, followed by a devaluation of the exchange rate and deregulation in the domestic economy. After that, Indonesia's economy began its decade-long high growth era, where the economy grew at an average of 7% annually. By 1996, poverty rate had decreased to 17.4% from around 56.7% in 1984, clearly benefiting from high economic growth.

The economic crisis then hit Indonesia in 1997, causing Indonesia's worst economic recession since the 1960s. Between August 1997 and June 1998, the value of the *rupiah* diminished by about 80% to the US dollar. Although the crisis started as a crisis in the financial and banking sectors, it quickly spilled over to the real sector. The Real Gross Domestic Product (GDP) contracted by 13% in 1998 and remained stagnant in 1999. The investment sector was heavily affected by the downturn as the real fixed capital formation fell by 36% in 1998.

In September 1998, the food CPI reached 261 relative to 100 in January 1997, while the CPIs for housing, clothing, and health reached 156, 225, and 204 respectively in the same period. Since nominal wages rose more slowly than food prices during this period, real income declined. The impact of the crisis on welfare was reflected by the increase in the poverty rate from around 15% in the second half of 1997 to 33% by the end of 1998.

Economic performance in 1999 was still affected by the crisis with real GDP only growing at 0.3%, a year-on-year inflation rate of 34.4%, very weak *rupiah* compared to 1996, and 27.1% of the population living below the poverty line. Coupled with population growth, this means that a large number of people fell below the poverty line.

After recovering from the crisis, by 2002 inflation had stabilized at around 10%. Meanwhile, the poverty rate had decreased to its lowest level since 1984 and stood at 12.2%, a record low in Indonesia.

## IV. DATA

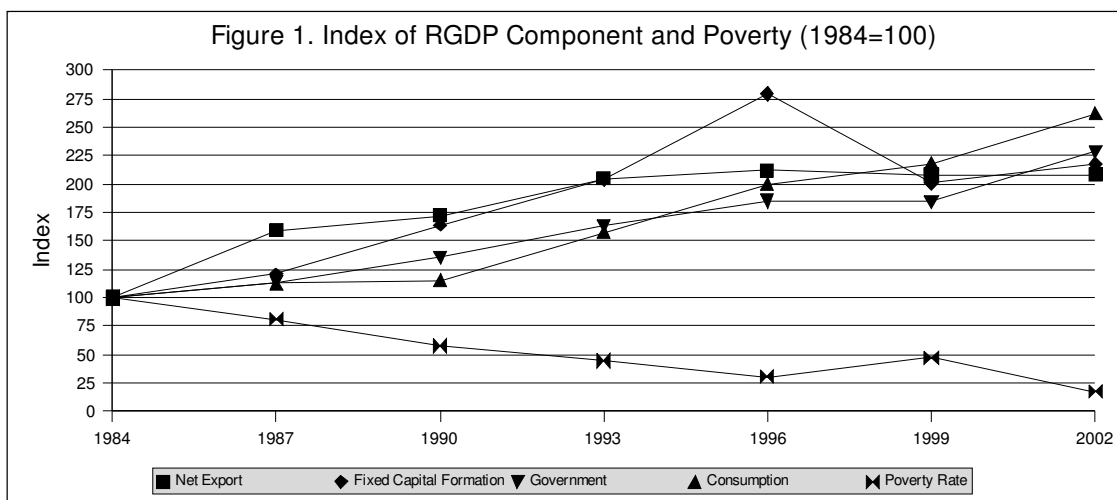
We use several data sources to create the dataset we use for our estimations. The first is poverty rate at the provincial level. The poverty rates that we use were calculated triennially, specifically in 1984, 1987, 1990, 1993, 1996, 1999, and 2002, because they are calculated using the Household Consumption Module of Statistics Indonesia's triennial National Socio-economic Survey. Since Indonesia has 22 provinces that have complete data between 1984 and 2002, this means that we have 154 observation points; however, since we calculate growth rates, our observations are reduced to 132 points.

The second data source is Real Gross Domestic Product data, also published by Statistics Indonesia. In this paper, we use the disaggregation by expenditure components: private consumption, government outlays, gross fixed capital formation, change in stock, and net export. Decomposing GDP into its expenditure components allows us to achieve our purpose of clearly dividing the contribution of households, the private sector, and the government to the GDP. Our variables of interest are the fixed capital formation variable, which represents the contribution of the private sector, and the government outlays variable, which represents public spending. Since fixed capital formation makes up the majority of the investment, in this paper, the words are interchangeable. To match the poverty rate data, we only use GDP data from the years where there is a corresponding poverty rate data.

## V. POVERTY AND EXPENDITURE TRENDS IN INDONESIA 1984-2002

Figure 1 looks at real GDP components and the poverty rates between 1984 and 2002, with the 1984 figure normalized to 100. Real investment had been the fastest growing component of GDP prior to the economic crisis, growing by 179% between 1984 and 1996, while net export, consumption, and government expenditure had grown by 112%, 100%, and 85% respectively. Meanwhile, the poverty rate had decreased by around 70% in the same period.

On the contrary, when the economy contracted during the 1997-1998 crisis, investment was the worst affected, contracting from 275 to 200 on the index between 1996 and 1999. Meanwhile, net export slightly decreased, government expenditure remained the same, and consumption increased slightly. In addition, after being in decline since 1984, poverty increased during this period.



After the crisis, between 1999 and 2002 government spending and private consumption grew the fastest as the government tried to kick-start the economy and some parts of the society had recovered from the crisis. However, the two indicators of private sector activities, capital formation and net export, experienced very slow growth.

The trends indicate that in addition to government expenditure growth, the rapid growth of investment and net export may have also driven the rapid poverty reduction between 1984 and 1996. Likewise, when the private sector shrank during the crisis, poverty increased. Therefore, it is quite possible that the private sector has a large influence on poverty.



## VI. THE MODEL

After looking at the trend of each expenditure component and the trend of poverty in Indonesia from 1984 to 2002, we now estimate each national expenditure component's influence on poverty. We use poverty growth rate as the dependent variable, while the explanatory variables are the expenditure components and population growth.

We start from the basic econometric relationship between poverty growth ( $\dot{P}$ ) and economic growth ( $\dot{y}$ ) as defined in Equation 1:

$$\dot{P} = \alpha + \beta \dot{y} + \varepsilon \quad (1)$$

where  $\dot{P} = \frac{dP}{P}$  and  $\dot{y} = \frac{dy}{y}$ .

Furthermore, the GDP ( $y$ ) can be decomposed into its expenditure components, where  $y = y^C + y^{FC} + y^{CS} + y^G + y^{NX}$ , with the superscripts showing consumption (C), fixed capital formation (FC), change in stock (CS), government spending (G), and net export (NX) respectively. Therefore, we can decompose economic growth into its expenditure components:

$$\dot{y} = \frac{dy}{y} = \frac{y^C}{y} \frac{dy^C}{y^C} + \frac{y^{FC}}{y} \frac{dy^{FC}}{y^{FC}} + \frac{y^{CS}}{y} \frac{dy^{CS}}{y^{CS}} + \frac{y^G}{y} \frac{dy^G}{y^G} + \frac{y^{NX}}{y} \frac{dy^{NX}}{y^{NX}} \quad (2a)$$

or

$$\dot{y} = H^C \dot{y}^C + H^{FC} \dot{y}^{FC} + H^{CS} \dot{y}^{CS} + H^G \dot{y}^G + H^{NX} \dot{y}^{NX} \quad (2b)$$

where  $H^C$  is the share of consumption expenditure to the total GDP,  $\dot{y}^C$  is the growth rate on consumption spending, and so on.

Since our data is at the provincial level, we need to account for population migration across provinces. This is especially important because people are known to migrate to regions with stronger economy, mainly to find jobs. Therefore, population growth is used as the variable that controls for changes in the population of a province. Furthermore, other studies (Datt and Ravallion 1998; Son and Kakwani 2004) argue for the importance of initial conditions; therefore, we include three initial conditions: poverty rate, inequality measured by Gini ratio, and human capital, proxied by the proportion of working-age population with at least nine years of education.

Thus, the model that we estimate is:

$$\begin{aligned} \dot{P}_j = & \alpha + \beta^C (H_j^C \dot{y}_j^C) + \beta^{FC} (H_j^{FC} \dot{y}_j^{FC}) + \beta^{CS} (H_j^{CS} \dot{y}_j^{CS}) + \beta^G (H_j^G \dot{y}_j^G) + \\ & \beta^{NX} (H_j^{NX} \dot{y}_j^{NX}) + \gamma \dot{P}op_j + \delta E_j + \varepsilon \end{aligned} \quad (3)$$

where  $\dot{P}OP_j$  is the population growth rate in province  $j$  and  $E_j$  the initial condition variables.

## VII. EMPIRICAL RESULTS

We estimate the model using the Generalized Least Squares (GLS) method for the panel data with the standard errors adjusted for heteroskedasticity. Meanwhile, using the growth variables helps remove the autocorrelation in the variables. The estimation results of Equation (3) are shown in Table 1.

**Table 1. The Impact of Expenditure Growth on Poverty**

| Variable                | Coefficient | Std. Error |
|-------------------------|-------------|------------|
| Consumption             | -0.187      | 0.469      |
| Fixed capital formation | -1.046**    | 0.293      |
| Change in stock         | 0.001       | 0.001      |
| Government expenditure  | -1.834**    | 0.490      |
| Net export              | 0.005       | 0.025      |
|                         |             |            |
| Population growth       | -0.127      | 0.336      |
| Initial poverty rate    | 0.144       | 0.191      |
| Initial Gini ratio      | -0.752      | 0.855      |
| Initial human capital   | -0.076      | 0.532      |
| Constant                | 0.170       | 0.220      |
|                         |             |            |
| Log likelihood          | -54.28      |            |
| Observation             | 132         |            |
| Chi-squared             | 29.57**     |            |

Notes:

The dependent variable is poverty growth rate.

The standard errors have been adjusted for heteroskedasticity.

\*\* = significant at 1%.

The result shows that only two expenditure components have statistically significant coefficients: fixed capital formation and government spending. Moreover, both have negative signs, implying that their growth is poverty-reducing. The result proves that, in addition to government spending, the private sector investment significantly reduces

poverty. Furthermore, there is no statistically significant difference between the coefficients of government expenditure and fixed capital formation.

Note that the coefficients of the variables are not directly comparable. They should be controlled with the average shares of all the respective expenditure components to the GDP, shown in Equation (3) to get their actual elasticity of poverty, which could then be compared. Table 2 provides each expenditure component's elasticity of poverty.

**Table 2. The Impact of One-Percent Growth on Percentage Proportional Change in Poverty**

|                         | Coefficient | Mean GDP Share (%) | Elasticity |    |
|-------------------------|-------------|--------------------|------------|----|
| Consumption             | -0.187      | 52.9               | -0.10      |    |
| Fixed capital formation | -1.046      | 27.7               | -0.29      | ** |
| Change in stock         | 0.000       | -0.9               | 0.00       |    |
| Government expenditure  | -1.834      | 9.9                | -0.18      | ** |
| Net export              | 0.005       | 10.4               | 0.00       |    |

note: \*\* = significant at 1%.

Figures in the first column are taken from Table 1. Meanwhile, the average shares of all components to the total GDP of 1984 - 2002 are in the second column. By multiplying the coefficients with the average shares, we acquire each component's elasticity of poverty. Hence, a 10% growth in fixed capital formation would reduce the poverty rate by 2.9% proportionally. Similarly, a 10% growth in government expenditure would reduce the poverty rate by a slightly higher proportion, 1.8%. However, as mentioned above, the difference between the two variables' elasticity of poverty is not statistically significant.

There are several findings based on our results. Firstly, while increased public spending reduces poverty, an accompanying private sector growth helps expedite the reduction. This provides evidence for the importance of an increased private sector contribution in the economy to improve the general welfare, not least the welfare of the poor. Secondly, looking at the magnitude of the poverty elasticity of private sector growth, poverty reduction in Indonesia can happen twice as fast with a similar growth in both public and private sectors.

## VIII. CONCLUSION

We investigate which national expenditure component of growth has the highest elasticity in reducing poverty. Using the provincial level growth and poverty data of Indonesia, we find that only private sector investment and government spending significantly reduce poverty.

Comparing the elasticities of the two, furthermore, we find that investment's elasticity of poverty is not statistically different from government expenditure's elasticity. Therefore, the government should find ways to strike a balance between maintaining a sufficient level of public spending and enacting policies to improve the business climate to spur on private sector growth. Of course, in the context of a decentralized Indonesia, various levels of government should work together to create regulations that are complementary.

For example, the World Bank (2006b) finds that district government policies that can help the rural small enterprises in Indonesia are the ones related to the increase in access to credit and the creation of one-stop services for the application of business licenses. As for the national government, the study states that providing better infrastructure and removing other barriers to trade should be the ideal start.

There are several avenues for further research, for example investigating whether the poverty in urban and rural areas responds differently to increased investment in the respective areas. Furthermore, there should be further studies to determine which government policy should be prioritized in order to improve investment climate in

Indonesia. In the context of a decentralized Indonesia, reviewing best practices by different districts would also be an important research topic.

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