

Effects of Poverty Alleviation on Children's Education: Does Local
Government Quality Matter?

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1 Introduction

Reducing the number of people in poverty is an important goal for governments, and many of them have recently attempted to allocate public resources to particularly poor areas. Effectiveness of such geographic targeting is of interest to both policy makers and researchers. A poverty alleviation program conducted in Indonesia has a unique feature that the same 20 million Rp. grant¹ is given to all assigned villages regardless of their populations, creating a variation in per capita availability of the grant across the villages. Also, the assignment by the government follows explicit and observable rules. Utilizing these two sources of information, I will investigate the effect of the unique anti-poverty program on child well-being, especially, school enrollment, child labor supply and educational expenditure, outcomes that will have a long-run impact on the welfare of people who currently live in poverty. The program also provides the assigned village an authority to decide its within-village distribution, as a step to build reliable local government in the highly centralized country². Examining whether the effect of the grant differs across villages with varying local government quality, as well as the average level of educational attainment among adults will help us to understand key conditions for an efficient grant provision.

2 Indonesia's Poverty Alleviation Program

Indonesia has been successful in eradicating poverty, reducing the number of the poor from 70 million (60% of the population) in 1970 to 27.2 million (15.1%) in 1990. However, a slowing decrease of the incidence of poverty in the early 1990s together with the government's perception that those who are still in poverty are those located in remote areas has led to a geographically targeted grant transfer program called *Inpres Desa Tertinggal* (IDT, Presidential Instruction Program for Less-Developed Villages)³. Starting in the fiscal year of 1994/1995, the IDT grant has been provided to villages that are selected as poor for three years with the government's aim of creating new job opportunities and improving the living standards of the poor (National Development Planning Agency (NDPA), 1994, pp.1-6).

The overall implementation of the IDT program involves two stages; the first is a selection of "less-developed" villages by the central government, and the second is an allocation of the grant to eligible households within the assigned villages. The government's selection depends on a welfare indicator called a score, created from variables of economic and social infrastructure available in a village-level census, Village Potential Statistics (*Potency Desa*

¹ Approximately \$8932 with the 1995 average exchange rate of Rp.2239 per dollar.(Indonesian Financial Statistics, Bank Indonesia)

²Shar et al. (1994)

³BPS(1994) p.75

(PODES)). If a village has a relatively lower score within its province, then it is considered to be "less-developed". Once IDT villages are selected, all receive the same amount of the grant regardless of its populations, and this is the source of identification that I exploit to investigate the effect of the IDT grant on children's education.

The grants are mostly used as a fund for lending to eligible households within the IDT village, which, in turn, finances various activities such as purchase of livestock and raw materials for a stall and craftwork. Under an assumption that a household allocates children's time into either work or school, whether the grant provision enhances their schooling is an empirical question as labor demand for children may increase as a result of a higher opportunity cost for children's time to go to school, while increased income may induce more spending on children's education if it is a normal good.

3 Previous Studies on IDT Program

Several studies have analyzed relationships between the IDT program and welfare and that and inequality. Akita and Szeto (2000) argue that a higher per capita IDT grant in a province is associated with a lower within-provincial inequality. Daimon (2000) concludes that, even after the program is implemented, poverty levels are higher among the districts with more IDT villages. However, it is not clear how much of these correlations reflect a causal effect of the IDT program because of a possible bias due to the endogenous selection of the IDT villages.

Taking advantage of the fact that the selection of the IDT villages was not perfectly targeted to the poorest villages, Molyneaux and Gertler (1999) match the IDT villages and non-IDT villages that are similar to each other using the propensity score, then compare changes in a number of welfare measures⁴ with a village-level fixed effect. However, significant changes in the welfare measures are found only sporadically, and they tend to be not compelling.

Alatas (1999) utilizes the fact that the IDT villages are selected based on the village's *relative* score within a province, and two villages with the same score can be selected in one province but not in the other. She matches an IDT village in one province with a non-IDT village from another province, and shows that the fraction of children at work is larger in the IDT villages, while school attendance exhibits little difference. However, when she allows a province-level fixed effect in her regression discontinuity analysis⁵, only three and four out of 27 provinces show a significant increase in the fraction at work among girls and boys, respectively.

⁴They include school enrollment, child mortality rates and child weight.

⁵The selection rule for 1995-96 has for each province a cutoff score.

4 Identification Strategy

Further evidence seems to be necessary to understand the effect of the IDT program on children's education. In particular, changes in educational expenditure has not been investigated and heterogeneity in the effects on child labor, school attendance, and educational expenditure is likely to help us understand key factors for efficient program implementation. The unique source of identification that has not been exploited, the variation in the availability of the per household IDT grant, provides an opportunity to address these questions. I will use a reciprocal of the number of households as an indicator of per household availability of the IDT grant in the village prior to the selection of participating households. We can examine a village-level effect of a marginal increase in the per household IDT grant as well as its interaction effects with variables such as local government's quality and the average level of educational attainment among adults. The village level analysis makes it possible to compare my results with those of previous studies, and does not necessitate the assumption of prices being exogenous to households⁶.

I will utilize these two sources of information: that the per household IDT grant differs across villages and that the government's selection followed explicit and observable rules. Note that the per household grant is not likely to be endogenous with respect to children's education. Though the size of population is sometimes correlated with a community's economic prosperity and prevalence of education, it is not necessarily the case in Indonesia. It has been a common practice of the Indonesian government to keep the village size under a certain level. A village with an increasing size is split into two or more, thus, even if a large village tends to have better economic infrastructure, it is likely to be split and become several small villages. As a result, measures such as child labor and school attendance are not likely to be significantly correlated with the village size. Furthermore, we can compare difference between small and large villages in changes in the educational outcomes between the IDT and non-IDT villages based on the assumption that if there are any causal effects, they should be found only between large and small villages that received the IDT grant, and not between the two villages that did not.

⁶A household level study would require knowledge of how the grant is allocated within a village, which, in principle, can be different across villages and are not observed by a researcher. Also, household's participation in the IDT program is likely to be endogenous with respect to child labor and education expenditure, but information that qualifies the exclusion restriction is not available in the data. Although estimated effects do not directly provide implications on changes in welfare measures at the household level, I believe that the village-level impacts by themselves are of interest to both policymakers and researchers.

5 Data

I will use the National Socio Economic Survey (SUSENAS), a nationally representative repeated cross-section, for information on children's education and labor, as well as other household characteristics. The sample size of approximately 202,000 households provides a firm basis for a flexible investigation on children's education (Surbakti [1995]).

The SUSENAS 1993 and 1994 provide information on pre-program periods while 1995, 1996, 1997 and 1998 do the same for program periods, and 1998 and later for post-program periods⁷. In this study, I will first examine an effect in the first imbursement of the grant by comparing changes from 1994 to 1996⁸. Then, a combined effect of the first and second imbursement will be investigated using the data in 1994 and 1997.

A census of all villages in Indonesia, Village Potential Statistics (PODES) provides information on village-level characteristics such as village government characteristics, access to market and credit institutions, and quality of infrastructure. The PODES is enumerated three times in a decade, and I will use 1993 and 1996 for the pre-program and program periods, respectively.

6 Expected Results

The estimated effects of the per household IDT grant require less restrictive identification assumptions compared to previous studies, which provides a more reliable result and contributes to understanding the causal effects of the IDT program on children's education. If, as Alatas (2000) shows, school attendance is not affected by the program, it is possible that households shift to better education without increasing the amount of children going to school. Thus, an investigation into the effect on education expenditure will provide us with a key to address this question. As for heterogeneity in the effects on child labor, school attendance, and education expenditure, a village with more organized administrative body and more educated residents is likely to disproportionately benefit from the IDT program. The questionnaire on development and human capital of the village government will help us to examine their roles in affecting the impacts of the IDT grant. I believe that this study will add to the previous studies on the IDT program, and further contribute to an understanding of the effectiveness of anti-poverty policy that utilizes geographic targeting.

⁷Prior to 1993, the SUSENAS had a substantially smaller sample size of 65,000 households, thus, they are not used.

⁸In Indonesia, the fiscal year starts in April and ends in March of the next year, thus, the first imbursement was between April 1994 and March 1995. The SUSENAS 1995 that is enumerated in January 1995 is likely to be too early in time to detect the effect of the first imbursement.

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