DECENTRALISATION AND POVERTY REDUCTION: THE ROLE OF LOCAL ECONOMIES AND INSTITUTIONAL CAPACITY IN INDONESIA

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Abstract

Over the two decades to 2019, a decentralised Indonesia has made significant progress in reducing the poverty rate by more than 50 percent. Despite a significant decline at the national level, progress in poverty reduction has been uneven across districts. This study aims to investigate those factors that may explain these regional variations using panel regressions. Using district panel data set with annual observations from 2010 to 2016, we find that poverty reduction and regional economic output are strongly interrelated. We find that poverty tends to decrease more in districts with: (a) higher district economic output per capita; (b) higher outputs of manufacturing and service sectors; and (c) an active local office for the coordination of poverty reduction initiatives (*Tim Koordinasi Penanggulangan Kemiskinan*: TKPK). Poverty is also more likely to decrease in districts with: (a) a higher share of villages led by local leaders with a secondary education or higher; (b) higher educational attainment among the rural population; and (c) a higher share of villages with good road conditions. We find no correlation, however, between progress in poverty reduction and local government spending on education, health, and social protection. This suggests that simply increasing the amount of local government spending on social programs may not be effective in reducing poverty. Our findings also indicate that sufficient institutional capacity appears to be one of the critical preconditions for the delivery of more effective public services for poverty alleviation.

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Abbreviations and Acronyms

BPS   *Badan Pusat Statistik* (Statistics Indonesia)

GRDP   Gross Regional Domestic Product

NTB   Nusa Tenggara Barat (West Nusa Tenggara)

NTT   Nusa Tenggara Timur (East Nusa Tenggara)

PAD   *Pendapatan Asli Daerah* (Regional [Government] Own Revenues)

TKPK   *Tim Koordinasi Penanggulangan Kemiskinan* (Coordinating Team for Poverty Reduction)

TNP2K   *Tim Nasional Percepatan Penanggulangan Kemiskinan* (National Team for the Acceleration of Poverty Reduction)

UDB   Unified Database

Introduction

Indonesia has made tremendous progress in maintaining economic growth and reducing poverty since decentralisation[1]. Over the two decades to 2019, Indonesia has reduced the poverty rate by more than 50 percent–with the poverty headcount declining from 19.14 percent of the population in 2000 to 9.41 percent in 2019. This progress coincided with two major events: substantial poverty reduction occurred alongside a period of rapid economic growth, and in this year marks twenty years since Indonesia's decentralisation. There are also two caveats to this success: poverty reduction at the local level has varied widely across provinces and districts, and progress appears to be slowing.

Political and economic theory describe multiple mechanisms linking decentralization to poverty reduction. Three important advantages decentralization could offer are, briefly: better bureaucratic knowledge of local contexts, increased government accessibility and accountability, and greater local budgeting and revenue collection autonomy (Steiner, 2005). A combination of these supposedly has the potential to provide the information, incentives, and funding to implement more efficient, better-targeted public services, accelerate economic growth, and, through these channels, reduce poverty.

While there are many factors that have contributed to reducing poverty during the decentralisation era, economic growth is found to be one of the main drivers of poverty alleviation in Indonesia (Miranti et al. 2014; Sumarto et al. 2014; Ilmma and Wai-Poi 2014; Suryahadi et al. 2012; Suryahadi et al. 2009; Balisacan et al. 2002). Using provincial panel data from 1984 to 2010, Miranti et al. (2014) found that the growth elasticity of poverty during decentralisation–from 2002 to 2010–was greater than any period since 1984. Using the basic model formulated by Ravallion and Datt (1996) in estimating the impact of economic growth on poverty, Suryahadi et al. (2012) found no evidence that growth elasticity of poverty in Indonesia declined after the Asian Financial Crisis.

While previous studies find that overall economic growth is negatively associated with poverty reduction in Indonesia, specific sector growth helps determine the magnitude of the impact. Suryahadi et al. (2009) find that urban services growth in Indonesia has the highest impact on the poverty rate for both rural and urban areas. They also find that agriculture growth remains crucial for poverty reduction in rural areas. Their findings suggest, however, that there is no correlation between industrial growth and poverty reduction. Using more recent data, Edwards (2015) finds that plantation-based agricultural growth–focusing on palm oil– is strongly associated with a reduction in the poverty rate. He estimated that a ten percentage points increase in palm oil's share of land led to a ten percent reduction in the poverty rate and a narrowing of the poverty gap. These findings suggest that, in addition to overall economic growth, sectoral economic growth may also explain variations in the rate of poverty reduction across regions.

In addition to growth that varies by regions, another critical factor that may accelerate progress in reducing poverty is the government's commitment that has been translated into various poverty alleviation programs and policies. Over the two decades to 2019, the Indonesian Government has made efforts to make growth

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1 Indonesia adopted a "Big Bang" decentralization approach in 1999 which implemented fiscal, administrative, and political decentralization simultaneously according to 1999 and 2000 laws on regional autonomy (Hoffman and Kaiser 2003).

more inclusive by ensuring social protection programs work more effectively. Through Presidential Regulation No. 15/2010, the Government of Indonesia established the National Team for the Acceleration of Poverty Reduction (TNP2K)[2] to promote coordination across ministries and agencies to improve the implementation of poverty alleviation programs. These programs include subsidised rice (Rastra), conditional cash transfer (*Program Keluarga Harapan*), scholarships for the poor (*Bantuan Siswa Miskin*), and other social programs. One of TNP2K's main mandates is to develop a national targeting system–namely the Unified Database (UDB)–to ensure that these programs reach beneficiaries (TNP2K 2014). The UDB captures data on poor and vulnerable members of households in the bottom 40 percent of the consumption distribution. Previous research found that the UDB effectively improves targeting performance of social protection programs compared to previous targeting approaches (Tohari et al. 2017; Bah et al. 2014).

In a decentralized country, local governments have an important role in delivering public services including the implementation of social protection programs. However, institutional capacity is variable, and was quite low initially following decentralization. To support local government institutions, the national government established poverty coordination teams at the province and district levels, *Tim Koordinasi Penanggulangan Kemiskinan (TKPK)*, which are chaired by the deputy head of each district (*Wakil Bupati* or *Wakil Walikota*). In 2011, around a third-quarter districts (373 out of 497) had established TKPKs. Sumarto et al. (2014) found that TKPK's years of establishment were associated with poverty reduction over the five-year period from 2006 to 2010. We therefore include measures of TKPK and local government capacity in our analysis.

This paper proceeds as follows. The second part of this paper presents existing evidence on decentralization, poverty reduction, and the determinants of regional poverty rates in Indonesia. The third part provides an overview of regional heterogeneity of poverty reduction and shows the variation in economic output and institutional capacity across districts. The fourth section explains the methodology. The fifth presents and discusses the results, while the sixth section presents our conclusions.

Theory and Evidence on Decentralization and Poverty Reduction

Public Services and Decentralization

Evidence on decentralization's impact on public services in Indonesia is limited, and mixed. The existing literature primarily covers local government spending and public service provision, intergovernmental transfers, and the effects of direct elections at the district level. Hodge et al. (2015) assess public health service quality before and after 1999, proxied by access to neonatal care and mortality, and find no significant overall trend following decentralization. However, they do find that geographical disparities in health services (across regions) have increased post-decentralization.

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2 *Tim Nasional Percepatan Penanggulangan Kemiskinan.*

Other research addresses the impact of local governments' fiscal capacity. Controlling for poverty rate and prior level of economic and infrastructure development, Lewis (2017) finds a U-shaped relationship between per capita local government expenditure and public service access from 2006-2010. At approximately the 75th percentile, the relationship between expenditure and access becomes negative. However, this effect disappears when controlling for financial audit results: districts with better fiscal oversight records exhibit a positive relationship between investment and key outcomes across the entire range of spending.[3]

Decentralization also has some drawbacks. Services may not improve, for example, if incentives for public officials are not aligned with public needs. Direct elections are one mechanism that can help increase local accountability in decentralized systems, but may also lead to vote buying and corruption, especially in poorer districts (Steiner, 2005). In Indonesia, district-level direct elections were not an initial condition of decentralization, but were mandated by law several years later. Skoufias et al. (2014) find no statistically significant difference in the quality of public service provision across four years following their implementation. They do find increases in certain budgets in pre-election years, however, and a significant increase in health expenditure only in years immediately following elections. Budget increases in pre-election years suggest vote buying by incumbents. Increases in health budgets *following* elections, however, may be a sign of real, positive accountability.

Overall, more evidence is needed to determine decentralization's impact on public service provision. If public services do improve as a result of decentralization, they have the potential to be instruments for poverty reduction. However, they may also increase inequality: in a review of literature on the impacts of decentralization across developing countries, Smoke et al. (2013) discover that "most studies find that better-off segments of the population benefit disproportionately from service improvements" after decentralization, "while access and/or usage for the poor often deteriorates."[4] Similarly, although the papers reviewed find average improvements or mixed results in living conditions and livelihoods, those address distributional effects most often find *increases* in inequality following decentralization.

Indonesia's national poverty rate has decreased significantly since 2000, but the impact of decentralization specifically is still unclear. One study, using panel data from 1993-2005, did conclude that the decentralization "shock" had a statistically significant, negative impact on provincial poverty rates (Aritenang, 2010). Regarding district financial capacity, however, the same paper finds no evidence that increases in shared revenue affected poverty rates.[5] Dyah (2012) discovers a similar relationship at the district level, where DBH per capita (*Dana Bagi Hasil* or revenue-sharing funds) is *positively* correlated with income inequality. These findings could simply indicate that financial capacity is not a limiting factor for local government action on poverty reduction. Neither paper addresses accountability (as studies of direct elections do) or institutional capacity.

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3 Echoing this result, Lewis and Smoke (2017) find that increased general-purpose grants are associated with greater local spending on personnel, a pattern which is sometimes considered a warning sign of corruption.

4 The authors also note that this conclusion was drawn from the few papers they found that did address the distributional and poverty-related effects of decentralization.

5 Shared revenue consists of natural resource rents and local taxes, which are split between the federal and district governments. District governments have complete jurisdiction over how their portion of shared revenue is spent.

Economic Growth and Poverty Reduction

Apart from public services, local economic growth contributes to district-level poverty reduction. Some research has focused on growth trends and regional heterogeneity in both the pre- and post-decentralization eras: Vidyattama (2010) finds that transportation access, infrastructure development, and trade openness were the most significant determinants of provincial economic growth from 1985-2005. Human capital, proxied by average years of education, was weakly significant, and surprisingly, local government investment was negatively correlated with per capita GRDP. Aritenang (2010), studying a similar period (1993-2005), finds a convergence effect on economic growth: controlling for human capital, oil and gas sector dominance, and other variables, poor provinces grew faster than rich ones.

The goal of this paper is not to discuss the impact of decentralization directly, but rather poverty reduction trends in its aftermath. Several papers have addressed this question. Suryahadi et al. (2009) examine the impact of sectoral components of economic growth on provincial poverty rates from 1986-2002. Accounting for migration across regions, they find that urban and rural service-sector and rural agriculture-sector growth all decrease poverty rates. Urban service-sector growth has the largest negative impact on urban and rural poverty rates, across all sectors. Aritenang (2010) finds a statistically significant, negative impact of human capital growth on poverty rates, but even controlling for numerous other economic characteristics, his analysis explained little of the variation in regional poverty rates (18%).

Local Institutional Capacity and Poverty Reduction

Sumarto et al. (2014), the motivation for this paper, discuss the determinants of poverty rates at the district level. The authors are therefore able to control for variation in unobserved provincial characteristics. They find that poverty rates are slightly lower in districts with higher budgets (as a share of local GRDP), more educated local leaders, and higher GRDP per capita (although this last effect is not statistically significant). More educated and urban districts have significantly lower poverty levels, as do districts with local offices for coordinating poverty reduction (TKPKs). Furthermore, districts with older TKPKs reduced poverty more over the years studied. Offices that were at least three years old were significantly associated with greater poverty reduction over the five-year period.

This last result is especially notable because the authors also observed a nation-wide convergence effect: districts with lower initial poverty rates reduced poverty less overall. Although the paper makes no causal claims, the relationship of TKPKs with lower poverty incidence *and* greater reduction suggests a potential causal relationship. Since the success of TKPKs can be assessed as one measure of institutional strength at the local level, it is one of the relationships we investigate further in this paper.

Regional Variation in Poverty Reduction, Economic Growth, and Institutional Capacity in Indonesia

Poverty Reduction at the Local Level

Since 2000 the national poverty rate in Indonesia has been reduced substantially–from 19.14 percent to 9.41 percent in 2019–however, despite significant progress at the national level, the reduction at the local level varied across provinces and districts. We find that regions with a high initial poverty rate experienced a larger reduction in their poverty rate between 2005 and 2018 compared to those that had a relatively lower poverty rate in 2005. Figures 1 and 2 show the convergence in poverty rate at the provincial and district levels respectively. Provinces with a high poverty rate in 2005–such as Papua and Maluku–managed to reduce poverty by around 13–14 percentage points between 2005 and 2018. On the other hand, provinces with a lower poverty rate in 2005 such as South Kalimantan and Banten reduced poverty by less than five percentage points over this period.

Figure 1: Convergence in Poverty Rates at the Province Level (2005–2018)
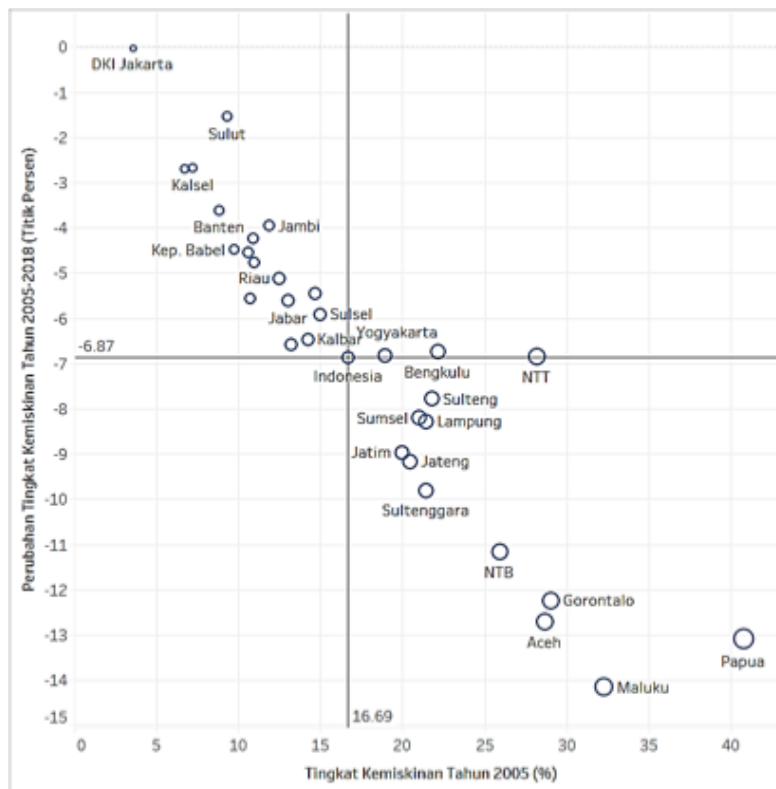
Note: x-axis shows the poverty rate in 2005, while y-axis shows the changes in poverty rate between 2005 and 2018. Source: Authors' analysis based on Susenas 2005–2018.

Figure 1 also shows that regions with similar initial poverty rates have made different progress in reducing poverty. For example, NTB, NTT, Aceh, and Gorontalo had poverty headcount ratios from 25 to 30 percent in 2005. In terms of their progress, however, NTT had the smallest reduction–around seven percentage points–in its poverty rate compared to the other three provinces. The variation is also evident in the regions that had an initial poverty rate lower than the national one in 2005. North Sulawesi (Sulut) has made slower progress in reducing poverty compared to Kepulauan Bangka Belitung (Kep. Babel).

Figure 2: Convergence in Poverty Rate at the District Level (2010–2018)
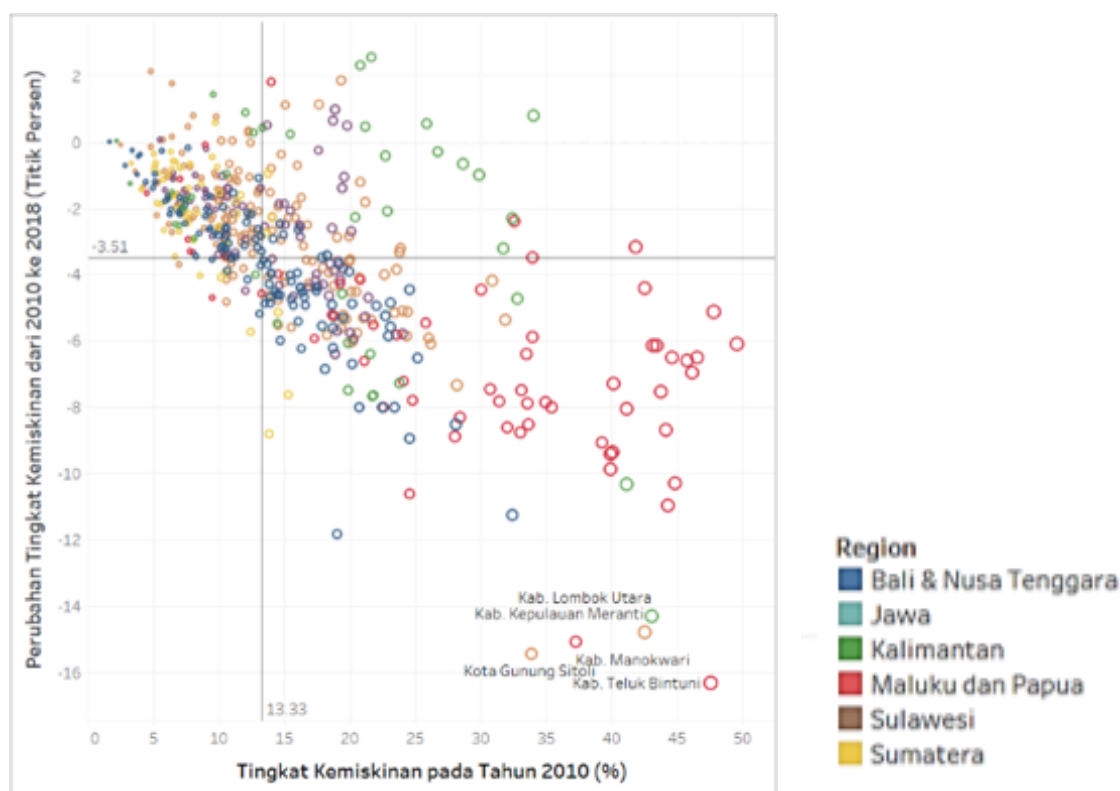
Note: x-axis shows the poverty rate in 2010, while y-axis shows the changes in poverty rate between 2010 and 2018.
Source: Susenas 2010-2018 (Authors' analysis).

We also find that the poverty rate at the district level tends to converge (Figure 2). Districts with a poverty rate higher than the national average in 2010 which are mostly located in the Papua and Maluku regions (Figure 3) tend to have larger reductions in their poverty rate compared to regions with poverty rates lower than the national one. Teluk Bintuni, Manokwari, Kota Gunung Sitoli, Kepulauan Meranti, and Lombok Utara are districts with the greatest reduction of around 14 to 16 percentage points in the period of 2010–2018. The figure also shows that the variation in the rate of poverty reduction is quite large among districts with similar initial poverty rates. There are some districts with an initial poverty rate higher than 25 percent that experienced relatively slower progress in reducing poverty.

Figure 3: Regional Variation in Changes in Poverty Rate (2010-2016)

Source: Susenas 2010–2016 (Authors' analysis).

Local Economic Outputs

Economic growth was found to be one of the factors that strongly correlate with decreasing rates of poverty. Using the district panel data set, we are able to map the growth of per capita output of 511 districts, proxied by Gross Regional Domestic Product (GRDP) per capita from 2010 to 2016 (Figure 4). Most districts experienced a positive growth of GRDP per capita. Local economic growth in this period varied from -20.16 to 32.15 percent–with the fastest and slowest growing local economies located in the same province (NTT).

Figure 4: Regional Variation in Changes in Economic Output (2010-2016)

Color shows annual growth of per capita GRDP from 2010 to 2016 in percent. Size shows per capita GRDP (including oil and gas) in 2010 in million IDR/person.
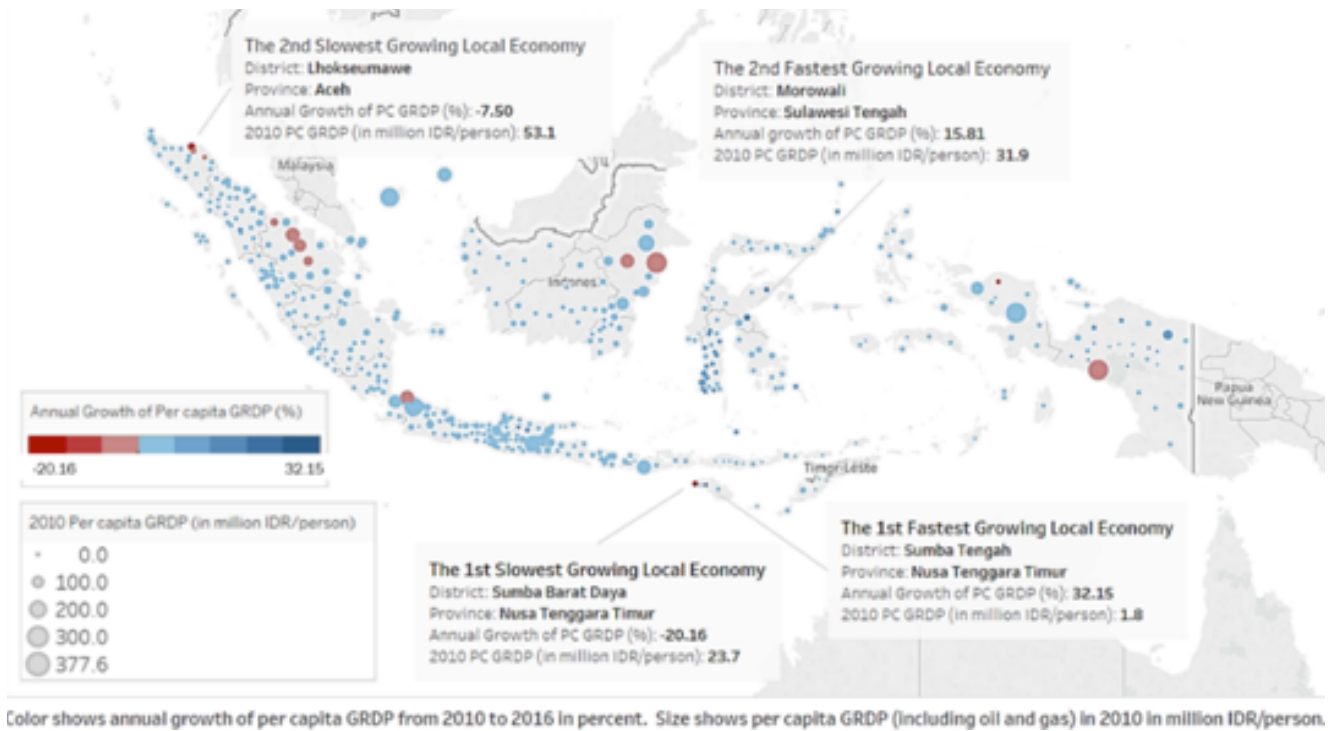
Source: BPS 2010-2016 (Authors' analysis).

Local Institutional Capacity for Poverty Reduction

Since 2010, TNP2K through its Advocacy Unit has implemented various activities to build the technical capacity of regional TKPKs and strengthen their ability to plan and execute regional poverty alleviation programs. Based on *Permendagri* No. 42/2010, TKPKs are mandated to develop poverty reduction strategies through coordination meetings and submit annual reports on the implementation of poverty reduction programs. TKPKs are also encouraged to participate in various capacity-building activities such as technical consultations, internships, and training organised by TNP2K or the TKPK at the provincial level. In this study, we extend the analysis of Sumarto et al. (2014) by exploiting variations in TKPK's ability to perform their functions from 2011 to 2016.

TNP2K's Advocacy Unit has mapped TKPKs based on the administrative data that recorded each TKPK's activities each year between 2011 and 2016. In this paper, a TKPK at the district level is considered active if the district conducted regular coordination meetings at least once per year, always submitted annual reports, and participated in technical consultations and training at least once in two years. Most districts in the western region have an active TKPK while, in the eastern region, an institution's capacity to perform the required mandate is more varied across districts (Figure 5).

Figure 5: Mapping TKPK Based on Their Activities and Engagement (2011-2016)

Source: TNP2K's Advocacy Unit, 2018 (Authors' analysis).

Methodology

Data

We constructed the district panel data set with annual observations from 2010 to 2016. In this period there are some formations of new districts *(pemekaran)* which led to an increase from 497 districts in 2010 to 511 districts in 2016. We adjust the annual data to match the borders of the 497 districts as they were in 2010.

We used poverty figures published by Statistics Indonesia (*Badan Pusat Statistik:* BPS) and merged the poverty data with the other four data sets. First, we use GRDP published by BPS as a measure of regional economic output. We use both the total and sectoral GRDP data in real terms–with the prices fixed at 2010 rupiah. Second, we merged the main data set with district government spending data published by Directorate General Fiscal Balance, Ministry of Finance. We only use district government spending on social programs such as education, health, and social protection. Third, we use administrative data from the local TKPK office between 2011 to 2016 collected by TNP2K's Advocacy Unit. Lastly, we merged the main data set with other socioeconomic indicators such as local leaders' education attainment, average education attainment by region (urban/rural), and basic infrastructure such as roads. We collected these indicators using *Susenas* and *Podes* data sets. Table 1 shows the descriptive statistics.

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Poverty rate (%)	3,478	13.85	8.58	1.33	49.58
Number of poor people (person)	3,478	58,245	66,416	1,300	499,100
Poverty Gap	3,478	2.35	2.16	0.09	19.16
Population (person)	3,479	499,606	598,249	6,144	5,555,259
GRDP per capita (real):					
Total (IDR/person)	3,476	31,900,000	40,700,000	1,756,528	381,000,000
Primary sector (IDR/person)	3,476	11,800,000	26,100,000	13,818	319,000,000
Secondary sector (IDR/person)	3,476	8,837,373	20,000,000	64,443	348,000,000
Tertiary/service sector (IDR/person)	3,476	11,300,000	15,600,000	758,090	325,000,000
Agriculture (IDR/person)	3,476	5,838,537	4,769,094	13,818	55,700,000
Mining (IDR/person)	3,307	6,214,680	24,900,000	107	314,000,000
Manufacturing (IDR/person)	3,474	5,841,494	18,800,000	1,282	335,000,000

Variable	Obs	Mean	Std. Dev.	Min	Max
District government spending per capita:					
Total (IDR/person)	3,233	4,146,625	5,726,817	594	93,700,000
Health (IDR/person)	3,227	400,184	413,619	195	6,464,360
Education (IDR/person)	3,230	1,031,851	778,486	11,546	14,900,000
Social protection (IDR/person)	3,220	76,827	141,339	16	2,500,885
Active TKPK (==1, if active)	3,479	0.79	0.41	0	1
Average years of schooling:					
Total (years)	3,432	7.82	1.62	0.54	12.36
Rural (years)	3,142	7.00	1.36	0.54	11.16
Urban (years)	3,162	9.18	1.28	2.84	12.36
Proportion of village led by leaders who completed at least junior secondary school	3,447	0.95	0.14	0.04	1.00
Proportion of village with concrete/asphalt road	3,447	0.67	0.29	0.00	1.00

Methods

In estimating the determinants of poverty reduction, we use the district panel data set to exploit the variation in the poverty rate and our variable of interests across regions and years. The regional fixed effects allow us to control for regional/local characteristics that are constant over time (such as cultural attitudes, geographic and climatic conditions). Given the complex interrelationship between poverty and other socioeconomic conditions, no causality is claimed in this study.

The first variable of interest in this study is local economic output. To examine the relationship between economic output and poverty rate, we construct the following model:

$$POV_{d,t} = \beta_0 + \beta_1 \ln Y_{d,t} + \Phi X_{d,t} + \eta d + \delta t + u_{d,t} \qquad (1)$$

where $POV_{d,t}$ is the poverty rate (P0) and poverty gap (P1) of district d in year t; Y_{dt} is GRDP per capita of district d in year t; $X_{d,t}$ is a set of time-varying factors that may correlate with district poverty rate; d is a set of dummy regional variables which consists of five major islands in Indonesia; t is a set of dummy year variables; and $u_{g,t}$ is the idiosyncratic error.

Secondly, we disaggregate the economic output by sectors. Equation (1) is modified to construct the following model:

$$POV_{d,t} = \beta_0 + \beta_1 \ln AG_{d,t} + \beta_2 \ln MI_{d,t} + \beta_3 \ln MN_{d,t} + \beta_4 \ln SR_{d,t} + \Phi X_{d,t} + \eta d + \delta t + u_{d,t}$$

where $AG_{d,t}$ is the agricultural output per capita; $MIN_{d,t}$ is the mining per capita output; $MNF_{d,t}$ is the manufacturing output per capita; and $SRV_{d,t}$ is the service output per capita. The regional outputs used in this study are all in real terms.

Lastly, in addition to economic output, we aim to examine the correlation between local institutional capacity using local government spending and TKPK engagement as proxies.

$$POV_{d,t} = \beta_0 + \beta_1 \ln Y_{d,t} + \beta_2 \ln G_{d,t} + \gamma TKPK_d + \Phi X_{d,t} + \eta d + \delta t + u_{d,t} \ (3)$$

where $G_{d,t}$ is the local government spending per capita and $TKPK_d$ is the dummy variable for a district with an active TKPK. The local government spending data that we use in this study only consists of spending on health, education, and social protection because spending on social programs is expected to be more related to progress in reducing poverty. In our models, control variables include average years of schooling, local leaders' education attainment, and road condition as a proxy for basic infrastructure.

Results

Table 2 provides the main estimation results using both random and fixed effects–with Column (1) showing that a higher level of local economic output is associated with a lower poverty rate. A one percent increase in GRDP per capita is correlated with a 0.94 percentage point decrease in the poverty rate. Looking at the sectoral analysis, we find that the manufacturing and service sectors have the strongest correlation with a reduction in the poverty rate and poverty gap, while districts with higher output in mining tend to have a higher poverty rate. We find no correlation between the agriculture sector's output and poverty rate, but it correlates with a lower poverty gap. The tables in the Appendix provide more detailed regression results.

We find no association between government spending per capita on education, health, and social protection and poverty rate. As a robustness check, we also use share of spending on these sectors instead of the per capita spending. The results remain consistent–with no correlation between district government spending on social programs and the poverty rate. In terms of fiscal capacity, we also find no evidence of a correlation between progress in reducing poverty and fiscal autonomy of districts which is proxied by local government own revenues (*Pendapatan Asli Daerah: PAD*).

With regards to local institution (TKPK) engagement, our main estimation results indicate that districts with an active TKPK tend to reduce poverty at around 1.7–2.1 percentage points larger than those with an inactive TKPK. Active engagement of the TKPK also correlates with a reduction in the poverty gap of around 0.4 points.

Poverty is also more likely to decrease in districts with a population who attained a higher level of education, especially in rural areas. A one-year increase in average years of schooling of the rural population is associated with around a 0.3 percentage points reduction in the district's poverty rate. The main results also indicate that districts with a larger proportion of village leaders who attained at least a junior high school education tend to experience larger reductions in the poverty rate, although the effects seem to disappear when applying fixed effect method. Lastly, districts with better access to transportation also tend to produce a larger reduction in the poverty rate by around 1.3–1.8 percentage points.

Table 2: Main Estimation Results

VARIABLES	Dependent variables:							
	Poverty Rate (Column 1–4)				Poverty Gap (Column 5–8)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Random Effects		Fixed Effects		Random Effects		Fixed Effects	
Total GRDP per capita	-0.944*		0.501		-0.134		0.223	
	(0.499)		(0.621)		(0.150)		(0.330)	
Agriculture GRDP per capita		0.550		-0.848		-0.030		-0.760**
		(0.385)		(0.984)		(0.098)		(0.373)
Mining GRDP per capita		0.152**		-0.848		-0.030		-0.760**
		(0.076)		(0.088)		(0.030)		(0.036)
Manufacturing GRDP per capita		-0.713***		-0.848		-0.030		-0.760**
		(0.212)		(0.293)		(0.073)		(0.150)
Service GRDP per capita		-0.964*		-0.848		-0.030		-0.760**
		(0.574)		(1.119)		(0.197)		(0.451)
Local government revenue: local own revenue, per capita	0.074	0.075	0.110	0.095	-0.037	-0.034	-0.014	-0.014
	(0.115)	(0.121)	(0.117)	(0.118)	(0.055)	(0.064)	(0.064)	(0.064)
Health spending, per capita	0.032	0.011	0.009	0.013	0.091**	0.080*	0.060	0.059
	(0.086)	(0.087)	(0.088)	(0.087)	(0.046)	(0.047)	(0.045)	(0.045)
Education spending, per capita	-0.018	-0.004	-0.003	0.000	-0.041	-0.026	-0.007	-0.001
	(0.088)	(0.088)	(0.088)	(0.086)	(0.045)	(0.045)	(0.046)	(0.046)
Social protection spending, per capita	-0.040	-0.053	-0.039	-0.048	-0.031	-0.034	-0.040	-0.045
	(0.077)	(0.076)	(0.075)	(0.075)	(0.034)	(0.034)	(0.036)	(0.036)
Years of schooling (urban)	-0.025	-0.029	-0.025	-0.028	-0.043	-0.044	-0.057*	-0.063**
	(0.044)	(0.044)	(0.044)	(0.044)	(0.027)	(0.027)	(0.030)	(0.029)

VARIABLES	Dependent variables:							
	Poverty Rate (Column 1–4)				Poverty Gap (Column 5–8)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Random Effects		Fixed Effects		Random Effects		Fixed Effects	
Years of schooling (rural)	-0.335***	-0.293***	-0.286***	-0.242***	-0.085***	-0.067**	-0.040	-0.023
	(0.085)	(0.068)	(0.088)	(0.069)	(0.029)	(0.026)	(0.033)	(0.030)
Village head education: at least completed junior secondary school	-1.900*	-1.668*	-0.581	-0.476	-1.229*	-1.170*	0.570	0.620
	(1.055)	(1.014)	(0.995)	(0.977)	(0.682)	(0.689)	(0.590)	(0.592)
Road (asphalt or concrete)	-1.872***	-1.710***	-1.210*	-1.323**	-0.695***	-0.642**	-0.338	-0.382
	(0.610)	(0.621)	(0.655)	(0.648)	(0.228)	(0.258)	(0.336)	(0.339)
Active TKPK (==1, if active)	-2.065**	-1.704**			-0.471**	-0.426**		
	(0.851)	(0.805)			(0.207)	(0.188)		
Constant	35.786***	33.930***	8.260	5.778	7.524***	8.878***	-1.023	3.304
	(9.169)	(10.986)	(10.886)	(15.167)	(2.774)	(3.283)	(5.658)	(6.448)
Observations	2,633	2,606	2,633	2,606	2,633	2,606	2,633	2,606
R-squared	0.492	0.492	0.497	0.501	0.117	0.119	0.128	0.131
Number of Districts	433	427	433	427	433	427	433	427
Random Effects	Yes	Yes	No	No	Yes	Yes	No	No
Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region Dummies	Yes	Yes	No	No	Yes	Yes	No	No
Region*Trend	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1.

In addition to the main findings using a complete data set, we also conducted an analysis using subset of our data by disaggregating into western and eastern regions (Table 3). We run regressions using the same models to examine whether there is heterogeneity in the effects of our variable interests by regions. In our analysis, the western region covers districts in Sumatra, Java, Kalimantan, and Bali, while the eastern region covers the rest.

Table 3: Regression Results (by Regions)

VARIABLES	Western Region		Eastern Region	
	Dependent variable: Poverty Rate			
	(1)	(2)	(3)	(4)
Total GRDP per capita	-1.416***		-0.508	
	(0.465)		(0.852)	
Agriculture GRDP per capita		0.611		0.387
		(0.438)		(0.739)
Mining GRDP per capita		0.067		0.561*
		(0.077)		(0.287)
Manufacturing GRDP per capita		-0.868***		-0.608
		(0.247)		(0.409)
Service GRDP per capita		-0.106		-2.351**
		(0.755)		(0.918)
Local government revenue: local own revenue, per capita	-0.048	-0.068	0.137	0.160
	(0.145)	(0.149)	(0.177)	(0.185)
Health spending, per capita	-0.108	-0.117	0.029	0.001
	(0.103)	(0.106)	(0.209)	(0.206)
Education spending, per capita	0.165	0.175	-0.249	-0.259
	(0.103)	(0.107)	(0.194)	(0.200)
Social protection spending, per capita	0.008	-0.004	-0.109	-0.108
	(0.082)	(0.082)	(0.154)	(0.157)
Years of schooling (urban)	0.029	0.021	-0.021	-0.029
	(0.052)	(0.051)	(0.078)	(0.078)
Years of schooling (rural)	-0.253**	-0.181**	-0.508***	-0.509***

VARIABLES	Western Region		Eastern Region	
	Dependent variable: Poverty Rate			
	(1)	(2)	(3)	(4)
	(0.111)	(0.073)	(0.118)	(0.119)
Village head education: at least completed junior secondary school	-2.838*	-2.169	-1.162	-1.149
	(1.456)	(1.511)	(1.473)	(1.416)
Road (asphalt or concrete)	-1.579**	-1.525**	-2.397*	-1.984
	(0.676)	(0.711)	(1.262)	(1.212)
Active TKPK (==1, if active)	-1.376	-1.104	-2.733**	-2.000
	(1.039)	(0.960)	(1.332)	(1.328)
Constant	43.140***	21.907	38.455**	60.395***
	(7.715)	(14.320)	(15.259)	(16.080)
Observations	1,843	1,816	790	790
R-squared	0.481	0.484	0.540	0.548
Number of Districts	295	289	138	138
Random Effects	Yes	Yes	Yes	Yes
Fixed Effects	No	No	No	No
Year Dummies	Yes	Yes	Yes	Yes
Region Dummies	Yes	Yes	Yes	Yes
Region X Trend	Yes	Yes	Yes	Yes

Note: Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1.

As we can see from both tables, overall economic output appears to correlate with poverty reduction only in the western region. The magnitude is even higher than the average using a complete data set. A one percent increase in per capita GRDP is associated with around 1.4 percentage points decrease in the poverty rate. On the other hand, we find no correlation between the overall economic output and reduction in poverty in the eastern region.

If we conduct an analysis using sectoral economic outputs, we find that manufacturing and service output sectors are associated with reduction in poverty rate. Manufacturing sector output appears to correlate with a reduction in poverty only in the western region, while service sector outputs only appear to be associated with progress in the eastern region. Output of the agriculture sector seems to have no correlation with poverty rate in both regions. Our findings also indicate that higher level of mining output may correlate with higher poverty rate in the eastern region.

Regarding the local institution, the results indicate that TKPK engagement appears to correlate with progress in poverty reduction, particularly in the eastern region. The magnitude is even larger than the one using a complete data set. On average, districts with an active TKPK in the eastern region tend to reduce the poverty rate 2.7 percentage points larger than those with an inactive TKPK. This significance sign disappears, however, once we use sectoral GRDP rather than the overall economic output.

With regard to government spending, the results remain consistent in both regions–that there is no association between district spending on social programs and progress in poverty reduction. The results suggest that improving the amount of spending may not be effective in reducing poverty. A further analysis on district government spending may be needed to examine whether the money was spent on capital, staff or other things.

We also find that improvement in average years of schooling–particularly in rural regions–is associated with poverty reduction. The magnitude of the effects in the eastern region is more than double that in the western region. A one-year increase in average years of schooling in rural areas is correlated with around a 0.2 and 0.5 percentage points fall in the poverty rate in the western and eastern regions, respectively. The education attainment level of local leaders is, however, only correlated with progress in poverty reduction in the western region. Lastly, improvement in road conditions at the village level appears to be associated with better progress in reducing poverty.

Conclusions

Our findings suggest that rapid and sustainable regional economic growth is essential for poverty reduction. Poverty reduction and regional economic output are found to be strongly interrelated. Looking at the economic sectoral contribution, poverty tends to decrease more in districts with higher output from the manufacturing and service sectors, while output growth in the mining sector tends to worsen both the poverty rate and poverty gap.

Institutional capacity appears to correlate with progress in reducing poverty at the district level. The poverty rate also tends to fall in districts with an active TKPK that conducted regular coordination meetings, submitted annual reports, and participated in technical consultations and training from 2011 to 2016. Significant correlation is found particularly in districts in the Eastern region.

Overall, our findings are consistent with previous studies that indicate that a successful development strategy requires effective, region-specific combinations of growth and sound social policies. Simply increasing the share of government spending on health, education, and social programs may not, however, be effective in reducing poverty. Sufficient institutional capacity seems to be a critical precondition for the delivery of efficient public services aimed at poverty reduction.

To follow up our research, further investigating the role of TKPKs may be needed to examine the underlying mechanisms leading to a positive correlation between regional TKPKs and progress in poverty reduction. Most importantly, it is necessary to improve the measurement of TKPK institutionalisation and effectiveness as well as to address issues of endogeneity.

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Appendix

Appendix One

Table 1A.1: Changes in Poverty Rate and Gap (2010-2016)

Province	Poverty Rate in 2010	Poverty Rate in 2016	Changes in Poverty Rate	Poverty Gap in 2010	Poverty Gap in 2016	Changes in Poverty Gap
Aceh	20.30	17.06	-3.24	3.51	3.11	-0.40
North Sumatra	14.19	12.61	-1.59	2.43	1.95	-0.47
West Sumatra	9.48	7.06	-2.42	1.51	0.98	-0.53
Riau	12.18	9.54	-2.64	2.31	1.59	-0.71
Jambi	8.20	8.30	0.10	1.14	1.20	0.06
South Sumatra	14.45	13.37	-1.08	2.32	1.83	-0.49
Bengkulu	16.06	16.86	0.81	2.70	2.76	0.07
Lampung	16.38	13.52	-2.86	2.77	2.34	-0.43
Kep. Bangka Belitung	7.69	5.34	-2.35	1.10	0.66	-0.44
Kep. Riau	8.56	7.52	-1.04	1.50	0.91	-0.59
DKI Jakarta	5.61	5.32	-0.30	0.74	0.44	-0.30
West Java	11.37	9.42	-1.95	1.80	1.43	-0.37
Central Java	15.46	12.73	-2.74	2.48	2.12	-0.36
Di Yogyakarta	16.35	14.02	-2.33	2.48	2.43	-0.05
East Java	14.84	11.88	-2.97	2.35	1.79	-0.57
Banten	6.89	5.50	-1.38	0.99	0.68	-0.31
Bali	6.28	4.77	-1.50	0.89	0.52	-0.37
West Nusa Tenggara	21.86	16.57	-5.29	4.06	3.15	-0.91
East Nusa Tenggara	23.19	23.17	-0.02	4.34	4.36	0.02
West Kalimantan	9.31	8.17	-1.14	1.36	1.23	-0.12

Province	Poverty Rate in 2010	Poverty Rate in 2016	Changes in Poverty Rate	Poverty Gap in 2010	Poverty Gap in 2016	Changes in Poverty Gap
Central Kalimantan	7.53	5.56	-1.97	1.06	0.79	-0.27
South Kalimantan	6.06	5.12	-0.93	0.82	0.67	-0.15
East Kalimantan	9.93	6.62	-3.31	1.72	1.01	-0.71
North Sulawesi	10.65	9.18	-1.47	1.73	1.60	-0.13
Central Sulawesi	17.89	14.91	-2.98	3.27	2.48	-0.79
South Sulawesi	12.24	10.25	-2.00	1.96	1.86	-0.11
Southeast Sulawesi	16.01	13.20	-2.81	2.53	2.51	-0.02
Gorontalo	16.70	17.64	0.94	2.87	3.93	1.06
West Sulawesi	14.06	11.45	-2.60	2.17	1.65	-0.53
Maluku	28.66	22.71	-5.95	6.31	3.86	-2.45
North Maluku	11.75	7.73	-4.01	2.13	0.82	-1.31
West Papua	33.31	27.81	-5.50	8.34	6.77	-1.57
Papua	36.15	30.06	-6.09	8.64	7.66	-0.98
Indonesia	15.51	13.07	-2.44	2.82	2.35	-0.47

Source: BPS (Authors' analysis).

Table 1A.2: Regression results of random effect estimation with poverty rate as the dependent variable

VARIABLES				Dependent variable: Poverty Rate (P0)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Total GRDP per capita	-0.596	-0.765*	-0.697	-0.925*	-0.944*					
	(0.390)	(0.403)	(0.495)	(0.490)	(0.499)					
Agriculture GRDP per capita						1.180***	0.999***	0.804**	0.617	0.550
						(0.317)	(0.297)	(0.381)	(0.383)	(0.385)
Mining GRDP per capita						0.091	0.115	0.172**	0.151**	0.152**
						(0.087)	(0.081)	(0.077)	(0.075)	(0.076)
Manufacturing GRDP per capita						-1.191***	-1.203***	-0.705***	-0.734***	-0.713***
						(0.232)	(0.225)	(0.215)	(0.215)	(0.212)
Service GRDP per capita						-0.135	-0.223	-0.997*	-0.949*	-0.964*
						(0.466)	(0.462)	(0.587)	(0.574)	(0.574)
Local government revenue: local own revenue, per capita		0.026	0.070	0.068	0.074		0.018	0.076	0.071	0.075
		(0.125)	(0.114)	(0.116)	(0.115)		(0.130)	(0.120)	(0.121)	(0.121)
Health spending, per capita		0.063	0.021	0.032	0.032		0.066	-0.000	0.011	0.011
		(0.092)	(0.086)	(0.086)	(0.086)		(0.099)	(0.087)	(0.087)	(0.087)
Education spending, per capita		-0.075	-0.002	-0.023	-0.018		-0.087	0.012	-0.008	-0.004
		(0.106)	(0.087)	(0.088)	(0.088)		(0.116)	(0.087)	(0.088)	(0.088)
Social protection spending, per capita		-0.065	-0.046	-0.036	-0.040		-0.072	-0.058	-0.050	-0.053
		(0.088)	(0.077)	(0.077)	(0.077)		(0.090)	(0.077)	(0.076)	(0.076)
Years of schooling (urban)			-0.033	-0.026	-0.025			-0.034	-0.029	-0.029
			(0.044)	(0.044)	(0.044)			(0.044)	(0.044)	(0.044)

Dependent variable: Poverty Rate (P0)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Years of schooling (rural)			-0.328***	-0.338***	-0.335***			-0.288***	-0.295***	-0.293***
			(0.085)	(0.085)	(0.085)			(0.068)	(0.068)	(0.068)
Village head education: at least completed junior secondary school				-2.001*	-1.900*				-1.749*	-1.668*
				(1.077)	(1.055)				(1.033)	(1.014)
Road (asphalt or concrete)				-1.929***	-1.872***				-1.747***	-1.710***
				(0.614)	(0.610)				(0.624)	(0.621)
Active TKPK (==1, if active)					-2.065**					-1.704**
					(0.851)					(0.805)
Constant	23.929***	27.034***	26.986***	33.993***	35.786***	13.647*	18.194**	26.089**	31.737***	33.930***
	(6.623)	(7.147)	(8.646)	(8.885)	(9.169)	(7.282)	(7.456)	(11.097)	(10.922)	(10.986)
Observations	3,475	3,153	2,633	2,633	2,633	3,304	3,029	2,606	2,606	2,606
R-squared	0.503	0.521	0.491	0.492	0.492	0.513	0.526	0.490	0.492	0.492
Number of Districts	497	482	433	433	433	473	464	427	427	427
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region * Trend	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 1A.3: Regression results of fixed effect estimation with poverty rate as the dependent variable

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
						Dependent variable: Poverty Rate (P0)				
Total GRDP per capita	0.633	0.423	0.636	0.501	0.501					
	(0.464)	(0.454)	(0.616)	(0.621)	(0.621)					
Agriculture GRDP per capita						-0.769	-1.266	-0.814	-0.848	-0.848
						(0.923)	(0.902)	(0.985)	(0.984)	(0.984)
Mining GRDP per capita						-0.020	-0.003	0.109	0.096	0.096
						(0.129)	(0.123)	(0.086)	(0.088)	(0.088)
Manufacturing GRDP per capita						-0.284	-0.175	0.102	0.092	0.092
						(0.290)	(0.304)	(0.291)	(0.293)	(0.293)
Service GRDP per capita						2.003**	2.090**	1.394	1.352	1.352
						(1.001)	(1.005)	(1.133)	(1.119)	(1.119)
Local government revenue: local own revenue, per capita		0.075	0.112	0.110	0.110		0.040	0.097	0.095	0.095
		(0.126)	(0.116)	(0.117)	(0.117)		(0.128)	(0.117)	(0.118)	(0.118)
Health spending, per capita		0.053	0.006	0.009	0.009		0.074	0.010	0.013	0.013
		(0.092)	(0.088)	(0.088)	(0.088)		(0.099)	(0.087)	(0.087)	(0.087)
Education spending, per capita		-0.045	0.007	-0.003	-0.003		-0.058	0.011	0.000	0.000
		(0.104)	(0.087)	(0.088)	(0.088)		(0.113)	(0.085)	(0.086)	(0.086)
Social protection spending, per capita		-0.087	-0.045	-0.039	-0.039		-0.089	-0.054	-0.048	-0.048
		(0.086)	(0.075)	(0.075)	(0.075)		(0.087)	(0.075)	(0.075)	(0.075)
Years of schooling (urban)			-0.028	-0.025	-0.025			-0.031	-0.028	-0.028
			(0.044)	(0.044)	(0.044)			(0.044)	(0.044)	(0.044)

| | | | | | Dependent variable: Poverty Rate (P0) | | | | | |
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Years of schooling (rural)			-0.279***	-0.286***	-0.286***			-0.237***	-0.242***	-0.242***
			(0.088)	(0.088)	(0.088)			(0.069)	(0.069)	(0.069)
Village head education: at least completed junior secondary school				-0.581	-0.581				-0.476	-0.476
				(0.995)	(0.995)				(0.977)	(0.977)
Road (asphalt or concrete)				-1.210*	-1.210*				-1.323**	-1.323**
				(0.655)	(0.655)				(0.648)	(0.648)
Constant	4.954	8.287	4.634	8.260	8.260	0.449	4.886	2.946	5.778	5.778
	(7.809)	(7.936)	(10.489)	(10.886)	(10.886)	(8.650)	(8.042)	(14.969)	(15.167)	(15.167)
Observations	3,475	3,153	2,633	2,633	2,633	3,304	3,029	2,606	2,606	2,606
R-squared	0.506	0.525	0.494	0.497	0.497	0.521	0.535	0.498	0.501	0.501
Number of Districts	497	482	433	433	433	473	464	427	427	427
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region * Trend	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 1A.4: Regression results of random effect estimation with poverty gap (P1) as the dependent variable

VARIABLES	Dependent variable: Poverty Rate (P0)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Total GRDP per capita	-0.235*	-0.197	-0.079	-0.123	-0.134					
	(0.137)	(0.146)	(0.160)	(0.144)	(0.150)					
Agriculture GRDP per capita						0.182*	0.151	0.078	-0.006	-0.030
						(0.099)	(0.096)	(0.100)	(0.100)	(0.098)
Mining GRDP per capita						0.067**	0.073**	0.078**	0.072**	0.073**
						(0.034)	(0.034)	(0.031)	(0.030)	(0.030)
Manufacturing GRDP per capita						-0.304***	-0.292***	-0.230***	-0.230***	-0.221***
						(0.079)	(0.078)	(0.077)	(0.074)	(0.073)
Service GRDP per capita						-0.084	-0.068	-0.117	-0.053	-0.081
						(0.186)	(0.202)	(0.202)	(0.200)	(0.197)
Local government revenue: local own revenue, per capita		-0.051	-0.053	-0.045	-0.037		-0.009	-0.036	-0.040	-0.034
		(0.092)	(0.057)	(0.056)	(0.055)		(0.101)	(0.065)	(0.065)	(0.064)
Health spending, per capita		0.061	0.085*	0.089*	0.091**		0.054	0.073	0.080*	0.080*
		(0.062)	(0.046)	(0.046)	(0.046)		(0.066)	(0.046)	(0.047)	(0.047)
Education spending, per capita		-0.103*	-0.040	-0.046	-0.041		-0.085	-0.025	-0.031	-0.026
		(0.054)	(0.044)	(0.045)	(0.045)		(0.058)	(0.044)	(0.045)	(0.045)
Social protection spending, per capita		0.014	-0.027	-0.027	-0.031		0.005	-0.029	-0.030	-0.034
		(0.048)	(0.034)	(0.034)	(0.034)		(0.048)	(0.034)	(0.034)	(0.034)
Years of schooling (urban)			-0.050*	-0.044	-0.043			-0.048*	-0.044	-0.044
			(0.028)	(0.027)	(0.027)			(0.028)	(0.027)	(0.027)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
					Dependent variable: Poverty Rate (P0)					
Years of schooling (rural)			-0.094***	-0.087***	-0.085***			-0.073***	-0.069***	-0.067**
			(0.028)	(0.029)	(0.029)			(0.025)	(0.026)	(0.026)
Village head education: at least completed junior secondary school				-1.340*	-1.229*				-1.270*	-1.170*
				(0.688)	(0.682)				(0.692)	(0.689)
Road (asphalt or concrete)				-0.741***	-0.695***				-0.679***	-0.642**
				(0.228)	(0.228)				(0.259)	(0.258)
Active TKPK (==1, if active)					-0.471**					-0.426**
					(0.207)					(0.188)
Constant	6.359***	6.703***	4.923*	7.218***	7.524***	4.377	4.806	6.092*	8.090**	8.878***
	(2.330)	(2.559)	(2.901)	(2.685)	(2.774)	(3.577)	(3.436)	(3.646)	(3.352)	(3.283)
Observations	3,475	3,153	2,633	2,633	2,633	3,304	3,029	2,606	2,606	2,606
R-squared	0.114	0.117	0.123	0.116	0.117	0.115	0.117	0.124	0.117	0.119
Number of Districts	497	482	433	433	433	473	464	427	427	427
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region * Trend	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 1A.5: Regression results of fixed effect estimation with poverty gap (P1) as the dependent variable

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
						Dependent variable: Poverty Rate (P0)				
Total GRDP per capita	0.639**	0.577*	0.204	0.223	0.223					
	(0.324)	(0.316)	(0.337)	(0.330)	(0.330)					
Agriculture GRDP per capita						0.007	-0.281	-0.747**	-0.760**	-0.760**
						(0.597)	(0.615)	(0.372)	(0.373)	(0.373)
Mining GRDP per capita						0.045	0.031	0.038	0.041	0.041
						(0.045)	(0.049)	(0.035)	(0.036)	(0.036)
Manufacturing GRDP per capita						-0.334*	-0.265	-0.235	-0.242	-0.242
						(0.198)	(0.216)	(0.150)	(0.150)	(0.150)
Service GRDP per capita						1.037	1.245	0.829*	0.883*	0.883*
						(0.909)	(0.925)	(0.458)	(0.451)	(0.451)
Local government revenue: local own revenue, per capita		0.036	-0.016	-0.014	-0.014		0.032	-0.016	-0.014	-0.014
		(0.108)	(0.064)	(0.064)	(0.064)		(0.108)	(0.064)	(0.064)	(0.064)
Health spending, per capita		0.029	0.062	0.060	0.060		0.021	0.061	0.059	0.059
		(0.061)	(0.045)	(0.045)	(0.045)		(0.065)	(0.045)	(0.045)	(0.045)
Education spending, per capita		-0.034	-0.008	-0.007	-0.007		-0.024	-0.002	-0.001	-0.001
		(0.051)	(0.045)	(0.046)	(0.046)		(0.057)	(0.046)	(0.046)	(0.046)
Social protection spending, per capita		-0.034	-0.041	-0.040	-0.040		-0.041	-0.046	-0.045	-0.045
		(0.046)	(0.036)	(0.036)	(0.036)		(0.047)	(0.036)	(0.036)	(0.036)
Years of schooling (urban)			-0.057*	-0.057*	-0.057*			-0.062**	-0.063**	-0.063**
			(0.030)	(0.030)	(0.030)			(0.030)	(0.029)	(0.029)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
						Dependent variable: Poverty Rate (P0)				
Years of schooling (rural)			-0.041	-0.040	-0.040			-0.024	-0.023	-0.023
			(0.034)	(0.033)	(0.033)			(0.032)	(0.030)	(0.030)
Village head education: at least completed junior secondary school				0.570	0.570				0.620	0.620
				(0.590)	(0.590)				(0.592)	(0.592)
Road (asphalt or concrete)				-0.338	-0.338				-0.382	-0.382
				(0.336)	(0.336)				(0.339)	(0.339)
Constant	-7.923	-6.906	-0.369	-1.023	-1.023	-9.425	-9.099	4.253	3.304	3.304
	(5.451)	(5.424)	(5.723)	(5.658)	(5.658)	(6.970)	(6.819)	(6.749)	(6.448)	(6.448)
Observations	3,475	3,153	2,633	2,633	2,633	3,304	3,029	2,606	2,606	2,606
R-squared	0.119	0.123	0.126	0.128	0.128	0.120	0.123	0.129	0.131	0.131
Number of Districts	497	482	433	433	433	473	464	427	427	427
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region * Trend	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1