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*Poverty, Education, and Democratization:
Evidence from Indonesia regions*

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Poverty, Education, and Democratization:

Evidence from Indonesia regions

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Abstract

This paper explores the role of democratization process in Indonesia on regional social welfare. By using municipality level panel data dataset from 2002-2012, it provides an empirical test on the effect of democratization on regional social welfares. Our analysis using the fixed effect model finds that democratization, through direct election, has a positive effect on reducing poverty rate. While it also shows that regional expenditures on health and education on enhancing regional social welfare, this paper spots the important of local-parliament support on local budgeting process. Lastly, this paper shows that the divided-local governments tend to have higher poverty rate and lower school enrollment rate.

A. Backgrounds

Indonesia's decentralization is known as the ambitious political project to transform the country from a highly centralized and authoritarian government into a more democratic and decentralized one. Even though the policy has been taken as an urgent measure to prevent the disintegration of the state in the middle of a severe political crisis (Herrmann, 2005, Nordholt, 2004, Crouch, 2010, Mietzner, 2014), regional autonomy and fiscal decentralization are expected to increase the effectiveness of local government, community participation in economic, social and political decisions, and enhance government responsiveness, transparency, and accountability (World Development Report, 1997).

The regional autonomy is expected to ground democracy into the daily lives of the people while making government and its institutions becoming more transparent (Nordholt, 2004). Thus, the policy was accompanied by stepwise democratization at

the local level. For the first time, local parliaments were freely elected in 1999 (along with the national parliament) while incumbent municipality heads were allowed to serve their full terms (Schulze and Sjahrir, 2014) moreover the decentralization policy also specified that local-head municipalities have to be democratically elected by local parliaments and later, elected directly by citizen (Klinken, 2007).

During decentralization, regional social welfare had been gradually improved. Evidently, there was an increase in the means of years of schooling across Indonesian districts (Muttaqin, *et al*, 2016) and an improvement on health accessibility and acceptance (Miharti, Holzhacker, and Wittek, 2016; Fossati, 2016). In addition, Sumarto, Vothknecht, and Wijaya (2014) showed that the poverty incidence had been decreased during decentralization while Schulze and Sjahrir (2014) showed that decentralization seems to have improved service delivery and made the budgets more needs-oriented., Even though regional poverty incidence had declined on both provincial and municipality level, Ilmma and Wai-Poi (2014) interestingly showed that rate of poverty reduction has remained relatively unchanged and therefore, they argued that decentralization seems to have neither greatly accelerated poverty reduction nor led to a significant slowing. Hill and Vidyattama (2014) also argued that regional autonomy seems to have no discernible impact on regional development because regional growth pattern and social outcomes remain the same as pre-decentralization for many Indonesia regions.

Even though, these researches already explores subnational data to explore the relationship between decentralization and local policy outcomes, many of these research do not take into account on their model how political decentralization and democratic institutional change through direct election and local political structured may affect decentralization outcome., More recent studies conducted by Schulze and

Sjahrir (2014) and Fossati (2016) have considered local democratization process into their models. In order to analyze the effect of decentralization and democratization, Schulze and Sjahrir (2014) use both regional fiscal size and public infrastructure level that combined with indirect and direct election variables. However, due to shorter time span for the periods after democratization (their research only covers until year 2009), they found no significant effect of democratization through indirect and direct election on local service delivery. In contrast, by controlling regional socio-economic indicators in his model, Fossati (2016) found that direct election shape the responsiveness of local government to the policy preference of the poor. However, he only observed the effect of direct election on the year of local election. This approach may not be sufficient to assess the impact of direct election on social welfare improvement.

This study provides empirical evidence on the effect of democratization in Indonesian regions by employing a unique long sample of Indonesia regions that cover more than 450 municipalities from before and after democratization. It explains how political decentralization through direct election affect social welfare in Indonesia regions. In addition, we also try to capture how local politic affect social welfare especially related with the budgeting process. Since improving social welfare is an incessant process, the use of full-length period of observation gives comprehensive result on assessing the impact of Indonesia democratization on social welfare.

The remainder of this paper is organized as follows. We will start by providing an overview of regional democratization in Indonesia, from 1999 to 2005. Then, we will show the methodology used in our analysis and examine our data on poverty and education in Indonesia regions. After that, we will show empirical result

from regression analysis and discuss it. Lastly, we will provide some concluding remarks on the relationship between democratization and regional social welfare. Based on this analysis, we would like to argue that democratization, through direct lection and local political process, matters on social welfare improvement in Indonesia regions.

B. Decentralization and Democratization in Indonesia

Indonesian decentralization had been initiated in 1974 by establishment of Law 5/1974 on basis principles on administrations in Indonesian regions. The law gave the local government authorities to be involved in the provision of local public services administrative and fiscal decentralization program in Indonesia (Lewis, 2014). This law was supposed to give local parliament an authority to elect local-heads. However, this law and other later-regulations on decentralization and regional government were not well implemented during New Order regime era. The central government, through its supporting party-Golkar (Golongan Karya/ Functional Group), took control on most local government programs and financials (Hofman & Kaiser, 2006). Thus, through Golkar, Suharto and Ministry of Home Affair selected local heads in Indonesia regions (Klinken, 2007; Choi, 2011). Thus, decentralization programs under these laws and were undertaken in early 1990s only have small real progress in government's practices (Lewis, 2002). As a result, many regions have considerable unrest upon regional system and local Indonesian reform that developed under Suharto (Booth, 2003).

In the months after the fall of Soeharto in 1998 and the subsequent demise of the New Order regime, Indonesia did not only face the demand for greater local autonomy that emerged from many parts of the country but also threat of territorial disintegration and the rising of ethnic violents and religious conflicts (Hadiz, 2010;

Aspinal, 2013; Mietzner, 2014). Some regions such as Maluku, Central Sulawesi, and West Kalimantan showed the virtually broke down of effective government as a result of communal conflicts (Crouch, 2010, Hadiz, 2010). The secession of East Timor has triggered demand of greater autonomy in Aceh and Papua (Herrmann, 2005, Crouch, 2010, Hadiz, 2010).

Facing these threats, in 1999 the central government endorsed decentralization policy with a package of two laws: Law Number 22 and Law Number 25. At first, this policy came up to respond urgent political and/or economic crises that brought dramatic leadership changes in Indonesia (Eaton, Kaiser, Smoke 2011) It was also considered as an urgent measure to prevent the disintegration of the state in the middle of a severe political crisis (Herrmann, 2005, Nordholt, 2005, Crouch, 2010, Mietzner, 2014). Later, decentralization policy also was taken to answer an increasing demand for good governance and the improvement of public services (Hidayat & Antlov, 2004). This movement has taken place with the common belief that autonomy and fiscal decentralization will improve regional governance and promote economic development (World Development Report, 1997; Bird & Vaillancourt, 1998; and Davoodi 2001).

The decentralization policy was accompanied by stepwise democratization at local level (Shulze and Sjahrir, 2014). In 1999, for the first time in 40 years, Indonesians had organized election for local parliaments and national parliaments. Incumbent local heads (governor, major, and regent) were allowed to serve their full periods (Horowitz, 2013; Shulze and Sjahrir, 2014; Kis-katos and Sjahrir, 2017). Based on Law 22 (1999), local parliaments had dominant position since they have the power to elect and hold local government heads accountable, to initiate and promulgate statutes and regulations and to approve budgets (Ziegenhain, 2008; Choi,

2011, Horowitz, 2013). This change marked the end of the central government's authority to intervene in appointing local officials (Klinken, 2007; Choi, 2011).

By 2000, the first democratically local-heads was elected indirectly by local parliaments. While local parliaments were directly elected by citizens and have immense authority, local-head were sometimes in conflict with the local parliaments that had selected him/her (Horowitz, 2013). This fact made party representatives in local parliaments emerged as the new local power-holders (Choi, 2011). However, the position of local-head became weakened in relation to local parliaments and, in some instances, local parliaments rejected the annual accountability report (Laporan Pertanggungjawaban) submitted by governors, regents or mayors at the end of each fiscal year, which sometimes led to their dismissal (Choi, 2011; Mietzner, 2013). The local-head especially in multiparty regions face another task to put together a coalition that would enable him/her to deal with a plurality of contending interests in the region (Horowitz, 2013). In order to diminish this threat, the decentralization laws were amended and direct election was introduced for local-head in 2004 (Tomsa, 2008; Choi, 2011; Horowitz, 2013; Shulze and Sjahrir, 2014).

Figure 1   Democratization in Indonesia regions.
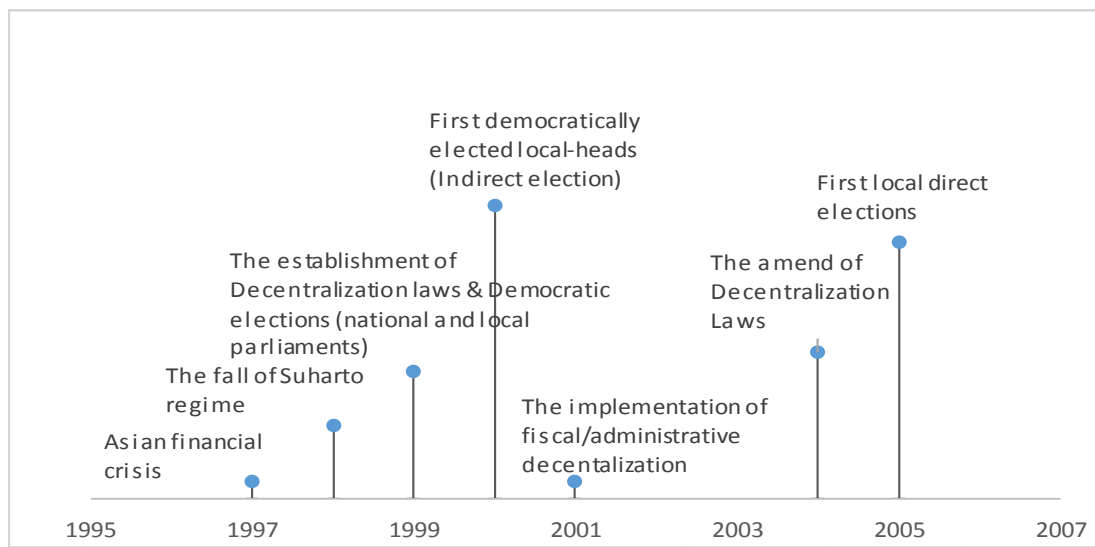
Source: modified from Kis-katos and Sjahrir (2017)

Local heads were directly elected in all 33 provinces and more than 450 districts and municipalities during the period of 2005-2008 (Liddle and Mujani, 2013). A party or coalition of parties only need to gained 15 percent of either the seats or the votes in the previous local council elections to nominate a candidate for local-head. This condition broke party politicians' stranglehold on local politics.

Horowitz (2013) showed that Inodnesian local direct election in 2005 only form minority local-heads with single party supported during their nomination (63 local-heads). While by 2008, when three quarters of these elections had been held, only 29 percent had been won by candidates without coalition sponsorship. However, with a few single-party majorities in regional parliaments, the need for interparty cooperation at the regional level became immense. The result of direct election in Indonesia regions also shows that only a few of local-head have majority support in local parliaments during his/her candidacy (see Table 1). While local parliaments hold the power to decide regulation and budget function, they may either approve or reject local-heads proposed policy/programs. Thus, local parliaments can bind local-head on using local budget. Unified local governments mostly succeed on proposing their programs smoothly since they have majority support on local parliament votes. While divided local government frequently faced hurdles during budgeting negotiation.

Table 1. Direct election result

Direct Election Results	2005	2006	2007	2010	2011	2012	2013
Unified government	26	8	4	28	20	16	19
Divided government	171	53	30	144	54	41	92
Total	197	61	34	172	74	57	111

Source: General Election Commission (2016).

Democratization and Social Welfares

There are growing body of studies on the impact of democratization, through election, on economic and social welfare. While some studies have failed to establish an empirical connection between democracy and economic and social welfare such as economic growth, poverty reduction, or education (Ross, 2006; Pepinsky and Wiharja, 2011; Schulze and Sjahrir 2014), others have argued that democracy gives positive impacts on economic and social welfare (Leblang, 1997; Stasavage, 2005; Bermeo, 2012; Lewis, 2012; Orenstein, 2012; Fossati, 2016).

Democracy opens an opportunity for people, especially the poor, to mobilize and gain political influence. Thus, democratic systems reinforce the pressure on leaders to improve the economy and better popular welfare as part of his accountability to his voters and civic constituencies (Lewis, 2012). In a system characterized by regular election, politicians will find stronger incentives to furnish public goods, expand the economy, and enhance citizens well being and livelihoods in order to retained his/her chair (Besley and Kudamatsu, 2006; Lewis, 2012; Orenstein, 2012). Moreover, Eaton and Connerley (2010) showed that local governments are more regularly soliciting citizens' input in the identification of spending priorities with associated improvements in individual well-being.

Local democratization, through direct election, enhances political accountability for local government by two directions. First, it gives voters the power to reward incumbent politicians to be reelected or discipline them by replacing incompetent incumbent local heads with the challenger. Second, it gives incumbent local heads incentive to improve the quality of social welfare and governance.

Incumbents with better performance have higher probability for their reelection to office (Besley, 2005; Besley and Smart, 2005; List and Strum, 2006).

C. Data and Methodology

1. Data source

To assess empirically the determinant of poverty reduction and school enrolment in Indonesia regions, we use municipality level panel dataset for the period 2002-2012. We exclude municipalities in Jakarta province since they are not decentralized, we also exclude around 20 regions in Eastern Indonesia, mostly in Papua, due to missing data. The dataset consists of socio-economic indicators that are conducted by Central Statistics Bureau (Badan Pusat Statistik/BPS)[1] and World Bank's Indonesia Database for Policy and Economic Research,[2] regional fiscal indicators from Ministry of Finance,[3] and socio-political indicators from various sources such as General Election Commission (Komisi Pemilihan Umum/KPU) and Ministry of Home Affair.[4].

2. Methodology

Unlike the decentralization policy that implemented simultaneously in 2001 for all local government in Indonesia, the direct election for local-heads Indonesia was determined in a intermittent way since incumbents who had been in power from previous (indirect) election were allowed to settle their period before the new elections took place (Schulze and Sjahrir, 2014; Kis-katos and Sjahrir, 2017). Since the timing of each direct election are well recorded, our analysis on the effect of direct election could be well identified.

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[1] BPS, Regional GDP, population, Poverty rate (2002-2012),
[2] World Bank, INDODAPOER (2002-2012)
[3] Ministry of Finance, Regional fiscal indicators (2002-2012).
[4] Ministry of Energy and Mineral Resource, Natural resource (2002-2012).

This paper analyzes the effect of democratization on regional poverty and education Indonesia by estimating these following equations

Model 1

$$
\begin{aligned}
povertyrate_{it} \ = \ & \alpha + \beta_1\, nersecondary_{it} \ + \ \beta_2\, lngdrp\, per\, cap_{it} \ + \ \beta_3 lndau_{it} \\
& + \beta_4 lneducexp_{it} + \beta_5 lnhealthexp_{it} + \beta_6 lnpad_{it} \\
& + \beta_7 directelection_{it} + \beta_8 divided_{it} + \beta_9 otherdummy_{it} + \varepsilon
\end{aligned}
$$

The dependent variable $povertyrate_{it}$ represents the level of poverty rate as the percentage of the number of people whose income below the poverty line in region *i* in year *t*. While for independent variable we use several indicators, net enrollment rate on secondary level (*nersecondary*) shows the participation rate children on secondary school per 100 children on secondary school age (15-18 years). We use net enrollment rate on secondary level instead primary and junior level for two reasons. First, it is more appropriate measurement on representing regional human capital. Second, net enrollment on primary and junior are mostly influence by central government through 9 years of schooling mandatory program. Moreover, the data of NER secondary itself is vary enough for regions compare to another. Thus, this paper uses *gdrp per cap* to represent regional income per capita in region *i* in year *t* economic indicator since regional gdp per capita has important role on poverty reduction (Sumarto, Vothknecht, and Wijaya, 2014)

While both variables education and income per capita are used as main drivers on poverty reduction, we use two variables education expenditure (*educexp*) and health expenditure (*healthexp*) as the representation of local government policy on reducing poverty incidence. In addition, this paper also uses two fiscal variables block grant (*dana alokasi umum/dau*) and local own-source revenue *(pendapatan asli daerah/pad*) to present local government fiscal capacity on financing their program and activities.

Educexp and *healthexp* represent the annual amount of local government budget on education and health respectively. *Dau* shows annual share of central government transfer to local governments while *pad* shows annual amount of money earned by local governments from its own-source revenue. A long with regional GDP per capita, all the fiscal and expenditure variable are transform into natural logarithm since the value of these variable is quite broad among Indonesia's regions.

As the representation of democratization process in Indonesia's regions, we put two dummy variables *directelection* and *divided*. Dummy direct election splits our time observation into two parts after direct election (equal to 1) and before direct election (equal to 0). The first direct election was introduced in 2005 and gradually applied to whole nation from 2005-2008. Dummy *divided* represents the share of votes that support local-head either local-head had been supported by majority votes on local parliament (equal to 0) or not (equal to 1).

In addition, we also put other dummies variables in order to capture other characteristics that may affect the pattern of regional poverty incidence. We use three dummy variables *java*, *west*, and *resource*. Dummy *java* presents the geographically condition of each region either lies on Java island (equal to 1) or outside Java (equal to 0), dummy variable *west* represents the split of Indonesia region based on Wallace line with Sumatera, Java, Kalimantan, and Bali island belong to western part of Indonesia and the others belong to eastern part of Indonesia. Lastly, we use dummy *resource* based on the Ministry of Energy and Mineral Resource act. We put dummy *resource* equal to 1 for regions with oil and gas, and equal to 0 for otherwise.

In order to capture regional convergence on poverty incidence, we modify model 1 by putting variable *povertychange*, represents annual change of regional poverty rate, as dependent variable and add initial poverty rate (*initialpov*) as

independent variable. We can observe regional convergence by looking at coefficient value of initial poverty. Negative coefficient value shows the existing regional convergence on poverty incidence.

Model 2

$$povertychange_{it} = \alpha + \beta_3 initialpovn_{it} + \beta_2\, nersecondary_{it} \\ + \beta_3\, lngdrp\, per\, cap_{it} + \beta_4 directelection_{it} + \beta_5 divided_{it} \\ + \varepsilon$$

Thus, to assess the effect of democratization on school enrollment rate in Indonesia's regions we develop our model as follow:

Model 3

$$nersecondary_{it} = \alpha + \beta_1\, nerjunior_{it} + \beta_2\, lngdrp\, per\, cap_{it} + \beta_3 lndakeduc_{it} \\ + \beta_4 lneducexp_{it} + \beta_5 lnyhheduc_{it}\, \beta_6 directelection_{it} \\ + \beta_7 divided_{it} + \beta_8 otherdummy_{it} + \varepsilon$$

The dependent variable nersecondary shows the participation rate children on secondary school per 100 children on secondary school age (15-18 years). We consider similar reasons for using nersecondary on this model. As independent variables, we take nerjunior as one of drivers that affect the level of school enrollment rate at secondary level. In addition to GDP per capita and local expenditure on education sector, we also take the annual share central government transfer on education (*dakeduc*) and household expenditure on education. We put these variables mainly because local school enrollment is also affected by central government policy through its aid on education. Thus, since attending secondary school is not mandatory program, we need to consider the role of household. Similar to our previous econometric model, we transform these variables into its natural logarithm. For the other variables on model 3, we employ the variables as in model 1.

Lastly, we modify model 3 by changing dependent variable NERSecondary with change in nersecondary. This variable represents annual change of regional

school enrollment rate in secondary level. We expect negative value of change in nersecondary coefficient value to show the existing regional convergence of school enrollment rate.

Model 4
$$\text{change in nersecondary}_{it} = \alpha + + \beta_1 otherdummy_{it} + \beta_2\ nerjunior_{it} + \beta_3\ lngdrpp\ er\ cap_{it} + \beta_4 lndakeduc_{it} + \beta_5 lneducexp_{it} + \beta_6 lnyhheduc_{it} + \beta_7 directelection_{it} + \beta_8 divided_{it} + \varepsilon$$

3. Descriptive Statistic

Table 2 presents descriptive statistic on our data. In addition to general information on the mean, maximum, and minimum value, and standard deviation on whole panel dataset, we split the information into their between and within component. The "between" gives information on the variation across municipalities in a given year while the "within" provides information on the variation within municipalities over time. In general, our descriptive statistical shows that most of the variables are vary enough over the sample periods.

We look carefully at poverty rate and school enrollment rate among Indonesia regions. While municipalities in Bali, West Sumatera, Banten, South and Central Kalimantan, Bangka Belitung, and Riau Islands enjoy lower poverty rate, majority of municipalities in Eastern Indonesia, especially in Papua and East Nusa Tenggara provinces, endure higher poverty rate. Surprisingly, even though the development during Suharto had been focused in Java provinces (Booth, 1998; Hill, 2000) and likewise his successors, regions in Madura islands and southern part of Java also experience higher poverty incidence.

The level of school enrollment rate on secondary education is quite distributed among regions. While Papua, West Papua, and East Nusa Tenggara still suffer for lower school enrollment rate, other municipalities in Eastern Indonesia such as Bali,

Moluccas, North Moluccas, North and South Sulawesi provinces hold higher enrollment rate even when we compare to national level. With an exception on municipalities in Yogyakarta and Jakarta province, our data also shows that some municipalities in Java still struggle to improve their education level as the number of regions that had lower school enrollment rate even larger compare to number of regions that suffer for higher poverty rate. This fact also happens in Sumatera islands. Except for Aceh, North and West Sumatera provinces, some of municipalities had been struggling to improve their education level. [5]

Table 2. Descriptive statistic for the municipality-level panel dataset, 2002-2012

Variable		Mean	Std. Dev.	Min	Max		Observations
Povertyrate	overall	16.913	9.640	1.330	58.430		N = 4546
	between		9.749	1.415	48.085		n = 482
	within		3.407	-3.523	36.062	T	bar = 9.43154
Initialpo	overall	17.634	9.973	1.434	59.639		N = 4545
	between		10.205	1.585	49.990		n = 482
	within		3.305	-4.991	35.082	T	bar = 9.42946
NER secondary	overall	45.373	14.819	1.300	86.620		N = 4535
	between		13.277	1.300	75.730		n = 481
	within		7.415	7.422	75.710	T	bar = 9.42827
Lngdrpcap	overall	15.497	0.712	12.737	19.342		N = 4545
	between		0.685	13.738	19.047		n = 482
	within		0.204	13.998	16.788	T	bar = 9.42946
Lndau	overall	26.341	0.640	19.271	29.438		N = 4499
	between		0.407	24.576	27.637		n = 481
	within		0.482	19.810	28.696	T	bar = 9.35343

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[5] Due to large dataset of Indonesia municipalities, descriptive statistic data for poverty rate, school enrollment rate, and other control variable on each municipality were not presented in this paper.

Lneducexp	overall	25.629	0.876	18.514	28.824		N = 4427
	between		0.623	23.584	27.257		n = 480
	within		0.623	19.569	28.706	T	bar = 9.22292
Lnhealthexp	overall	24.354	0.820	20.953	28.206		N = 4403
	between		0.460	22.929	25.777		n = 480
	within		0.678	21.203	27.928	T	bar = 9.17292
Lnpad	overall	23.894	1.081	19.834	28.455		N = 4503
	between		0.954	21.459	27.256		n = 481
	within		0.572	20.572	26.865	T	bar = 9.36175
Direct	overall	0.613	0.487	0	1		N = 4495
	between		0.226	0.222	1		n = 475
	within		0.442	-0.262	1.390	T	bar = 9.46316
Divided	overall	0.931	0.253	0	1		N = 4546
	between		0.173	0	1		n = 482
	within		0.186	-0.731	0.978	T	bar = 9.43154
West	overall	0.677	0.468	0	1		N = 4546
	between		0.478	0	1		n = 482
	within		0	0.677	0.677	T	bar = 9.43154
Java	overall	0.264	0.441	0	1		N = 4546
	between		0.423	0	1		n = 482
	within		0	0.264	0.264	T	bar = 9.43154
Resource	overall	0.163	0.370	0	1		N = 4546
	between		0.361	0	1		n = 482
	within		0	0.163	0.163	T	bar = 9.43154
NERjunior	overall	65.016	12.345	4.720	92.520		N = 4535
	between		11.343	7.370	83.772		n = 481
	within		6.901	25.665	95.873	T	bar = 9.42827
Lndakeduc	overall	16.223	0.901	13.816	18.676		N = 3434
	between		0.491	14.547	17.744		n = 462
	within		0.786	12.898	18.509	T	bar = 7.4329

Lnyhheduc	overall	11.819	0.777	9.340	14.360		N = 4532
	between		0.554	9.402	14.208		n = 481
	within		0.561	9.815	13.617	T	bar = 9.42204

Aside from our statistical data that showed disperse condition of regional poverty rate, we confirms the convergence of regional poverty rate in Indonesian municipalities (see Figure 2). We plot average changes of poverty rate from 2002 to 2012 against its initial level in 2002 for 322 municipalities in the sample. In general, the graph shows the negative trend between the initial condition and its change over sample periods. We have minor out layer over this pattern such as Bengkulu and Tanjung Balai city, both have lower initial poverty rate in 2002, and several regions in eastern Indonesia that have higher initial poverty rate (mostly in Papua island).

Figure 2   Convergence in poverty rate.
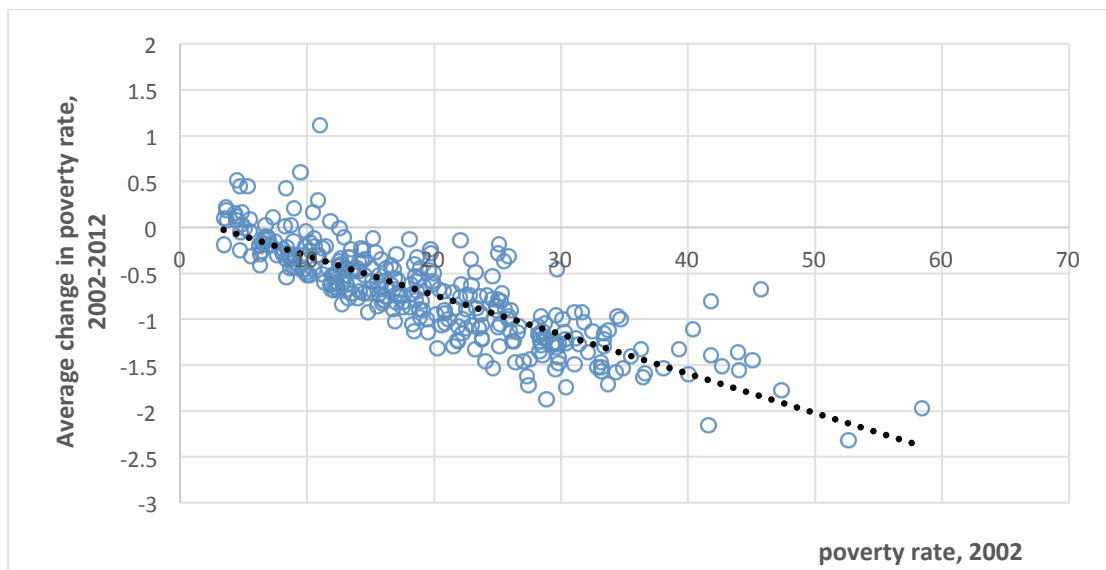
This study also confirms the convergence of school enrollment rate in Indonesia municipalities. Figure 3 shows the relation between changes of net enrollment rate from 2002 to 2012 against its initial level in 2002 for 322 municipalities in the sample. Even though the graph shows overall negative correlation between the initial condition and its change over sample periods, the

figure also illustrates that the pattern is wider compare to poverty rate convergence. Thus, it displays some substantial deviation from the general pattern therefore point to different trend among regions in Indonesia.

Figure 3   Convergence in net enrollment rate-secondary education.
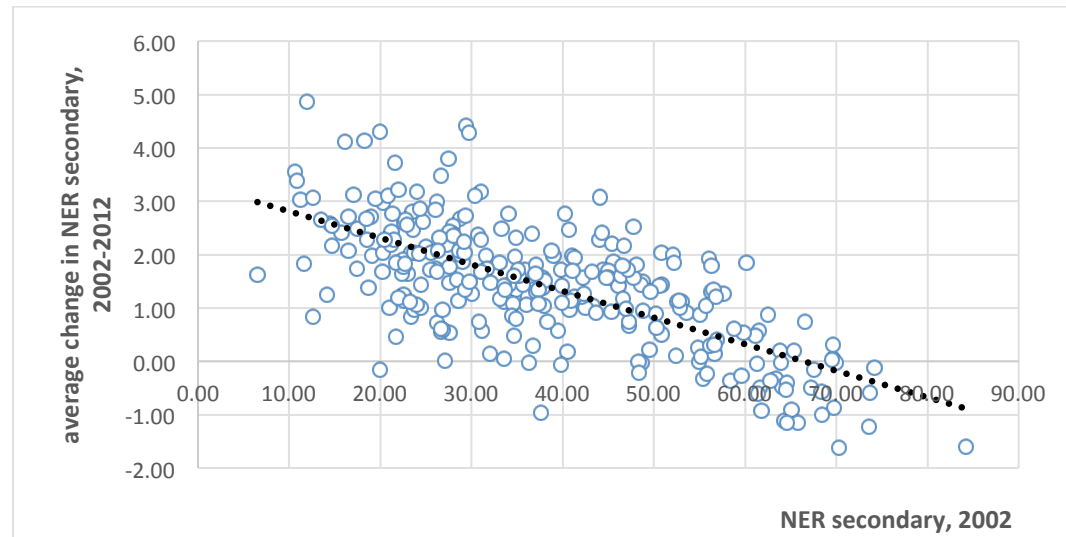
D.   Result and Discussion

1.   Regional Poverty Reduction

Table 3 shows the main regression results at the municipality level for both the FE and RE models. We use a balance panel of 474 municipalities over eleven-year period from 2002 to 2012. Using Hausman specification test, it showed that the null hypothesis of consistent estimates from the FE model is accepted, implying that the use of the FE model is more appropriate compare to the RE model.

In regression (1) on poverty rate, poverty incidence is found to be lower in municipalities with: (1) higher net enrollment rate at secondary level of education, (2) higher GDP per capita, (3) higher share of education expenditure, (4) higher share of health expenditure, (5) higher share of *pendapatan asli daerah* (local own-source revenues).

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This finding is consistent with previous study that revealed the important role of GDP per capita on reducing poverty (Sumarto, Vothknecht, and Wijaya, 2014). GDP per capita has the highest magnitude compare to other poverty reduction drivers.

It showed that municipalities with higher education expenditures seem to have lower poverty incidence. With all else being equal, and increase in one point of log education expenditure is estimated to be associated with 0.91 percentage point of reduction in the poverty rate. Thus, poverty rate is also found to be about 0.41 percentage point lower in municipalities with higher point of log health expenditures. Comparing the magnitude of education and health expenditure, we can imply that in order to reduce poverty it more effective to increase budget in education rather than increase budget in health sector. This result consistent with previous study that showed education policies, through expanding opportunity and access to education, would be a first-best poverty reduction strategies (Gundlach, Pablo, and Weisert, 2004)

To evaluate the impact of democratization on poverty reduction we use two dummy variables, *direct election* and *divided*. By using dummy variable *direct election,* it shows that poverty rate is found to be lower on the period after the introducing of local head direct-election in 2005. In *ceteris paribus*, direct election decreases poverty rate about 0.87 points percentage compare to the period before direct election was introduced.

This regression provides empirical result for our assumption that democratization has positive correlation with poverty reduction. This finding complies with the theory that suggested democratization, through direct election, enhances political accountability. The political accountability for local government had been promoted through two directions. First, it gives voters the power to reward incumbent

politicians to be reelected or discipline them by replacing incompetent incumbent local heads with the challenger. Second, it gives incumbent local heads incentive to improve the quality of social welfare and governance. Incumbents with better performance have higher probability for their reelection to office.

Further, this study shows that divided local government has higher poverty incident compare to unified local governments. It is because local parliament, through its budgetary function, has immense authority on budgeting process and so, divided local governments often faced impediment on proposing their budgets. With the less than fifty percent votes on local parliament, consolidation between local government and local parliament can take longer time and in some cases, even deadlock. These facts affect the operation of local governments and sometimes, its whole budget. Delaying on reporting local government budget to central government had been penalized with postponing payment for *dana alokasi umum* and also a cut on fund transfer in the next fiscal period.

Moreover, this study extends the analysis by introducing other dummy variables *west*, *resource*, and *java*. While the Hausman test implies that RE model is rejected, we cannot apply FE model for these dummy variables since it were time-invariant variables. Therefore our regression analysis uses RE model to capturing within-municipality evolution of poverty rate over time.

As expected, it showed that Western part of Indonesia enjoy lower poverty incidence compares to Eastern part of Indonesia (see regression result 3). This result aligned with the fact that Indonesia development had been centralized on Western part of Indonesia, mainly in Java and Sumatera islands, for both during the Suharto regime (Booth, 1998) and the decentralization period until the first period of Susilo Bambang Yudhoyono (SBY) presidency in 2004 to 2009 (Juoro, 2013). It confirms

that Western regions had enjoyed rapid economic development in comparison to Eastern regions in decentralization periods. However, there is a shifting in SBY's second period, he launched Master plan for Acceleration and Expansion of Indonesia's Economic Development that disperse economic development over Indonesia regions. This program was intended to reduce the gap between the western and eastern parts of Indonesia and make the development more equitable (Juoro, 2013; Sianipar, 2013)

Further, general finding also shows that municipalities with natural resources have higher poverty incidence compare to resource-poor municipalities. This result coincides with the fact that there is higher phenomenon on rent-seeking and patronage in natural resource-based municipalities (Kolstad and Sereide, 2009).

Even though western part of Indonesia enjoy rapid development since Suharto era, Java island also grieved for poverty incidence. Booth (1998) argued that poverty in Indonesia has tended to be regarded as primarily a Javanese problem. With high concentration of people in Java island (around 60 percent), Java island face poverty threat especially in rural area (Hill, 2000). This condition corresponds with the fact that municipalities in Madura islands and southern part of Java had higher povery incidence compare to national level. More over, this finding also consistent with Tadjoeddin (2014) that argued districts in Java are generally poor relative to the Indonesian average.

Lastly, consistent with our statistical analysis that presented convergence in poverty incidence among region in Indonesia (see figure 2), our regression analysis in equation 4 confirmed that there is regional convergence in Indonesian regions. It can be portrayed on negative value of initial poverty (*initialpov*) on the regression result. Thus, it showed that there is slightly change in the pattern of regional convergence.

As can we see in Figure A.1 (see Appendix 1), the slope of poverty convergence after the introduction of direct election is slightly steeper in comparison to previous periods. The deviation between the general trend and regional pace on poverty reduction also become smaller. This condition confirms our finding that direct election increases poverty alleviation in Indonesia regions.

Table 3. Municipality-level drivers of regional poverty rate

Dependent variable	Poverty Rate			Change in poverty rate
	FE (1)	RE (2)	RE (3)	FE (4)
nersecondary	-.06055488*** (0.0063886)	-.06685434*** (0.0062993)	-.06547314*** (0.006282)	-.02142669*** (0.0048746)
lngdrpcap	-2.3186221*** (0.2668466)	-2.7927938*** (0.2411415)	-2.6142309*** (0.2446912)	-0.31583741 (0.1936926)
lndau	-0.01623424 (0.1204479)	0.07622754 (0.1210405)	0.06696965 (0.1207691)	
lneducexp	-.9160713*** (0.1327599)	-.99899217*** (0.1329497)	-.97072154*** (0.1326758)	
lnhealthexp	-.40722955** (0.1490119)	-0.2018698 (0.1488765)	-0.24127147 (0.1486488)	
lnpad	-.89374506*** (0.1247156)	-1.0594341*** (0.1222322)	-1.0732653*** (0.1230999)	
initialpov		-.76258088*** (0.1438058)	-.78214725*** (0.1441154)	-.23940865*** (0.0114233)
direct	-.86963011*** (0.1446138)	.44145571* (0.2337768)	.44219111* (0.2330775)	-.72733687*** (0.0926297)
divided	.40242709* (0.2323699)		-6.0192369*** (0.816504)	0.01450975 (0.1790718)
west			3.377885*** (0.8988286)	
resource			2.3671413** (1.00647)	
java		117.24437*** (4.287261)	117.98974*** (4.280784)	
_cons	110.99726*** (4.499013)	-.06685434*** (0.0062993)	-.06547314*** (0.006282)	9.6720771** (3.000526)
Number of obs	4,308	4,308	4,308	4,482
Number of group	437	473	473	474
Adjusted R^2	0.4038	0.4026	0.4030	0.1012

2. Regional School Enrollment Enhancement

Table 4 shows the main regression results at the municipality level for both the FE and RE models. We use a balance panel of 455 municipalities over eleven-year

period from 2002 to 2012. Using Hausman specification test, it shows that the null hypothesis of consistent estimates from the FE model is accepted, implying that the use of the FE model is more appropriate compare to the RE model.

In regression (1) on net enrollment rate secondary (*NERsecondary*), it shows that net enrollment rate to be higher in municipalities with: (1) higher net enrollment rate at junior level of education, (2) higher GDP per capita, (3) higher share of education expenditure, and (4) higher average household expenditure on education.

Municipalities with higher education expenditures seem to have higher net enrollment rate on secondary level. With all else being equal, and increase in one point of log education expenditure is estimated to be associated with 0.62 percentage point of increase in the net enrollment rate. Even though the magnitude of *dana alokasi khusus* (specific grant) is positive on school enrollment rate on secondary level but statistically it does not significant since most of central government budget on education had been focused on improving level of education in primary and junior level of education. This fact shows that local government budget has more effect compares to central government budget on education.

Thus, the regression result shows the importance of household expenditure on education on net enrollment rate. Municipalities with higher log household expenditure on education are associated with 3.01 percentage points of increase in net enrollment rate. Our finding also showed that even though central government and local governments attempt to improve education level through their policy intervention and budget allocation, household still takes the upmost role. It can be observed by comparing the coefficient of household expenditure with central government and local government expenditures on education.

However, aside from the regression results in previous section, we cannot imply the correlation between democratization and education because variable direct election, as the representation of democratization process in Indonesia regions, does not have significant value on net enrollment rate on secondary level.

The regression result shows that regions with divided-local government have lower net enrollment rate compare to regions with unified-local government by 2.21 percentage point in all else being equal condition. This fact shows the important role of local parliament supports on increasing net enrollment rate. A part of its law-making function that gives local parliament an authority to either approve or reject local-heads proposed policy/programs, local parliaments can bind local-head from using budgetary function that control local budget. Unified local governments mostly succeed on proposing their programs smoothly since they have majority support on local parliament votes. While divided local government frequently faced hurdles during budgeting negotiation.

Further, we also extend our analysis on the different characteristic that may affect net enrollment rate of secondary level among regions in Indonesia. We introduce dummy variables dummy variable west, oil, and java in regression (3). We use RE model instead of FE model since FE estimator omit variables that do not vary overtime. We found that the coefficient value of dummy variable west is not significant. It means that there is indifferent school enrollment rate in secondary level between municipalities in western and eastern part of Indonesia..

While our analysis shows that municipalities with natural resources have lower net enrollment rate on secondary level compare to other municipalities due to the rent-seeking and patronage phenomena in natural resource-based municipalities, we also found unexpected result. Our regression shows that municipalities in Java have lower

net enrollment rate compare to outside-Java municipalities. This result may be caused by the condition of school enrollment rate in Java. Our statistic data showed that the regions with higher school enrollment rate in Java island are already achieved its steady state level and only has small progress during observation while regions outside Java have better improvement due to its lower initial conditions. However, we need to be cautious with the variation of school enrollment among municipalities in Java island. This fact was corresponded with the condition of southern Java region that less developed and prosperous compared to the northern part (Tadjoeddin, 2014). Therefore, we still need to consider this condition on our policy recommendation

Table 4. Municipality-level drivers of regional net enrollment rate on secondary level

Dependent:	NERsecondary			Change in NER Secondary
	FE (1)	RE (2)	RE (3)	FE (4)
NERjunior	.35109933*** (0.0174311)	.47487977*** (0.0159151)	.49375282*** (0.0160619)	.31644564*** (0.0179783)
Lngdrpcap	2.0115425** (0.9163523)	2.1879646*** (0.4500434)	2.457082*** (0.4664492)	2.1151624** (0.9347564)
Lneducexp	.61863184** (0.3061269)	-.57189317** (0.2783322)	-0.22666546 (0.2852826)	0.34556379 (0.3112294)
Lndakeduc	0.1008543 (0.206158)	-.34177905* (0.2015284)	-.49125727** (0.202619)	-0.01164392 (0.2050435)
Lnyhheduc	3.0099415*** (0.3691733)	4.7153035*** (0.3381715)	4.8879588*** (0.3377894)	2.7858554*** (0.3727299)
Direct	0.08694299 (0.395178)	-0.08671972 (0.3901912)	-0.41926125 (0.3943596)	0.03413926 (0.3983916)
Divided	-2.2103091** (0.6712477)	-1.382307** (0.6408679)	-1.4219232** (0.637297)	-2.0364547** (0.6650178)
InitialNER Secondary				-.86434236*** (0.0179178)
West			-0.04992671 (0.7465361)	
Resource			-4.1615486*** (0.8024111)	
Java			-3.8086724*** (0.9037452)	
_cons	-61.544947*** (13.14352)	-53.561586*** (8.053049)	-65.539969*** (8.247809)	-53.343853*** (13.39968)
Number of obs	3,325	3,325	3,325	3,217

| Number of group | 455 | 455 | 455 | 452 |
| Adjusted R2 | 0.2484 | 0.4701 | 0.2383 | 0.238 |

E. Concluding Remarks

This study examines the effect of democratization that accompanied decentralization policy on poverty reduction and education in Indonesian regions. It analyzes the effect of institutional reform in Indonesia on the input by looking at the changes in central government policy, local budget structures, and constituent participation.

Poverty incidence is found to be lower in municipalities with higher net enrollment rate, higher regional GDP per capita, higher expenditure on education and health, and higher local owned-source revenue. Geographically, it is found that western part of Indonesia has lower poverty incidence while Java island regions and natural resource-based region have higher poverty incidence. Compare to other determinants of poverty reduction, GDP per cap take major role on reducing poverty rate.

On the other hand, school enrollment rate is found to be higher in municipalities with higher enrollment rate in junior level, higher GDP per capita, higher expenditure on education, and higher household expenditure on education. However, lower school enrollment rate, is not only found in natural resource-based regions but also in Java regions.

In general our regression result shows the importance of GDP per capita as driver for both reducing regional poverty incidence and increasing school enrollment rate. This finding is consistent with previous studies on Indonesian poverty that revealed its significant role on reducing poverty incidence.

While direct election only work on reducing regional poverty rate, municipalities with divided local government is found to be higher in poverty rate and lower in school enrollment rate. These results show the importance role of institutional change on improving local social welfare, especially on decreasing poverty incidence and increasing school enrollment.

Based on the regression results, this paper links the relationship between democratization and social welfare in Indonesia. It shows that democracy give people an opportunities to improve their welfare. By discipline mechanism, people chose to reelect incumbent politicians or replace them with the challenger based on their performance on satisfying people's expectations. Democracy also gives an incentive for incumbent local-heads to be reelected. An incumbent with better performance on improving the quality of social welfare and governance have higher probability compare to other one.

This paper also provides empirical studies on how the relationship between local-head and local parliaments may affect regional social welfares. Since, local-head needs local parliaments support to run his programs especially on lobbying regional budget, the absence of local parliament support may impede the implementation of campaign promises.

However, even though this paper shows the role of Indonesian democracy process through direct election and link between local-head and local parliaments, it does not distinguish the performance between regions in which the local-head has reelection opportunity and regions in which the local-head already serve for his second term. This paper also argues that people take their votes based on discipline mechanism as part of political accountability process and do not take into account clientelistic practices that might affect the people preference on direct election.

In addition, this paper also does not consider other variables that affect the effectiveness of democratization on improving social welfare such as political lobbying during candidacy and the period of service (aside from budgeting process), regional social indicator (regional conflict, demographic, urbanization) and regional governance (regional corruption, transparency, and accountability process). Therefore, further research may address these limitations and investigate other democratization variables that may affect social welfare.

In summary, this study shows that democratization, through direct election, is important as a means of social welfare improvement. Nonetheless, despite the presence of direct election, democratization in Indonesia is still facing the treat of corruption, political intimidation, patronage and problems of clientelism. Therefore, to handle these problems we need to ensure that the regional democratization process promotes local political accountability in order to improve local government responsiveness.

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Appendix.
Figure A.1 The Convergence of Regional Poverty Rate before and after Direct Election
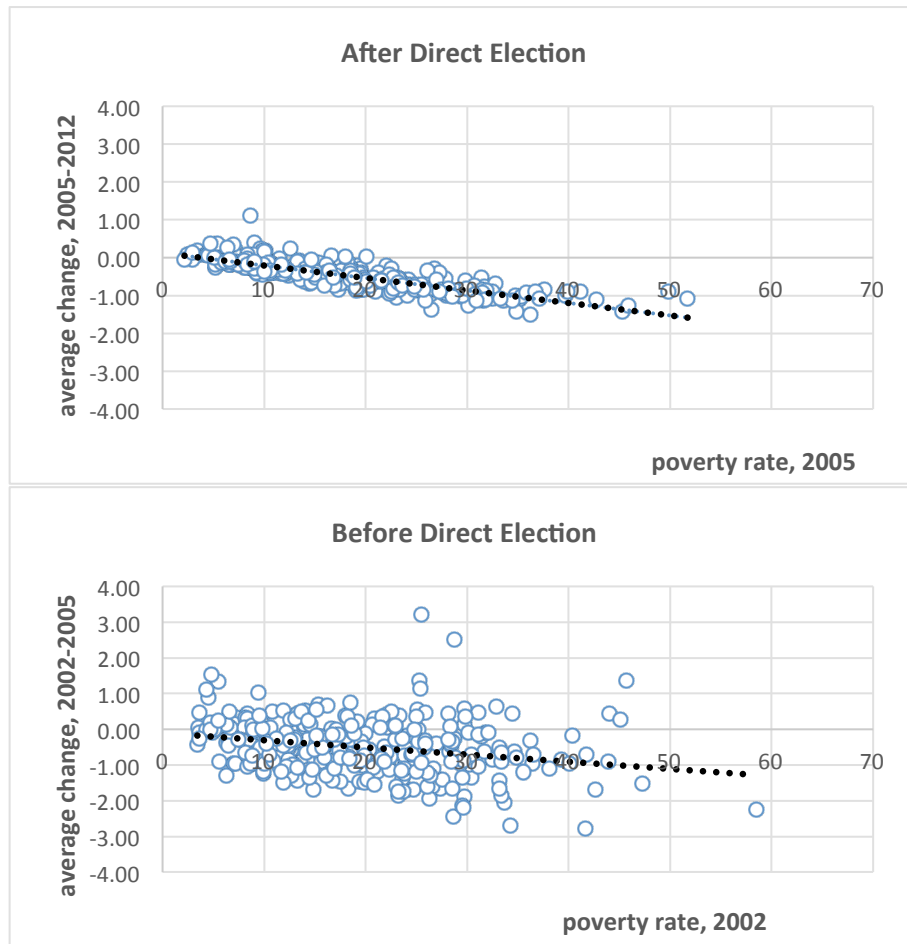
Figure A.2 1 The Convergence of School Enrollment Rate before and after Direct Election