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The role of local politics

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Abstract

We analyze the determinants of the excessive administrative spending of local governments in Indonesia. In an unbalanced panel data set of 399 districts for 2001-2009, we show that the proliferation of districts has not led to increased administrative spending; instead a lack of political accountability is responsible for this excess. The degree of political competition influences the level of administrative spending significantly; newly introduced direct elections of district heads, however, did not curtail the waste.

Keywords: administrative expenditures, decentralization, direct elections, Indonesia

JEL: D73, H76, H11, R51

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1. Introduction

Administrative expenditures of Indonesian districts are extremely high in international comparison. On average, districts spend around a third of their entire budget on general administration and not on public service delivery. Corresponding figures are 3 percent for US counties and for UK districts, 8 percent for Norway and 13 percent for Tanzania.[1] Even though budgetary delineations may differ across countries and local jurisdictions may serve different sets of functions, which makes figures not be directly comparable, the extraordinarily high figures for the Indonesian local governments point towards large inefficiencies in the process of public service delivery at the local level.

One reason for these inefficiencies may be that the decentralization process in Indonesia has substantially weakened accountability mechanisms at the local level. Indonesia's sweeping decentralization, written into law in 1999 and implemented in 2001, devolved almost 40 percent of the overall budgetary responsibility to the regions (provinces and districts) and transferred a number of very important functions, such as primary and secondary education, health services, environmental protection, and infrastructure, predominantly to the districts (World Bank 2008). This devolution of authority to the local level has shifted substantial financial resources and decision power to units that previously were merely executing orders from the center.[2] Bureaucratic accountability was removed and should have been replaced by effective democratic accountability. In 1999, Indonesia had its first democratic election after the authoritarian New Order regime collapsed. Starting in 2000, district heads were elected by the now democratically elected local parliaments whenever the terms of the effectively appointed district heads from the New Order came to an end. In a second reform step, beginning in 2005, district heads were directly elected with the aim of strengthening democratic accountability of local governments.

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[1] Systematic evidence on local governments' administrative expenditures is unavailable, especially for developing countries. Still it is obvious from these figures that Indonesia's administrative expenditures exceed usual levels by far. Data are taken from http://www.census.gov/govs/estimate/historical_data_2007.html, http://www.ukpublicspending.co.uk/year_spending_2010UKmn_12mc1n#ukgs302, http://www.svt.ntnu.no/iso/jorn.rattso/Papers/jkjrpolcontrolofadm.pdf and http://www.logintanzania.net/docs/lgfr2007.pdf and refer to the years 2010 (UK, US), 2007 (Tanzania) and 1990 (Norway).

[2] The increase in transfers from the center has led to a built up of bank deposits by districts which made the ability to spend the financial funds wisely a major concern (Lewis and Oosterman 2008).

It is debatable how effective the democratic accountability mechanisms in Indonesia at the local level really are. There are indications that corruption, which was rampant under Suharto, has not declined significantly after the decentralization and democratization but has rather become more decentralized and less organized (Hill 2012, Hofman et al. 2004, 2009), and that the political process on the local level has been characterized partly by money politics and powerful local elites (Mietzner 2005, 2010). If the democratic accountability mechanisms are compromised, local governments and bureaucracies may not spend the money in the best interest of the populace, i.e. on the public services needed most, but rather on increasing the perks of the office through better and more numerous offices and cars, more frequent travels, more staff etc. (cf. Niskanen 1971).[3] This would explain the high levels of administrative spending. Administrative overspending is a wasteful activity for the benefits of office holders and as such a sort of 'legal corruption' with corruption being defined as misuse of public office for private gain.

Another explanation for the high average spending on administration may be the continued proliferation of new districts in Indonesia (Fitrani et al. 2005). The number of districts increased from 336 in 2001 to 477 in 2010. In principle, the proliferation of districts (*pemakaran*) could be regarded as an enhancement of the homogeneity of the population within a district, allowing a better matching of public services with the preferences of the population. Burgess et al. (2012), however, argue that the emergence of new districts is a consequence of rent-seeking activities of local elites rather than a strive to enhance the efficiency of government services. If the establishment of new districts entailed large set up costs for the new administration, average administration expenditures would be significantly higher than without *pemakaran*, but this would not necessarily point towards administrative overspending due to lacking accountability.[4]

This paper looks into the determinants of administrative overspending of local governments in Indonesia. In particular, we analyze whether the stepwise introduction of democratic accountability channels through the election of district heads by the local parliaments and subsequently directly by the electorates has led to reduced administrative

[3] Kis-Katos and Sjahrir (2013) show that local governments have adopted a more needs-based spending pattern after decentralization. They analyze the spending pattern on core public services, but not on local administration. A stronger needs orientation in the spending of local governments on services thus needs not contradict a persistently high spending on the own administration.

[4] The proliferation of districts may still be excessive as argued by Burgess et al. (2011).

spending.[5] As the timing of direct and indirect elections varies exogenously across districts, such an effect would be well identified. We investigate whether differences in formal and informal accountability mechanisms across districts may systematically explain differences in administrative spending levels. We also look at the party composition and the degree of political concentration in the local parliament (DPRD) and study whether educational profiles affect the degree of overspending. In addition and take the ethnic-linguistic composition at the district level into account. Lastly, we analyze to what extent the proliferation of new districts has changed the amount and composition of administrative overspending over time.

Our paper is the first to analyze administrative overspending of Indonesian districts and among the first to analyze this phenomenon in decentralized developing countries.[6] Existing literature on local government administrative overspending is sparse and mostly related to selected developed countries (Rongen 1995, Kalseth and Rattsø 1998, Borge et al. 2008 on Norway, Revelli 2010 on England). The paper that comes closest to ours is Lewis (2006), who analyzes the inefficiency of Indonesian districts' tax administration and shows that indirectly elected district heads do not perform better than appointed ones. His focus is thus much narrower than ours as tax administration is only a small part of total administrative expenditures. This lack of research is astonishing, given that a substantial number of developing countries have decentralized with the aim of improving governance quality and that excessive overspending at the local level could severely compromise the success of such decentralization reforms. Moreover, there is a substantial body of literature warning against local capture (Bardhan and Mookherjee 2000, 2006, Reinikka and Svensson 2004, Galasso and Ravallion 2005, and others), of which administrative overspending is an important variant. Our paper thus contributes to the empirical literature on decentralization in developing countries (e.g. Prud'homme1995, Bradhan 2002) as well as to that on local capture (see above).

Indonesia is a particularly interesting case to study the phenomenon of excessive administrative spending at the local level, not only because of its sheer importance: Indonesia is the fourth biggest country in the world, the third largest democracy, and the second largest in the developing world. More importantly, it is a young democracy with a history of weak institutions and high levels of corruption, especially a corrupt civil service

[5] Wang and Yao (2007) show that elections of village committees in rural China have led to a reduction in administrative expenditures and income given to township governments.

[6] Lewis (2005) analyzes fiscal behavior of districts after decentralization but does not analyze the efficiency of administration or the extent of administrative spending.

(McLeod 2005), and has recently experienced a 'big bang' decentralization with a dramatic shift of power from the center to the regions (Hofman and Kaiser 2004). These circumstances allow us to analyze to what extent the dual reform of democratization and decentralization, both rapid and fundamental, have improved governance quality as measured by the amount of resources spent on bureaucracy and government itself rather than on services for the people.[7]

Our results indicate that accountability mechanisms are weak at the local level and that democratization has not yet contributed significantly to the reduction in wasteful local government spending on its own administration. The creation of new districts has led to a temporary shift in the subcomponents of administrative spending but not to a sustained higher administrative spending per capita. *Pemakaran* thus cannot explain the high levels of administrative spending; instead lacking political accountability, which differs across districts, is the prime explanatory factor. Political concentration in the local parliament leads to higher overspending compared to more fragmented local parliaments. A higher vote share for *Golkar*, the dominant party in the New Order era, is significantly associated with higher administrative spending, too. Our results contribute to an emerging view that decentralization and democratization at the local level in Indonesia have yet to deliver tangible results in terms of better governance (Hill 2012, Lewis 2010, Mietzner 2010). While these analyses are well informed, they do not rest on sound econometric analyses. Our paper aims at filling this gap.

The paper proceeds as follows. Section 2 provides background information on decentralization and democratization at the local level in Indonesia. Section 3 presents the data and the empirical approach, Section 4 discusses the results, and Section 5 concludes.

2. Decentralization, democratization, and the emergence of new districts in Indonesia

The Indonesian decentralization process has lead to unprecedented and large scale devolution of authority from the center to the districts. Since 2001, the local governments of

[7] Indonesia is also particularly suited to analyze these issues econometrically because of the large number of districts, the exogenously differently timed introduction of direct elections, which allows clear identification, and the for a developing country high data quality.

the regencies (*kabupaten*) and cities (*kota*) have gained considerable administrative, political, and fiscal autonomy.[8] Administrative decentralization devolved the majority of public service responsibilities to provincial and local governments. The center retained the functions of defense, security, justice, foreign affairs, fiscal affairs, religion, forestry, and currency and transferred the rest of the functions to the districts. The provinces received mainly coordinating and backstopping powers and remained directly responsible to the center. Law 22/1999 also stipulated that districts were responsible for the sectors (*bidang pemerintahan wajib*) health, education, public works, environment, communications, agriculture, industry and trade, investment, land, cooperatives, manpower, and infrastructure.

During Suharto's New Order regime, political parties were limited to three and heavily regulated. District heads were effectively appointed. In 1999, a total of 48 political parties participated in the free election with 21 of them gaining seats in the center parliament and 45 in at least one of the 292 districts' parliaments.[9] Decentralization law 22/1999 gave these newly democratically elected local parliaments the right to elect the heads of the local governments (*Bupati* in *Kabupaten* and *Walikota* in *Kota*). The incumbent district heads were allowed to serve their full terms, which came to an end at different points in time as they had been appointed at different times under Suharto. In 2004, the revised decentralization law on regional autonomy (Law 32/2004) prescribed that the heads of local governments should be directly elected by the local population (*Pilkada*).[10] These direct elections were expected to increase electoral accountability at the local level and thus improve local governance. The first batch of direct elections took place in 2005; subsequently, all indirectly elected district heads were gradually replaced by directly elected ones since all incumbents were allowed to finish their five-year terms.[11] As with the indirect elections, the timing of the direct elections was historically predetermined, which allows a clear identification of the potential accountability effects of indirect and direct elections (cf. Table 1).

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[8] The legal framework for decentralization was laid out by law 22/1999 on regional autonomy and law 25/1999 on intergovernmental fiscal relations.

[9] Source: Homepage of General Election Commission (KPU), http://www.kpu.go.id. 12 out of 45 parties gained only one seat in less than five district parliaments.

[10] The same law also increased the central administrative control of local planning and budgeting by giving the provinces supervisory (instead of coordination) powers. In addition, the center also revised the decentralization law on intergovernmental fiscal relations (Law 33/2004).

[11] District heads were appointed for 5 years with one possible reappointment in the old regime (law 5/1974). The term limit of 5 years was kept in newer regulation and local government heads remained limited to two consecutive terms (Art. 234 of law 32/2004).

Despite these electoral reforms, rent-seeking behavior continued. After 1999, many local parliaments used their newly acquired power to demand money from aspiring candidates in exchange of votes (Buehler 2010). The introduction of direct elections in 2004 did not stop this rent seeking behavior. Instead of local parliaments, it is now the political parties who sell their nomination to aspiring candidates (Mietzner 2005, Buehler and Tan 2007, Lindsay 2009, and Buehler 2010). This resulted in random candidate-political party relationships and to some extent in random coalitions among parties (Mietzner 2005, 2010). This relationship often ended after the election, thus creating difficulties for constituents to hold political parties and eventual winner accountable (Buehler and Tan 2007).

Administrative decentralization resulted in a large increase in the number of local governments (from 292 in 1999 to 477 in 2010, cf. Table 1). The splitting of administrative units, the so-called *pemakaran* or "blossoming" of districts, was a bottom-up process, in which the proposal came from the "child" district with prior approval from the originating (or "parent") district's government and parliament (Government Regulation or PP 129/2000).[12] The proposed new district had to meet a set of technical requirements,[13] however, it was unclear how effective the evaluation process was (Fitrani et al. 2005) as some of these newly created districts seemed to lack the infrastructure to deliver public services (Decentralization Support Facility 2007). The splitting districts phenomenon seems to have been driven by fiscal incentives but also followed ethnic and political divisions and interests to capture natural resources (Fitrani et al 2005). The revised government regulation (PP 78/2007) introduced more technical requirements and a stricter application procedure and approval process. In 2010, President Susilo Bambang

[12] The proposal must include evidence of public support and initial technical research. It was sent through the province to the central government (Min of Home Affairs and Regional Autonomy Advisory Council or DPOPD) which would evaluate the technical requirements and give recommendations to the President. Based on these recommendations, the president, together with the central parliament, would pass the law to create the new district.

[13] The technical requirements: i) economic performance, measured by GRDP and Own Source Revenue (PAD); ii) district's potential, measured by available resources and infrastructure for financial and economic activities, education, health, transportation and communication, and tourism and manpower; iii) district's socio-cultural condition, measured by available infrastructure for religious, socio-cultural, and sport activities; iv) socio-political condition, measured by political participation of the public and people's organization; v) technical indicators such as population, area, and minimum number of sub-districts (see Government Regulation PP 129/2000).

Yudhoyono halted further splitting proposals in order to further evaluate the performances of the newly created districts.[14]

Fiscal decentralization predominantly affected the expenditure side of the district budgets, while most taxes remained centrally set and administered. It resulted in a substantial increase in the central government's transfers to the regions: the formula-based General Allocation Grants (*Dana Alokasi Umum*/DAU), the earmarked Special Allocation Grants (*Dana Alokasi Khusus*/DAK), shared tax revenue, and shared (non-tax) natural resources revenue. These transfers are collectively aimed to equalize the fiscal capacity across districts, subject to their needs and capacity, in order to provide basic public services (World Bank 2003). By 2007, 36 percent of total Indonesian government expenditures were carried out by the local governments, which, however, collected only 10 percent of total government revenues (World Bank 2007). Moreover, while central transfers were earmarked to specific purposes before decentralization, starting in 2001, districts became considerably freer in allocating their expenditures subject to the general requirements of local public service provision.

Districts' public expenditures more than doubled from 2001 to 2007 and rose further steeply in 2008 and 2009. Despite this overall increase, the share of administrative expenditures did not decline notably. On average, the government administration sector received 30 percent of total public expenditure. This is double the average allocation for infrastructure (15 percent) and around 4 percent less than the average allocation for education (34 percent), making it the second highest budget item from 2001 to 2009 (see Figure 1).

[14] See nasional.kompas.com/read/2010/01/21/20114161/.

3. Data and empirical approach

3.1. Dependent variables

Our dataset includes 418 districts in Indonesia for the period from 2001 to 2009. We created an unbalanced panel dataset in order to include both the parent and the child districts resulting from the splitting phenomenon. We excluded the provinces of Nanggroe Aceh Darussalam, Papua, and Papua Barat due to the significant number of missing data. The capital, DKI Jakarta, was also excluded because the districts in Jakarta are not autonomous. The time period is restricted by data availability; our main source of district governments' fiscal data is the Database for Policy and Economic Research (DAPOER) of The World Bank Indonesia. It contains expenditure data classified according to the economic categories staff, capital, goods and services, and other administrative expenditures.

Our dependent variable is the natural logarithm of per capita public expenditures on the government administration sector. We define administrative expenditures as all expenditures that are incurred to administer the local governments. According to this definition, we take the expenditure items classified under government general administration section (coded 1 in DAPOER). This expenditure category contains the following expenditure items reported under general government administration (*Bagian Urusan Umum Pemerintahan*) based on the law *Kepmendagri 29/2002* and the revised law *Permendagri 13/2006:*[15] general government (*pemerintahan umum*), development planning (*perencanaan pembangunan*), unity and local politics (*kesatuan bangsa dan politik dalam negeri*), personnel (*kepegawaian*), people and villages empowerment (*pemberdayaan masyarakat dan desa*), statistics (*statistik*), archive (*kearsipan*), and communication and informatics (*komunikasi dan informatika*). All these functions are performed by the government administrations.

By far the biggest share of these administrative expenditures pertain directly to the running of the general government: in 2007, 86 percent of total government administration expenditures were spent on general government while the other functions, including development planning, received less than 5 percent (see Table A1 in the appendix). The

[15] These are government regulations that regulate local governments' budget reporting formats. The expenditure items are called obligatory roles or *urusan wajib* in *Permendagri 13/2006*.

general government includes the offices of the Secretariats of Local Governments (*Sekretariat Daerah*/*Sekda*), Local Parliaments (*Dewan Perwakilan Rakyat Daerah/DPRD*), the Local Revenue Offices (*Dinas Pendapatan Daerah/Dispenda*), the Local Financial Management Offices (*Badan Pengelola Keuangan Daerah*), Sub-District offices (*Kantor Kecamatan*), as well as some smaller and less important ones.

The composition of administrative expenditures has remained fairly unaltered throughout the study period. From 2001 to 2007, staff expenditures received on average 34 percent of total government administrative expenditures, followed by goods and services (30 percent), others (26 percent), and capital (10 percent) (Figure A1).[16]

3.2. Controls

The determinants of administrative expenditures include, first, factors that capture the cost of an efficient administration and thus refer to the size, geography and demography of the district, and, second, factors that explain to what extent the observed administration expenditures exceed the efficient level. The second set of determinants thus proxies the effectiveness of formal and informal accountability mechanisms. Third, the district revenue measures the resources available to all government functions. Lastly, we control for splitting districts.

Efficient administrative technology should exhibit strong economies of scale. We thus include population size as administrative expenditures per capita should decline with population. Administration should be more costly in districts that are more spread out and less accessible. We thus include the logarithm of the district area, the number of villages, the share of landlocked villages and of those with flat surface. While costs should rise with the area and the number of villages, the share of landlocked villages and those with flat surface should decrease costs as hilly terrain and islands in the archipelago either require outposts or more costly travel than villages accessible by land. Urbanization could either increase or reduce administrative spending: closer proximity should reduce administrative

[16] While inspecting the data, we found some inconsistencies in the economic classification of government expenditures, which resulted in overestimated administrative expenditure figures. The most common problem was a misclassification of expenditures for staff in other sectors (especially education) under general administration expenditures. This problem was especially pronounced in the first years after decentralization, which suggests that administrative incapability might have been a major issue behind this finding. After a detailed examination of the data and interviews with the World Bank team in Indonesia, we designed a procedure that dropped 68 out of 2812 observations that were obviously subject to misspecification (see Appendix A for details).

costs while, at the same time, urban environments pose additional administrative requirements, thereby increasing the costs. A larger distance to Jakarta may increase costs as it may capture less oversight of the center and thus more discretionary scope and as travel to the capital may be more expensive. A larger distance may also capture lower price and wage levels thereby reducing costs. Higher levels of economic activity and income, as measured by real regional GDP per capita, may increase the demand for administrative services and the costs of factor and material inputs thereby increasing administrative expenditures.

Available resources should positively affect spending levels for all governmental functions, even if the coefficient for administrative spending should be significantly below unity for an efficient administration. We measure available resources by the amount of total fiscal revenues per capita, which includes own source revenue as well as revenues from resource sharing schemes (cf. Agustina et al. 2012).

Accountability mechanisms are captured by a number of variables. First, we include a dummy that is one if the district head was directly elected and zero otherwise to check whether direct elections have increased accountability and have led to less wasteful government spending. We also include the interaction effects of this variable with literacy rate and revenues per capita to allow for the accountability effect to depend on fiscal resources or educational profile of the electorate.[17] Second, we include the literacy rate to capture how educated the electorate is, hypothesizing that a better educated populace may hold the incumbent accountable more effectively and that administrative spending may thus be lower. Literacy rates may potentially proxy for the importance of the electoral accountability channel, but also for informal accountability mechanisms. Optimally, we would have preferred to also include measures of media penetration over the time period, but we could not find consistent time-varying information on media availability. Third, we include an indicator of resource-rich districts, defined as districts that received natural resources shared revenue, as resource-rich countries or regions have been found to have worse institutions and higher corruption levels (*inter alia*, Bhattacharyya and Hodler 2010, van der Ploeg 2011).[18]

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[17] We also included a dummy variable for indirectly (and democratically) elected district heads as there were still appointed district heads in the early years of our sample period (cf. Table 1). However, this variable never turned out significant.

[18] The better fiscal endowment of resource-rich districts is captured through the variable "log of total revenues per capita".

Fourth, for the reduced sample of districts that did not split up over our time frame, we can also investigate the relative importance of further *political factors*, like the party concentration in and party composition of the local parliaments. Since we cannot trace the composition of the parliaments in districts that split up in-between of elections, we can only meaningfully collect this information for the non-splitting districts.[19] We expect that the concentration of political power in the parliament should reduce parliamentary control over administrative expenditures, which should thus increase with political concentration. We apply two measures: a majority indicator, a dummy variable that is one if any party has a vote share of more than 50 percent, and the Hirschman-Herfindahl index of political concentration in the local parliament. To account for different parties' inclination to approve excessive administrative spending in the district, we also control for vote shares that the major parties received in the local elections.

Lastly, our *controls for district splits* consist of a full set of splitting dummies, marking up to five years before the split-up of a district and up to five years after the district split up. Moreover, we differentiate between the after-splitting-up effects for the parent district and those for the child districts. Descriptive statistics for all variables are found in Table A2 in the Appendix.

3.3. Empirical models

We address the determinants of administrative expenditures by estimating pooled OLS regressions. We use an unbalanced panel of old and newly formed districts instead of grouping all newly formed districts with their original parents and treating them as a single unit throughout the whole time period. This approach enables us to disentangle the behavior of old and newly formed districts and allows a more precise tracking of the splitting-up entities. We cluster standard errors at the parent district level, allowing for an unspecified form of serial correlation of disturbances as well as for a cross-sectional correlation between districts that used to belong to the same entity.

The baseline estimating equation relates the natural logarithm of per capita administrative expenditures in the district as well as the size of its main components, to a set of control variables in the following form:

$$\ln EXP_{it} = \beta X_i + \gamma Z_{it} + \lambda_t + f(s_{ij}) + \varepsilon_{it}\,, \qquad (1)$$

[19] Party composition of the parliament should in principle be available also for newly created districts and their parent districts. Yet, extensive field research showed that neither the election commission nor the Ministry of Home Affairs compile and collect these data.

where we observe up to i=1,…,477 districts over nine years (t=2001, …, 2009). The time invariant factors X_i include geographic controls for scale and technology (area, share of coastal and flat villages, distance to Jakarta). The time variant controls Z_{it} capture further scale and technology variables (district population, number of villages, urbanization) as well as fiscal and economic size variables (real per capita revenues, real GDP per capita, resource-rich indicator) and literacy rates, and in a second set of regressions political variables, such as party compositions or party concentration.

We also include a full set of year indicators λ_t to capture common macroeconomic and policy shocks. All models include a set of splitting-up indicators, $f(s_{ij})=\Sigma_{j-} s_{ij} + \Sigma_{j+} s_{ij}^{p} + \Sigma_{j+} s_{ij}^{c}$, ($j$=−4,..,5), which record the years before the split-up of districts (s_{ij-}) as well as the years following the split-up separately for the parent (s_{ij}^{p}) and the child (s_{ij}^{c}) districts. We expect to see considerable differences between parent and child districts since in the latter new administrative capacities need to be built, and hence investments into the administrative infrastructure should be considerably larger at the beginning.

In a second set of regressions, we restrict our attention to districts that did not (yet) split up, which allows us to test for the effects of the political environment. We collected information on the seat composition of each local parliament for 197 districts that did not split between 1999 and 2009 and identified the concentration of party power within the parliament.

4. Results

4.1 Baseline results

Table 2 presents the baseline estimates for the total administrative spending as well as for the four the economic classification: spending on staff, on capital goods, on goods and services, and on other, unspecified purposes. The baseline regressions focus on differences in administrative technology. As expected, scale effects play a significant role in explaining administrative spending. All types of per capita administrative expenditures, except for the rather special “others” category, decrease with population size. A larger district area increases the costs of administration but only in terms of investments in capital and goods and services. For total administrative expenditures, estimates do not reach usual significance levels. The number of villages has a positive but insignificant effect on overall

costs and most subcomponents.[20] Administrative costs are also negatively related to the share of flat and more easily accessible (landlocked) villages, although these effects are statistically significant only for the second variable. The distance to the center plays a less clear-cut role: while other administrative expenditures are smaller in more remote districts, the expenditures on administrative staff become actually larger. Total administrative expenditures, as well as most of its subcategories, are larger in more urbanized areas, except once again for the rather specific "other" category. This might reflect the fact that more urbanized areas use partially different administrative technologies and thus opt for costlier/more sophisticated administrations.

Administrative expenditures also increase with the fiscal size and economic strength of the districts. All expenditure types have a close to unitary elasticity with respect to total per capita revenues. In other words, they rise almost proportionally with available resources – districts do not realize economies of scale with respect to fiscal resources. The fact that financially better endowed districts have a larger share of unspecified expenditure (the elasticity exceeds 1) is alarming because district heads have more discretion over this category and hence can use it more easily to distribute political rents or favors.[21]

Total administrative expenditures (and "others") increase with the GDP per capita, indicating that districts with higher economic activity require a more sophisticated administration. Resource-rich districts have higher administrative spending, but these effects are insignificant. Better education, as measured by the literacy rate, reduces spending in the categories "capital" and "others", for total administrative expenditures this effect is not significant.

4.2. Proliferation of new districts (*Pemekaran*)

Model (1) in Table 2 does not account for splitting districts, while models (2) to (6) include a full set of splitting dummies: four for the four years preceding the split, one for the year of the split and five for the years following the split, the latter two categories separately for the newly created district ("child") and the remaining district ("parent"). The estimated values are shown graphically in Figure 2, separately for total expenditures and selected

[20] The increase in other expenditures may be a consequence of more costly elections, which are budgeted under this category.

[21] This interpretation is supported by the finding that significant political business cycles (PBC) exist in this expenditure category. These PBC exist only for direct elections and only if the incumbent is running for reelection, cf. Sjahrir et al. (2013).

subcategories. The solid line connects the point estimates of the splitting dummies; the shaded area depicts the 95percent confidence interval.

Figure 2a shows that overall administrative expenditures per capita do not rise; splitting dummies are all insignificantly different from zero. Hidden behind these aggregate figures is a clear change in the spending composition, especially for the child district. For the parent district, staff expenditures increase in the year preceding the split in order to build up personnel to be transferred to the child district, they decline to normal levels in the year after the split. Capital expenditures do not change in per capita terms. In contrast, the child district has initially significantly lower per capita staff expenditures as it still needs to hire civil servants. Staff expenditures increase significantly in year four and five after the split and almost reach normal levels. Capital expenditures per capita are significantly higher after the split as new offices in the new district capital have to be set up and equipped. This effect starts to decline in the third year after the creation of the new district.

This shift in expenditure categories, however, leaves the overall administrative expenditures rather unchanged in per capita terms.[22] In other words, the proliferation of new districts is unable to explain the high level of administrative expenditures. Lacking accountability is thus the prime candidate for explaining the excessive spending of local governments on themselves rather than on services for their population.

4.3 Accountability mechanisms

The effectiveness of the accountability mechanisms cannot be estimated directly as they are not directly observable. But we can estimate whether changes in accountability mechanisms over time or variations in variables that proxy accountability channels across districts and over time had any significant effect on the extent of overspending. We have already analyzed the effect of varying literacy rates, which has produced weak evidence for a limiting effect of education on excessive spending (cf. Table 2). We now analyze whether the introduction of direct elections, in which voters can hold district heads accountable for excessive overspending, has reduced administrative expenditures. If such an accountability mechanism was regarded as effective, rational district heads seeking reelection would anticipate such a disciplining device and thus spend less.

The results are provided in Table 3. We focus on total administrative spending as we are concerned with the aggregate overspending as a measure of wasting public resources. Direct elections have no significant effect on administrative spending and the point

[22] The split dummies for goods and services and other expenditures are insignificant.

estimate is very small (model 1); if we include an interaction term with literacy levels, the effect of direct elections becomes positive and the interaction effect negative, as expected, indicating that better educated electorates can use electoral accountability better. However, the estimated coefficients do not reach usual significance levels (model 3). We allow for heterogeneous effects of direct elections depending on the financial endowment of the district. Indeed, our results show that direct elections increase administrative spending significantly in districts with relatively low fiscal endowments and decrease it for districts with more fiscal resources and thus higher administrative spending (in the 4th and 5th quintile of the distribution of fiscal resources, models 4 and 5).[23]

We opted for pooled OLS because many important determinants of administrative spending are time-invariant and thus focusing on within variation would portray a too narrow picture. We did however run a fixed effects panel regression as robustness check. Results are reported in Table A3. Results for the variables that are included in both regressions are quite similar in sign and significance, but not in all cases in magnitude. Notably the coefficient for population is higher in the FE regressions and the one for log of per capita revenue is lower, indicating that administrative expenditures are adjusted to larger population and higher revenues only over time.

Table 4 presents the effect of parliament composition. If a party holds a dominant position in the local parliament (DPRD), which implies that the political process is not very competitive, electoral accountability is weaker, other things being equal. Parties supporting the district head, who needs approval for his/her budgetary decisions by the DPRD, need not fear to be penalized for agreeing to excessive spending for administrative purposes. We therefore expect electoral accountability to be weaker and thus overspending to be higher in districts with a less competitive political environment. We employ two measures for competitive environment – political concentration in the DPRD as measured by the Hirschman-Herfindahl index and a dummy variable that is one if one party received the absolute majority of votes (majority indicator). Moreover, in order to test for different inclinations of parties for administrative overspending, we use the vote shares of the main

[23] We also tested whether direct elections had a different effect for those *bupatis* and *walikotas* who could not run again, as they had served the previous term as indirectly elected district head and were ineligible for reelection. (District heads face a limit of two terms.) The underlying rationale for this is that accountability works predominantly through the threat of being voted out of office and that an insignificant overall effect may be the result of mixture of a significant effect for first termers and an insignificant effect for those who cannot run again. Yet, the inclusion of a last term dummy interacted with direct elections did not turn out significant.

political parties, *Golkar*, PDIP, PKB, and PPP. We also control for ethno-linguistic fragmentation as this has been shown to increase rent-seeking (e.g. Alesina et al 1999, for a survey see Alesina and La Ferrara 2005). As parliament composition is available only for the districts that did not split, we restrict our analysis to this group.

Our results show that administrative spending increases significantly with political concentration (model 3) and if a party commands a majority position (model 4). Also a higher vote share for *Golkar*, the dominant party under Suharto rule, is significantly associated with higher administrative spending. Our results suggest that the political environment, parliamentary composition in particular, is an important determinant for the extent of wasteful spending. Ethno-linguistic concentration seems to increase local administrative spending, yet this effect is not statistically significant in all specifications.[24]

4.4. Travel expenditures

We analyze one particular spending item, which arguably is a special bonus for incumbent politicians and bureaucrats: expenditures for travel. This includes travels within the district, but also to the province and national capitals or abroad. Because of changes in the budget reporting format at the district level, we have data on travel expenditures only for the period 2001-2006. Travel expenditures per capita increase significantly with the district area, urbanization, and fiscal resources, as expected, and decline with population due to economies of scale and the share of villages easily accessible by land. Table 4 provides the results.

Resource-rich districts have higher travel costs, which is consistent with the notion that resource-rich jurisdictions have lesser institutional quality (resource curse, see above) and thus district administrations have more discretionary scope to use public funds for their benefit. As before, districts with higher political concentration, a dominating party, and a larger vote share for *Golkar* allows their civil servants to spend more on travels.

5. Conclusion

In this paper we have analyzed the excessive spending of Indonesian district governments on their own administration. Amounting to almost a third of the total budget,

[24] The inclusion of the ethno-linguistic fragmentation measure does not affect the estimates of the other coefficients in any significant way. Again, we ran FE regressions, which are available upon request. These estimates are less reliable as there is little variation in the political variables, which change only with elections, i.e. only once.

administrative spending is the second biggest budget item and constitutes in that order of magnitude a large misallocation of public resources. We could exclude the proliferation of new districts as a reason for these high levels of administrative spending. Instead, we regard them as a manifestation of poor governance and thus of lacking accountability at the local level. Since accountability mechanisms are not directly observable for such large number of districts, we exploited variations of proxies for formal and informal accountability mechanisms across districts and time. We found weak evidence for education levels to matter. The introduction of direct elections of district heads did not have a significantly favorable effect on administrative spending for the entire sample. Upon closer inspection we could identify that direct elections *increased* administrative spending for districts that are financially not well endowed and reduced it for the richer ones (that have high admin spending levels to begin with). Overall the introduction of direct elections changed little for the better.

Our result underscores the notion that institutional change needs to be encompassing to generate the desired effect. It may simply not be sufficient to change one institutional regulation, even if it is a core one, if the general environment has changed little and the actors see no incentives for changing their behavior. For accountability to work at the local level, the political system has to be truly competitive. This is what our second set of results provides evidence for: in districts with little political competition, as measured by party concentration or the existence of a dominant party in the local parliament, the waste of public resources is even worse. More transparency of and higher competition in the political process as well as lower barriers to entry in the political market may be important elements in improving the formal accountability mechanism. In particular it would be desirable to allow independent candidates to run for the office of district heads as this would break the parties' monopoly to nominate candidates, which they use to extract rewards from hopeful candidates in exchange for their nomination (Mietzner 2010). Successful candidates will seek to recover these "entry fees". Higher budgetary transparency and competitive local media would put the issue of excessive administrative expenditures on the political agenda. Even if our results may disappoint hopes in a rapid improvement of governance quality through decentralization and democratization, a little more than a decade into democratized and decentralized Indonesia's history, it may be too early to hand down the final verdict on the success or failure of these reforms. The best may be yet to come.

Tables and Figures

Table1: Proliferation of new districts and elections of district heads

Year	No. districts	District's heads who are			
		Indirectly elected		Directly elected	
		Number	%	Number	%
2001	336	178	53.0		
2002	348	208	59.8		
2003	370	316	85.4		
2004	410	392	95.6		
2005	434	248	57.1	186	42.9
2006	434	192	44.2	242	55.8
2007	434	164	37.8	270	62.2
2008	451	49	10.9	402	89.1
2009	477	74	15.5	403	84.5
2010	477	0	0	477	100

Note: The number of districts is based on the number of districts that received block grants (DAU) each year. Source: List of *bupati/walikota* from Min. of Home Affairs, the World Bank Indonesia, and the Asia Foundation. Local direct election data comes from Min. of Home Affairs, KPU, the Asia Foundation and the World Bank Indonesia. Cf. Sjahrir et al. (2013), Table 1.

Table 2: Baseline specification

Dependent	*ln* p.c. Gov. Administrative Expenditure					
Classifications	Total	Total	Staff	Capital	Goods & Services	Other
	(1)	(2)	(3)	(4)	(5)	(6)
ln Population	-0.087**	-0.080**	-0.193***	-0.159*	-0.201***	0.136*
	(0.037)	(0.040)	(0.052)	(0.085)	(0.057)	(0.078)
ln Area	0.006	0.003	-0.018	0.101***	0.054***	-0.028
	(0.014)	(0.015)	(0.020)	(0.036)	(0.020)	(0.025)
Number of villages (in 00)	0.009	0.007	0.020	-0.059*	-0.022	0.040**
	(0.012)	(0.012)	(0.020)	(0.033)	(0.018)	(0.019)
Share of villages with flat surface	-0.052	-0.054	-0.101	0.032	-0.017	-0.183
	(0.062)	(0.061)	(0.093)	(0.115)	(0.069)	(0.111)
Share of landlocked villages	-0.158**	-0.153**	-0.114	-0.024	-0.174**	-0.138
	(0.074)	(0.074)	(0.111)	(0.136)	(0.083)	(0.125)
ln (1+ distance to Jkt)	-0.009	-0.010	0.043*	-0.054	0.027	-0.127***
	(0.017)	(0.017)	(0.024)	(0.043)	(0.024)	(0.034)
Urbanization rate	0.146**	0.143**	0.211**	0.524***	0.261***	-0.123
	(0.069)	(0.071)	(0.089)	(0.185)	(0.100)	(0.128)
ln p.c. Total fiscal revenues	0.942***	0.949***	0.782***	1.137***	0.835***	1.082***
	(0.051)	(0.054)	(0.076)	(0.104)	(0.071)	(0.102)
ln Real GRDP p.c.	0.046**	0.047**	-0.012	-0.050	0.048	0.198***
	(0.023)	(0.023)	(0.033)	(0.050)	(0.031)	(0.042)
Resource rich indicator	0.003	0.004	-0.056	0.001	0.031	0.078
	(0.024)	(0.025)	(0.035)	(0.058)	(0.032)	(0.049)
Literacy rate	-0.195	-0.221	-0.125	-0.806*	0.347	-1.245***
	(0.179)	(0.178)	(0.267)	(0.418)	(0.229)	(0.323)
Time effects	*yes*	*yes*	*yes*	*yes*	*yes*	*yes*
Split effects	*no*	*yes*	*yes*	*yes*	*yes*	*yes*
R-squared	0.917	0.843	0.705	0.869	0.651	0.916

Note: All models are estimated by unbalanced panel data (Pooled OLS). Robust standard errors clustered at the parent-district level are reported in parentheses. The number of districts is 399, the number of observations 1889. ***, **, * denote significance at the 1, 5 and 10% level.

Table 3: Effect of direct elections

Dependent	*ln* p.c. Gov. Administrative Expenditure				
	(1)	(2)	(3)	(4)	(5)
ln Population	-0.080**	-0.080**	-0.079**	-0.081**	-0.080**
	(0.040)	(0.040)	(0.040)	(0.039)	(0.039)
ln Area	0.003	0.003	0.003	0.004	0.003
	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Number of villages (in 00)	0.007	0.007	0.007	0.008	0.008
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Share of villages with flat surface	-0.054	-0.054	-0.055	-0.063	-0.063
	(0.061)	(0.061)	(0.061)	(0.062)	(0.062)
Share of landlocked villages	-0.153**	-0.153**	-0.152**	-0.150**	-0.150**
	(0.074)	(0.074)	(0.074)	(0.074)	(0.074)
ln (1+ distance to Jkt)	-0.010	-0.010	-0.010	-0.011	-0.011
	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)
Urbanization rate	0.143**	0.143**	0.143**	0.146**	0.146**
	(0.071)	(0.071)	(0.071)	(0.071)	(0.071)
ln p.c. Total fiscal revenues	0.949***	0.949***	0.950***	0.982***	0.982***
	(0.054)	(0.054)	(0.054)	(0.056)	(0.056)
ln Real GRDP p.c.	0.047**	0.047**	0.047**	0.046**	0.046**
	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)
Resource rich indicator	0.004	0.004	0.003	0.004	0.004
	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)
Literacy rate	-0.221	-0.222	-0.135	-0.235	-0.213
	(0.178)	(0.178)	(0.200)	(0.178)	(0.202)
Direct election		0.004	0.197	0.828***	0.852***
		(0.022)	(0.163)	(0.281)	(0.296)
Direct X Literacy rate			-0.212		-0.053
			(0.176)		(0.181)
Direct X *ln* p.c. Total fiscal revenues				-0.059***	-0.058***
				(0.020)	(0.021)
Time effects	*yes*	*yes*	*yes*	*yes*	*yes*
Split effects	*yes*	*yes*	*yes*	*yes*	*yes*
R-squared	0.917	0.917	0.917	0.917	0.917

Note: All models are estimated by pooled OLS regressions on unbalanced panel data. Robust standard errors clustered at the parent-district level are reported in parentheses. The number of districts is 399, the number of observations 1889. ***, **, * denote significance at the 1, 5 and 10% level.

Table 4 Effect of parliament composition

Dependent	*ln* p.c. Gov. Administrative Expenditure				
	(1)	(2)	(3)	(4)	(5)
ln Population	-0.130**	-0.128*	-0.130**	-0.132**	-0.103
	(0.065)	(0.065)	(0.063)	(0.064)	(0.066)
ln Area	0.010	0.010	0.014	0.010	0.004
	(0.021)	(0.022)	(0.021)	(0.021)	(0.021)
Number of villages (in 00)	0.031	0.031	0.020	0.028	0.021
	(0.028)	(0.028)	(0.024)	(0.026)	(0.029)
Share of villages with flat surface	-0.067	-0.073	-0.077	-0.081	-0.072
	(0.079)	(0.079)	(0.079)	(0.078)	(0.078)
Share of landlocked villages	-0.031	-0.024	-0.033	-0.015	-0.004
	(0.107)	(0.107)	(0.110)	(0.108)	(0.111)
ln (1+ distance to Jkt)	-0.016	-0.015	-0.029	-0.022	-0.023
	(0.021)	(0.021)	(0.020)	(0.020)	(0.020)
Urbanization rate	0.243**	0.241**	0.245**	0.241**	0.221**
	(0.105)	(0.105)	(0.101)	(0.102)	(0.103)
ln p.c. Total fiscal revenues	0.884***	0.888***	0.876***	0.874***	0.904***
	(0.104)	(0.103)	(0.099)	(0.103)	(0.104)
ln Real GRDP p.c.	0.086**	0.088**	0.086**	0.093**	0.087**
	(0.040)	(0.040)	(0.041)	(0.041)	(0.042)
Resource rich indicator	0.003	0.002	0.022	0.012	-0.004
	(0.037)	(0.037)	(0.034)	(0.035)	(0.036)
Literacy rate	-0.531**	-0.553**	-0.196	-0.419*	-0.334
	(0.245)	(0.244)	(0.236)	(0.238)	(0.251)
Direct election	-0.029	-0.005	-0.030	-0.029	-0.025
	(0.027)	(0.032)	(0.027)	(0.027)	(0.027)
Ethno-linguistic concentration index	0.060	0.096*	0.042	0.052	0.086*
	(0.049)	(0.057)	(0.047)	(0.047)	(0.051)
Direct X Ethno-linguistic concentration		-0.069			
		(0.050)			
Political concentration index			0.665***		
			(0.187)		
Majority indicator				0.100**	
				(0.050)	
Share of Golkar					0.504***
					(0.178)
Share of PDIP					0.175
					(0.122)
Share of PKB					0.287**
					(0.145)
Share of PPP					0.184

					(0.173)
Time effects	*yes*	*yes*	*yes*	*yes*	*yes*
Split effects	*no*	*no*	*no*	*no*	*no*
R-squared	0.891	0.891	0.896	0.893	0.895

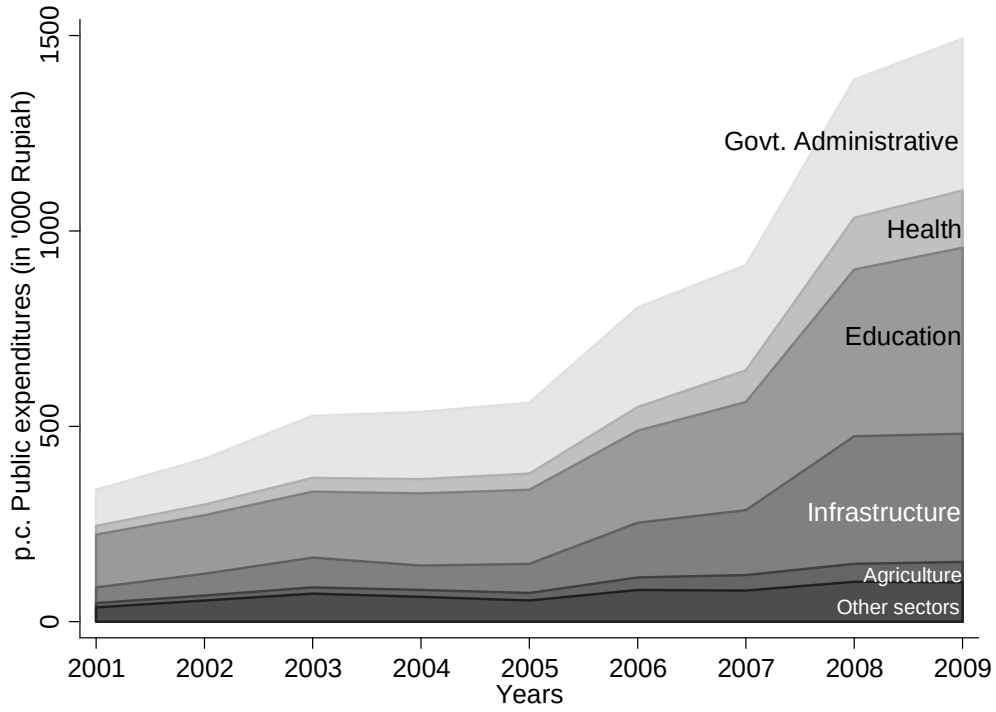
Note: All models are estimated by balanced panel data (Pooled OLS). The sample is restricted to districts that did not split between the 1999 - 2004 elections. Robust standard errors clustered at the parent-district level are reported in parentheses. The number of districts is 197, the number of observations 1039. ***, **, * denote significance at the 1, 5 and 10% level.

Table 5: Travel expenditures

	ln p.c. Gov. Adm. Exp Routine Travel			
	(1)	(2)	(3)	(4)
ln Population	-0.489***	-0.500***	-0.496***	-0.467***
	(0.103)	(0.102)	(0.103)	(0.103)
ln Area	0.181***	0.194***	0.189***	0.174***
	(0.046)	(0.046)	(0.046)	(0.046)
Number of villages (in 00)	-0.040	-0.048	-0.044	-0.041
	(0.042)	(0.041)	(0.042)	(0.042)
Share of villages with flat surface	-0.136	-0.149	-0.173	-0.144
	(0.129)	(0.128)	(0.129)	(0.123)
Share of landlocked villages	-0.385**	-0.364**	-0.320**	-0.333**
	(0.155)	(0.154)	(0.155)	(0.152)
ln (1+ distance to Jkt)	0.052	0.033	0.034	0.037
	(0.058)	(0.059)	(0.059)	(0.057)
Urbanization rate	0.584***	0.624***	0.617***	0.589***
	(0.217)	(0.212)	(0.214)	(0.210)
ln p.c. Total Fiscal Revenue	0.615***	0.595***	0.596***	0.595***
	(0.115)	(0.113)	(0.114)	(0.110)
ln Real GRDP p.c.	0.081	0.079	0.090	0.097
	(0.066)	(0.064)	(0.064)	(0.063)
Resource rich indicator	0.130**	0.142**	0.143**	0.134**
	(0.063)	(0.064)	(0.064)	(0.063)
Literacy rate	0.206	0.540	0.378	0.400
	(0.453)	(0.503)	(0.464)	(0.505)
Political concentration index		0.820***		
		(0.298)		
Majority indicator			0.206***	
			(0.076)	
Share of Golkar				0.819***
				(0.290)
Share of PDIP				0.209
				(0.262)
Share of PKB				0.024
				(0.305)
Share of PPP				-0.299
				(0.413)
Time effects	*yes*	*yes*	*yes*	*yes*
R-squared	0.75	0.76	0.76	0.76

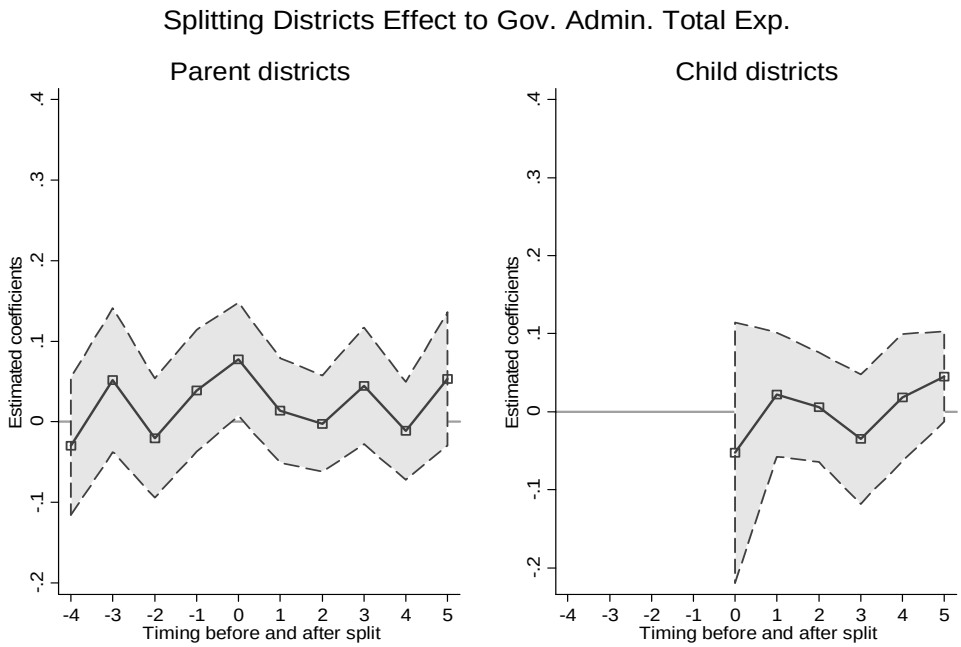
Notes: All models are estimated by pooled OLS regressions for unbalanced panel data. Robust standard errors, clustered at the parent-district level are reported in parentheses. The years observed are 2001-2006. The sample is restricted to districts that did not split between the 1999 and 2004 elections. The number of districts is 197, the number of observations 905. ***, **, * denote significance at the 1, 5, and 10% level.

Figure1. Per capita districts' public expenditure by sector



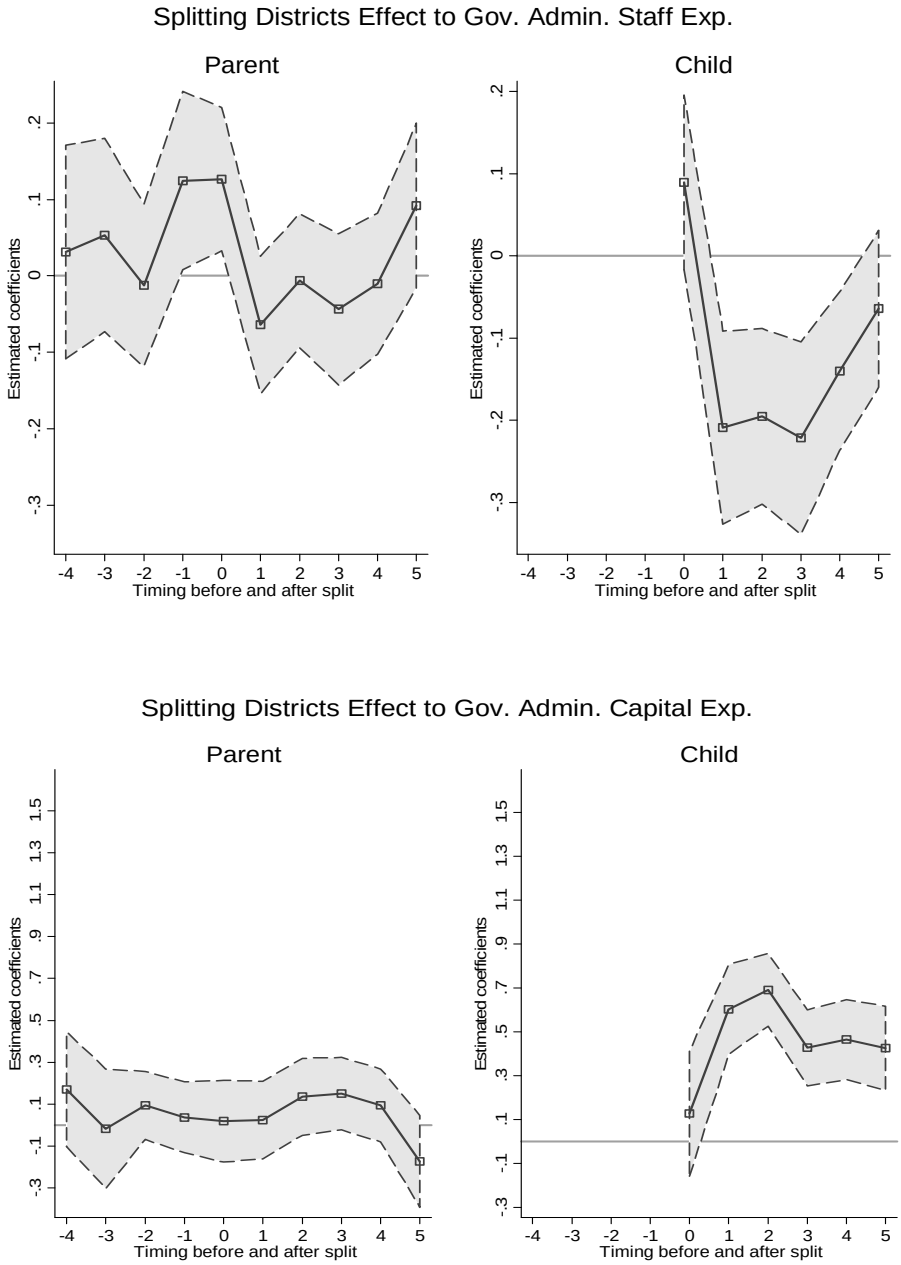
Notes: The figure maps annual total p.c. expenditures by sector for the sample of the 418 Indonesia districts with full data. Others category includes the following sectors: public law and order, economy, environment, housing and public facilities, tourism and culture, religious affairs, and social protection.
Source: DAPOER – World Bank Indonesia.

Figure 2a. Splitting districts effects, total administrative expenditure



Notes: The figures map coefficient estimates and confidence intervals of dummy variables for parent and child districts indicating the timing before and after the split for the sample of the 384 Indonesia districts with full data. Source: data on new districts is based on number of districts received DAU in each year, Min of Finance.

Figure 2b: Splitting districts effects, administrative staff and capital expenditures



Notes: The figures map coefficient estimates and confidence intervals of dummy variables for parent and child districts indicating the timing before and after the split for the sample of the 384 Indonesia districts with full data. Source: data on new districts is based on number of districts received DAU in each year, Min of Finance.

Appendix A: Data cleaning

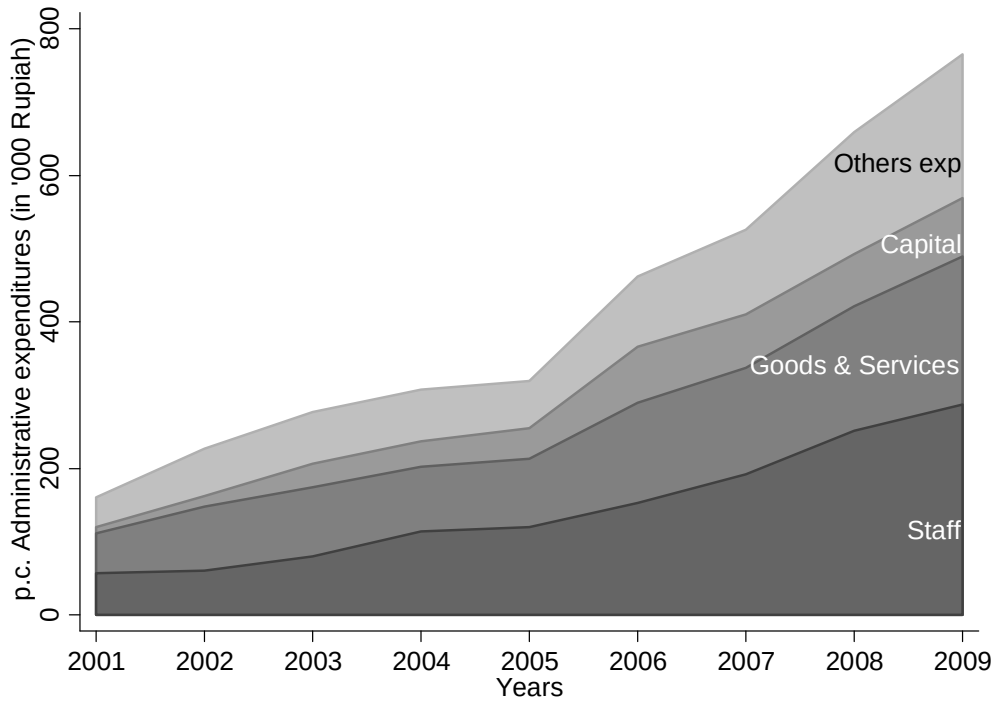
The inspection of the data showed some obvious misspecifications of expenditures in wrong expenditure categories, especially in the years following the change in accounting standards for local governments. We corrected these obvious misspecifications of administrative expenditures by identifying the outliers using a set of statistical criteria. We proceeded in three steps. First, we identified outliers in administrative expenditures for those districts that had misclassified the teachers' salary as administrative expenses. For this purpose, we excluded all observations for which 1. the share of administrative staff expenditures to total expenditures were at least two standard deviations above the sample mean, and for which at the same time 2. the share of educational staff expenditures to total expenditures was at least two standard deviations below the mean (Rule I).

In a second step, we tried to make sure that all excluded observations are truly outliers and do not only reflect low teachers' salaries because of low pupil numbers. Thus, we kept all observations in the sample (irrespective of whether they fulfilled Rule I), for which per pupil expenditures ranged above the sample median (Rule II). We defined the number of pupils based on *Susenas*, a household dataset representative at the district level,, which records the total number of students enrolled in primary, and junior and senior secondary schools.

In a third step, we repeated the above procedure to check for similar misspecifications between the health and administrative sector, applying Rule I also to the salaries of health staff (doctors and nurses) (Rule III). By following Rules I to III, we dropped a total of 68 out of 2812 observations.

Appendix B: Additional Figures and Tables

Figure A1. Per capita administrative expenditure by economic classification



Notes: The figure maps yearly total p.c. administrative expenditures (according to their economic classification) for the sample of the 418 Indonesia districts with full data. Source: DAPOER – World Bank Indonesia.

Table A1. Per capita administrative expenditure in 2007 by functions

Functions	p.c. Govt. Administrative Expenditure (in 1000 Rp)	%
Development planning	10.08	3.68
Unity and local politics	8.82	3.22
General government	235.24	85.96
Personnel	9.43	3.45
People and village empowerment	6.60	2.41
Statistics	0.03	0.01
Archive	0.75	0.27
Communication and informatics	2.71	0.99

Note: Per capita administrative expenditure in 2007 by functions for the sample of 384 districts.

Table A2. Descriptive Statistics

Variable	Definition and Source	Mean	Std.Dev	Min	Max
ln p.c. Gov. Administrative Expenditure on :	Natural logarithm of per capita govt. administrative expenditure on				
Total	Total	12.653	0.846	10.260	16.229
Staff	Staff	11.590	0.882	9.320	15.509
Capital	Capital	10.131	1.279	4.249	14.141
Goods and services	Goods and Service	11.335	0.889	8.995	15.206
Other	Other	11.141	0.983	6.668	14.370
	Source: DAPOER - The World Bank Indonesia				
ln Population	Natural logarithm of population. *Source:* Central Bureau of Statistics (BPS).	12.806	0.898	9.502	15.246
ln Area	Natural logarithm of area. *Source:* Data for DAU calculation, Min. of Finance	7.301	1.611	2.776	10.834
Number of villages (in '00)	Number of villages. *Source:* Village Census *(Podes),* BPS	1.666	1.251	0.090	12.660
Share of villages with flat surface	Number of villages with flat topographical surface relative to total number of villages. *Source: Podes*, BPS.	0.613	0.257	0.004	1.188
Share of landlocked villages	Number of landlocked villages relative to total number of villages. *Source:* Podes, BPS.	0.815	0.223	0	1.000
ln (1+distance to Jkt)	Natural logarithm of 1 + distance from district's capital to Jakarta. *Source:* The World Bank Indonesia	6.670	0.818	2.989	7.972
Urbanization rate	Share of population in urban area. *Source:* Socio-Economic Survey (*Susenas*), BPS.	0.380	0.316	0	1.000
ln p.c. Total Fiscal Revenue	Natural logarithm of per capita total fiscal revenue. *Source:* DAPOER - The World Bank Indonesia.	13.808	0.749	12.206	17.367
ln Real GRDP p.c.	Natural logarithm of Real Gross Regional Domestic Product (GRDP) per capita. *Source:* BPS.	15.442	0.662	14.061	19.273

Table A2 continued

Variable	Definition and Source	Mean	Std.Dev.	Min	Max
Resource rich indicator	A dummy equals one if a district receives natural resource shared revenue. Source: DAPOER - The World Bank Indonesia.	0.354	0.478	0	1.000
Literacy rate	Number of people above 15 years of age who can read relative to total population. Source: *Susenas*, BPS.	0.912	0.071	0.533	0.998
Ethno-linguistic concentration index	A concentration index based on ethno-linguistic composition at the district level (Herfindahl-Hirschman index). Source: Population Census 2000, BPS	0.351	0.333	0.004	0.998
Political concentration index	A concentration index based on political party's votes at the local parliament election (Herfindahl-Hirschman index).	0.228	0.097	0.094	0.761
Majority indicator	A dummy equals one if a district has one party that received more than 50 % of the votes.	0.147	0.355	0	1.000
Share of Golkar	Votes received by Golkar relative to total votes.	0.259	0.145	0	0.842
Share of PDIP	Votes received by PDIP relative to total votes.	0.212	0.151	0	0.869
Share of PKB	Votes received by PKB relative to total votes.	0.106	0.130	0	0.707
Share of PPP	Votes received by PPP relative to total votes. *Source*: Election data 1999 and 2004 are from KPU	0.095	0.072	0	0.442
ln p.c. Govt Administrative Routine Expenditure on Travel	Natural logarithm of per capita government administrative routine expenditure on travel. *Source*: Regional Financial Information System (SIKD), Min. of Finance.	8.714	1.135	4.536	12.377

Note: The number of observations is 1889 for 399 districts from 2001-2009. The number of observations for political indicators from election data is 1039 from 197 districts that did not split and for which election data and ethnic-linguistic concentration data are available. The number of observations for government administrative routine expenditure on travel is 1333 from 384 districts from 2001-2006.

Table A3. Effect of direct election (FE regressions)

Dependent	*ln* p.c. Gov. Administrative Expenditure				
	(1)	(2)	(3)	(4)	(5)
ln Population	-0.415***	-0.415***	-0.412***	-0.402***	-0.402***
	(0.060)	(0.060)	(0.059)	(0.059)	(0.059)
Urbanization rate	-0.095	-0.095	-0.094	-0.099	-0.098
	(0.111)	(0.111)	(0.111)	(0.110)	(0.110)
ln p.c. Total fiscal revenues	0.349***	0.350***	0.354***	0.388***	0.388***
	(0.067)	(0.067)	(0.066)	(0.066)	(0.065)
ln Real GRDP p.c.	0.093	0.094	0.095	0.087	0.088
	(0.071)	(0.072)	(0.072)	(0.072)	(0.072)
Literacy rate	0.344	0.353	0.314	0.277	0.264
	(0.273)	(0.274)	(0.275)	(0.274)	(0.275)
Direct election		0.012	0.193	0.629**	0.674***
		(0.017)	(0.139)	(0.243)	(0.252)
Direct * Literacy rate			-0.200		-0.095
			(0.150)		(0.157)
Direct * *ln* p.c. Total fiscal revenues				-0.045**	-0.042**
				(0.018)	(0.018)
Time effects	*yes*	*yes*	*yes*	*yes*	*yes*
Split effects	*yes*	*yes*	*yes*	*yes*	*yes*
R-squared	0.883	0.883	0.883	0.884	0.884

Note: All models are estimated by an unbalanced FE panel data model. Robust standard errors clustered at the parent-district level are reported in parentheses. The number of districts is 399, the number of observations 1889. ***, **, * denote significance at the 1, 5 and 10% level.

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