The New Laws of Decentralization and Corruption in Indonesia:
Examination of Provincial and District Data

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I. Introduction

The public perception on corruption in Indonesia was changed almost overnight in 1998. After almost 30 years of recognizing corruption as economically benign or even beneficial to the economic development, the public opinion was now characterized by a concern that the cost of corruption was finally taking its toll on the economic development, culminating in the 1998 economic crisis. Not to be left behind, politicians jumped on the bandwagon by incorporating the fighting of corruption as the major component of Indonesia's official reform.

The other interesting development after the fall of Soeharto is the drive toward regional decentralization. The nature of centralized authority of the Soeharto regime is often blamed for the 1998 economic crisis, this also included the nature of relationship between the central government and local governments. As in the case of political development, the new atmosphere of freedom after the fall of Soeharto regime has created euphoria on the part of local governments (provinces and districts) to demand greater autonomy to manage their own affairs. As a response, the New Law of Regional Decentralization has been launched in January 2001. On the political side the decentralization law is also motivated by the popular public opinion to reduce corruption in the central government. It is still unclear however what is the net effect of this law on corruption. Decentralization is supposed to bring government closer to the people. If it is done correctly, decentralization not only increase citizen participation in important decisions that affect their lives, but can also enhance a nation's political cohesion and economic competitiveness. But if it is done badly, it can mean macro instability, more rather than less corruption and the collapse of social safety net.

The main purpose of the paper is to investigate the immediate impact of the implementation of the Law of Regional Decentralization on business uncertainty and rent extraction by local government officials. The decentralization itself may reduce or increase transaction costs depending on the honesty of local official. The data set cover many important aspects related to the cost of doing business such as corruption (bribe), labor dispute, land

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dispute, and the abuse of legal system at the district level. Although the coverage of the data set is quite comprehensive, the focus of this study is the effective burden of red tape faced by firms after the new laws went into effect. In the context of Indonesian economy, obviously other aspects of cost of doing business mentioned above are also very important, these topics however are too broad and beyond the scope of this paper.

II. Background Information

2.1 Corruption and Growth in Indonesia

The theoretical literature makes ambiguous predictions about the relationship between corruption and its impact on economic activities. The first view termed as the efficient grease hypothesis argues that corruption could increase economic growth because it acts as grease money, which enables firms to avoid bureaucratic red tape. Lui (1985) in support of this view showed that in a queuing model corruption could be growth enhancing. In this respect the different of the size of bribes by different firms may reflect their different opportunity cost with respect to bureaucratic delay, so buying lower red tapes could increase efficiency.

In contrast the second view rejects the notion that corruption could be efficiency enhancing. The crucial assumption of the efficient grease model is that the red tape and regulatory burden can be taken as exogenous, independent of the incentive for officials to take bribes. The opposite view asserts that because the bureaucrats have discretionary power with given regulation, regulatory burden may endogenously set by corrupt officials such that they customize the nature and amount of harassment on firms to extract maximum bribe possible (Shleifer and Vishny (1993 and 1994), Kaufman and Wei (1999)). In this model firms that pay more bribes could still face higher, not lower effective red tape. Consequently, corruption could lower economic efficiency instead of improving it.

The first view seemed conformable with the general perception particularly among political elites in the Soeharto era that corruption inflicted very little cost to the economic development. The abundance of revenues of from natural resources as well as foreign aid may hide the economic cost of corruption at least until the 1998 economic crisis. It was also argued that in the context of centralized political systems like in the Soeharto era corruption was less detrimental economically than in systems where power and authority are diffused (Hamilton-Hart 2001). The critical aspect of corruption in Indonesia was that the whole power structure including the civil servants was built on the patron-client relationship. In particular, there are two principal causes of corruption in the Indonesian civil service: poor performance management and a dysfunctional pay policy. There is no a clear standard for performance appraisal. Often the

performance appraisal system is based on the discretion of superiors. Base pay is so low so that salaries have to be supplemented from the development budget, as a result, a complex series of allowances nor related to performance emerged. Since allowances are also based on the superior's discretion, what is emerging then, is network of patronage and personal loyalty.

One interesting question is why despite pervasive corruption, Indonesia still enjoyed good rates of economic growth during the Soeharto era. The answer might lay in the climate of political stability during the above era that reduced much of uncertainty. Although firms were reported to complain about corruption and bureaucratic harassment, most costs associated with corruption and bureaucratic red tape could be predicted and calculated as part of transaction costs. At the national level, the involvement of Soeharto's children in many private businesses was also regarded as efforts on the part of entrepreneurs to reduce business certainties that might come from the harassment of lower level bureaucrats. This pattern was often repeated in provinces where families of prominent figures such as governors and local military commanders were involved in business ventures.

The acceptance of the second view gained ground when it was proved latter that the political economy of Soeharto's New Order could not be sustained and collapsed in the wake of the 1998 economic crisis. Then almost overnight, many studies on the causes of the crisis started to resemble the second view of the relationship between corruption and economic efficiency or economic growth. For example, corruption and centralized authority were to blame for increasing Indonesia's vulnerability to crisis (Hill 1999). In particular poor financial regulation together with improper crisis management were singled out as the main factors that undermining investor confidence once the crisis started (MacIntyre 1999).

From the above discussion it is apparent that although corruption and economic growth have a potential linkage linked there is no consensus regarding the net relationship between them. It is up to the empirical work to try to determine the direction of the relationship. In recent years many of empirical works have sided with the second view that corruption is harmful to economic growth. The seminal work of Barro (1991) provided insight on how countries' characteristics affect economic growth. Since then there has been a growing empirical work using the same framework investigating the determinants of economic growth beyond the standard variables proposed by Barro. The relationship between economic growth and corruption was first studied by Mauro (1995). Employing Business International (BI) data for 70 countries for the period 1980-83, he found a significant negative relationship between corruption and the average annual economic growth rate over the 1960-85 period and also between corruption and the investment-GDP ratio for 1960-85 and for 1980-85 as well. Using the same framework as Mauro (1995),

Rahman et.al (2000) investigated the effect corruption on the Bangladesh economic growth. Using the estimated equation, counter-factual simulation exercises were conducted to examine the extent of which Bangladesh had to reduce the level corruption in order to achieve a certain level of economic growth comparable to some selected countries. The finding revealed that curtailing corruption would attract more investment, domestic and foreign alike, and thus would accelerate economic growth.

2.2. The New Development: The New Law of Regional Decentralization

The New Law of Regional Decentralization liberalization was launched in January 2001. The law is aimed to revert the centralization process by decentralizing some bureaucratic process and revenues from the exploitation of natural resources like oil, gas, and forest to regional government (province and municipalities) as well as some portion of income and corporate taxes. The new law regulates the transfer of some fiscal authority and responsibility from the central government to provincial and municipal levels. The most immediate impact of the new law is the race among local governments to raise and create new taxes. Since, the greater portion of incomes and corporate taxes collected exclusively by the central government, the only way the local government could increase revenues is to raise taxes or retributions on local businesses and local population. Some local governments even tax the movement of goods through their localities.

This new development has created uncertainty for the business sector, not only for new entrants but also for existing business firms. To counter such situation, the business community has created the new agency called Decentralization Monitoring Unit (DMU). The purpose of the creation of a new agency is not to revert the decentralization process back to the old centralized regime, rather trying to monitor the abusive practice of local governments in particular to business sectors. From the point of view of a firm there is not so much interest in such decentralization. What most important is whether such decentralization to regional government reduce or even increase the transaction cost.

The theoritical literature makes ambiguous predictions about the relationship between decentralization of government activities and the extent of rent extraction by private parties and its impact of economic activities. Those in favor of decentralization of power to local authorities, for example Tiebout (1956), argue that decentralization leads to greater variety in the provision of public goods (including administrative licensing system), which are better suited to the need of local population. On the other side, there is a view arguing that many imperfections may prevent the realization of benefits from decentralization. For example, local bureaucrats may be poorly trained and short sighted and thus incapable delivering public goods and services efficiently.

On the empirical ground the things are far from settled. For example, Wade (1998) finds that the corruption in Indian irrigation bureaucracy is as a result of overcentralized top-down structure. Huther and Shah (1998) find a negative correlation between fiscal decentralization and corruption. Treisman (2000), on the other hand finds that federalist countries tend to have higher rates of corruption. Related to Treisman's finding is a phenomenon called overgrazing hypothesis. In a decentralized environment, because the lack of coordination there is a scenario in which both central and local governments tend to overgraze the common economic activity and in the process extracting a greater volume of bribe than unitary government would do (Shleifer and Vishny 1993).

III. Data: Construction of Corruption Index

The primary concern in the study of corruption is how to get reliable data. Even with a carefully designed question set, it would be unrealistic to expect all respondent to fill out or to answer all items on such questions. Given the secretive nature of corruption it will be difficult for someone conducting as survey to obtain honest answer on items related to such activities. The common trick usually is to put questions related to corruption not at the beginning of questionnaire, but later on preferably in the last one-half of the interview time. As the interview progresses, this allows a trust to be built between an interviewer and a respondent before critical questions on corruption come into place. Maximum efforts were directed to design corruption related questions. Indirect questions were used thoroughly especially for sensitive questions. In order to ensure the reliability of the data multiple questions were asked to check the consistency of responses.

Before 1998 in Indonesia conducting a survey with explicit questions on corruption would be out of question. The Indonesian Central Statistical Agency (CSA) conducts annual survey on medium and large enterprises every year. The survey is a general one, not designed specifically to investigate the extent of bribery at the firm level. The survey however contains interesting information on how much bribes paid by a firm every year. CSA did not asked the amount of various bribes directly rather they are "hidden" in the questions related to production costs. In particular, considerable amount of bribery cost is hidden under the category of "other costs". Included in this category is management and royalty fee, representation fee, and gifts. Interestingly under this category there is also another cost item named "other costs". So these other costs may constitute the bulk of various bribes paid to various government agencies every year. This proxy of corruption from CSA however is not without problem. In particular, it does not include the initial sum of bribe that has to be paid to various government agencies to set up a

new business. The proxy also does not distinguish the recipients it could be central government officials or local officials at province and district levels.

The CSA survey is only available until 1998 as a consequence this survey cannot be used to study the extent of corruption after the adoption of the new laws of decentralization. For this reason, the special survey of the governance of the local governments (province and district) was launched at the end of 2001. The special survey of regional government is designed specifically to investigate the governance in general and extent of corruption at provincial and district levels after the launching of the new law of regional decentralization in January 2001. The sample size of the special survey is smaller but it has comparable geographical coverage with the CSA industrial survey.[2] This makes a firm level comparison between those two surveys impossible, but it is still possible in more aggregated term at the provincial and district levels.

The purpose of the special survey is actually to monitor the abusive practice of local governments in particular to business sectors after the launching of the new law of regional decentralization in early 2001. There is a plan to publish the annual report of the attitude of local governments toward business sector with the intention to induce some behavior changes for the ones considered unfriendly to the business sector. This annual report will serve the same purpose as the Business International (BI) corruption index and the International Country Risk Guide, the only difference is that the corruption index in Indonesia applies to regional (local) government.

Beside asking the level of bribe (in percentage of production cost) paid by a firm, the special survey also covers many important aspects related to the cost of doing business such as the subjective perception of corruption in a respective province (district), infrastructure provision, labor dispute, socio-political situation, security, land dispute, and so on. So it is possible to make comparison between estimated bribe level and various subjective measures of corruption at the province and district levels, but not at the firm level since the sample size of those two surveys differ. In the case of subjective measure of corruption a set of questions within a structured questionnaire was directed specifically to investigate transparency, accountability, efficiency and the attitude toward business sector of the key agencies in respective province and municipality. Although it is related to governance or corruption in general, much the problems have something to do uncertainty of the revenue side and with the culture of the Indonesia's civil service. A set of questions was also designed to inquire business sector's responses to the new threat of business uncertainty resulting from the New Law of Regional Decentralization.

[2] The sample sizes of the annual industrial surveys between 1980 and 1996 vary between 8000 to 23000 firms. The number of firms is increased in succesive years. The sample size of the special survey on regional government is only 1800 and conducted in 2001 after the launching of the new law of regional decentralization

IV. Dichotomy between Java and off-Java areas

The study of corruption in Indonesia at local government level would not complete without the knowledge of regional characteristics. In many ways the behavior of local bureaucrats toward business sector is influenced by the economic development in the respective region. Observation on the international data suggests that some relationship exist between the maturity of one nation and the predatory behavior of bureaucrats. Corruption is more pervasive in a country with a malfunctioning state, governance failure and weak institution (Rahman et.al 2000). In the context of local government in Indonesia, apart from lack of vision and little understanding on good governance, corruption may also be the consequence of the low salary of local government employees. The situation is particularly worse in less developed provinces with very weak local tax base. The level of economic development in a particular province thus has some influence on the corrupt behavior of the respective.

From the late 1960s to the late 1990s although Indonesia experienced a rapid growth, the level of development remained uneven. Efforts had been made to distribute the windfall gains of oil and gas to all provinces. Yet, the persistent pattern of regional disparity has shown that the policy to distribute economic growth has been less than satisfactory. Economic activity remains heavily concentrated in Java and to a lesser extent in Sumatra. In 1983 Java-Bali produced around 56 percent of the nation's GDP, this number increases to 61 percent in 1996. Sumatra follows in the second place, however its share in the Indonesian GDP fell from around 30 percent in 1983 to 22 around percent in 1996. At the expense of Sumatra along with Java-Bali, the contribution of other regions beside the above two-island actually increased from around 12 percent in 1983 to around 17 percent in 1996 (table 1). Java-Bali and the rest of Indonesia actually grew faster than Sumatra (table 2).

Manufacturing industries continue to be heavily concentrated in Java. During the 1983-1996 period, Java generated around 76 percent of the Indonesian manufacturing value added (table 3). The rest comes from Sumatra, which produced around 15 to 16 percent and other regions. The contribution of other regions or the rest of Indonesia has never exceeded 10 percent. Several factors may explain why a heavy concentration takes place in Java. The location of central government in Java since the colonial era has important impact on the island course of history. The licensing regulation, commercial and physical infrastructures are far more superior in

Java, which then encourage firms to locate in Java.[3] The interregional disparity in infrastructure is shown in table 4. Two proxies of infrastructure adequacy are used; road density (the length of road in km per km2) and telephone density (number of telephone per 1000 persons). Five provinces in Java plus Bali are clearly superior in terms of infrastructure development. Table 5 reveals that Java hosts more than 80 percent of manufacturing firms in Indonesia, while in Sumatra locate around 11 percent of total manufacturing firms. In Java itself, the concentration of manufacturing and the required corresponding infrastructure occur in only a few metropolitan/industrial areas such as Greater Jakarta, Bandung in West Java and Greater Surabaya in East Java.

This pattern of concentration has attracted many people from other island to migrate to and already overcrowded island of Java. Due to its population size the GDP per capita in Java is less than either Sumatra or the rest of Indonesia (table 6). This does mean that the welfare of people outside Java is always higher than Java. The calculation of provincial GDP also include enclave activities in oil drilling and mining, which until 2001 are controlled by the central government. The proceeds from such activities go directly to the central government treasury and do not enter province's economy directly. Mineral-rich provinces only received subsidy and grant from the central government, which are often much less than their contribution to the nation's GDP and export.

III.2 Corruption Before the Year 2000: Estimated Bribe from the CSA Industrial Survey

Table 7 presents our estimate of bribe from the CSA industrial surveys across Indonesia in terms of percentage to total cost. Surprisingly the average bribe in 1980 for Indonesia was quite low of 1.28 percent of total cost. We also saw the increasing trend, in 1991 for example the average bribe for Indonesia was around 5 percent, while in the average bribe during the 1993 to 1998 period reached 10.55 percent. Interestingly the increasing trend of bribe is accompanied by the convergent of bribe across provinces (table 8). The coefficient of variation decreases from 1.07 in 1980 to 0.41 in the period 1993-98. This could imply bureaucrats across provinces learned from each other in setting up the "right" rates for bribe. But without taking into account other provincial characteristics such as the availability of infrastructure, the quality of labor force, the proximity to commercial hubs etc., setting up uniform could impede the attractiveness of a particular region to firms. The most plausible reason why the bribe rates tend to converge is that

[3] A study of the income elasticity of demand for the state power company (PLN) revealed much higher elasticities on Java, possibly suggesting firms outside Java have to devote more resources to other infrastructure

the trend of convergence also took place in other regional characteristics explained above. This is especially more pronounced in Java with its relative close proximity among provinces

In view of the dichotomy of the level of economic development between Java and off-Java described in the previous section we also use the same categorization in an attempt to draw some generalization across provinces (table 8). Interestingly in terms of percentage to total cost, bribes in those two geographical categories are almost at the same level. Only in 1991 the difference seemed to widen. In 1991, off-Java recorded higher bribe compared to Java (5.26 versus 4.67 percent). Between 1993 and 1998 the picture was reversed with Java posted higher bribe at 10.96 percent in comparison with 10.42 percent for outside Java. Given the fact that Java has much more matured industrial base the above trend poses interesting question, whether firms In Java are really willing to pay higher bribe. Anecdotal evidences obtained from in-depth interview with several firms in Java suggest that this might be indeed the case. They may accept higher wage in return for a better quality of labor skill, infrastructure service and access to market. Although the rate of bribe may be a little higher than off-Java, bureaucrats in Java tend to be more uniform when they come to determine the rates. In this case off-Java is more likely to have higher coefficient of variation reflecting greater variability of bribe level across provinces. This is not unreasonable given the greater variation of regional characteristics among provinces in of off-Java areas. For example Sumatera is better than Kalimantan in terms of road, similar comparison can also be made between Sulawesi and Papua.

The upward trend of bribe in Indonesia poses an interesting question, whether firms were willing and able to pay higher bribe as the economy grew or something else.[4] Growth and bribe rate might be jointly determined, a rational bureaucrat will try to maximize the rent extracted from a firm subject to the condition that the respective firm might exit or the bureaucrat get caught (Fissman and Svensson, 2000). A bureaucrat will extort higher bribe if the firm profit or its future prospect is better, thus firms in more prospered regions tend to pay higher bribe. To examine further the above notion, we perform a simple correlation analysis to provide rough picture regarding inter provincial variation in the level of bribe. The correlation analysis reveals that bribe tends to be higher in provinces with higher GDP per capita (table 9). This does not necessarily mean that firms in more developed regions tend to pay higher percentage of bribe. A rather strong positive correlation between income per capita and bribe level might come from the fact that the GDP per capita of oil producing provinces are biased upward while in fact only a fraction of oil incomes trickle back to regions. Although bribe is more likely to be higher in

provinces with higher per capita income, it is not necessarily true that high-income provinces poses strong manufacturing base or having more mature economy.

Another interesting observation emerged from the correlation analysis is the negative relationship between growth and the bribe level. Provinces having higher level of bribe tend to grow more slowly. What more surprising is the coefficient correlation between growth and the share of oil in GDP. The share of oil in GDP points out to whether a province is an oil producer or not. The correlation coefficient suggests that oil-producing provinces were more likely to grow slowly compared to non-oil provinces. Before 1998 the oil revenues belonged exclusively to the central government, oil-producing provinces could only rely on the central government transfer grant. The greater portion of the proceeds from oil export will however remain in the central government coffer. Being oil producers might increase expectation of the respective bureaucrats with respect to incomes, but at the same time the lack of formal sources of taxation appears to induce them to extort higher bribe. So, the positive correlation between GDP per capita and bribe level could come from this association. In this respect the coefficient correlation between oil share in GDP and bribe level is positive at 0.4969. This seems to be supported by the negative correlation between the level of bribe and the existence of formal sources of non-oil taxation known in Indonesian acronym as PAD. The more provinces having adequate formal sources of taxation, the lower they extort bribe.

The apparent rather weak correlation between the share of manufacturing sector in GDP (SMAN) and other variables may reflect the facts that most manufacturing bases are concentrated only in very few cities in Java. Although the coefficient correlation between manufacturing share and GDP per capita is positive at 0.1757, so it is not necessarily true at least in aggregate level that the bribe in manufacturing base region is higher than non-manufacturing. The coefficient of correlation between manufacturing share and bribe level is indeed only 0.0064. This poses a little problem for this study since the examination of corruption in Indonesia will be based mostly on the CSA industrial survey. Firms in other sectors like agriculture, mining and services might be more adversely affected by corruption compared to manufacturing. CSA however has never conducted a firm survey for other sectors with the same degree of coverage and comprehensiveness as the annual industrial survey. So the industrial survey is still the best source of information as far as the manufacturing firm behavior concerned.

III.3 Corruption After the Launching of the New Laws of Decentralization

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[4] There is another possibility however that the reason behind the upward trend of bribe is because the improvement in the way CSA conducted industrial survey. From 1980 to 1998 we could observe the

In the calculation of bribe rates a firm was asked about the extra cost needs to be paid when it deals with bureaucrat. In this type of question it is almost impossible to get an answer if the expected response is the magnitude of bribery cost in terms of monetary value, but if it is asked in terms of percentage to total cost then the probability to get response (i.e. reporting positive bribe) will increase significantly. In the special survey of governance (SSG), firms reporting positive bribe are about 85 percent of the total sample of 1800. At the firm level it is impossible to compare the CSA survey and SSG since the survey frameworks differ. But in view of the existence of some overlapping districts in both samples, the data at least can be compared at the district level. In total there are 58 overlapping districts. We compare the average 1993-98 bribes from CSA with the estimated bribe rate from SSG. The correlation coefficient is found to be rather small but positive at 0.177. This not unusual particularly if taking into account the fact that the coefficient correlation of inter-province bribe rates between two time periods is also small. For example the coefficient correlation between the 1980 and the 1991 bribes is 0.256, while between the 1991 and the 1993-98 data is 0.393.

So even within the same survey methodology conducted by CSA continuously every year the coefficient correlation is rather small. This might point out to another possibility that there is little presence of time-persistent province's fixed effect in the data. In other words, the correlation between bribe rates at different time periods charged by a particular region is positive but small. One possible explanation is that the bribe rate charged at one particular period in a respective region would be different between different type of firms depending on prospect of profit, bargaining power and other firm characteristics. Therefore, although bureaucrats in a particular region may have 'reservation' bribe rates that correlate overtime, the actual bribe rates would mostly be determined by firms' actual characteristics in one particular period, which might change in the future. The special survey on regional governance was conducted at the last quarter of 2001, while the new law of regional decentralization was launched in January 2001. The new law itself was a new break from the old practice with respect to the relationship between the central government and local governments, thus in some ways its possible to observe a structural break associated with bureaucrats' behavior in taking bribe.

There are two laws that govern the decentralization process in Indonesia, Law No. 22/1999 on Regional Government and Law No. 25/1999 on the Fiscal Balance between the Central Government and the Regions. Those two laws were passed in 1999, but the launching was deferred until January 2001. The implementation of the laws was quite progressive, responsibility for much of government expenditure is being decentralized mostly to district (kota

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constant improvement of survey questionnaire albeit it was still asking corruption related matters directly.

and kabupaten) rather than to provincial government. If the process is successful then Indonesia could become one of the most decentralized country in the World (Alm et.al , 2001).

Those two laws however are not without flaws. As it became apparent later, the laws destined mainly for expenditure but not revenue decentralization. The so-called revenue sharing scheme only applies to oil producing and mineral rich provinces. Some believe that these new laws were created particularly to appease oil/gas producing provinces such as Aceh, Riau, East Kalimantan, and Papua, which showed sign of restlessness after the fall of Soeharto. In an attempt to revert the old practice, those provinces demanded a new scheme that puts a greater portion of oil/gas revenues within the respective regions. This proves to be very disadvantageous for provinces whose economies based on agricultural, manufacturing and service rather than oil or other mineral extraction activities. In particular the laws do not grant local governments with a satisfactory revenue sharing formula with taxes applicable to non-oil activities. Most income and corporate taxes are therefore still going to the central government. Almost at the last minute an amendment to the local tax laws was added to the new laws. The amendment itself only makes the situation becomes more uncertain owed to the fact that it does not provide clear direction on how local governments could raise their own source of revenues. From SSG it is clear that many local governments mistakenly believe this amendment as the green light for local tax discretion. At first only few local governments ventured to create or to raise taxes but others soon followed the suit. So what has been observed after the laws went into effect is the mushrooming of new local taxes.

Another critic leveled at the new laws is the uncertainty associated with the mismatch between the revenues and the expenditure responsibilities (Alm et.al 2001). On the expenditure side regional governments would see their responsibilities increase due to the transfer of several central government functions such as labor affairs and education services. This transfer also included the reassignment of several thousand central government employees to regional level jobs. The increase of expenditures at the local level would particularly arise from the need to pay the salaries of the transferred employee. Not only this, local governments now are expected to provide full services previously performed by the central government such as primary and secondary education, health clinics, local and regional roads, water supply and sewerage system and the like. Although officially the financing of all expenditures related to the salaries of transferred government employees would come from the so-called general allocation fund, there is however a great uncertainties concerning on how to find money to fund these new responsibilities.

The interview results from SSG suggest that from the revenue side local governments also face some uncertainty. In the new laws the general allocation fund (GAF) is designed to replace both the routine transfer used to pay the salaries of local civil servant (SDO=Subsidi Daerah Otonom) and the general development transfer used to disburse fund to pay for capital expenditures.[5] The uncertainty comes largely from the fact that the allocation of GAF is determined by formulae designed by the central government based on a number of socio-economic indicators. The construction of formulae however has not been well understood by local governments, which in the last year caused a prolonged dispute between the central and local governments. The dispute usually centers around the amount of money received at the beginning of fiscal year. Local governments tend to assume that they will receive at least the same amount as the last year. Any downward revision would prompt intensive scrutiny from local governments.

The problem with the formulae is that any changes in some socio-economic indicators used in it would result in a different allocation scheme than previously anticipated by local government budget planners. If the downward revision is indeed taking place then the central government would find itself to become the subject to intensive lobbying. In this case the allocation eventually has to be approved by the legislative body, so if local governments fail to persuade the central government to change the allocation then the next step is often to lobby some influential members of the legislative body. At present it has not yet known whether this practice also involves bribery in exchange for the "services" performed.

The above example illustrates the problem faced by local governments both at the revenue and expenditure sides so the temptation to raise local own revenues in order to pay for new local responsibilities is actually quite high. In view of the fact that local governments control much of the local licenses then it would not be too surprising if the extent of rent extraction is also higher than the old regime. The observation on the average bribe for Indonesia obtained from the CSA and SSG however suggests that this might not be the case (table 10). The average bribe obtained from SSG is surprisingly lower than CSA for the same 58 overlapping districts (9.03 versus 12.11), so bureaucrats might have to lower the bribe charge due to the prolonged economic crisis that affected firms' profit.

From the point of view of private sector, this does necessarily mean that the business uncertainty declined after the implementation of the new laws. What more important is actually the effective harassment or bureaucratic red tape. In fact 61 percent of the respondents

[5] Within the central government budget the general allocation fund is amounted to at least 25 percent of the central government domestic revenues.

complained that the business uncertainty from bureaucratic delay was in fact worsened after the new laws of regional decentralization went into effect in January 2001, in contrast to only 31 percent under the old regime. Most complaints were directed at the sudden change of local regulations and local tax laws under the new regime. In particular with respect to local taxes, not only the rates have been increased but also the number of new taxes are also multiplied. Firms are clearly more afraid of the creation of new taxes than other issues such as license application, local environmental regulation standard, fire safety standard and the like.[6]

The results of interview with local bureaucrats conducted at 58 districts confirm this concern. The overwhelming majority of the respondents (52 out of 58 districts) said yes when asked whether the respective district planned to increase local tax rates and to add new local taxes to the existing ones. There seems some obsession on the part of local officials with the so-called PAD, the Indonesian acronym for local sources of revenue. There is a tendency to use PAD as the indicator of the region success irrespective of the means to increase revenues. As would be apparent later, the obsession with PAD could also explain why the average bribe in off-Java area is higher than Java.

As before the Java and off-Java dichotomy is used to examine geographic variation of bribe under the new laws. For 58 districts used by SSG, the CSA data for the 1993-98 periods produces higher bribe for Java relative to off-Java (11.83 versus 10.78 percent). The higher rate for Java can be explained by the fact that the profit prospect in Java is better because the supporting environment is better. This appears to be changing under the new laws, the temptation to charge higher bribe apparently becomes more pronounced in areas outside Java. From the SSG data bureaucrats in off-Java tend to charge higher bribe rate compared to Java (9.77 versus 8.51 percent). The emerging question from this observation is why there is sudden change in bribe pattern. The new laws have created uncertainty among local bureaucrats particularly with respect the amount of transfer received by local government from the central government. The uncertainty from the revenue side might be higher for regions outside Java in particular for those with weaker economic base. This uncertainty combined with the euphoria created by the false interpretation of the new laws may induce bureaucrats in these areas to impose higher bribe rates. It is worth to notice that although the above bribe differential between Java and off-Java appears to be small, the real effective burden faced by firms on those two areas is less clear. For this purpose the econometric estimation of the harassment or bribe function may be necessary before one could draw any meaningful interpretations.

[6] Almost 60 percent of the total respondents

A firm was also asked on the bribe as a percentage of the initial investment cost to set up a new business. The set-up bribe range from as low as 0.5 percent to as high as 50 percent of the initial investment cost. Firms on average have to allocate 9.52 percent of the initial investment costs to pay bureaucrats for the speedy process of all kind of licenses. Geographically the set-up bribe very much resembles the above annual bribe. Firms in Java generally paid lower set up bribe than in off-Java areas (9.25 versus 10.29 percent). The positive side of this bribe is that almost 60 percent of firms say that the rates are predictable thus can be incorporated in the cost calculation. As explained before much of the uncertainty in the new regime has more to do with the increase in local tax rates and the increase of new local taxes after January 2001. Furthermore about 76 percent of the total sample agrees that timely completion of the setting up new business usually conforms the expected schedule provided that the bribes are paid to right persons. Here however we encounter some ambiguities on the part of firms regarding their perception on the process of investment application since about 67 percent of respondents complain that the number of bureaucrats that have to be paid increases.

IV. Empirical Investigation

In this section we employ the SSG result to examine the extent of corruption after the laws of decentralization went into effect. It is unfortunate that SSG and CSA could not be compared directly at the firm level to measure the exact firms' behavior changes in response to the changes in bureaucrats' corruption behavior. What we may be able to get is the general relationship between the extent of bureaucratic harassment and bribe payment, and also with other firm characteristics such as size, geographic location etc. The possible relationship between corruption and effective government harassment has been postulated by the efficient grease hypothesis. The hypothesis suggesting that bribe may lead to lower effective red tape. The crucial assumption of this model is that the red tape and regulatory burden can be taken as exogenous, independent of the incentive for officials to take bribes.

In recent years the above hypothesis was challenged the alternative view asserting that because the bureaucrats have discretionary power with given regulation, regulatory burden may endogenously set by corrupt officials such that they customize the nature and amount of harassment on firms to extract maximum bribe possible. In this model firms that pay more bribes could still face higher, not lower effective red tape. Consequently, corruption could lower economic efficiency instead of improving it (Kaufmann and Wei, 1999).

In this exercise as in Kaufmann and Wei (1999), we examine econometrically the relationship between corruption and effective bureuacratic harassment. The effective harassment

is measured by the time spent by management with government officials in charge of licensing and regulation supervisory. In the regression equation the effective wasted time is used as a dependent variable with bribe rate and other explanatory variables, which include firm size, age, foreign ownership and geographical dummies to capture province's fixed effect. The estimating equation is thus

$$Time = a_0 + a_1 .Bribe + B'X + \Gamma'Z + \varepsilon \quad (1)$$

Time refers to time spent with bureaucrats, bribe is bribe rate, X is the vector of other firm characteristics, Z is a vector capturing regional characteristics, ε is the error term, B and Γ are the coefficient matrices.

From the previous description in this specification time and bribe may be endogenously determined, for example bureaucrat may deliberately delay the approval of licensing requirements in order to extract higher bribe. The second problem came to light in Fisman and Svensson (2000) concerning the possible existence of two types of firms, one specializes in rent-seeking activity, while the other seeks efficiency as a means for growth. A rent-seeking firm would spend resources to obtain favorable treatment from bureaucrats. In contrast, an efficiency-seeking firm focuses on improving productivity and investing in new capital and thus corruption would have detrimental effect. It is unclear in what direction the net effect would be in the equilibrium but this possibility may hide the true relationship between bribe and the effective harassment. These two firm characteristics are unobservable and may affect both bribery rates and effective harassment.

Consistent with the above discussion bribe, denoted as b_{ij} can be decomposed into two terms, an industry specific and one particular to the firm.

$$b_{ij} = B_{ij} + B_j \quad (2)$$

Where B_j refers to the average amount of bribes common to industry-location j, which is influenced by industry-location characteristics, which in turn affect the extent of local official could extract bribes. B_{ij} on the other hand captures firm specific unobservable components. Firm specific unobservable components correlate with bribery rates and effective harrasment. Ignoring this problem may lead to the biased estimate of this relationship.

The endogeneity problem necessitates the application of instrumental variable method to the bribe variable. The instruments chosen should correlate with bribe at the firm level but not correlated with unobserved firm characteristics. In choosing possible candidates for instruments the argument is in line with Fisman and Svensson (2000). In this respect the industry-location

specific factor such as export orientation, import reliance, dependence on public infrastructure and will have specific impact on the bribe rate at the industry level. Similarly bribes rates are very likely to differ across locations because efficiency differential among local bureaucrats. In this fashion then industry-location specific part of the bribery is exogenous to the firm hence uncorrelated with the unobserved firm characteristics. This enables us to use industry-location averages as an instrument for firm level bribery to purge the bias resulting from the correlation between unobservable components and the bribe variable at the firm level.

For the purpose of benchmarking several regressions are performed without controlling for the endogeneity, the OLS results are shown in table 11. First, the effective harassment as represented by time spent by managers on dealing with bureaucrats is regressed on a constant and bribe rates. We obtain a positive coefficient of 0.0192, which is statistically significant at the five percent level. Therefore, firms paying higher bribe rates face more harassment not less. Next, additional explanatory variables were added into the equation. As expected the magnitude of the bribery coefficient declines slightly but still positive and significant. This result is inconsistent with the efficient grease hypothesis. Thus corruption has efficiency retarding impact on firms.

The coefficient for age is negative and significant except in the last column where dummies for Java and exporting firms are added. It seems older firms pay relatively less bribe than younger ones. Relationship developed over long period with bureaucrats may help older firms to obtain concessional bribe rates. Younger firms would need more time before they could build such relationship with bureaucrats. This is also proved to be very disadvantageous for new entrants since they have also to pay entry cost, which may include substantial amount of bribe payment relative to the initial investment cost.

The coefficient of the dummy variable for FDI firms is negative and significant at the five percent level. FDI firms tend to face relatively less harassment than their domestically owned counterpart. Whether this arises from the possibility that FDI firms have better bargaining power relative to domestic firms is unclear, but from the field interview bureaucrats tend to be more reluctance to ask a specific bribe rate openly from FDI firms. This does not mean that the result is consistent with the efficient grease hypothesis. In fact if the same regression is applied only to the FDI sample (253 firms), the coefficient of bribe is still positive and significant although smaller (table??). Related to the dummy variable for FDI is the dummy for exporting firms. We found a moderate positive correlation between FDI and export orientation (0.3277). This explains why the coefficient of the dummy for exporting firms is negative and coefficient.

Firms in Java pay relatively less bribe than the ones located in off-Java areas. The respective dummy variable is negative and significant at the five percent level. This confirms the

earlier exposition that bureaucrats in off-Java areas tend to charge higher bribe rate compared to Java (9.77 versus 8.51 percent). Given the fact that in terms of infrastructure off-Java is less attractive than Java, this bribe differential would exacerbate the gap between them. Without any substantial reduction in corruption, new firms would locate more in Java to increase economic growth in Java rather than depressed regions outside Java. If this condition persists into the future then obviously less developed regions would have difficulties in catching up with developed regions. This is exactly the opposite of what the new laws of decentralization try to accomplish, namely to boost economic growth in less developed regions located mainly outside Java.

The firm size is also important in affecting the effective harassment. The regression results suggest that bureaucrats tend to harass medium size firms more than other categories. A firm is categorized as medium if its annual sale is amounted between Rp. 1 billion and Rp. 10 billion. The coefficient for medium firms is positive and larger than large firms, and statistically significant at the five percent level in all specifications. The only case in which the dummy for large firms is significant is when the dummy for exporting firms is included in the regression. It appears that moderate positive correlation between large firms and export firms (0.3142) has augmented the magnitude and the significance of large firm coefficient. The reason why the effective harassment for large firms is less than medium one is that the former may have bargaining power stemming from the national as well as local political connection. Due to their size, larger firms also tend to have more visible impact on local economies, which itself would make local bureaucrats more reluctance to upset them.

So far we have not touched yet the potential problem of endogeneity for the bribe burden. The results of the application of instrumental variable (IV) method to the same regression equations are presented in table 12. From this table it is immediately apparent that the bribe coefficients in various regression equations are still positive and significant at the five percent level. The only significant departure from the OLS result is that the present coefficients are larger. In the first column in which the time wasted by managers is regressed only on constant and bribe rates, the magnitude of the bribe coefficient is almost as twice as large in comparison to the OLS version (0.0378 versus 0.0192). The magnitude of the bribe coefficients in other equation specifications more or less follows the same pattern. In column II, in which age and the size dummies are added as regressors the coefficient has even reached 0.0432, which is the highest compared to other specification. So the notion that corruption-prone official can often customize the amount of harassment on firms to extract maximum bribe possible is more pronounced here. The effective red tape and bribery are positively correlated across firms. Firms that pay more bribes are also likely to spend more on management time negotiating less delay.

Contrary to the efficient grease hypothesis corruption tend to retard economic efficiency, which implies that fighting bribery would bring economic benefits.

The changes for other explanatory variables are rather mixed but with the significance level as an exception, the sign of the coefficients appear to be line with the OLS results. The significance of age for example declines, observation on column II, III, V and VI reveal that the age variable is significant at the ten percent but not at the five percent level. None of the dummy for Java is significant. As in the case of OLS, the infrastructure variable represented by the percentage of household with access to electricity remains insignificant. The dummy for FDI firms is more negative and more significant. Not surprisingly, the coefficient for exporting firms also behaves in the same pattern.

The coefficient for large firm (column II) still resembles the OLS result that medium firms bear relatively larger burden with respect to bribery. One major departure from the OLS result is that the coefficient for large firm becomes bigger and even bigger than medium firms if the dummy for FDI firms is included in the regression, giving the impression that they pay higher bribe rates. From the previous OLS discussion it has been acknowledged that this stems from the correlation between the dummy for large firm and exporting firms. In other words, large firms are more likely to be exporters.

Java and Off-Java Dichotomy

In line with the earlier exposition on the Java and off-Java dichotomy, two separate regressions are performed on the Java and off-Java samples. The results are shown in table 13 through table 16. In the case of Java what is surprising is the striking difference between the OLS and IV-method results (table 13 and 14). The bribe coefficients are positive and statistically significant for all OLS results. But when it comes to the IV-method all coefficients become insignificant. In contrast, the results for off-Java sample resemble very much the full sample regression. For the off-Java sample the bribe coefficients in all specifications remain positive and statistically significant regardless the method used.

In view of the notion that the IV-method is used to unmask the bias resulting from the correlation between bribe rates at the firm level and firms' unobservable characteristics, the above comparison reveal the striking difference of the nature of corruption between Java and off-Java areas. The result of the IV-method applied for Java suggests that if the efficient grease hypothesis is really working in Indonesia then the most likely location is in Java. The insignificance of the bribe coefficient in Java also points out to the possibility that in this region, the red tape can be taken as exogenous irrespective of the incentive for officials to take bribes. If the potential

entrants could learn this from older firms then the most likely choice of location is Java. Anecdotal evidence from the field survey suggests that although firms still pay bribe in Java, the rates are more predictable and once paid the intensity of harassment and red tape decline dramatically.

The result from the IV-method applied to off-Java areas closely resembles the full Indonesian sample (table 15 and 16). For all specifications, the coefficients of bribe variable are positive and statistically significant at the five percent level. The magnitudes are also larger, almost as twice as large as the coefficients for the full sample. In light of the insignificance of these coefficients for the Java sub-sample, the result from the full sample that negates the efficient grease hypothesis must come from the off-Java sub-sample. This implies that bureaucrats outside Java or in less developed regions are more prone to use their discretionary power over local regulation.

There are many factors behind such predatory behavior but some could be put forward. First is the lack of vision. In depth interview with local government officials suggests that very few are indeed aware that after the new laws of decentralization went into effect, each region actually competes with each other to attract more businesses to their respective regions. Only through this way, tax base can be broadened, which means more revenues can be collected. Instead of making their regions more attractive, each region is more interested in creating more local regulations with the sole purpose to create more local source of taxation. It is not too surprising then if local regulations are becoming more complicated to potential investors. The more complicated is a local regulation, the easier is for local officials to use it as source of corruption.

Beside the lack of vision, for bureaucrats in off-Java areas the uncertainty from the revenue side after the new laws of decentralization could in part explain why bribe rates are higher compared to Java. Any policies directed to reduce revenue uncertainties would help to reduce the extent of corruption. In particular if local governments could benefit more from corporate taxes then it would be in their interest to attract more businesses to their respective regions.

Conclusion

In this paper we try to assess immediate impact of the implementation of the Law of Regional Decentralization on the extent of rent extraction by local government officials. Such decentralization itself may reduce or increase transaction cost on firm depending on the behavior of local officials. Contrary to the earlier expectation the business uncertainty was in fact increased

after the new laws of regional decentralization went into effect in January 2001. In particular complains are directed to local taxes, not only the rates have been increased but also the number of new taxes are also multiplied. Firms are clearly more afraid of the creation of new taxes than other issues such as license application, local environmental regulation standard, fire safety standard and the like.

The instrumental variable method (IV) applied to the firm level data reveals that Java and off-Java follow different patterns of corruption. If the efficient grease hypothesis is really working in Indonesia then the most likely location is in Java. The insignificance of the bribe coefficient in Java also points out to the possibility that in this region, the red tape can be taken as exogenous irrespective of the incentive for officials to take bribes. In the case of off-Java areas, for all specifications, the coefficients of bribe variable are positive and statistically significant at the five percent level. The magnitudes are also larger, almost as twice as large as the coefficients for the full sample. In light of the insignificance of these coefficients for the Java sub-sample, the result from the full sample that negates the efficient grease hypothesis must come from the off-Java sub-sample. This implies that bureaucrats outside Java or in less developed regions are more prone to use their discretionary power over local regulation. As a result in this region, firms paying higher bribe rates face more harassment not less. This would obviously make off-Java areas less attractive for new firms to locate. If this condition persists into the future then the disparity between Java and off-Java areas in terms of the development will continue to increase.

There are many factors behind such apparent predatory behavior in off-Java areas but the most important one may be the lack of vision. There is an indication that false obsession on the part of local officials with respect to collecting more local tax revenues, results in the mushrooming of new local tax regulations. As local regulations on taxes become more complicated, local officials have more discretionary power in interpreting local laws, and eventually using them as means of corruption. The second most important factor is uncertainty from the revenue side of local government budget. The revision of the new laws of decentralization allowing local governments to benefit more from corporate taxes would help to reduce the extent of corruption. If this indeed the case then it would be in the interest of local governments to attract more businesses to their respective regions by streamlining and lowering local taxes and by reducing corruption.

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APPENDIX 1:

Descriptive Statistics

Variable	Mean	Std. Dev.	Skew.	Kurt.	Minimum	Maximum	Cases
TIME	2.1266	1.1272	0.458	2.985	0.0000	6.000	1801
BRIBE	7.7149	10.354	2.409	11.339	0.0000	80.00	1801
FDI	0.14048	0.34758	2.069	5.279	0.0000	1.000	1801
AGE	13.778	11.193	1.805	8.536	0.0000	89.00	1801
DMED	0.48306	0.49985	0.068	1.004	0.0000	1.000	1801
DLARGE	0.15491	0.36192	1.907	4.636	0.0000	1.000	1801
DJAVA	0.71072	0.45356	-0.929	1.863	0.0000	1.000	1801
ELECTRI.	81.531	14.809	-1.239	4.635	29.99	99.48	1801
DEXPORT	0.23654	0.42507	1.240	2.536	0.0000	1.000	1801

Correlation Matrix

	1-TIME	2-BRIBE	3-FDI	4-AGE	5-DMED
1-TIME	1.0000				
2-BRIBE	0.17602	1.0000			
3-FDI	-0.36908E-01	0.68084E-02	1.0000		
4-AGE	-0.40877E-01	-0.39630E-01	-0.42954E-01	1.0000	
5-DMED	0.65925E-01	0.31958E-01	-0.64642E-01	0.42819E-01	1.0000

	1-TIME	2-BRIBE	3-FDI	4-AGE	5-DMED
6-DLARGE	-0.23586E-01	-0.87016E-01	0.34362	0.17443	-0.41388
7-DJAVA	-0.68506E-01	-0.91774E-01	-0.31051E-01	0.55029E-02	-0.32424E-02
8-PPLN	-0.27099E-01	-0.35000E-01	-0.25902E-01	-0.26838E-01	0.65413E-02
9-DEX	-0.49776E-01	0.13873E-01	0.32773	0.45609E-01	0.37166E-01

	6-DLARGE	7-DJAVA	8-ELECTRICITY	9-DEXPORT
6-DLARGE	1.0000			
7-DJAVA	-0.17903E-01	1.0000		
8-PPLN	0.19553E-01	0.34457	1.0000	
9-DEX	0.31420	0.49664E-01	-0.14927E-01	1.0000