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Lowering Regional Inflation? Improve Budget Absorption

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Abstract

The subnational government spending in Indonesia exhibit a highly skewed distribution, i.e., it is very low in the first two-quarters and then increases significantly in the last two-quarters. Such explosive pattern poses two disadvantages. First, the regional output will fall below its optimal level as the low government capital expenditure leads to a fewer provision of public goods. Second, a significant increase in government spending in the later quarter pushes the short run aggregate demand to the northeast and creates an inflationary pressure in the following quarters. In this study, we analyze the effect of quarterly regional government expenditure growth on regional inflation during 2010–2014. Using Arellano Bond GMM estimation, we find government expenditure growth leads to higher inflation in the same quarter. A percentage increase in non-capital expenditure spending results in a higher inflation than a percentage increase in capital spending.

Keywords: Capital Spending; Non-Capital Spending; Regional Inflation; Subnational Government

Abstrak

Pengeluaran pemerintah daerah di Indonesia menunjukkan distribusi yang sangat timpang, yaitu sangat rendah pada dua kuartal pertama dan kemudian meningkat secara signifikan pada dua kuartal terakhir. Pola eksplosif tersebut menimbulkan dua kerugian. Pertama, output regional akan berada di bawah tingkat yang optimal karena pengeluaran pembangunan (belanja kapital) pemerintah yang rendah akan mengakibatkan rendahnya barang publik yang tersedia. Kedua, peningkatan belanja pemerintah pada kuartal terakhir akan mengakibatkan kenaikan permintaan agregat dan mengakibatkan tekanan inflasi pada kuartal berikutnya. Dalam studi ini, kami menganalisa dampak dari pertumbuhan pengeluaran pemerintah daerah di Indonesia terhadap inflasi daerah periode 2010–2014. Dengan menggunakan estimasi GMM Arellano Bond, kami menemukan pertumbuhan pengeluaran pemerintah daerah akan mengakibatkan inflasi daerah pada kuartal yang sama. Satu persen peningkatan belanja non-kapital mengakibatkan inflasi yang lebih tinggi dibandingkan dengan satu persen peningkatan belanja kapital.

Kata kunci: Belanja Kapital; Belanja Non-Kapital; Inflasi Daerah; Pemerintah Daerah

JEL classifications: E31; H72

1. Introduction

In analyzing the source of inflation in the long-run, economists can be categorized into two broad school of thoughts, namely Monetarism and Structuralism (Wachter 1979). When it comes to explaining the source of inflation in the short run, economists consider that inflation in the short run

is caused by either cost-push inflation, demand-pull inflation, or both. Cost-push inflation occurs when there is an adverse supply shock—for instance, energy price increase—which shifts the aggregate supply to the northwest. On the other hand, demand-pull inflation occurs if there is an unanticipated increased in the aggregate spending, which shifts the aggregate demand function to the northeast.

As one of the components of aggregate spending is government expenditure, the ability to produce a stable inflation depends partly on government spending volatility. A large volatility in government spending may result in greater price in-

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stability (hence, inflation). Decentralization—a partial devolution over spending or monetary policy to the lower level of government—is one example of functional arrangement between the central and subnational government that affects government spending volatility and thus, inflation rate. Current theoretical literature has a different prediction on the effect of decentralization on inflation. The first strand of literature considers inflation as a commitment problem. According to this view, policymakers have the incentives to renege its promises to deliver a stable monetary growth because an unanticipated inflation has a positive effect on real output. Only if a government can restrict their future actions will their results be credible and a low inflation equilibrium (Treisman 2000). Consequently, decentralization may reduce inflation if it can restrict the central government ability to renege and if the competition among subnational jurisdictions to attract investment reduces the regional government ability to renege (Qian & Roland 1998). The second strand of literature considers inflation as the result of collective action problem. According to this view, stable prices are public goods which tend to be underprovided when the number of actors who must agree to contribute is large (Samuelson 1954). While all feel advantages of low inflation, the public spending and money creation are felt by particular beneficiaries. The more actors required to contribute, the weaker is the incentives to exercise restraint, hence result in higher inflation.

The empirical evidence on the effect of decentralization varies, depending on what kind of decentralization is analyzed and the measure of decentralization. For instance, Huang & Sheng (2009) found that political decentralization in China results in higher inflation at the regional level, while Treisman (2000) using samples of 87 countries found that political decentralization lowers inflation. On the other hand, fiscal decentralization—when measured from the revenue side—is associated with lower inflation (Baskaran 2012; King & Ma 2001; Neyapti 2004; Thornton 2007). When fiscal decentralization is measured on the expenditure side, some studies found that the higher the degree of decentralization, the higher is the inflation (Bojanic 2016; Vázquez & McNab 2006).

What about the effect of fiscal decentralization on inflation in Indonesia? Although fiscal decentralization has been implemented in Indonesia since 2001 and followed by political decentralization in 2005, to

the best of our knowledge, the empirical evidence on how decentralization affects inflation remains limited. Existing studies analyze the impact of decentralization on issues other than inflation, such as public service deliveries (Abdullah & Stoelwinder 2007; Heywood & Choi 2010; Maharani, Femina, & Tampubolon 2014), environment (Ardiansyah & Jotzo 2013; Burgess et al. 2012; McCarthy 2004; Palmer & Engel 2007; Ribot, Agrawal, & Larson 2006), governance (Henderson & Kuncoro 2011) and macroeconomic performance (Pepinsky & Wi-hardja 2011; Tirtosuharto & Adiwilaga 2013; Vidyattama 2013). We only find one study (Tirtosuharto & Adiwilaga 2013) that analyzes the impact of decentralization on inflation in which they conclude that fiscal decentralization leads to higher regional inflation.

While the study on the effect of government spending on regional inflation in Indonesia during decentralization years has been available, there is still a significant gap left by the existing literature. First, the existing study (Tirtosuharto & Adiwilaga 2013) measures fiscal decentralization as the ratio of ratio provincial government spending to national spending. However, it is not clear whether they include the spending from district governments within the province. Given that the district governments in Indonesia are given a more functional assignment, excluding district governments spending may result in measurement error in the explanatory variable, and hence results in a downward bias of the parameter of fiscal decentralization on inflation. Second, if we look at the government spending pattern in Indonesia, we observe that spending is highly skewed. Specifically, most governments spend less in the first and second quarter while in the third and fourth quarter government spending increases significantly (see table 1). Low spending in the earlier quarter implies that the amount of public goods—which potentially have a positive impact on aggregate output—is below the level of what it should have been otherwise. Combined with an explosive pattern in the later quarters, it will result in even higher inflation in the later quarters.

There are several potential sources which may cause government spending to have the above pattern. First, the administrative problems in disbursing government spending, such as procurement process, intentional delay of claims on government projects by government contractors, etc. Second, since decentralization was in effect, the

Table 1: Subnational Government Budget Absorption by Quarter and Type of Expenditure, 2010 - 2014

Type of Expenditure	Quarter	Cumulative Realization (%)		
		Mean	Median	Standard Deviation
Capital Expenditure	Quarter 1	2.677	1.610	5.001
	Quarter 2	15.902	11.057	12.877
	Quarter 3	39.429	28.826	30.138
	Quarter 4	100	100	.
Non-Capital Expenditure	Quarter 1	7.463	6.830	2.715
	Quarter 2	30.177	26.343	11.049
	Quarter 3	56.157	50.539	22.418
	Quarter 4	100	100	.

Source: Author's calculation from MoF data

fiscal capacity of most subnational governments remains low. On average, the contribution of local own source revenue in total government budget is 10.16% in 2014. It means that to finance government spending, most governments rely heavily on intergovernmental transfer revenues such as General Block Grant (DAU), Specific Block Grant (DAK), and Revenue Sharing (DBH). Third, the use of budget absorption—, i.e., the ratio of actual spending to budgeted spending—in evaluating government agency performance both at the national and subnational level. A government with lower budget absorption will have a higher probability to be punished in the subsequent year—in the form of reduction of intergovernmental revenue, especially DAU and DAK¹.

The objective of this paper is to investigate the effect of subnational government expenditure growth on regional inflation during 2010–2014. Although Brodjonegoro, Falianty, & Gitaharie (2005) have concluded that government spending affects regional inflation during 1990–2002, our study differs in two ways. First, we disaggregate the subnational government spending into two categories, namely capital and non-capital expenditure. We argue that both expenditures have a different effect on regional inflation because capital expenditure increases the aggregate supply, while non-capital expenditure tends to increase the aggregate demand. Thus, it is important to distinguish the types of government spending in analyzing regional inflation.

¹The amount of revenue available for DAU and DAK is determined after subtracting central government revenue with central government fiscal needs and transfer on revenue sharing. Then, a formula will be applied to determine the intergovernmental revenue distribution among subnational governments. Subnational governments may regard the availability of DAU and DAK fund at the central government as a common resource, which must be utilized to its maximum by each subnational government for their benefit.

Second, because fiscal decentralization in Indonesia began in 2001, using regional inflation during 1990–2002 as in Brodjonegoro, Falianty, & Gitaharie (2005) implies that the conclusion is mostly derived from the government spending behavior during pre-decentralization years.

We expect by using more recent data, and different types of spending will provide new information on how subnational government spending affects regional inflation in decentralized years. If inflation is affected, then correcting spending pattern may help in lowering regional inflation. The remaining of the paper is organized as the following. In section II, we will briefly discuss theoretical consideration of how government spending affects inflation. Section III will discuss data sources and empirical strategies, followed by a discussion on empirical results in Section IV. Finally, Section V will contain the conclusion and the policy implication.

2. Literature Review

2.1. Theoretical Consideration

The effect of government spending on inflation in the short run can be explained using simple aggregate demand and aggregate supply schedules in graph 1. Let SRAS represents the short run aggregate supply, and SRAD represents the short run aggregate demand of the economy. A shock—denoted by δ —can enter either in the SRAD, SRAS, or both. In the absence of shock in both SRAS and SRAD ($\delta = 0$), the short run equilibrium of output and price level will be at Y and P respectively². A

²The equilibrium output reflects the output at full employment level in the short run, which is the output when unemployment is

shock from SRAD may come from any component of aggregate spending, one of which is government spending. If the government spends exactly by the amount of what is planned in the budget, the shock equals to zero³.

Although there is no shock in government spending on an annual basis, there may be shocks on the quarterly basis. Since the amount of spending is tied by the planned (annual) budget, any positive shock in a given quarter must be balanced with a negative shock in the other quarter to keep the government spending at its planned level. For instance, if for any reason a government experiences difficulties in spending in the earlier quarter which results in lower spending than its optimal level, it must be accompanied by a higher spending in the later quarters. If this happens, negative shock occurs ($\delta < 0$) in the earlier quarter will shift SRAD to SRAD and the equilibrium of output and aggregate price level will be at Y'' and P'' . In the later quarter, positive shock will occur ($\delta > 0$) causing the aggregate demand to shift to SRAD' and results in different the equilibrium (Y' and P'). An increased in the government spending to compensate a lower spending in the earlier quarters implies that the growth of government spending varies across the quarters. Specifically, government spending grows at a lower rate in the earlier quarters, and it will grow at a higher rate in the later quarters. Consequently, the output and price level will grow at a different rate across quarters, which will be tested empirically in section IV.

at the natural rate.

³It is possible that the government spending is intended to absorb any economic shock. However, the response of subnational government spending to any economic shock depends on their fiscal capacity. Any increase in the government spending (required to overcome the effect of the negative shock in the economy) is limited by the fiscal capacity of the subnational governments. On the other hand, a positive shock on the economy may not be responded by reducing government spending for two reasons. First, reducing government spending may result in lower economic growth than it would be otherwise. Second, the subnational governments have a greater incentive to achieve a higher government absorption to avoid penalty from the central government. Anecdotal evidence suggests that subnational governments with low budget absorption are penalized, for instance, DKI Jakarta (see <http://megapolitan.kompas.com/read/2016/01/08/11463711/Peperangan.Rendah.Pemprov.DKI.Dihukum.Kemendagri>)

3. Method

3.1. Data and Empirical Strategy

Our empirical specification is described by the following equation

$$\text{Inflation}_{it} = f(\text{ExpenditureGrowth}_{it}, Z_{it}) \quad (1)$$

where Inflation_{it} is the percentage change in Consumer Price Index (CPI) in province i in quarter t (i.e., quarter-to-quarter basis), $\text{ExpenditureGrowth}_{it}$ is the percentage growth of quarterly government expenditure in province i in quarter t —which becomes our variable of interest—and Z_{it} is a vector of control variables. The data for the dependent variable (Inflation_{it}) comes from the Indonesian Central Bureau of Statistics (BPS). The raw data on CPI is available for 82 districts included in the survey of living cost conducted by BPS during 2000–2014 period. As our analysis is at the province level, we construct the province CPI using the population in the respective districts as the weight.

The data to construct our variable of interest comes from the Indonesian Ministry of Finance (MoF). We calculate the growth of government expenditure from the quarterly realization of the district and province government budget. There are two variables of interest, namely the growth capital expenditure and the growth of non-capital expenditure. The need to disaggregate the type of expenditure is based on the consideration that both expenditures may have a different effect on inflation. Unlike non-capital expenditure which is more likely to shift SRAD to the northeast, an increased in the capital expenditure may increase the capital stock of the economy (shift the SRAS to the southwest) and hence reduce the inflationary pressure.

To account for other factors affecting regional inflation, we use provincial unemployment rate, nominal exchange rate, central bank interest rate (BI rate), and three dummy variables (quarter dummies) as the control variables⁴. The data on unemployment

⁴As we have included regional unemployment, nominal exchange rate, the central bank, and quarter dummies, we cannot use time specific effect to account any unobserved economic shock in a given time. We argue that the extent bias due to the exclusion of unobserved economic shock decreases by including these regional and macro variables.

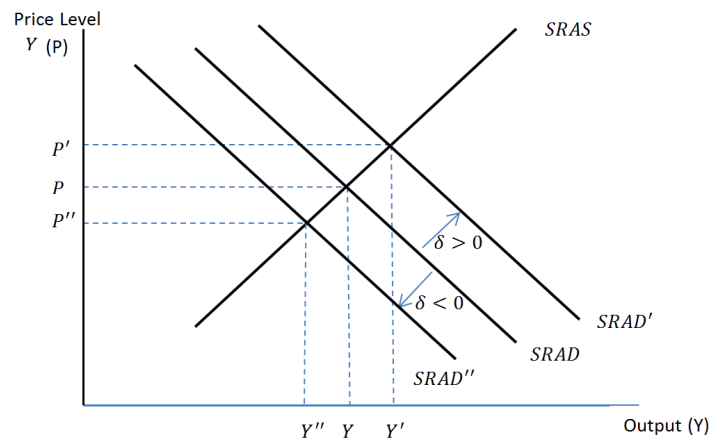


Figure 1:

rate comes from BPS and is included to account the possibility of a trade-off between inflation and unemployment (i.e., Phillips curve). The nominal exchange rate and BI rate data comes from Bank of Indonesia and measured by their respective average value in a given quarter. Both variables are included as any changes in these variables may shift both SRAD and SRAS, which may result in different aggregate price equilibrium. To account any other factors that may influence inflation rate on a quarterly basis, we use three dummy quarter variables. The first dummy (Q2) equals to one if it is in the second quarter and zero otherwise. The second dummy (Q3) takes the value of one in the third quarter and zero for the other quarters. The last dummy (Q4) takes the value of one in the last quarter and zero for the other quarters.

Because the inflation rate is calculated by the percentage change in the CPI, inflation in the current quarter implies that the de-numerator used in calculating the inflation in the next quarter will be higher. As a consequence, it is very likely that the current inflation is correlated with the past inflation. The presence of lagged dependent variable in both random effect and fixed effect estimation will result in biased parameter estimates due to the violation of strict exogeneity assumption. Thus, we use Arellano Bond GMM estimation because it yields a consistent parameter in the presence of correlation between the current and the past inflation.

The data on government spending are missing in a given quarter for some observations. In such cases, all observations the respective fiscal year are ex-

cluded. We also find that some observations with extreme growth in which the spending in a given quarter is higher than 75% of the annual spending. However, we do not have any information why such extreme differences occur. Dropping the observations in which the spending in a particular quarter exceed 75% of the total annual spending may reduce the inefficiency problems due to extreme values, yet it poses sample selection problem. Thus, we run regressions with two set of samples, i.e., the sample without any missing information in a given fiscal year (i.e., full sample), and the sample in which we exclude the observations that contain a spending in a particular quarter exceeding 75% of the annual budget (i.e., restricted sample). The descriptive statistics of the both sample are presented in Table 2.

4. Result and Analysis

4.1. Quarterly Inflation and Government Spending by Region

To identify whether inflation and budget absorption (hence government spending growth) have different pattern by region, we created seven regions, namely (1) Sumatera, (2) Java and Bali, (3) Kalimantan, (4) Sulawesi, (5) Papua, (6) Nusa Tenggara and Maluku Islands, and (7) Bangka Belitung and Riau Islands. The difference between the first five regions and the last two regions is that the latter consists of many smaller islands. Provinces with

Table 2: Descriptive Statistics

	Full Sample (485 Observations)			Restricted Sample (307 Observations)		
	Median	Mean	Standard Deviation	Median	Mean	Standard Deviation
Inflation (%)	1.27	1.48	1.38	1.14	1.39	1.32
Growth of Capital Expenditure (%)	196	486	1355	178	258	458
Growth of Non-Capital Expenditure (%)	68	120	366	60.9	61.4	102.8
Unemployment Rate (%)	5.37	5.74	2.47	5.33	5.64	2.43
Exchange Rate (IDR/USD)	9,086	9,48	857	9,363	9,543	862
BI Rate (%)	6.5	6.32	0.51	5.83	6.24	0.548

many smaller islands are more likely to have higher transportation costs than provinces in major islands as it requires not only land transportation but also sea transportation. Consequently, any shock may result in a different inflation rate.

The average of quarterly inflation and cumulative budget absorption of provinces within the same regions are presented in Graph 1–3. We observe the highest inflation occurs in the third quarter. This may be due to the occurrence of Ramadhan in the third quarter during 2010–2014. It has been a common phenomenon that inflation during Ramadan tends to increase in countries where Muslims are the majority, including Indonesia⁵. The second highest inflation occurs in the first quarter (except for Sumatera). We suspect that higher inflation is due to a significant increase in the government spending in the last quarter of the previous year. As observed in Graph 2 and 3, the budget absorption in the third quarter only around 40% of the total annual capital spending and 50% of the total annual non-capital spending. It means that a large portion of the government budget in the fiscal year is disbursed in the last quarter, which causes inflationary pressure in the following quarter. Whether or not our suspicion holds true will be examined in the empirical investigation.

4.2. Empirical Results

For both datasets, we run three specifications from the most restricted specification and then gradually move to the unrestricted specification. Specifically, we assume that the parameter of the past

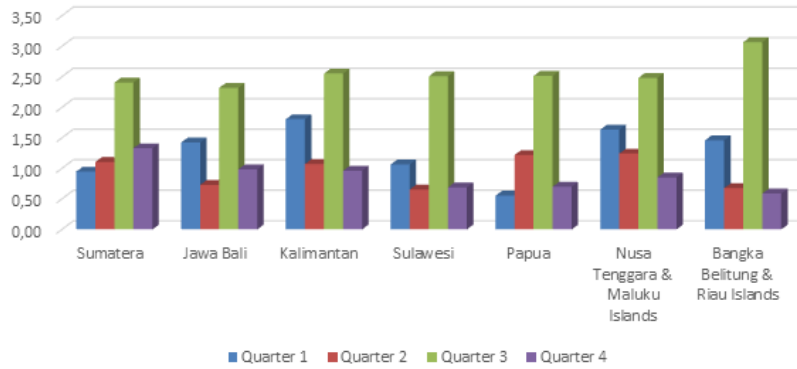
expenditure growth equals to zero in Specification 1. We then relax the assumption by including the spending growth in the last quarter (i.e., Specification 2) and spending growth two-quarters ago (i.e., Specification 3). Adding the past expenditure growth causes a reduction in the number of samples. Another disadvantage of having an additional variable is a reduction of the parameter efficiency (if the additional variable is irrelevant/insignificant). However, excluding the past spending growth may increase the risk of omitted variable bias (if it is indeed significant). As omitted variable bias is more serious than a reduction in the parameter efficiency caused by the inclusion of irrelevant variables, we still use the most restricted specification. By presenting the results from the most restricted to the least restricted, we will be able to see the consistency of our variable of interest.

The regression results using different specification are presented in Table 3. We can see that the inflation in past quarter is negatively correlated with the current inflation rate in all regressions. Higher inflation in the last quarter will be followed by a lower inflation in the current quarter. In contrast, a lower inflation in the last quarter will be followed by a higher inflation in the current quarter. The results imply that inflation varies across the quarters. Another indication that inflation fluctuates across the quarters is the coefficients of quarter dummies, in which all are significant. Compared to the first quarter, inflation in the second quarter are lower, indicated by the negative coefficient of Quarter 1 dummy. A positive parameter of Quarter 3 dummy indicates that inflation in the third quarter is statistically higher than the inflation in the first quarter. As we have explained earlier, the result may be due to the occurrence of Ramadhan in the third quarter during 2010–2014. The inflation in the last quarter is statistically lower than the first quarter, indicated by the negative parameter of Quarter 4 dummy.

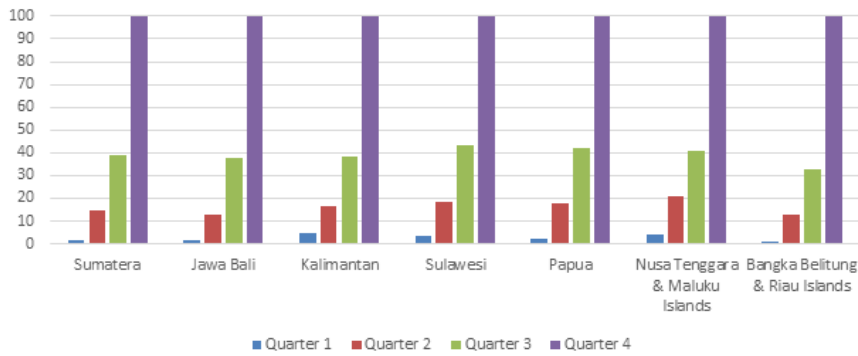
The parameter of capital expenditure growth in the

⁵Although Muslims refrain from eating and drinking from dawn to dusk, consumption tends to increase during the Ramadan and causes a higher inflation (see <http://theconversation.com/why-ramadan-is-a-special-economic-season-in-indonesia-43399>).

Graph 1: Average Quarterly Inflation by Region, 2010 - 2014



Graph 2: Cumulative Capital Expenditure Absorption by Quarter and Region, 2010-2014 (% of Total Annual Capital Expenditure)



Graph 3: Cumulative Non-Capital Expenditure Absorption by Quarter and Region, 2010 - 2014 (% of Total Annual Non-Capital Expenditure)

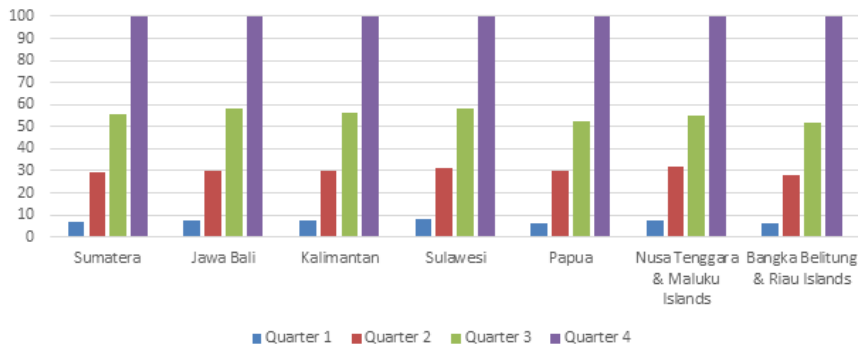


Figure 2:

current quarter is positive and significant in affecting the quarterly inflation in three out of six specifications. Using full sample, a percentage growth of the capital spending increases inflation rate (in the same quarter) by approximately 0.01%, *ceteris paribus*. However, when we include the growth of capital expenditure two-quarters ago, the parameter becomes insignificant. We argue the change in the parameter significance is caused by two reasons. First, the reduction of the sample from 447 (Specification 1) to 379 observations (Specification 3). Second, the growth of capital expenditure is indeed not a determinant variable of the current inflation, such that the inclusion of this variable which results in the loss of parameter efficiency.

The parameter of non-capital expenditure growth in the current quarter is positive and significant in all specifications. The parameter magnitude of non-capital expenditure growth is approximately four times of the parameter of capital expenditure growth. An additional growth of non-capital expenditure will result in a 0.037 percent increase in the inflation (Specification 1 in the full sample). Under Specification 3 (full sample), the parameter magnitude increases to 0.075. Although the efficiency of the parameter of non-capital expenditure growth does not reduce, the parameter may be biased due as 15 percent of the sample used in Specification 1 is excluded.

The following argument can explain the insignificant parameter of the past expenditure growth. First, the regression result in Specification 1 indicates that the growth both types of expenditure affect inflation in the same quarter. Second, the effect of current expenditure growth on the next quarter inflation has already been accounted by the inclusion of lagged dependent variable. Thus, including the past expenditure growth along with the lagged dependent variable will result in an insignificant parameter of the past expenditure growth. Including the past government expenditure causes not only a reduction in the number of observation, but also a reduction in the efficiency due to a redundant variable. Based on the above argument, we consider that Specification 1 (full sample) should be used for inference purpose.

The parameter of unemployment is positive and significant, instead of negative as suggested by the Phillips curve. One possible explanation on why a positive association between unemployment and

inflation occurs is the presence of oil price shock (Friedman 1977). A shock in the oil price would shift the SRAS to the northwest, causing a reduction in the output (thus higher unemployment) and increased in the aggregate price (inflation). During our observation period, the government increased the fuel price in 2013 and 2014⁶. Another possible source of a positive association between unemployment and inflation is the increased in the minimum wage. The average (monthly) minimum wage in Indonesia increased from IDR 0.99 million in 2010 to IDR 1.58 million in 2014⁷. The increase in the minimum wage would cause an upward shift of firms' cost function. At the aggregate level, SRAS would contract, and the new equilibrium will occur at higher inflation and higher unemployment.

The parameter of the nominal exchange rate is positive and statistically significant at 1% level, suggesting that currency depreciation increases regional inflation. However, BI rate is insignificant in determining the inflation rate. We argue that the insignificant effect of BI rate is due to high correlation between exchange rate and BI rate⁸. The central bank will take any necessary policy to stabilize the exchange rate⁹, one of which is through BI rate. The central bank will set a higher BI rate if there is a pressure for the Rupiah to depreciate, and a lower BI rate if the Rupiah tends to appreciate. As a result, there will be a positive correlation between BI rate and nominal exchange rate.

5. Conclusion and Policy Implication

It is a common perception that higher inflation decreases the social welfare as it reduces consumers' purchasing power. Existing studies have indicated that short run fluctuation in the aggregate demand and aggregate supply will result in changes in the aggregate price level (hence, inflation). In this study,

⁶In Indonesia, the fuel price is determined by the government instead of through market mechanism.

⁷The average monthly minimum wage is available at <https://www.bps.go.id/linkTableDinamis/view/id/917>

⁸The correlation coefficient of BI rate and Nominal exchange rate is 0.7124

⁹One of the central bank functions as stipulated in Law No 3/2004 is exchange rate stabilization

Table 3: Regression Results

	Full Sample			Restricted Sample		
	1	2	3	1	2	3
Inflation t-1	-0.307 (6.02)***	-0.296 (5.69)***	-0.320 (5.85)***	-0.267 (4.28)***	-0.245 (3.82)***	-0.245 (3.77)***
Growth of Capital Expenditure t	0.010 (1.97)**	0.009 (1.73)*	0.007 (1.19)	0.021 (1.95)*	0.009 (0.80)	0.011 (1.01)
Growth of Capital Expenditure t-1		-0.004 (0.73)	-0.006 (1.06)		-0.017 (1.58)	-0.013 (1.32)
Growth of Capital Expenditure t-2			-0.002			-0.001
Growth of Non-Capital Expenditure t	0.037 (1.81)*	0.041 (1.94)*	0.075 (2.99)***	0.045 (1.80)*	0.064 (2.46)**	0.048 (1.89)*
Growth of Non-Capital Expenditure t-1		0.002 (0.07)	0.024 (1.00)		0.037 (1.48)	0.021 (0.84)
Growth of Non-Capital Expenditure t-2			0.000 (0.01)			-0.003 (0.13)
Unemployment Rate t	0.170 (2.01)**	0.167 (1.82)*	0.063 (0.65)	-0.031 (0.31)	-0.026 (0.26)	-0.033 (0.33)
Nominal Exchange Rate t	0.001 (6.26)***	0.000 (5.69)***	0.001 (5.84)***	0.000 (3.33)***	0.000 (2.90)***	0.000 (2.77)***
BI Rate t	0.070 (0.57)	0.074 (0.59)	0.105 (0.79)	0.144 (0.96)	0.164 (1.07)	0.178 (1.10)
Quarter 2 Dummy	-0.573 (3.53)***	-0.681 (3.57)***	-0.678 (3.36)***	-0.799 (4.26)***	-0.820 (3.89)***	-0.830 (3.74)***
Quarter 3 Dummy	0.921 (5.75)***	0.911 (5.38)***	0.712 (3.91)***	0.658 (3.50)***	0.689 (3.52)***	0.666 (3.32)***
Quarter 4 Dummy	-0.607 (3.23)***	-0.655 (3.27)***	-0.639 (3.08)***	-0.721 (3.52)***	-0.718 (3.27)***	-0.696 (3.06)***
Constant	-4.415 (4.44)***	-4.101 (3.84)***	-3.984 (3.69)***	-2.637 (2.07)**	-2.346 (1.82)*	-2.308 (1.76)*
Observation	447	413	379	299	291	283

we have shown that the subnational government spending absorption is low in the first and second quarter but then increases significantly in the third and last quarter. This results in high variation of government spending growth. Our empirical results indicate that a higher expenditure growth leads to higher inflation. The same percentage increase in non-capital expenditure leads to a higher regional inflation than the growth of capital expenditure.

Although the responsibility of price stabilization (hence, maintaining lower inflation) is mainly borne by the central bank of Indonesia, price stabilization will be more difficult to achieve if government spending remains in its current pattern. Our result implies that improving budget absorption may help in lowering inflation. This can be done through (1) eliminating administrative problems that result in lower budget absorption in the earlier quarters, and (2) eliminating the incentives to spend excessively (especially non-capital spending) just to achieve higher budget absorption. Under the current system, the intergovernmental transfer is considered as a common resource, and larger intergovernmental transfer will increase social welfare at the subnational level. The subnational governments have a higher incentive to spend as close as they can to the planned budget regardless whether or not the spending has a positive impact in production capacity of the district. Thus, we argue that it is important for the central government to reconsider the current incentive mechanism in determining intergovernmental transfer.

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