

UDC 332

## FISCAL DECENTRALIZATION AND PUBLIC EXPENDITURE EFFICENCY: A CASE STUDY IN PROVINCES IN INDONESIA

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### ABSTRACT

This study aimed to measure public expenditure efficiency and analyze impact of fiscal decentralization towards public expenditure efficiency in Indonesia. The methods of analysis used in this study were Data Envelopment Analysis (DEA) to measure public expenditure efficiency and Panel Data Regression to examine the effects of fiscal decentralization towards public expenditure efficiency. The finding revealed that public expenditure of most provinces in Indonesia was inefficient. Increase of local expenditure had a negative effect on public expenditure efficiency, while increase of local revenues had a positive effect on public expenditure efficiency. The public expenditure was inefficient because local expenditure was mostly used to finance current expenditure, i.e. staff expenditure, official travel, government building, honorarium, and procurement of vehicles. As the consequence, less money is allotted for capital expenditure (education, health and infrastructure).

### KEY WORDS

Fiscal decentralization, public expenditure, efficiency, public service.

Fiscal decentralization is delegation of authority from central government to local government. With the local government's fiscal decentralization, it is expected that local government explores fiscal potential in each region and creates an independent local governments. Fiscal decentralization also has a main goal, which is to reduce fiscal disparities among regions and provide a more efficient public services. Fiscal decentralization policy is seen as one way to improve the effectiveness and efficiency of the public economy (Utomo and Sumarno, 2009). Local governments have greater capability to allocate fiscal resources efficiently, generate revenues, and maintain budget discipline in a decentralized system (Bird, 1993 and Oates, 1993). Fiscal decentralization in Indonesia is classified into three indicators, i.e. decentralization of expenditure, decentralization of development expenditure, and decentralization of revenue (Khusaini, 2006). Since there is limit to fiscal resources (revenue and expenditure), local government should improve their ability to allocate fiscal resources efficiently and effectively. Improving financial efficiency via financial innovation is an important way to break the limitation of financial resource (Liu *et al* , 2016).

The ability of local governments to allocate regional spending efficiently shows their level of performance and to some extent indicates the quality of local institutions in general (Borner *et al*, 2004). This is reflected in policies, strategies and decisions on how to allocate regional expenditure. Measuring regional performance through expenditure efficiency is also possible because all regions follow the same standards and assessment methods. Local government policies to allocate public expenditures can affect the efficiency of production factors and regional economic. Public expenditure efficiency eventually becomes the determinant factor of competitiveness and growth at the regional level (Tirtosuharto, 2010). The quality of government spending is one of the indicators in assessing the success of fiscal decentralization in addition to local revenue. Measurement of public expenditure efficiency can be seen from quality of regional expenditure. The quality of regional budgets relates to the fulfillment of economic values, efficiency, effectiveness, equity or equity, accountability, and responsiveness (Shah, 2007). Decentralization funds can be used to maintain local expenditure, especially capital expenditure in education, health and infrastructure. Quality of spending is how to enlarge the portion of productive capital expenditure that will have a direct

impact on the economy. According to Khusaini (2006), capital expenditure is a direct expenditure used to finance investment activities (adding assets). Local government spending can determine the level of capital accumulation (Bardhan, 2002). Capital expenditures that can increase the productivity of the community and the investment climate of the region will certainly have an impact on increase economic growth. Capital expenditure has effect on productivity and investment regional growth (Soejoto et al, 2015 and Pal, 2017). A more productive increase in public expenditures will directly stimulate or encourage increased local revenue and private investment in the region. Afonso, et al. (2003), Herrera and Pang (2005), and Tirtosuharto (2009) argue that regional expenditure is part of Gross Regional Domestic Product (GRDP) and its effect on regional growth can occur through private sector production driven by a multiplier effect of government spending. Wang (2005), Sen and Kaya (2014), and Wanjiru (2015) found that increased government spending has a positive impact on increased private investment. Expansion of public expenditure will also encourage government consumption, widespread market demand, and potentially encourage private investment in an area.

Public expenditure allocation in Indonesia continue to increase, as reflected in the increase of the Regional Revenue and Expenditure Budget (APBD). Increased input should produce large output for which efficiency can be achieved. High spending should have an impact on local revenue and private investment that can drive economic growth. However, in fact fiscal decentralization in Indonesia make local governments dependent on central government transfers relatively high, thus reduce the ability of regions to explore their fiscal potential (local revenue). Most local expenditures are allocated for current expenditure which is reducing allocation for capital expenditure. Private investment growth in Indonesia is still relatively low. The investment growth gap indicates a low-level of regional competitiveness. This indicates inefficiency in which local government has not been able to manage fiscal capacity optimally. This is supported by several previous studies conducted by Herrera and Pang (2005) that countries with higher levels of expenditure scored lower efficiency scores. Liu, *et al* (2016) found that there are inconsistencies in the spatial effects of fiscal expenditure and fiscal revenues on financial efficiency in the regions. Tirtosuharto (2010) and Prud'homme (1995) explained that the factors causing inefficiency of local governments to allocate public expenditure are some areas still face challenges in stimulating the regional economy, increasing corruption and rent-seeking at the local level, and the implementation of decentralization does not lead to economic congruence, where the level of regional disparity still very high.

Based on the background, the formulation of the problem and objectives of this study are to measure public expenditure efficiency and analyze impact of fiscal decentralization on public expenditure efficiency in Indonesia.

## LITERATURE REVIEW

*Public Expenditure Efficiency.* Efficiency is a criterion used to assess the success of government policies. An efficient economy where the economy produces what society wants at the lowest possible cost (Case and Fair, 2007: 462). Efficiency is divided into two, i.e. the allocation efficiency associated with the ability to use input resources at the optimal capacity level and technical (managerial) efficiency associated with the ability to use input resources at a certain level of output (Mardiasmo, 2002: 134). Efficiency is the achievement of certain outputs with the lowest resources (spending well). Measurement of efficiency is done by comparing the output to the input used (cost of output). Efficiency of local government can be achieved by taking into account aspects of relations and work procedures among local government agencies by using the potential and diversity of a region. Public expenditure efficiency consists of three types as follows:

- **Production Efficiency.** Production efficiency is related costs incurred to generate a certain output. In relation to fiscal decentralization, production efficiency can be achieved because existing resources are allocated among the expenses that produce

the maximum output. Measurement and comparison of relative efficiency of production can be done directly with certain categories such as education and health.

- Allocation Efficiency. Allocations efficiency is efficiency with respect to the appropriateness of expenditure with public preferences. In relation to fiscal decentralization, allocation efficiency occurs because existing resources are allocated among different types of expenditure that are appropriate to the public preferences. Measurement allocation efficiency cannot be done directly because the size of public marginal preference is difficult to know.
- Fiscal Efficiency. Fiscal efficiency is efficiency that involves local government revenue sources to finance local government expenditure. In general, regional revenue comes from two main components, i.e. local revenue and balance funds. Fiscal efficiency is divided into three things, i.e. (1) whether the tax and levies imposed are appropriate tax in the sense that local tax and levies imposed from certain taxable objects are directly related to specific expenditure targets, 2) the balance fund should be intended for adjustments due to externalize without disrupting the interests of the government, (3) Regional revenue and expenditure budget should not cause negative pressures and impacts on regional macroeconomic stability.

*Measurement Public Expenditure Efficiency.* Data Envelopment Analysis was used to measure Public Expenditure Efficiency in this study. Data Envelopment Analysis (DEA) method is created as a tool to evaluate performance of an activity within an entity (organization). Measurement of efficiency is done by comparing the output and the input used (cost of output). Previous research conducted by Tirtosuharto (2010), Alfonso, *et al* (2003) and Herrera & Pang (2005) were used as bases to select input and output variables. The input variables used in this study were current expenditure and capital expenditure, whereas the output variables were private investment and local revenue. Capital expenditure was local expenditure whose benefits exceeded one budget year and would increase assets and wealth of the region. Capital expenditure was public investment in infrastructure, health and education. Current expenditure was expenditure that benefited only for one fiscal year and did not increase the assets or wealth of the region. Operational expenditure was staff expenditure, goods and services expenditure. Local revenue was revenue derived from local native resources, i.e. local taxes and user charges. Private investment was investment made by the private sector. The role of investment was not explicitly explained in the theory of fiscal federalism, but investment was still needed in the fiscal decentralization scheme as one source of local revenue.

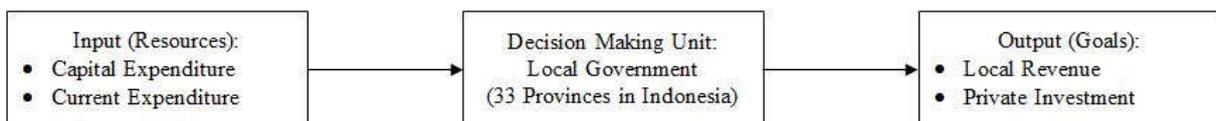


Figure 1 – Data Envelopment Research Framework

The reason to choose capital expenditure and current expenditure as the input variables and local revenue and private investment as the output variable is because public expenditure has positive effect towards output growth. Government expenditures for projects generate revenue for regions either directly or indirectly through tax collection. Increased public spending will encourage government consumption, widespread market demand, and potentially encourage private investment in the region. The availability of infrastructure, such as transport, telecommunications, and electricity will be part of consideration when making decisions to invest in a region. This resembles the concept of a multiplier effect of public spending that can lead to higher economic growth.

## METHODS OF RESEARCH

The approach used in this study was quantitative approach. Quantitative approach is a scientific method to obtain valid data with the aim of finding, testing and developing

knowledge so that it can be used to understand, solve, and anticipate problems in a particular field (Sugiyono, 2008). The samples were 33 provinces in Indonesia and the types of data were time-series data and cross-section data. The methods of analysis were Data Envelopment Analysis (DEA) and Panel Data Regression. Data Envelopment Analysis (DEA) was used to measure public expenditure efficiency and Panel Data Regression was used to examine the effects of fiscal decentralization on public expenditure efficiency in Indonesia. This study used panel data types from 33 provinces in Indonesia from 2008 to 2015. Panel data was a combination of time-series data and cross-section data. Advantage of panel data is it allows researchers to better understand the economic effects that can not be obtained if researchers only use time series data or cross section ones. Panel Data Regression was used in this study to analyze effects of ratio of fiscal decentralization, ratio of capital expenditure, ratio of current expenditure, and ratio of revenue independence on public expenditure efficiency.

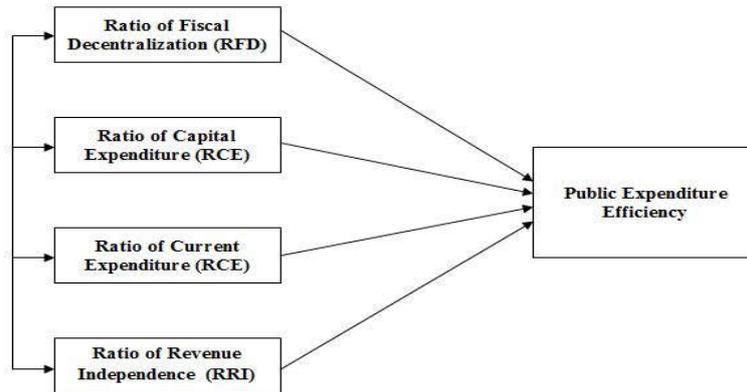


Figure 2 – Panel Data Regression Research Framework

Table 1 – Definition and Measurement of Variables

No	Variable	Description	Sources
1	Public Expenditure Efficiency	Measurement of public expenditure efficiency was done by comparing input (capital expenditure and current expenditure) to output (private investment and local revenue)	Data Envelopment Analysis (DEA)
2	Capital Expenditure	Amount of capital expenditure	National Bureau of Statistics (BPS)
3	Current Expenditure	Amount of current expenditure	National Bureau of Statistics (BPS)
4	Private Investment	Amount of private investment. (Investment data used in this study has a lag of one year (t + 1).	Indonesia Investment Coordinating Board (BKPM)
5	Local Revenue	Amount of local revenue	National Bureau of Statistics (BPS)
6	Ratio of Fiscal Decentralization (RFD)	Ratio between total regional expenditure and total national expenditure.	National Bureau of Statistics (BPS)
7	Ratio of Capital Expenditure (RCE)	Ratio between regional capital expenditure and total regional expenditure.	National Bureau of Statistics (BPS)
8	Ratio of Current Expenditure (RCE)	Ratio between regional current expenditure and total regional expenditure.	National Bureau of Statistics (BPS)
9	Ratio of Revenue Independence (RRI)	Ratio between local revenue and total regional expenditure.	National Bureau of Statistics (BPS)

## RESULTS OF STUDY

*Public Expenditure Efficiency.* Method used to measure public expenditure efficiency in this study was input-oriented optimization mode that minimized input at fixed output level with the Constant Return to Scale mode. This was in accordance with the

purpose of this research, to measure public expenditure efficiency. Based on the results of Data Envelopment Analysis (DEA), Table 2 showed scores representing efficiency public expenditure in 33 provinces in Indonesia.

Table 2 – Public Expenditure Efficiency in Indonesia between 2008 and 2015

Province	Score Public Expenditure Efficiency							
	2008	2009	2010	2011	2012	2013	2014	2015
North Sumatera	1	1	1	1	1	1	1	1
Bangka Belitung Islands	1	1	1	1	1	1	1	1
DKI Jakarta	1	1	1	1	1	1	1	1
West Java	1	1	1	1	1	1	1	1
Banten	1	1	1	1	1	1	1	1
Bali	1	1	1	1	1	1	1	1
West Nusa Tenggara	1	1	1	1	1	1	1	1
Gorontalo	1	1	1	1	1	1	1	1
North Maluku	1	1	1	1	1	1	1	1
East Java	0.91	1	1	1	1	1	1	1
South Sumatera	1	0.48	0.80	1	1	1	1	1
Bengkulu	0.47	0.83	0.96	1	1	1	1	1
North Sulawesi	1	1	0.88	1	1	1	1	1
Central Sulawesi	0.78	0.64	0.71	1	1	1	1	1
South Sulawesi	1	1	0.89	1	1	1	1	1
Southeast Sulawesi	1	0.65	0.93	1	1	1	1	1
East Nusa Tenggara	0.87	0.74	0.82	1	1	1	1	1
West Kalimantan	0.82	0.61	1	0.84	1	1	1	1
West Sumatera	0.86	0.74	0.46	0.93	1	1	1	1
Jambi	1	0.78	0.82	1	1	0.87	1	1
Maluku	1	0.78	0.91	0.87	1	1	0.83	1
Riau Islands	0.66	0.38	0.53	1	0.90	1	0.59	1
Central Java	0.95	1	1	1	1	1	0.87	0.98
Central Kalimantan	0.98	1	1	1	1	1	1	0.91
DI Yogyakarta	0.92	1	1	1	1	1	0.99	0.90
West Sulawesi	0.86	0.79	0.64	0.76	1	1	0.87	0.90
East Kalimantan	0.66	1	1	1	0.79	0.79	0.94	0.81
Riau	0.50	0.61	0.24	0.92	0.75	0.59	1	0.71
South Kalimantan	0.84	0.61	0.49	1	1	0.86	0.92	0.66
West	0.74	0.77	1	1	1	0.77	0.69	0.58
Lampung	0.72	0.89	0.63	0.68	0.74	0.64	0.70	0.72
Papua	0.31	0.21	0.18	0.27	0.31	0.37	0.29	0.67
DI Aceh	0.19	0.18	0.15	0.16	0.19	0.28	0.24	0.28

Source: DEA (data processed), Note: score = 1 is efficient, but if < 1 is inefficient.

Based on the results of DEA, it was found that efficiency scores of North Sumatera, Bangka Belitung Islands, DKI Jakarta, West Java, Bali, Banten, West Nusa Tenggara, Gorontalo, North Maluku, East Java (except 2008), North and South Sulawesi (except 2013) were 1 (one) meaning that public expenditure in these provinces was efficient. Meanwhile, efficiency scores of Aceh, Papua and Lampung from 2008 to 2015 were lower than 1 (< 1) meaning that the implementation of public expenditure was inefficient and these provinces were unable to maintain public expenditure in order to remain efficient. Efficient public expenditure showed that local governments were able to use the maximum budget (current expenditure and capital expenditure) to generate optimal output (private investment and local revenue).

Inefficient public expenditure occurred because most local governments were not able to use the budget optimally because of absence of adequate incentives ranging from the national to the local level to promote the benefit of efficiency, and lack of institutional capacity. Regional expenditures was largely used to finance current expenditure (e.g. wages and salaries, buying of official vehicles and official travel), thus reduce the allocation of capital expenditure (education, health and infrastructure). The problem of budget absorption in several regions in Indonesia is that the budget is still largely accumulated at the end of the

year where the absorption of APBD is faster and higher in the last quarter of October, November and December. The accumulation of budget realization at the end of the year is due to poor planning, slow administrative process, and auction and legal procedures to be taken. Accumulation of realized budget absorption at the end of the year indicates that the policies that local governments spend on budgeting are inefficient.

Furthermore, the finding is in line with Tirtosuharto (2010) that local government were unable to allocate public expenditure effectively because some areas still face challenges in stimulating the economy of the region, despite have greater fiscal capacity. Chusnah (2014) and Parakoso (2016) found that there are still many districts/municipalities in East Java where public expenditures is inefficient. Alfonso (2013) found that most OECD countries have not carried out their public expenditure efficiently. Liu et al (2016) found that the public spending in China's provinces is inefficient. Herrera & Pang (2005) found that most of the developing countries have not carried out public expenditure efficiently.

Based on the value of proportionate movement (PM) obtained from the DEA measurement, provinces with inefficient public expenditure are suggested to reduce inputs, i.e. current expenditure and capital expenditure in order to produce optimal output, i.e. local revenue and private investment. Figure 3 and 4 below showed projection of input (private investment and local revenue) after the input of operational expenditure and capital expenditure were reduced.

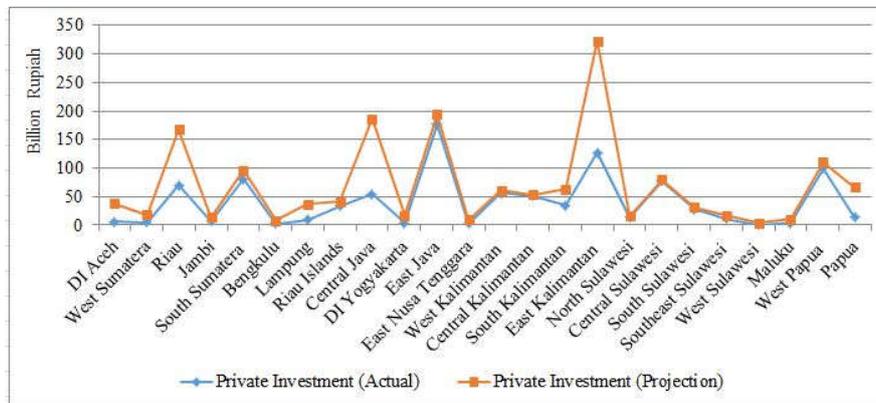


Figure 3 – Actual and Projected Private Investment in Provinces in Indonesia (Source: DEA, data analysis)

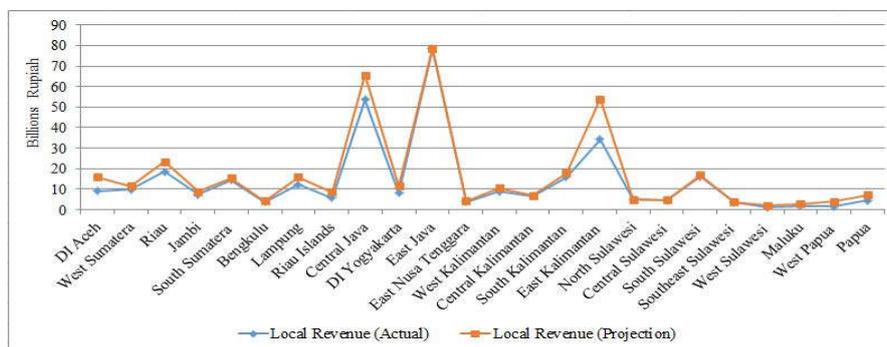


Figure 4 – Actual and Projected Local Revenue in Provinces in Indonesia (Source: DEA, data analysis)

Figure 3 showed the comparison between actual and projected private investment or the total of the total private investment in 2008-2015. Figure 4 showed the comparison between actual and projected local revenue or the total local revenue in 2008-2015. Actual private investment and local revenue actual represented the amount of private investment and local revenue realization of from each province. Private investment and local revenue

projection showed estimated total private investment and local revenue obtained from DEA measurements after reducing inputs, i.e. current expenditure and capital expenditure. The amount of private investment and local revenue projection is much higher than that of actual private investment and local revenue. It means if the provincial government reduced inputs, i.e. current expenditure and capital expenditure then the output of private investment and generated local revenue became input-oriented, so that public expenditure became efficient. Local government may reduce spending to generate greater local revenue and private investment. Local government did not have to spend large amounts of budget. Local government was too wasteful and spending money for expenditure that was not categorized as main priority, such as staff expenditure, official travel, government building, honorarium, and procurement of vehicles. Local government should further increase capital spending on education, health, and infrastructure.

*Decentralization Fiscal and Public Expenditure Efficiency.* Table 3 showed the result of panel data regression analysis used to measure impact of ratio of fiscal decentralization, ratio of capital expenditure, ratio of current expenditure and the ratio of revenue independence on public expenditure efficiency.

Table 3 – Random Effect Panel Data Regression Result

Variable	Koefisien	t-statistic	Prob.	Effects
Constants	0.978264	15.34193	0.000*	
Ratio of Fiscal Decentralization (RFD)	-1.555564	-2.140598	0.033*	Significant and Negative
Ratio of Capital Expenditure (RCE)	-0.562945	-6.204972	0.000*	Significant and Negative
Ratio of Current Expenditure (RCE)	-0.300022	-2.789145	0.006*	Significant and Negative
Ratio of Revenue Independence (RRI)	0.386951	3.709031	0.000*	Significant and Positive
R-squared 0.222773				
Adjusted R-squared 0.210769				
F-statistic 18.55895				
Prob (F-statistic) 0.000000				
Durbin-Watson stat 1.722581				

Source: data analysis, Note: \*) significant at  $\alpha = 5\%$ .

Based on the Table 3, the model of panel data regression equation was as follows:

$$PEE_{it} = 0.978264 - 1.555564 RFD_{it} - 0.562945 RCE_{it} - 0.300022 RCE_{it} + 0.386951 RRI_{it} + \varepsilon_{it}$$

*Decentralization Expenditure and Public Expenditure Efficiency.* Based on the results of panel data regression, ratio of capital expenditure and ratio of current expenditure had significant negative effect towards public expenditure efficiency. It meant increase of local expenditure reduced public expenditure efficiency. Increase of local expenditure decreased public expenditure efficiency because there was too much unnecessary spending. Local government spent too much money on staff (wages and salaries), official travel, government building, honorarium, and procurement of vehicles. Based on the data from Central Bureau of Statistics and Ministry of Finance Republic of Indonesia, most regions in Indonesia allocate more budget for current expenditure than capital expenditure. The following showed some data how much money allocated on health and education in the provinces of Indonesia. Health expenditure was spending allocated for health affairs that is directly related to the availability of health facilities and public services. Meanwhile, education expenditure is spending allocated for education affairs, which is directly related to the availability of education facilities and public services.

Based on Figure 5, showing the average health spending in Indonesia year 2008-2015, most provinces in Indonesia, except Bangka Belitung and NTT, spent more money on current health expenditure than capital health expenditures. Capital health expenditure is expenditure directly related to health services such as staff enhancement programs, partnership programs to improve health services, maintenance and provision of facilities and infrastructure of hospitals and public health centers, medicines and health supplies programs, malnutrition prevention programs and infectious diseases, maternal and child

safety improvement and child and elderly health care programs. While the current health expenditure is spending on goods and services as well as staff such as procurement of office facilities and infrastructure, office administration programs, and staff facilities improvement programs such as official vehicles. Spending more money on current health expenditure than capital health expenditure of health indicates that local government allocates their budget on non-prioritized spending. As the effect, there is very little improvement in Indonesian public health sector.

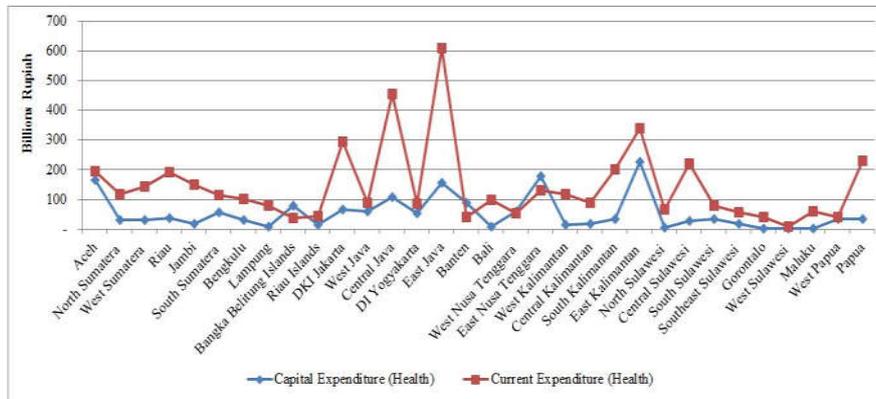


Figure 5 - Health Expenditure in Indonesia (Source: Directorate General of Fiscal Balance, Ministry of Finance Republic of Indonesia)

Based on the health profile data in Indonesia published by the Ministry of Health of Republic of Indonesia in 2015, the number of public health centers in all provinces in Indonesia are 8,8820 units, 5720 in good condition and 3,162 in poor condition. In Bali, 100 out of a total of 162 public health centers are in poor condition. In addition, in West Kalimantan 104 out of a total of 239 public health centers is also in poor condition. The number of poorly-maintained public health centers in South Kalimantan, West Sulawesi and Maluku are 100 out of a total of 229, 93 out of a total of 146 and 82 out of a total of 174 respectively. Furthermore, the percentage of malnutrition in Indonesia in 2015 increased sharply to 6.50% from 3.12% in the previous year (2014). The provinces with the highest malnutrition cases were mostly located in the eastern part of Indonesia such as East Nusa Tenggara (6.80%), West Kalimantan (6.20%), West Sulawesi (5.50%), Papua (5.1%), and Maluku (4.9%).

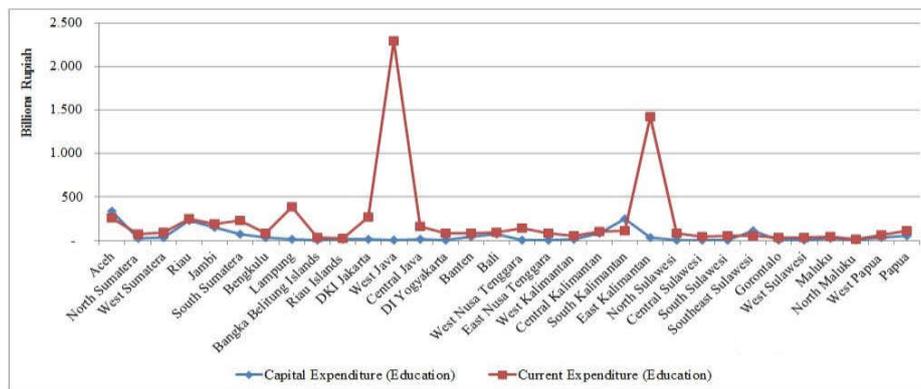


Figure 6 - Education Expenditure in Indonesia (Source: Directorate General of Fiscal Balance, Ministry of Finance Republic of Indonesia)

Based on figure 6, showing the average of education expenditure in Indonesia in 2008-2015, most provinces in Indonesia had higher current education expenditure than capital education expenditure of education. Capital education expenditure is spending that is directly related to the provision of public educational such as coaching and development of higher

education and the quality and quantity of education staff, early childhood education, dayah/Islamic boarding school education, secondary and non formal education, development of culture reading and library. Meanwhile, operational education expenditure is a spending of goods and services as well as staff such as office administration, apparatus discipline improvement, and apparatus facilities improvement. Spending higher amount of money on operational expenditure related to education than capital expenditure related to education indicates that local governments allocate budgets for non-prioritized spending. As the consequence, the national public education sector is still facing a lot of unsolved problems. Based on the data published by Ministry of Finance of Republic of Indonesia, there is an increase in number of schools and students of early childhood education (PAUD) in all provinces in Indonesia in 2015 compared to 2014, but a decrease in the number of teachers in all provinces except South Sumatra province, Bangka Belitung, West Kalimantan, Central Kalimantan, and South Kalimantan. The number of early education teachers in Indonesia in 2015 is 355,912, declining from 375,188 in 2014. Based on the data from the national Bureau of Statistics, the percentage of illiteracy in Indonesia is still quite high, especially for people over 45 years old (12.25% in 2015). There is a small decrease of illiteracy in people over 15 years old and between 15 to 44 years old. The highest percentage of illiteracy (between 17 and 34%) occurs mostly in provinces located in eastern part of Indonesia such as Papua, South Sulawesi, Southeast Sulawesi, West Sulawesi, West Kalimantan, East Nusa Tenggara, and West Nusa Tenggara.

The finding of this study support previous study conducted by Tirtosuharto (2010) increase of capital expenditure and current expenditure will decrease public expenditure efficiency in Indonesia. Herrera and Pang (2005) found that increase of public service spending decrease public expenditure efficiency in developing countries. Liu, *et al* (2016) also found that inconsistent fiscal expenditures and revenues affect the decline in the efficiency of regional finances. Alfonso (2013) found that countries with small public expenditures have greater efficiency value than countries with high public spending. Utomo and Sumarno (2009) found that the increased decentralization of public spending will increase public spending inefficiency in East Java.

*Decentralization Revenue and Public Expenditure Efficiency.* Based on the results of panel data regression, ratio of revenue independence had significant positive effect towards public expenditure efficiency, meaning increase of local revenue would increase public expenditure efficiency. The finding supports the theory that fiscal decentralization can improve government efficiency in providing public goods and services (Oates, 1993). Utomo and Sumarno (2009) argue that fiscal decentralization is one way to improve economic effectiveness and efficiency. Tirtosuharto (2010), found that effect of an increase in local revenue is an increase in public expenditure efficiency. Jakarta, West Java, East Java, Bali, North Sumatra are the provinces that are not dependent on central government transfers and some other provinces in Java and Sumatera have ability to generate local revenue, and thus are able to manage their public expenditure efficiently.

Increased of local revenue having positive impact towards public expenditure efficiently means that the government policy on tax collection is appropriate, where the local tax levied on certain tax objects is directly related to the expenditure targets. Increasing local revenue indicates that local government is responsible for generating revenue to cover fiscal gaps in their local budget. Increase of local revenue can optimize and increase activity in sectors related to regional economic growth such as industry and trade sector as well as service sector (Setiyawati and Hamzah, 2007). Cash management is one way to discipline public finances (Shah, 2007). Cash management aims to distribute government funds as quickly as possible, make financing as efficiently as possible and make effective use of funds up to those in need for operational costs.

## CONCLUSION

Most provinces in Indonesia have not been able to budget their public expenditure efficiently. Decentralization of expenditure has negative effect towards public expenditure

efficiency, while decentralization of revenue has positive effect towards public expenditure efficiency. The positive impact of fiscal decentralization on public expenditure efficiency depends on the symmetry between local expenditure and local revenue.

The ability of the local government to cut or reduce budget is one important factor that determines public expenditure efficiency. Based on Proportionate Movement (PM) score obtained from the results of DEA, it is suggested that local government reduces inputs (capital expenditure and current expenditure) to generate output (private investment and local revenue) in order to increase public expenditure efficiency. Local government can reduce some non-prioritized expenditure such as staff expenditure, official travel, government building, honorarium, and procurement of vehicles.

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