KnE Social Sciences
The 2nd ICVHE
The 2nd International Conference on Vocational Higher Education (ICVHE) 2017
"The Importance on Advancing Vocational Education to
Meet Contemporary Labor Demands"
Volume 2018

Conference Paper

# The Effect of Financial Ratio to Human Development Index (Based on the Study in Districts and Cities of West Java)

**Arthaingan H. Mutiha**

Accounting Department, Vocational Program, Universitas Indonesia, Indonesia

## Abstract

This study aims to determine the effect of financial ratios to Human Development Index. The financial ratios used in this study are Ratio Degree of Decentralization, Regional Financial Independence Ratio and Ratio of Compatibility Expenditure. Human Development Index is used as an indicator to show the performance of local government in providing services to its people. The population in this study is all the government districts and cities in West Java. The data used is Local Government Finance Report of 2011–2014, analyzed using multiple regression. The source of data is the Ministry of Finance and Central Bureau of Statistics. The result of this study indicates that Ratio Degree of Decentralization and Ratio of Regional Financial Independence have no significant effect on Human Development Index, while Ratio of Compatibility Expenditure has a significant effect on Human Development Index. The implication of this finding will be for government to have consideration of its Human Development Index as an implication of its success of providing its services to public.

**Keywords:** Ratio Degree of Decentralization, Regional Financial Independence Ratio and Ratio of Compatible Expenditure, Human Development Index, Local Government Finance Report

Corresponding Author:
Arthaingan H. Mutiha
h.mutiha@ui.ac.id

Received: 8 June 2018
Accepted: 17 July 2018
Published: 8 August 2018

Publishing services provided by Knowledge E



Selection and Peer-review under the responsibility of the 2nd ICVHE Conference Committee.



## 1. Introduction

Human Development Index (HDI) is a composite index to regulate the quality of human achievement to have better quality of life, in terms of health, education and economic (Christy and Priyo Hari Adi, 2009).

In the catalog of the Central Bureau of Statistics (BPS) on the Human Development Index, HDI is used to assess the success of the performance of human development in the region through the provision of good public service. Good public service is expected to improve all aspects of social life. Improvement of community life is in line with the increment of Human Development Index.

**How to cite this article:** Arthaingan H. Mutiha, (2018), "The Effect of Financial Ratio to Human Development Index (Based on the Study in Districts and Cities of West Java)" in *The 2nd International Conference on Vocational Higher Education (ICVHE) 2017 "The Importance on Advancing Vocational Education to Meet Contemporary Labor Demands"*, KnE Social Sciences, pages 848–861. DOI 10.18502/kss.v3i11.2812

HDI is one of the indicator that can be used in assessing the performance of local government. Local government performance measurement system is a system that aims to help leaders assess the achievement of a strategy through financial and non-financial measurement tool [21]. Meanwhile, according to Halim (2004) the financial performance of local or regional capabilities is one measure that can be used to assess the ability of the local government in carrying out local autonomy.

Regional autonomy era began with the implementation of Law No.32 of 2004 on Regional Government and implementation of Law No.33 of 2004 on Financial Balance between Central government and Local Government.

According to Law No. 32 of 2004 Article 1 stated that regional autonomy has the rights, authorities, and obligations as autonomous regions to organize and manage their own affairs and interests of local communities in accordance with the legislation.

With the regional autonomy of its regions, Regional Head has a larger role in managing the region. The area should be more independent so as to reduce their dependence on the central government. This is indicated by the increment of Locally Generated Revenue (Pendapatan Asli Daerah-PAD). Enforcement of the Act is also a reform of the relationship between the Central Government and Local Government.

In addition, one embodiment of the implementation of regional autonomy is decentralization. According to Law No. 32 of 2004, the definition of decentralization is the devolution of government power by the Government to autonomous regions to set up and administer the governmental affairs in the Republic of Indonesia.

With regional autonomy, West Java has the responsibility to become more independent in managing and improving the financial performance of the government to promote better delivery of government services. In the era of regional autonomy, devolution of authority occurs from central government to local governments. The local government is authorized to organize local task in implementing fiscal decentralization financed at the expense of the Regional Government Budget (APBD). The budget is a reflection of the programs to be implemented by the local government for a certain period. Budgets serve as a reference for local governments in organizing the system of government.

In a system of financial management in the era of regional autonomy that is associated with the management of the budget (Budget Revenue and Expenditure), Central Government need to set a standard or reference when an area is said to be independent, effective & efficient, and accountable. It required a measurement of financial performance of local governments as a benchmark in setting monetary policy in the next fiscal year. Financial performance can be derived from financial ratios. Financial ratios can be calculated from the Regional Chief Accountability Report in the form of budget calculations.

This study aimed to examine the effect of the ratio of regional financial performance on Human Development Index (HDI) of the community in the district and city in West Java. The ratio of Regional Financial Performance used are the decentralization ratio, independence ratio and compatible expenditure ratio. This study uses secondary data years 2011–2014 were obtained from the Supreme Audit Agency and the Central Bureau of Statistics with the sample coverage of the District Government of West Java.

## 2. Review of Literature

### 2.1. Literature review

According to Jensen et al. (1976), an agency relationship is a contract in which one or more persons (the principal) was involved with another person (the agent) to do a service to those that involve with some decision-making authority to the agent.

According to Zimmerman (1977), agency problems also existed in the context of government organizations. People as principal mandates the government as an agent, to perform the task of government in order to improve people's welfare. According Fadzil and Nyoto (2011), there is a principal agent relationship between the central government and local governments. The central government is the principal and local governments acts as agents. This is because Indonesia as a unitary state, local government is accountable to the people as voters and also to the central government.

Signaling theory explains that the government as the party whom is given the mandate from the people trying to demonstrate to the public signals [7]. Their purpose is that people can continue to support the current government to run well. The financial statements can be used as a means to provide a signal to the public. Performance of good governance should be informed to the people as a form of accountability as well as a promotion for a public purpose.

Based on Law No. 32 of 2004 on Regional Government, the budget is defined as the operational plan of local government's finance, where one party illustrates the expected expenditures to finance the activities and projects in the area of the particular fiscal year and on the other hand describes the estimated revenues and sources to cover the expenditure.

### 2.2. Local government finance report (LKPD)

According to Law No. 32 2004 article 184, that regional heads submitted a draft regulation on the implementation of the budget to Parliament in the form of financial statements which have been audited by the Supreme Audit Agency (BPK) not later than six (6) months after the fiscal year ends. Where local government financial statements comprising: the balance sheet, budget realization reports, cash flow statement and notes to the financial statements.

### 2.3. Financial performance of local government

Public sector performance measurement system is a system that aims to help public managers assess the achievement of a strategy through financial and non-financial measurement tool [21]. Meanwhile, according to Halim (2004) the financial performance of local or regional capabilities is one indicator that can be used to assess the ability of carrying out local autonomy.

One of the forms of the performance assessment is financial ratios that are formed from elements of the Regional Chief Accountability Report in the form of budget calculations. There are at least four benchmark for performance assessment of local government finance, namely:

1. Deviations between actual budget with the targets set in the budget
2. Cost Efficiency
3. Effectiveness Program
4. Equity and Justice

According to Mahmudi (2010), there are some ratio analysis in measuring the financial performance based on financial data. They are as follows:

1. Degrees of Decentralization Ratio

   The degree of decentralization ratio is calculated based on the ratio between the amount of Locally Generated Revenues (PAD) to total Local Revenues. This ratio indicates the degree of contribution of local revenue (PAD) to the total revenue area. The higher contribution of PAD, the higher the ability of local governments in the implementation of decentralization.

2. Independence Ratio

Local financial independence (fiscal autonomy) shows the ability of local governments to finance their government activities. In other words, the ratio of local financial independence shows the area of financial dependence on sources of funding from external parties. Independence ratio is calculated as the ratio between the Locally Generated Revenue with the fund received from the Central Government or the Provincial and Loan.

The higher the ratio of local financial independence means the dependence of local governments to the central government is getting lower, and vice versa (Mahmudi, 2007).The pattern of central and local government relations as well as the level of independence and financial capacity of the region can be presented in a table as shown in the following table:

Table 1: Pattern of relationship.

| Financial Ability | Level of Independence (%) | Relationship Pattern |
|---|---|---|
| Very Low | 0–25 | Instructive |
| Low | > 25–50 | Consultative |
| Moderate | > 50–75 | Participatory |
| High | > 75–100 | Delegative |

Source: Paul Hersey and Kenneth Blancard on Halim.

The relationship pattern can be explained as follows:

(a) Instructive pattern means that the role of central government is more dominant than the independence of local government.

(b) Consultative pattern means that the interference of the central government has begun to diminish and it is more on providing consultation.

(c) Participatory pattern means that the role of central government is diminishing since the degree of independence of the autonomous region is approaching to some level that the local government can carry out the affairs of the autonomy.

(d) Delegative pattern means without any interference of central government since local government has been able to carry out the affairs of regional autonomy.

3. Compatibility Expenditure Ratio

According to Mahmudi (2010), the analysis of the compatibility expenditure ratio is the proportion of direct or indirect expenditure to total expenditure. This ratio is useful for local government for internal management purposes such as to control the cost and the budget. Direct expenditure is expenditure that is directly related to the activities while indirect expenditures are expenditures that are not related to the implementation of activities directly. Direct expenditure should be greater than indirect expenditures, because the direct expenditures affect output activity.

# 3. Research Method

This research is a quantitative research. The data used in this research is secondary data where the data comes from the original data that already exists, and researchers only manage existing data to get the results of related variables.

The population in this study are all districts and cities in West Java which consists of 27 districts and cities that have the financial statements in 2011–2014, with the object of research is the form of Budget Realization Reports. The sampling technique in the study uses data collection with purposive sampling. Sampling is a technique that is based with particular consideration in taking the sample through the determination of the criteria that are considered representative of the population. The criteria used as follows:

1. District and the City who have presented reports on realization of the budget.
2. District and City were made and presented reports on realization of the budget in Government Accounting Standards (SAP) format and registered with the Directorate General Balance of the Ministry of Finance.
3. District and cities in West Java that has a Human Development Index published by the Central Statistics Agency of West Java

## 3.1. Hypotheses development

### 3.1.1. The effect of Decentralization Ratio to HDI

The degree of decentralization ratio is calculated based on the ratio between the amount of Local Generated Revenues to total revenues. This ratio indicates the degree of contribution of Local Generated Revenue (PAD) to the total revenue area. The higher contribution of PAD, the higher the ability of local government in the implementation of decentralization. Therefore it can be expected that the local government will be better in providing public services to its community. If public services increase then it will increase Human Development Index. Local Generated Revenue (PAD) is an important source of income to meet its expenditures. According to Law No. 33 of 2004 states that Locally Generated Revenue is defined as earned income areas levied by local regulations in accordance with the legislation. Setyowati and Suparwati (2012) conducted a study on the effect of PAD to HDI. In the study, the result showed that PAD has a significant effect on the HDI. Anggraini and Sutaryo (2014) conducted a study on the effect of the degree of decentralization ratio on IPM and concluded that the ratio of the degree of decentralization has an influence on the Human Development Index. Based on this, the researchers formulate hypotheses as follows:

H1: The ratio of the degree of decentralization has a positive effect on Human Development Index (HDI).

### 3.1.2. The effect of regional financial independence ratio to HDI

Local financial independence (fiscal autonomy) shows the ability of local governments to finance their government's activities. In other words, the ratio of financial independence shows the financial dependence on sources of funding from external parties. Independence ratio is calculated as the ratio between the Local Generated Income to fund receipt from Central Government or the Provincial and Loan.

Amalia and Purbadharmaja (2014) suggested the results that the ratio of financial independence has a significant effect on the Human Development Index (HDI). In addition, another study conducted by the Goddess and Sutrisna (2014) also noted that the results of financial independence ratio has a significant influence on the Human Development Index (HDI). However, on the other hand, research done by Tika and Sutaryo show different results, that the ratio of financial independence has a negative influence on the Human Development Index (HDI).

Because there is a contradiction between the previous study, the researchers wanted to re-examine the relationship. Therefore, the researcher formulates hypotheses as follows.

H2: The ratio of local financial independence has a positive effect on Human Development Index (HDI).

#### 3.1.3. The effect of compatibility expenditure ratio to HDI

The compatibility Expenditure Ratio is measured by comparing direct expenditure or indirect expenditure to total expenditure. In this research, the expenditure used in the formula is direct expenditure. According to Mahmudi (2010), Direct expenditure should be greater than indirect expenditures, because the direct expenditures affect output activity. Therefore, the researcher formulates hypotheses as follows.

H3: The ratio of compatible expenditure ratio has a positive effect on Human Development Index (HDI).

### 3.2. Operational definition

The dependent variable used in this study are the Human Development Index (HDI). Independent variables in this study consisted of 3 (three) financial ratios, the ratio of Degree of Decentralization (RDD), Financial Independence Ratio (RFI), and Ratio Compatibility of Expenditure (RCE). The multiple regression model as follows:

$$HDI = \alpha + \beta_1 RDD + \beta_2 RFI + \beta_3 RCE$$

## 4. Result and Discussion

### 4.1. Result test

#### 4.1.1. Normality test

Normality test aims to test whether independent variables and the dependent variable or both are normally distributed in the regression model.

Based on Table 2, using the Kolmogorov–Smirnov test, it is known that the result shows the significance value of 0.200. Asymp value. Sig (2-tailed) shows that the significance value of 0.200 is more than the 0.05 significance level (0.200 > 0.05). Therefore it can be concluded that the data used in this study has been normally distributed.

#### 4.1.2. Autocorrelation test

Autocorrelation test aims to test whether the linear regression model has correlation between residual in period *t* with a residual period *t*-1 (previous period). To determine

Table 2: One sample Kolmogorov–Smirnov test.

| | Unstandardized Residual |
|---|---|
| N | 104 |
| Normal Parametes Mean | 1.7765617 |
| Std. Deviation | 10.81648347 |
| Most Extreme Differences Absolute | 0.058 |
| Positive | 0.036 |
| Negative | −0.058 |
| Test Statistic | 0.058 |
| Asymp. Sig. (2-tailed) | 0.200 |
| Source: Processed data itself, 2016. | |

the existence of autocorrelation in the model, it can be seen concluded from the value of Durbin Watson test.

Table 3: Model summary.

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin Watson |
|---|---|---|---|---|---|
| 1 | 0.987 | 0.974 | 0.974 | 11.070817 | 1.858 |
| Source: Processed data itself, 2016. | | | | | |

Pursuant to Table 3 are the values obtained from Durbin Watson (DW) test is 1.858. The value for Durbin Watson with $\alpha$ = 5% for n = 104 and the independent variable (k) = 3 are dl = 1.6217 and du = 1.7420. Therefore (4 – 1.858) > 1.7420, then it could be concluded that the model does not have autocorrelation problem.

### 4.1.3. Multicollinearity test

Multicollinearity test aims to see whether there is a correlation between the independent variables in the regression model. This test is done by using the value of Tolerance and Variance Inflation Factor (VIF). A regression model was declared free of multicollinearity if it possessed Tolerance value above 0.1 and VIF under 10.

According to result, the tolerance value of the three variables above 0.1 and VIF of three variables are below 10. Therefore it can concluded that there are no symptoms of multicollinearity between the independent variables used in the regression model.

Table 4: Coefficient.

| Model | Collinearity Statistics | |
|---|---|---|
| | Tolerance | VIF |
| RDD | 0.106 | 9.450 |
| RFI | 0.539 | 1.855 |
| RCE | 0.122 | 8.214 |

Source: Processed data itself, 2016.

### 4.1.4. Heteroscedasticity test

Heteroscedasticity test aims to test whether the regression model occurred has inequality residual variance from one observation to another observation. To detect the occurrence of heteroscedasticity, the level of significance of all variables must be greater than 0.05. From Table 2, it can be seen that the value of Absolut Unstandardized Residual is 0.058, this value is above the level of significance of 0.05 (0.058 > 0.05), therefore it can be concluded that the regression model used in this study do not experience symptoms of heteroscedasticity.

## 4.2. Hypthoteses test

*F*-value analysis was conducted to determine whether the regression model used in this study is feasible for further analysis. The model is feasible if the significance value < 0.005. Based on the test result in Table 5, the level of significance value is 0.000, this means that the value of 0.000 < 0.005; therefore it can be concluded that the regression model in this study is feasible for further testing analysis.

Table 5: ANOVA.

| Model | Sum of Squares | df | Mean Square | F | Sig |
|---|---|---|---|---|---|
| Regression | 468657.504 | 3 | 156219.168 | 1274.603 | 0.000 |
| Residual | 12378.862 | 101 | 122.563 | | |
| Total | 481036.366 | 104 | | | |

Source: Processed data itself, 2016.

Analysis of the value of determination ($R^2$) is used to determine how large a percentage of independent variables simultaneously influence the dependent variable.

Based on the test results from Table 3, the value of R square is 0.974. This means that all three independent variables in this study were able to describe the dependent variable of 97.4%. While the balance of 12.6% is explained by other independent variables that are not examined in this study.

#### 4.2.1. Test of first hypotheses

The first hypothesis states that the degree of decentralization ratio affect the HDI. According to the result test, the significance value of 0.263 is higher than 0.05 (0.263 > 0.05). Therefore it can be concluded that the first hypotheses is rejected, which means the degree of decentralization ratio has no significant effect on HDI.

#### 4.2.2. Test of second hypotheses

The second hypotheses states that the ratio of independence has significant effect on HDI. According to the table, significance value obtained is 0.170. The Value 0.170 > 0.05 then it can be concluded that the second hypotheses is rejected.

#### 4.2.3. Test of third hypotheses

The third hypotheses states that the ratio of compatible expenditure has significant effect on HDI. According to the table, the significance value obtained is 0.000 is lower than significance value of 0.05 (0.000 < 0.05). Therefore, it can be concluded that the third hypotheses is accepted.

The result of all the hypotheses test is summarized in Table 6 as follows:

Table 6: Result.

| Variable | Sig. | Test | Result |
|---|---|---|---|
| RDD | 0.263 | 0.263 > 0.05 | Reject |
| RFI | 0.170 | 0.170 > 0.05 | Reject |
| RCE | 0.000 | 0.000 < 0.05 | Accept |

Source: Processed data itself, 2016.

## 5. Conclusion and Recommendation

Based on the results obtained from the processing and analysis of data using multiple linear regression, it can be concluded that the ratio of Degree of Decentralization has no significant effect on HDI in the districts/cities in West Java, Ratio of Financial Independence has no significant effect on HDI in the districts/cities in West Java, on the other hand Compatible Expenditure ratios has a significant effect on HDI in the districts/cities in West Java.

The result contribution of this research are that the West Java Regional Government are expected to manage the allocation of expenses or expenditures for programs or activities that can improve the quality of human development of the area.

Further study recommends that next research can increase the number of samples by expanding the area of research with longer research period, increase the number of independent variable therefore more accurate results will be obtained.

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