Does Inflation Affect on Tax Receipts of Article 21 Income Tax With Unemployment as an Intervening Variable?

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Abstract—**Macroeconomic variables such as inflation and unemployment influence on income tax receipts Article 21. The economic situation that developed countries will be more vulnerable to shocks to the global economic crisis. Dependence of developing countries on the world economy and contribute to the economic stability of the national level. Variable inflation allows the emergence of unemployment, then on that basis, the potential for contribution of income tax receipts article 21 will shrink by itself. This type of research used is explanatory research with a quantitative approach. Variables used are inflation as the independent variable, Income Tax receipts article 21 as the dependent variable, and Unemployment as an intervening variable. The research purpose is to test and analyse the effect of inflation on the realization of income tax revenue article 21 through unemployment as an intervening variable. The results showed that inflation variable a significant positive effect on unemployment variables. Inflation variable a significant negative effect on the variable income tax receipts article 21. Variable unemployment a significant negative effect on the variable income tax revenue section 21. Inflation variable significantly affects the income tax revenue section 21 with unemployment as a mediating variable. Statistically, 0.626 beta coefficient is negative, it indicates that the rise in inflation will reduce income tax receipts article 21 by unemployment as mediation. Calculation of total determination coefficient indicates models path analysis to the value of 0.887 and explain the variation of this research data is 88.7%, while 11.3% is explained by other variables.**

Keywords—inflation, unemployment, income tax article 21

I. INTRODUCTION

Indonesia is a developing country in which its economic condition still depends on the global economy. The economic crisis in Indonesia is caused by some global economic phenomena such as the fluctuation of global oil prices as well as the exchange rate of rupiah against foreign currency. The crisis which is caused by some global phenomena lead to the alteration of some macroeconomics variable instruments (i.e. inflation). Inflation can cause a big impact on macroeconomics as well as microeconomics so that the national economic stability is disrupted generally. In this case, the important role of government is to prepare all the possibilities which can be happened as the impact of national economic instability, through fiscal policy as well as monetary policy [1].

In Indonesia, inflation is frequently interpreted as mark up or weakening currency towards goods and service value generally. High inflation number which reached 11, 06% in 2008 was more caused by the mark up of world crude oil, so that the government marked up the fuel price to cover the balance of payments deficit which was caused by the expense of fuel subsidy was charged to the state budget *(APBN)*. Fuel mark-up was followed by higher transportation rate which increased goods prices carried by vehicle [2]. At the end, the continuity of generally mark-up caused by higher fuel price lead to *cost-push inflation*. According to Yustika, the effect of inflation phenomenon which reached 11,06% in 2008 decreased society purchasing power [3]. The effect is also perceived by the entrepreneur and the investor which leads them to go bankrupt. Those problems are also causing employment reduction and labour termination as the direct effect of inflation. Inflation which is continually in the long term and tends to be in a high rate will give a bad effect towards economic stability. This is the reason of labour termination by many companies so that it can increase the number of unemployment. To realize some purposes such as the economic growth, employment opportunity, price stability also the other wider purposes, monetary policy was made for only one goal, which is maintaining and actualizing low inflation rate [3].

TABLE I. INFLATION RATE AND THE NUMBER OF OPEN UNEMPLOYMENT IN INDONESIA

Year	Inflation (%)	Open unemployment (%)
1996	6,47	4,87
1997	11,05	4,69
1998	77,63	5,46
1999	2,01	6,38
2000	9,35	6,08
2001	12,55	8,10
2002	10,03	9,06
2003	5,06	9,67
2004	6,40	9,86
2005	17,11	11,24
2006	6,60	10,28
2007	6,59	9,11
2008	11,06	8,39
2009	2,78	7,87
2010	6,96	7,14
2011	3,79	7,48
2012	4,30	6,13
2013	8,38	6,17
2014	8,36	5,94
2015	3,35	6,18

Source: Badan Pusat Statistik

The theory about the correlation between inflation and unemployment explained clearly by A.W. Philips called Philips curve. As Philips curved shows that the correlation between inflation and unemployment is inverted (*trade-off)* or in another word is called negative correlation. Case in Indonesia shows that the explanation of Phillips curve cannot be used as a guideline to form the policy for suppressing inflation rate as well as the number of unemployment itself. The table above explains the fact that happens between inflation and unemployment is positively alongside in the long term. The research done by Friendman and Phelps in Mankiw, stated that the high inflation will cause the decrease in aggregate demand, so that it will decrease the amount of goods produced by the company, and also lead to labour termination [4].

Fiscal or tax sector becomes vital for Indonesian economy because tax is the main revenue for maintaining the development of Indonesia. The assessment towards the government targets to promote national development closely related to the factors affecting the tax revenue as the source of financing. It makes the government executes the dual function of the tax as *budgeter* and *regulated.*

TABLE II. THE SOURCE OF STATE REVENUE FROM THE INCOME TAX CLAUSE 21, THE INCOME TAX REVENUE, AND ALL TAX SECTOR REVENUE. (*IN BILLION*)

Year	Source of Revenue			
	Income Tax Clause 21	Income Tax Revenue	Tax Revenue	Total State Revenue
2011	66.751,56	431.122,00	873.874,00	1.210.599,70
2012	79.599,44	465.069,60	980.518,10	1.338.109,60
2013	90.162,28	506.442,80	1.077.306,70	1.438.891,10
2014	105.650,63	546.180,90	1.146.865,80	1.550.490,80
2015	114.480,16	602.308,13	1.240.418,86	1.508.020,37

Source: Kementrian Keuangan Indonesia dan BPS, processed

Table 2 shows that the tax instrument gives a huge contribution to the state revenue. Without the tax, the government will face the difficulty in realizing the development targets effectively every year during the service. The source of state revenue from the income tax contributes almost 50% every year. That number describes income tax charged to an individual or a legal entity by regarding the income as regulate in the Constitution Number 17 of 2000 about the income taxes is potentially become a state revenue instrument in which should be managed as much as possible.

The contribution of tax income clause 21 increases in year by year. In 2011 the contribution of tax income article 21 towards tax income reached 15,48%. The next three years the tax income clause 21 kept giving the positive trend which was reaching 17,11% in 2012, 17,80% in 2013, and 19,34% in 2014. The negative trend was indicated in 2015 in which it contributed only 19% as well as the increase in unemployment in Indonesia. The percentage of the decrease only around 0,3%, but it should be the government concern to tackle the macroeconomic issue so that the percentage of decrease does not caused by the other macroeconomic variable.

Based on the condition above, the researcher interested to discuss about that issue as the material of problem solving caused by macroeconomics problem in this research in which it is aimed to: 1) examine and analyse the effect of inflation towards unemployment; 2) examine and analyse the effect of unemployment towards the income tax revenue article 21 realization; 3) examine and analyse the effect of inflation towards the income tax article 21 realization through unemployment as the *intervening* variable.

The paper is organized as follows, Section I contains the introduction, Section II contains the related work, Section III contains the methodology, Section IV describes results and discussion, Section V contains the concludes research work with future directions.

II. RELATED WORK

A. Previous Research

Research done by Ferdiawan "*Pengaruh Tingkat Inflasi, Tingkat Suku Bunga SBI, dan Nilai Tukar Kurs terhadap Penerimaan Pajak Penghasilan*" [5], is aimed for knowing the effect of macroeconomic variable based on inflation rate, interest rate, rupiah exchange rate towards income tax. The result shows that inflation rate, interest rate, and rupiah rate exchange effects the income tax on a stimulant as well as partial basis.

Research done by Ningsih entitled "*Pengaruh Inflasi dan Pertumbuhan Ekonomi Terhadap Pengangguran di Indonesia Periode Tahun 1988-2008*" [6], is aimed for analysing inflation factor and economic development which effect the unemployment issue in Indonesia. The result shows that only the economic development variable which significantly effects to the unemployment, while inflation does not.

Research done by Mulyati entitled "*Ánalisis Hubungan Inflasi dan Pengangguran di Indonesia Periode 1985-2008: Pendekatan Kurva Philips*" [7], is aimed for analysing the effect of inflation towards unemployment in Indonesia through Philips Curve approach since 1985 until 2008. The result shows inflation rate did not affect significantly towards unemployment issue.

Research done by Nasution entitled "*Analisis Determinan Penerimaan Pajak Penghasilan (PPh) Orang Pribadi di Provinsi Sumatera Utara*" [8], is aimed for explaining the effect of the taxpayer number, inflation, and income per capita towards individual income tax, individual taxpayer, inflation rate and income per capita. The result is independent variables significantly effect towards dependent variable.

B. References

1) Inflation theory: Phillips curve: Short range relationship between inflation and unemployment is called as Phillips Curve. It gives choiche about the economic policy to the maker. The policy maker may want a low amount of the unemployment as well as a low inflation rate, but according to the historical data, as summarized by Philips Curve, indicates that those combinations are impossible. The policy maker deals with the trade-off between inflation and unemployment, and the Phillips curve illustrates them [9].

Phillips curve exclusively shows the combination between inflation and unemployment in a short range when the aggregate curve movement actuates the economy along the aggregate curve. The higher aggregate demand for goods and service is, the higher the economic output as well as the whole price rate. The Okun proposition shows that the bigger output means the higher number of unemployment. Besides, the higher price rate in current year, the higher inflation rate. The increase in aggregate demand actuates the economy along the Phillips curve, represents the lower number of unemployment and the higher rate of inflation [9].

Friedmand and Phelps opinion is based on the classic principal of microeconomics. The classic theory assumed that the amount of circulating cash is the important factor of the inflation. Phillips curve in a vertical long term concluded that in a long term, the number of unemployment does not affect by the growth of circulating cash amount and inflation rate. Those matters are possibly caused by the general mark up, the inflation rate in terms of the price is relatively up towards the price in the year before, while the company needs fewer labour to product smaller output. It causes the aggregate demand to bring the smaller number of unemployment but with the higher rate of inflation.

2) Unemployment: Unemployement is defined as the situation without any occupation faced by some employee, who attempted to get an occupation, but they do not get it. The individual who faced that kind of situation is called unemployed [10]. The main factor that causing the unemployment is the lack of aggregat expenditure.

Enterpreneur produces goods and service in order to gain a profit. That profit will be gained only if the interpreneur can sell goods they produced. The higher the demand is, the bigger they produce goods and service. The increase in production level will also increase the labor needs. So that, there is a close relationship between national income which reaches (GDP) and employee needs; the higher national income (GDP) is, the higher employee needs in the economic matters.

3) Income tax clausa 21: According to the Constitution number 36 of 2008 which is the fourth amendment of Constitution number 7 of 1983 about Income Tax, defined that income is the whole additional of economic ability gained by the taxpayer, both from Indonesia, as well as outside Indonesia, in which it can be used as consumption or for gaining the wealth of the taxpayer with any kind of name and form. According to Suandy, defined that income as the asset increase or decrease in obligation which causes the increase in equity which is not sourced from the contribution of capital investment [11]. From the explanation above, it is concluded that income is the additional of economic ability which can be used as consumption or for doing economic activity in which it is gained from domestic as well as foreign sourced.

III. METHODOLOGY

A. Type of Research

Type of research used in this paper is explanative research with quantitative approach. The explanative research is aimed to relate different schemes, but they relate to each other and result cause and effect scheme [12]. This research used explanative type for examining the effect of inflation towards income tax article 21 along with unemployment as the intervening variable.

B. Data Analysis Method

Software application used in this research is Statistical Package for Social Sciences (SPSS) version 21.0. Methods used for analysing the data and examining the hypothesis in this research such as: a) Path Analysis a hypothesis test in this research used path analysis technique. Path analysis is the direct development of multiple regression aimed for giving the estimation of magnitude and the significance of the mortgage cause and effect relationship in some variables [13]. T-test, a partial significance examination or named as T-test shows how far the effect of one independent variable to explain the variation of independent variable partially [14].

IV. RESULT AND DISCUSSION

A. Path Analysis

This test is aimed to examine whether there is an effect from independent variable towards dependent variable or not. The explanation above is the calculation of the researcher's

observation in testing the research hypothesis with path analysis method.

1) Hypothesis testing of inflation effect towards unemployment: The result of hypothesis-testing shows that inflation variable gives a significant effect towards unemployment with path coefficient as 0,718 and regression coefficient as 0,302. Statistically, both path and regression coefficient has positive value, which indicates the same movement between inflation and unemployment. The effect of it can be interpreted that the increase in inflation as one unit will lead to the increase of unemployment as 0,302 with the assumption that the other variable is constant. The result of this research is not in line with Ningsih's research result which showed that only the economic development variable that significantly affects the unemployment, whether inflation does not [6]. Also, the research done by Mulyati which stated that the inflation rate does not affect significantly towards the number of unemployment [7].

Inflation issue as the tendency of general goods mark up. The effect of that situation as another effect of inflation is the decrease in real income of investors from their investments [15]. Inflation also takes an effect to the consumer and producer as the direct effect on the economic activity. The effect for the consumer is perceived as a change in consumption pattern towards goods so the production quantity is reduced so that the company will lay off some labour to adjust the production demand [16]. The effect towards producer is more caused by raw goods mark up until processing the capital speculatively for more promising investment so that work termination cannot be suppressed.

2) Hypothesis testing of inflation effect towards income tax article 21: The result of hypothesis testing shows that inflation variable significantly effects towards income tax article 21 with the beta coefficient as 0,667 and regression coefficient in a negative value, which indicates the opposite direction movement between inflation and income tax article 21. The effect of opposite direction movement means that an increase in inflation as one unit will cause a decrease in income tax article 21 as 0,667 with the other assumption, variable is constant. In line with the result of this research, the research done by Ferdiawan stated that there is a significant effect of inflation, Bank Indonesia certificate interest rate and exchange rate values towards income tax both on a stimulant and partial basis [5].

Inflation that happens closely related to the real income of society. Mark up that happens because of inflation makes the price of goods increase, high cost of living also affects the family prosperity and surely becomes a threat to the national economy [17]. The decrease in society consumption level towards goods because of inflation will affect to the running market balance. Low consumption will cause realization of other tax revenue sector, besides the income tax article 21, is not achieved. The previous research result done by Nasution stated the same case as the inflation gives a negative and

significant effect on income tax article 21 [8]. Each person will generally decrease his spending as if his income also decreases, whereas when the revenue decrease, the government do not have to decrease its expenditure because it will lead to the decrease in the social income as the taxpayer of income tax article 21. Finally, that matter will decrease the state revenue because of the small amount of income tax article 21, especially from the society [8].

3) Hypothesis testing of unemployement effect towards income tax article 21: The result of hypothesis-testing shows that unemployment variable significantly effects to the income tax article 21 with beta coefficient as 0,873 and regression coefficient as 11.202,248. Statistically, beta coefficient and regression coefficient have a negative value, which indicates the opposite direction movement between unemployment and income tax article 21. The effect of opposite direction movement means the increase in unemployment as one unit will affect the decrease in income tax article 21 as 0,873 with the other assumption variable is constant.

One of living standard determinant factor in a country is the amount of unemployment. If the tax permeation cannot be realized maximally, so the standard of living in the country inside the government as well as in the society cannot be fulfilled [4]. The contribution of income tax article 21 towards tax revenue in the country is great enough in which it must be a high priority to be collected. The unemployment issue, for real, will cause the income tax article 21 permeation is not maximally achieved. This tax realization very depends on both domestic and international economic situation, in this case, is unemployment [18]. The effect of unemployment is the linkage which becomes a problem because of the disappearance of individual contribution to develop a country through his income and it tends to be a state expense.

4) Hypothesis testing of the inflation effect towards income tax clausa 21 with unemployment as the intervening variable: For knowing the mediation effect statistically, it needs the calculation from beta coefficient in Standardized Coefficient on the hypothesis testing table for each variable. It is used for knowing direct and indirect effect scale, as well as the total effect from each variable in path analysis test.
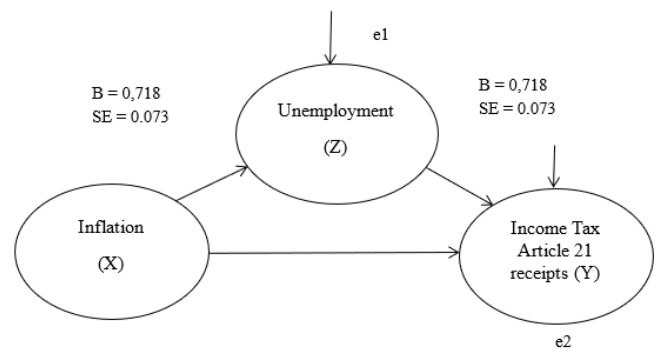

Fig. 1. Diagram of path analysis result from inflation, unemployement, and income tax article 21 variables.

The picture above (fig. 1) explains how the direct effect between each variable in path analysis. Beta coefficient value in each variable correlation pattern in path analysis shows the significance of each effect. Beta coefficient shows the significant effect because it surpasses the alpha value 0,050. That path diagram shows path analysis with the equality as follow:

- Substructure I: Z = 0,718 X

- Substructure II: Y = -0, 667 X– 0,873 Z

From those equality, concluded that substructure I has a positive effect and substructure II has a negative effect.

Next, is about the Sobel test calculation as indirect effect testing to know the significance with the product of coefficient approach. Testing result shows that inflation variable gives significant effect towards income tax article21 through unemployment as the mediator. The calculation of direct and indirect effect shows statistical T coefficient as 3,557 surpasses T table as 1,960. So, it can be concluded that mediation coefficient as 0,626 is significant or having mediation effect. Statistically, beta coefficient value is negative, that indicates the opposite direction movement between inflation towards income tax article 21 through unemployment as a mediator. The effect of opposite direction movement means that the increase in inflation as one unit will lead to the decrease in income tax article 21 as 0,626 with unemployment as the mediator.

Crisis caused by the economic issues such as inflation and unemployment will only increase the other economic problem, in this case, is income tax article 21 realization [19]. After all, the relationship between inflation, also unemployment towards income tax article 21 realization influences on each other. Inflation causes a decrease in production level which leads to the unemployment issue so that the income tax article 21 revenue will be hampered to be realized [4].

The relationship between inflation towards unemployment usually called as Phillips curve. The trade-off relationship, which is not relevant for this research, strengthened Friedman's and Phelps' opinion that the relationship between inflation trade-off towards unemployment only in a short-term range. Unemployment tends to return to its natural level in the long term regardless of how high or low inflation rate [9].

Unemployment effect because of inflation will create an unstable situation to the state revenue. The increase in unemployment in the long term will affect the individual contribution towards income tax article 21 paid. The obligation for paying income tax article 21 surely decreases if the unemployment increases in a macro range, the unemployment effect will cause instability for social economy, politics, as well as state security so that it will disrupt the development process, until the decrease in government revenue from income tax article 21 sector [20].

B. Goodness Fit Model

1) Determination coefficient (R square): Determination coefficient (R square) from Contribution of Inflation Effect Towards Unemployment as 0,515 means that the effect to unemployment caused by inflation is 51,5%, while the effect caused by the other factor is 48,5%. Determination coefficient (R Square) from Contribution of Inflation and Unemployment Effect Towards Income Tax Clausa 21 as 0,766 means that the effect on the income tax article21 revenue caused by inflation and unemployment is 76,6%, while the effect caused by the other factors is 23,4%.

2) Total determination coefficient: Total determination coefficient calculation (Rm^2) through goodness of fit model shows path model formed to represent the existing data. Based on that calculation, total determination value had is 0,887. It means that this type of analysis can be used to explain data variation in this research as 88,7%, while 11,3% is explained by the other variable.

V. CONCLUSION AND SUGGESTION

- There is a significant effect between inflation towards unemployment. It means that the increase in inflation will increase the number of unemployment.

- There is a significant effect between inflation towards income tax article 21. It means that the increase in inflation will decrease the amount of income tax article 21 revenue.

- There is a significant effect between unemployment towards income tax article 21. It means that the increase in unemployment will decrease income tax article 21 revenue.

- There is a mediation effect based on indirect effect calculation for each variable researched. It means that the increase in inflation will decrease income tax article 21 through unemployment as mediator.

Based on the conclusion above, some suggestions arranged by the researcher and expected to be useful for concerned parties. Those are as follows:

- The government should optimize as well as facilitate UMKM sector to develop its business so the inflation caused by global crisis can be suppressed as minimal as possible, also it can give the opportunity to create a new job demand.

- The equally development in each region will allow the investor to create and develop its business as one solution to demand labour needs as well as shorten the distribution lane to stabilize the price level in a certain region.

- The equally development will increase investment in a certain region so that the labour needs can also increase

the permeation of income tax article 21 from each economic value had.

- The government should optimize the potency of income tax article 21 permeation by focusing on implementation and improvement of administration.

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