



Research Paper

## Development of a Leisure Time Model for Lecturers in Makassar

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**ABSTRACT:** This study aims to test and analyze the effect of age, education level and additional working hours directly or indirectly affect the leisure time of lecturers through take home pay in Makassar. The data collection technique uses cross section data sourced from questionnaires. The data analysis method used is the structure equation model. The results found that age has a negative and significant effect on take home pay through lecturer leisure time in Makassar. Meanwhile, education and additional working hours have a positive and insignificant effect on take home pay through lecturer leisure time in Makassar.

**KEYWORDS:** Age, Education, Additional Working Hours, Take Home Pay and Leisure Time I.

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### I. INTRODUCTION

Work and leisure are part of group behavior in the sense that the willingness of each person to exert effort or enjoy leisure time depends on the choice of each individual. The decision to work is the allocation of work and leisure time. Becker (1976) divides time in 24 hours into three parts, namely time for consumption (consumption time), time for human capital development (time for investment in human capital) and time for work (time for work).

A person with a higher income tends to increase consumption and enjoy more leisure time, which means less working hours (income effect). On the other hand, an increase in wages also means that time becomes more expensive. The higher value of time encourages individuals to substitute their leisure time for more work (substitution effect). An increase in the wage rate will result in an increase in working hours, if the substitution effect is more than the income effect. Conversely, an increase in the wage rate will result in a reduction in working hours, if the substitution effect is less than the income effect.

Lecturer is a type of job that requires a very high level of education and skill ability. This is because the roles, duties, and responsibilities of lecturers are very important in realizing the goals of national education, namely educating the nation's life, contributing to the character building of students to deal with the reality of life which is full of competition, improving the quality of Indonesian human beings. The main task of lecturers is to carry out the tridharma of higher education with a workload of at least commensurate with 12 (twelve) credits and a maximum of 16 (sixteen) credits in each semester in accordance with academic qualifications. Meanwhile, professors or professors are lecturers with the highest academic position in higher education units and have the special task of writing books and scientific works and disseminating their ideas to enlighten the public. The number of semester credit units (SKS) assigned to lecturers as their main (mandatory) duties in the current semester proxied into basic working hours per week. Conversion of lecturers as main (mandatory) duties in the current semester proxied into basic working hours per week. Conversion of 1 SKS is equivalent to 3 x 50 minutes of normal working hours, namely the first 50 minutes of preparing teaching materials, the next 50 minutes face-to-face in class and the last 50 minutes checking / evaluating student learning outcomes, so that 1 SKS is equivalent to 150 minutes or 2.5 working hours. With the time used for teaching only 3-6 credits which is equivalent to 300 minutes or 5 hours in 1 day or only 2 times a week but if a lecturer is assigned 12 credits, then the main workload in full work count (60 minutes) is  $(12 \text{ credits} \times 3 \times 50) / 60 \text{ minutes}$ , equal to 30 working hours per week or 6 working hours per day (five working days) only for teaching while for conducting research and community service is done from the time after teaching activities. Based on Law No.14 of 2005 concerning teachers and lecturers explains that the main task of lecturers in carrying out the tridharma of higher education

with a workload of at least 12 credits and a maximum of 16 credits. So based on the above phenomenon shows that the workload for teaching is 12 credits plus research and service and other support 6 credits with a total workload of lecturers every semester 18 credits if converted with  $(18 \text{ credits} \times 3 \times 50) / 60$  minutes equals 45 hours per week or 9 working hours per day (five working days). So lecturers have less free time than civil servants or other private employees who use their time at least 8 hours per day.

The addition of additional working hours of lecturers in terms of demand for labor, then additional working hours can be influenced by the level of education (knowledge), tenure or work experience (skills) and professionalism and have a rank / functional classification of lecturer and above. The assumption of the availability of lecturer employment outside the main job (additional work) is partly due to the development of the world of higher education in South Sulawesi both managed by private and state, not including other jobs, such as research and community service. Thus, education and length of service have a positive effect on additional working hours. On the other hand, additional working hours have a negative effect on leisure time but do not affect the main workload of lecturers.

Conceptually, the labor supply theory divides time into only two parts, namely time for work and time not for work (leisure time). Therefore, this topic is chosen as an important theme for in-depth study. A study is needed to analyze the factors that influence the leisure time of university lecturers.

Based on the background and problem formulation above, the objectives of this study are to: (1) To determine whether Age affects Lecturer Leisure Time, either directly or through take home pay in Makassar; (2) To determine whether Education affects Lecturer Leisure Time, either directly or through take home pay in Makassar; and (3) To determine whether additional working hours affect lecturers' leisure time, either directly or through take home pay in Makassar.

## **II. RESEARCH METHODS**

### **Data Types and Sources**

The types of data in this study are based on the time dimension, namely cross-section data based on all research objectives. Meanwhile, based on data sources, it consists of secondary and primary data. Secondary data is obtained from publications or archives of the UNM Personnel Section and publications relevant to this research. While primary data is obtained directly from lecturer respondents through data collection techniques, namely interviews, observation, and recording. The unit of analysis in this study is educational personnel (lecturers) who have an advanced Masters education and above, and have work experience with the rank of expert assistant and above.

### **Data Collection Technique**

The total population was 850 people, so a sample of 100 UNM lecturers was drawn. Sampling at each university based on the level of further education and based on state universities, the proportion is not very exact, so the proportion varies slightly from one to another. However, based on the characteristics of the population, sampling was carried out using the cluster and stratified random sampling method, namely based on the type of education level strata.

### **Population and Sample**

Data collection was carried out using the survey method, namely by selecting samples proportionally among the existing population based on the characteristics of age, education, additional working hours of lecturers. The survey data is cross-section data, which is a set of data obtained from research at one point in time.

### **Conceptualization and Measurement of Variables**

In order to obtain similarity in interpreting the data, the following conceptualization and measurement of variables are formulated:

1. take home pay ( $y_1$ ) is income attached to the basic salary paid regularly every month and additional income outside the basic duties as a civil servant and is expressed in rupiah.
2. Leisure time ( $y_2$ ) is defined as leisure time utilized by lecturers outside of carrying out the tridarma of higher education / teaching obligations at PTN and PTS between 12-16 credits as civil servant lecturers at public and private universities, expressed in hours.
3. Age ( $x_1$ ) is the variable age of lecturers in units of years.
4. Education dummy ( $x_3$ ) is an education variable where those with S2 education and below = 0, S3 = 1.
5. Additional working hours ( $x_4$ ) are working hours used to work outside the main basic workload (outside the main duties of civil servants), whether it is in the university environment itself or others calculated based on the number of working hours per week.

### **Data Analysis Method**

To test and analyze the impact of age, education, and additional working hours on lecturers' leisure time through the take home pay of universities in Makassar city, a functional equation can be formed in a simultaneous model (Structural Equation Model, SEM) with the following reduced form:

$$y_1 = f(x_1, x_2, x_3) \quad (3.1)$$

$$y_2 = f(y_1; x_1, x_2, x_3) \quad (3.2)$$

To facilitate the presentation in the reduced form later, equations (3.1) to (3.2) can also be expressed in the form of simultaneous linear regression estimation equations as follows:

$$y_1 = \alpha_0 + \alpha_1 x_1 + \alpha_2 x_2 + \alpha_3 x_3 + \mu_1 \quad (3.1.a)$$

$$y_2 = \beta_0 + \beta_1 y_1 + \beta_2 x_1 + \beta_3 x_2 + \beta_4 x_3 + \mu_2 \quad (3.2.a)$$

So that the reduced form is obtained as follows: Where  $\alpha_0$ ,  $\beta_0$ , and  $\gamma_0$ , are constants, while  $\alpha_1, \dots, \alpha_n$ ,  $\beta_1, \dots, \beta_n$ , and  $\gamma_0, \dots, \gamma_n$ , are respectively the parameters to be estimated.  $\mu_1$ , and  $\mu_2$  are random error terms. Equations (3.1.a) to (3.2.a) are simultaneous equations where the reduced form is presented as follows

1. Model of the effect of age, education dummy, and additional working hours on take home pay:

$$y_1 = (\alpha_0 + \alpha_1 x_1 + \alpha_2 x_2 + \alpha_3 x_3 + \mu_1) \quad (1)$$

then the reduced form becomes

$$y_1 = \alpha_0 + \alpha_1 x_1 + \alpha_2 x_2 + \alpha_3 x_3 + \mu_1 \quad (4.1)$$

Where  $\alpha_1$ ,  $\alpha_2$ ,  $\alpha_3$ , and  $\alpha_4$ , are the coefficients respectively showing the direct effect of variables  $x_1$ ,  $x_2$ , and  $x_3$ , on variable  $y_1$ .

2. Model the effect of take home pay, age, education dummy, and additional working hours on leisure time:

$$y_2 = (\alpha_0 + \alpha_1 x_1 + \alpha_2 x_2 + \alpha_3 x_3 + \mu_1) (-\beta_1) + (\beta_0 + \beta_2 x_1 + \beta_3 x_2 + \beta_4 x_3 + \mu_2) \quad (2)$$

then the reduced form becomes

$$y_2 = \zeta_0 + \zeta_1 x_1 + \zeta_2 x_2 + \zeta_3 x_3 + \zeta_4 x_4 + \mu_{12} \quad (4.2)$$

Where:

$\zeta_0 = \beta_0 + \alpha_0 \beta_1$  is a constant

$\zeta_1 = \beta_2 + \alpha_1 \beta_1$  is the total effect of  $x_1$  on  $y_2$

$\zeta_2 = \beta_3 + \alpha_2 \beta_1$  is the total effect of  $x_2$  on  $y_2$

$\zeta_3 = \beta_4 + \alpha_3 \beta_1$  is the total effect of  $x_3$  on  $y_2$

$\mu_{12} = \mu_2 + \mu_1 \beta_1$  is composite random error

Description:

Y1: take home pay, measured in percent

Y2: leisure time, measured in days/hours

$x_1$ : age, measured in years

$x_2$ : education dummy, measured in years

$x_3$ : additional working hours, measured in hours

From the description of the three reduced form equations above, the direct and indirect effect coefficients of both exogenous and endogenous variables on the leisure time variable ( $y_2$ ) can be identified. Therefore, to prove the research hypothesis, the estimation of the magnitude of direct and indirect effects will be carried out by simultaneous linear regression analysis (path analysis) using the AMOS program.

### III. RESULTS AND DISCUSSION

#### Research Hypothesis Testing Results

Based on the analysis using Structural Equation Modeling shown in table 1, the results of hypothesis testing can be described as follows:

##### 1. The Effect of Age on Lecturers' Leisure Time

The direct effect of age on lecturer leisure time shows a significant effect at the 5 percent level (t value of 0.041 and coefficient value of -0.008). This explains that there is an influence on lecturers' leisure time in terms of age which means that medium aged (35 - 60) years have a higher level of leisure time than young aged (< 35). All lecturers need leisure time regardless of age where lecturers' leisure time can be utilized with a variety of activities where a lecturer will follow his own wishes either to rest, entertain himself, increase knowledge or develop his skills objectively or to increase participation in society after he releases himself from his work, family and social activities. This means that the older a lecturer is, the more time he needs for leisure. The average age of respondents is 45 years. This is because the older a person is, the greater his or her labor supply. As long as it is still in the productive age (35-60), because the higher the age of a person the greater the

responsibility that must be borne. But the unproductive age of the lecturer will reduce working hours and increase leisure time.

This is in accordance with the findings of Addison (1989) using Current Population Survey (CPS) data, 1984 found a tendency that at a young age (15-35) there was an increase in wages / income in line with the increase in age so that free time would be reduced because it was used for work, but after reaching the age (36-65) years wages / income relatively decreased in line with the increase in the age of workers so that due to the decrease in working hours automatically free time would increase. The same research was also conducted by (Hellerstain; 1999) using U.S. Census of Population data on workers, 1990 found that there were differences in wages and salaries between workers aged respectively (35-54) years and those aged 55 years and over against younger workers (15-34) years. It appears that the higher the age the higher the worker's income, but at the older age of 55 years and above the income starts to decline slightly lower than workers aged (35-54) years but still higher than workers aged (15-34) years. The age variable in this study is a proxy for the work experience variable.

The indirect effect of age on lecturers' leisure time through take home pay shows an insignificant effect at the 10 percent level (t value of 0.628 and coefficient value of 0.002) between age and take home pay. The older a lecturer is, the time to offer working hours will decrease so that take home pay will decrease. This is due to declining physical condition and a declining minimum wage level that makes a lecturer unwilling to offer his working hours. This means that a lecturer aged between (35 - 60) years is a productive age for a lecturer, so working hours will increase, this has an impact on increasing the level of wages (take home pay) so that there is less time for leisure.

## **2. Differences in Education on Lecturers' Free Time**

There is no direct difference in education on lecturers' leisure time shows an insignificant effect at the 10 percent level (t value of 0.357). This explains that there is no difference in the level of education of lecturers on lecturers' leisure time. This means that there is no difference in educational opportunities between male lecturers and female lecturers on lecturers' leisure time. Because female lecturers as housewives must take care of their families and work as a person to fulfill the tridarma of higher education so that they have less free time than male lecturers.

These findings are in line with the results of Wheeler's research (2001) which shows that the level of education and work experience has a positive and significant effect on the wage level of workers residing in urban areas in the United States. Also found, that initially work experience has a positive effect on wage levels, but under certain conditions work experience has a negative effect (Experience Squared, negative) on hourly wage levels.

The indirect effect of education on lecturers' leisure time through take home pay shows a positive and significant effect at the 1 percent level. The effect comes from the significant relationship (t value of 3.818 and coefficient value of 0.275) between education and take home pay. This means that there are differences in lecturers' leisure time in terms of education through take home pay. This means that lecturers with doctoral education are able to increase take home pay by 3,818 rupiah compared to lecturers with the last education S2 (sign 0).

This indicates that lecturers have a high level of education so that work productivity is also high. This is in accordance with the theory of Human capital is part of education (proxied by knowledge (knowladge) and skills (skill)) that a person has that will encourage a person's work productivity and in turn will receive a reward in the form of wages which is assumed to be equal to the value of marginal productivity (Value marginal physical product of labor, VMPP) of a person.

## **3. Effect of Additional Working Hours on Lecturers' Free Time**

The direct effect of additional working hours on lecturers' leisure time shows a negative and insignificant effect at the 10 percent level (t value of 0.424 and coefficient value of 0.002). This means that the more additional working hours that increase by 1 percent causes lecturers' leisure time to decrease. This means that if additional working hours increase, the higher the wage per hour worked, so that income is higher. High income will encourage increased leisure time and of course will reduce working hours, assuming the income effect is higher than the substitution effect.

With additional working hours for a person, leisure time is allocated to additional working hours. This shows that 24 hours can be divided into two, namely time for work and time for other activities. So that the difference in time used for work, namely for other activities, is allocated to additional working hours. This shows a negative relationship between additional working hours and leisure time (Becker, 1976, Ehrenberg and Smith, 2000).

In addition, the indirect effect of additional working hours on lecturers' leisure time through take home pay shows a positive and insignificant effect at the 10 percent level between additional working hours and take

home pay (t value of 0.074). This means that an increase in working hours will increase lecturers' take home pay and increase lecturers' leisure time.

**Table. 1 Parameter Estimation Results of Direct Influence Between Variables Based on SEM Model**

No.	Functional Relationship		Parameter Estimation		t-statistic	Probability
	Independent Variable	Dependent Variable	Symbol	Coefficient Regression		
1	Age (X <sub>1</sub> )	1. Take Home Pay. (Y <sub>1</sub> )	+α <sub>2</sub>	0,002	0.628	0,530 <sup>ns</sup>
		2. leisure time (Y <sub>2</sub> )	+β <sub>3</sub>	-0,008	-2.046	0,041 <sup>**</sup>
2.	Education (X <sub>2</sub> )	1. Take Home Pay. (Y <sub>1</sub> )	α <sub>4</sub>	0,275	3.818	0,000 <sup>***</sup>
		2. leisure time (Y <sub>2</sub> )	β <sub>5</sub>	0,029	0.357	0,721 <sup>ns</sup>
3.	Additional Working Hours X <sub>3</sub> )	1. Take Home Pay. (Y <sub>1</sub> )	+α <sub>6</sub>	0.000	0.074	0,941 <sup>ns</sup>
		2. leisure time (Y <sub>2</sub> )	+β <sub>7</sub>	0,002	0,424	0,672 <sup>ns</sup>

Notes:

- \* ) Significance at 10% significance level
- \*\* ) Significance at 5% significance level
- \*\*\* ) Significance at 1% significance level
- ns ) Not Significant

#### IV. CONCLUSION

After tabulating and processing the data and planning the next stage, it can be concluded:

1. The increase in leisure time is influenced by age directly and if through take home pay, then the indirect effect of age has decreased.
2. There is no difference in education on lecturers' leisure time directly while if through take home pay, it shows that there is a difference in education.
3. The decrease in leisure time is directly influenced by additional working hours but if through take home pay, there will be an increase.

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