

ANALYSIS OF HUMAN RESOURCES INVESTMENT IN ECONOMICS EDUCATION STUDY PROGRAM

Sri Sumardiningsih¹, Sukidjo², Ali Muhson³, Aula Ahmad Hafidh⁴

¹*Faculty of Economics, Yogyakarta State University, Indonesia, email: sumardiningsih@yahoo.co.id*

²*Faculty of Economics, Yogyakarta State University, Indonesia, email: sukidjo@uny.ac.id*

³*Faculty of Economics, Yogyakarta State University, Indonesia, email: alimuhson@uny.ac.id*

⁴*Faculty of Economics, Yogyakarta State University, Indonesia, email: aula_hsf@uny.ac.id*

Abstract

This research aims to understand how school to work transition of graduates of economics education study program (FE) UNY, types of their first work, how much their first income, and the feasibility of their human resources investment. This research is descriptive with a quantitative approach. The population of this research included graduates of economics education study program in the academic year of 2000 - 2009. The sample was done by using a snowball technique. There were 146 respondents as the sample of this research. Questionnaires and documentation were used to collect the data. For analyzing the data, this research used descriptive analysis. The results show that: (1) the average of school to work transition of the graduates is 2.9 months; (2) the types of their first work are as follows: 50,00 % graduates work as educators, 36,30 % work as civil servants and professional workers; (3) their average first income is IDR 2,503,334 per month; (4) the measurement using some investment methods in human resources is quite feasible, ranging from: (1) the payback period investment education is seven years and seven months, does not exceed the age of economical from investment; (2) based on a net present value, it is obtained a positive value of IDR 5,259,082; (3) the results of the internal rate of return of 13,09% more than its cost of capital of 12%, and the net benefit cost ratio is greater than 1. Human resources investment in Economic Education Study Program is therefore feasible.

Keywords: human resources investment, school to work transition, first work, first income, payback period, net present value, internal rate of return, benefit cost ratio

INTRODUCTION

Education is the most important part of human development which is also known as human investment in the operational concept. Through human investment, a person or institution can improve market value from educated workers. An individual or an educational funding institution invests for workers in order that the workers will be more productive and relative to the cost of education. People who are trained will be productive economic players in real life and achieve potential to spur productivity industry. Hence, more educated people become more productive workers and show more productive national economic performance.

In economics, the term 'education' is defined as productive investment. It is a decision of individuals, organizations, or the government to invest in education with the view on greater benefits in the future. Education as human resources investment should be applied as principles and criteria in business. Investment analysis criteria such as net worth, the rate of internal return, and the period

of investment returns, usually applied in business investments, but it can also be applied to human resources investment in the educational sector. The cost of education was issued for follow education and the income after graduated from analyzed using investment certain criteria. From the analysis, it can be seen whether the human resources investment in education is feasible or not.

The big investment in educational sector should be evaluated with an accurate analysis, whether these investments is feasible or not. By judging input which takes place or input issued and assess output resulting in education, will be compared are output produced commensurate with expenditure happened. To find this, we need to investigate the analysis and difficulties in its implementation especially in a developing country like Indonesia. Data and information related to available variables such as school to work transition, first salary, and length of study are very limited. As education is a human investment, it needs to be given investment with equal treatment as investment in business. When investment will return to how the investment rate of return has been done. It was needed to be the answer quantitatively. Expectations of society, universities should have walked based on market-oriented or enlisting had to be ready for society-oriented step on stage, considering the climate warms up in the future. On the second stage that college must focus on managerial organization customer satisfaction, consisting users, the intellectual, and the customer students (candidates). Therefore flexibility and privacy of the operating system, culture and structure college should be evaluated and restored.

Human resources investment analysis in higher education can be done by using several models, good static and dynamic, as payback period, the internal rate of return and net present value. In several models of investment analysis, human resources investment in higher education seems feasible. The shorter the methods payback period, the more feasible an investment can be implanted. By using the method net present value, the bigger the difference between total present value of proceed with a total present value of initial investment the feasible investment in education. Investment in education will be more feasible if the internal rate of return has bigger difference with cost of capital land and when analysis has been done.

Theoretically, education investment analysis is known as the concept of the cost and benefit (cost/benefit analysis) in which these two variable basics are reckoned. Estimating the cost of human resources investment in higher education is important because the concept of the costs includes not only the direct cost such as books, learning tools or money spent at college, but also the costs of forgone income for seeking education. For students at the university, forgone income is the biggest component of the entire cost of education. On the other hand, education benefit may not be perceived as directly, but will surely be felt later, because human investment is the effort to make their livelihood decent in the future.

In fact, Yogyakarta State University (YSU) has seven faculties, but only some of them implement a tracer study. Moreover, a faculty which has carried out a tracer study, it does not involve all its courses. Ironically, even none department has conducted an investment analysis of education in YSU. Education investment analysis is very important to conduct in order to measure how big the advantages of investment in education, for individuals, institutions, as well as the government. If these investments are feasible and profitable, the government needs to expand and improve quality and relevance. Then, if investment resources of education in the department is not feasible, it should

be evaluated and restored. This research aims to develop a model of human resources investment analysis in higher education, especially in YSU, with following target output: 1. Developing an investment analysis model of resources to understand the extent of investment feasibility of education, and to keep the graduate database up-to-date. 2. Publication in a accredited national journal. As for additional output, the research is teaching materials to Human Resources Economics. The main focus of this research is to look at the feasibility of the investment of human resources in economic education department FE UNY with accompanying descriptive data.

LITERATURE REVIEW

According to Simarmata (2002: 155), investment is interpreted as an activity which wants to put money safely to improve the capacity of the system of production or increase in asset capital. According to Fattah (2002: 39), investment was a sacrifice a number of value certain time them to obtain the value of (of repayment) future that albeit hope is greater than the value relation to cost of education, school thought that education is human investment. As an investment, then education impact in productivity of a country.

Human Capital Investment Definition

According to Theodore Schultz (in Fitzenz, 2009), improving the welfare of the poor is not dependent on the land, equipment or energy but depends on knowledge. Human capital was a combination of the nature of (energy, attitude, reliability and commitment), ability to learn (talent, imagination, creativity and ingenuity and motivation to share information and knowledge). The concept of human capital by Becker (1975:41) applying logic economy to review an investment decision individual in the knowledge and work skills, career choices and other characteristics pertaining to work. The assumption is that each individual would choose work to maximize of current value (present value of economic benefits and psychological along his life, Hendrawan , 2012: 33).

Investment can be done not only in other businesses but also in the field of human resources. The principle of its investment in economics undertaking was sacrifice consumption when investment is conducted to gather the level of higher consumption later. The same as its investment in the business, so investment sacrificed is a sum of money that issued and the opportunity to get income during the process of investment. Investment obtained its return is the extent of income a higher to able to achieve the level of higher consumption. Investment like this called human capital. According to Becker (1975:41), human capital is that the human not only a resources but is capital that produces that loans are returned and every expenditure done in order to develop the quality and quantity of the capital are the activities of investment. According to Payaman (1998:58), human capital having two definitions, the first containing understanding business work or services that may be given in production process, and the second is related to the man who can work to grant the services of or business work. So, human capital is the value and or quality of a person or workers determine how potential person or power such work can producing in the economy especially produce goods and services.

Cost of Education

Definition the cost in general is the size of monetary of goods and services issued or sacrificed to benefit now or the future for organization (Atkinson, Kaplan, and Matsumuro, 2007). In the context of education, what is meant by the cost of education is sacrifice issued of all resources owned a unit of education measured in money or other monetary unit to benefit education consistent with the objectives of a unit of the education. The cost of education is one of components instrumental input that is essential in the education. The cost (cost of having a wide scope, all types of expenditure) with regard to the implementation of education, both in the form of money and goods and effort can valued with money.

METHODOLOGY

The population of this research included all graduates of economic education department from 2000 to 2009. The number of respondents was determined by snowball sampling and adequate level of the data needed in the analysis. As many as 146 graduates were involved in this research. Data collection techniques used in this research included documentation and questionnaires. For data analysis, this research used descriptive analysis. The research procedures were as follows: (1) Looking at the tracer before conducting the study (some data in the Central Carrier Development of LPPM UNY might be useful for this report); (2) Discussing related theories of how to improve investment analysis; (3) Obtaining data of the feasibility of human resources investment in economics education department; (4) Constructing graduate database and; (6) Reporting the results.

RESULTS

Respondent Characteristics

On the description characteristics of respondents described above, respondents elected of various characteristics that can be seen from sex and the years college. Of each characteristic showed the results, that respondents female graduates greater in number than male respondents. It was because how many of them Economics Faculty YSU are more dominant female than male, including in economic education department. Based on the calculation, long study graduates categorized into three categories, namely category three to four years, 5 years and more than five years. Of 146 respondents obtained data that there are as many as 80 graduates with study duration three to four years, forty-eight with 5 years and about 18 graduates with study duration more than five years. Based on this data can be concluded that graduates have the average took three to four years to complete the study an undergraduate degree. While, the grades categorized into three, namely the predicate satisfactory, very satisfied and 'cumlaude'. Of 146 respondents obtained data that there were as many as 5 graduates with the predicate satisfactory, 108 graduates with the predicate very satisfied and 33 graduates with the predicate 'cumlaude'. Based on this data can be concluded that the grade graduates averaging around between 2.76 and 3.50 and there are a few grade under 2.75. The waiting time in this research divided into three of which is 6-0 months, 7 to 12 months and more than 12 months. About the waiting time graduates described above obtained data that the average

the wait graduates to get occupation is six months or in this category including those who have hiring before graduation. Seen from the waiting, graduates having high competitiveness.

Investment expenditure during college undergraduate distinguished into two namely expenditure for the purposes of supporting lecture and expenditure for the fulfillment of the necessities of life. Calculations of the results found that the largest expenditure issued in the first year and last, while expenditure smallest issued on year two. Registration costs at the time of the early college high enough to cause the expense high enough in the first year of lectures. For 2 years to four, the cost of PKL and study tour, the cost of a thesis project and cost in order to cause the presence of the graduation of expenditure that quite high in that year. While year to two to three and there are few activities laboratory work that costs not too high so that its expenditures not amounting to the first year and to the four.

An undergraduate degree is all receiving within the form of money received by graduates, covering an allowance of parents, scholarship received, revenue from work part time for college an undergraduate degree, and acceptance of other allocated for the purpose of lecture. Revenue from allowance parents, found that is only 1.37 % of the respondents who did not receive money fund of parents, because respondents is not having parents, or because have a desire for financially independent. The findings shows wide parts of economic school graduates still rely on parents as a source of revenue for college an undergraduate degree. 146 respondents who take sample, only there were as many as 28,8 % of respondents who is scholarship recipients, whether it is scholarship PPA, Bidikmisi or other scholarship. From the findings it can be concluded that is still a bit of a graduate who use scholarship opportunities offered from various sources for the various reasons, among other lack of information about procurement scholarship, not conforming to criteria determined by the best scholarship, not willing to register scholarships and others. Known that the majority of (58,9 %) the respondents worked for college whether it is working on a part time and full time. This shows that most of the time graduates use their spare time to work that earned more money. In table has been served data on income obtained from a sum basic salary, a bonus, position allowance, day allowance, salary to 13, vehicles, insurance and other income.

An undergraduate degree of various types work have outlined in table, known that as much as 54,11 % graduates get jobs first in accordance with their area of expertise that is as teachers and entrepreneurs. Thus can be concluded that economic school graduates having competitiveness lacking in get a job first in accordance with their area of expertise.

Payback Period Analysis

Seen from the results of the calculation payback period, payback period is to produce all payback period average is 6.5 years. This shows that investment in economic education department is feasible.

Net Present Value Analysis

Based on the discussion on a calculation net present value it can be seen that value net present value is positive, this shows that investment education in education economic study program is feasible.

Internal Rate of Return Analysis

Value the internal rate of return described in the calculation on the internal rate of return, where the result more of its cost of capital (df 12 % and the investment is feasible)

Net Benefit Cost Ratio Analysis

The net benefit cost ratio obtained from scratch valued is more than 1, this shows that the investments done feasible. Based on four methods feasibility on financial aspects used in judging investments from human capital investment can be seen in table 1.

Table 1. Highlight Feasibility Investment Analysis Study

Measurement Method	Value	Criterion	Note
<i>Payback Period (PP)</i>		Economics Age	UE > PP feasible investment
	I. 7 years 7.7 months	I. 10 years	
	II. 7 years 0.1 months	II. 10 years	
	III. 6 years 11.6 months	III. 10 years	
	IV. 6 years 10.9 months	IV. 10 years	
<i>Net Present Value (NPV)</i>	I. Rp 5,259,082	NPV (+)	NPV + feasible investment
	II. Rp 30,293,966		
	III. Rp 32,311,974		
	IV. Rp 31,006,676		
<i>Internal Rate of Return (IRR)</i>	I. 13.09%	<i>Cost of capital: 12%</i>	IRR + feasible investment
	II. 17.81%		
	III. 18.16%		
	IV. 17.93%		
<i>B/C Ratio</i>	I. 1.653	<i>B/C Ratio (+)</i>	<i>B/C Ratio + feasible investment</i>
	II. 2.03		
	III. 2.061		
	IV. 2.041		

CONCLUSION

Based on the results and discussion, it can be concluded that the average of the waiting time of the graduates in the academic year of 2000-2009 is 2.9 months. Considering the types of their job, the graduates mostly work as educators (50%), private employees (36%), and entrepreneurs (4.11%). Meanwhile, the rest (9.86%) work as farmers and others. The average of first income of the graduates is IDR 30,040,003 (or IDR 2,503,334.00 per month). Educational investment in economics education department of FE UNY calculated use of some method of suggesting investment is feasible. With the payback method, the results show that investment is feasible or could be accounted for. This can be seen from the calculation on payback that the period is seven years seven months (smaller than an economical investment 10 years of age). Using the method of net present value result shows that the investment is feasible or can be accounted for. It can be seen that the results of

the calculation of the net present value is positive IDR 5,259,082. Using the method of internal rate of return the result shows that the investment feasible or can be accounted for. It can be seen from the results of calculation of IRR 13.09% (more than the cost of capital Investment 12%) measured by number of Net Benefit Cost Ratio worth 1.635 (greater than 1), this indicates that the investments made feasible.

Accordingly, some suggestions can be made as follows: (1) Economics education department should improve the system of its graduate database in order that the information search of graduates required in the future will be easier; (2) It is necessary to have cooperation with graduates' institutions, both private and public, for the flow of information about the world work (demands and the needs of the data) can be exploited easily; (3) Further research with similar topics should increase the number of samples used (to make it more representative) and also develop different technique analyses.

REFERENCES

- Ali, Mohammad. 2009. *Pendidikan untuk Pembangunan Nasional*. Jakarta : Grasindo.
- Arifin, Johar. 2007. *Aplikasi Excel untuk Perencanaan Bisnis (Business Plan)*. Jakarta : PT Elex Media Komputindo.
- Atkinson, dkk. 2007. *Management Accounting fifth Edition*. New Jersey : Pearson Prentice Hall Inc.
- Atmanti, Hastarini Dwi. 2005. *Investasi Sumber Daya Manusia Melalui Pendidikan*. Jurnal Dinamika Pembangunan, Vol 2, No. 1, 30-39.
- Bambang Riyanto. 2001. *Dasar-Dasar Pembelanjaan Perusahaan*. Edisi-4. Yogyakarta : PT. BPF.
- Becker, Gary S. 1975. *Human Capital, A Theoretical and Empirical Analysis with Special Reference to Education, 2nd Edition*. Retrieved from <http://www.nber.org/chapters/c3733> on 19 December 2015.
- BPS. 2014. *Angka Partisipasi Sekolah*.
- Chandra, Fransisca. 2009. *Peran Partisipasi Kegiatan di Alam Masa Anak, Pendidikan dan Jenis Kelamin sebagai Moderasi Terhadap Perilaku Ramah Lingkungan*. Disertasi. Yogyakarta: Program Magister Psikologi Fakultas Psikologi UGM.
- Dadang, dkk. 2012. *Ekonomi dan Pembiayaan Pendidikan*. Bandung : Alfabeta.
- Dewantara, Ki Hadjar. 1961. *Karya Ki Hadjar*. Yogyakarta : Taman Siswa.
- Dj.A.Simarmata. 2002. *Pendekatan Sistem Dalam Analisa Proyek Investasi dan Pasar Modal*. Jakarta : PT. Gramedia Pustaka Utama.
- Fattah, Nanang. 2002. *Ekonomi & Pembiayaan Pendidikan*. Bandung PT RemajaRosdakarya.
- Fitz-enz, Jack. 2009. *The ROI of Human Capital : Measuring the Economic Value of Employee Performance*. New York : Amacom.
- Mahmudah, Fitri N. 2016. *Keefektifan Human Capital Investment Pendidikan Tenaga Kependidikan di Universitas Negeri Yogyakarta*. Jurnal Akuntabilitas Manajemen Pendidikan, Vol 4, No. 1, 77-87.
- Mohammad Lukman. 2006. *Analisis Tingkat Pengembalian Investasi pada Pendidikan Tinggi*. Tesis. Surabaya: Institut Teknologi Sepuluh November.

- Nazir. 2010. *Analisis Determinan Pendapatan Pedagang Kaki Lima di Kabupaten Aceh Utara*. Tesis. Medan: Universitas Sumatera Utara.
- Perguruan Tinggi Masih Minim Akreditasi. Retrieved from <http://kelanakota.suarasurabaya.net/news/2015/160431-Perguruan-Tinggi-Masih-Minim-Akreditasi> on 19 December 2015.
- Sadono Sukirno. 2008. *Mikroekonomi Teori Pengantar*. Jakarta: PT Raja Grafindo Persada.
- Simanjuntak, Payaman J. 1985. *Pengantar Ekonomi Sumber Daya Manusia*. Jakarta : FE UI.
- Simanjuntak, Payaman J. 1998. *Pengantar Ekonomi Sumber Daya Manusia*. Jakarta : FEUI.
- Suandi, I Ketut. 2005. *Analisis Human Resources Investment Dalam Pendidikan*. Jurnal Pendidikan dan Pengajaran IKIP Negeri Singaraja.
- Sugiyono. 2012. *Metode Penelitian Kuantitatif Kualitatif dan R&D*. Bandung: Alfabeta.
- Todaro, Michael P. 2000. *Economic Development*. Seventh Edition. Longman.
- UNICEF Indonesia. *Laporan Tahunan 2012*. Retrieved from http://www.unicef.org/indonesia/id/UNICEF_Annual_Report_%28Ind%29130731.pdf on 9 November 2015.
- Usman dan Purnomo Setiady. 2000. *Pengantar Statistik*. Jakarta: Bumi Aksara
- Wahyuni, Daru. 2014. *Daya Saing, Tingkat Keterserapan dan Relevansi Lulusan. Pendidikan Ekonomi FE UNY dalam Dunia Kerja*. Yogyakarta : FE UNY.