Journal of Positive Psychology & Wellbeing
2024, Vol. 8, No. 2, 41 – 49
http://journalppw.com
ISSN 2587-0130

Returns of Higher University Education in the Huánuco Region, Peru

Johana Faustino-Jesus[1], Edwin Roger Esteban Rivera[2], Amancio Ricardo Rojas Cotrina[3]

[1]*Universidad Nacional Hermilio Valdizán, jkfaustinoj@epgunheval.edu.pe*
[2]*Universidad Nacional Hermilio Valdizán, resteban@unheval.edu.pe*
[3]*Universidad Nacional Hermilio Valdizán, arojas@unheval.edu.pe*

Abstract

There is abundant theoretical and empirical literature that indicates that education plays a preponderant role in the economic and social development of a nation. Along these lines, many academics maintain that education helps to enhance the skills and abilities of individuals, resulting in more productive individuals in the workplace. The objective of the study was to estimate the returns of university higher education in the Huánuco region, Peru for the year 2014. The theoretical framework was Mincer's income model, which holds that a person's salary income depends on the years of study and work experience that he or she has, and based on this, the returns on education were estimated. Regarding the methodology, this study belongs to the quantitative approach, is applied, has an explanatory level and a non-experimental cross-sectional design. In particular, data from the 2014 National Survey of University Graduates and Universities implemented by the National Institute of Statistics and Informatics of Peru were used to estimate an econometric model called the Mincerian income equation. The results of the study show that there is a positive relationship between salary income, years of education and work experience of university professionals. From the estimation of the econometric model, it is found that an additional year of education tends to increase wage income by 13%, this value constitutes the return of university higher education in the Huánuco region.

Keywords*:* Return to education, higher education, salaries, Mincer model.

1. Introduction

Authors such as Faustino-Jesus et al. (2023) indicate that education plays a preponderant role in the economic and social development of a nation. In this sense, Calero et al. (2022) argue that education helps to enhance the skills, abilities and talents of individuals, resulting in more productive individuals in the workplace. Along these lines, Faustino-Jesus et al. (2023) argue that the development of human capital is essential when applying for a job, since those individuals who have greater human capital will tend to have greater and better job and salary opportunities. In this context, it can be deduced that greater investment in human capital will have a positive effect on the quality of life of these individuals.

The theoretical contributions of Schultz (1961) and Becker (1964) mark the beginning of human capital theory. In this theory, education and the education system play a fundamental role in increasing and enhancing the knowledge, abilities and skills of individuals. In this context, it is assumed that individuals are educated in the present because they expect to obtain returns in terms of wages in the future (higher wages). Along these lines, Becker (1964) indicates that the level of productivity and wages of individuals are directly related, because wages compensate for the intellectual

and physical wear that they make. That is why, theoretically, individuals who have more education tend to earn higher salaries. Likewise, human capital theory highlights the role played by the education system in the formation of human capital. The education system is responsible for providing knowledge, developing skills, and discovering talents in individuals; as well as, granting degrees and/or certifications that indicate the level of education that these individuals have.

The present study focuses on estimating the returns of higher education and takes as a theoretical basis the contribution of Mincer (1974), which is known as the Mincerian equation or income function. According to Mincer (1974), an individual's wage income depends positively on the years of education and work experience he or she possesses. Based on the work of Mincer (1974), it was established that education (measured by years of education) is the main determinant of individuals' wage income. In this context, much of the empirical literature that studies the effects of education on the economy has focused on estimating the returns of education based on the contribution of Mincer (1974). For this reason, the literature estimating the Mincerian income equation by estimating a multivariate linear regression econometric model is extensive. At the international level, the studies by Psacharopoulos (1981), Zhong (2011), Gonzales and Uwaifo (2011), Kenayathulla (2013), Psacharopoulos and Patrinos (2004 and 2018), Acosta et al. (2019), Sánchez-Soto et al. (2019), Chen et al. (2020), Horie and Iwasaki (2021), Patrinos (2021), Montenegro and Patrinos (2021), McGuinness et al. (2021), Khan Mamun et al. (2021), and Huang et al. (2022) stand out.

Psacharopoulos (1981) conducts one of the first systematic reviews of the existing literature on the estimation of the rate of return to education worldwide, which includes forty-five countries. On the other hand, Zhong (2011) focuses on analyzing the relationship between the returns of higher education and the quality of university study centers in China. Among its main findings is that the incomes of professionals who come from low-quality universities tend to decrease over time. Meanwhile, Kenayathulla (2013) estimates returns to secondary and university education for Malaysia. Among its results, it finds that returns to secondary education are higher for women than for men, while for university education the returns do not differ much. In this sense, Kenayathulla (2013) points out that people must complete secondary and university studies to obtain greater returns in terms of wage income. On the other hand, the study by Sánchez-Soto et al. (2019) analyzes the returns of education by distinguishing between non-Hispanic whites and groups of Hispanics living in the United States. Among its main findings is that the returns to education are lower for the Hispanic group, and for those Hispanics who have a higher level of education.

For Latin American countries, the studies by Gonzales and Uwaifo (2011) and Acosta et al. (2019) stand out. The study by Gonzales and Uwaifo (2011) analyzes the impact of the educational reform called Misión Sucre on the returns of university higher education in Venezuela. Among their results, the authors find that the return on higher education has been significantly reduced during the period 2002-2008. They also find that professionals who did not participate in this reform experienced a reduction in returns of 2.7 percentage points. Meanwhile, Acosta et al. (2019) analyze the evolution of returns to secondary and university education for a set of Latin American countries. The authors find a reduction in returns from secondary education; meantime, returns from higher education show a substantial reduction since the 2000s.

Finally, it is also recommended to review the contributions of Psacharopoulos and Patrinos (2004 and 2018), Horie and Iwasaki (2021), and Montenegro and Patrinos (2021), whose studies focus on conducting literature reviews. For example, Horie and Iwasaki (2021) conduct a recent systematic review study of the returns to education globally and find a decrease in such returns. Meanwhile, Montenegro and Patrinos (2021) build a global database with the purpose of comparing the returns on education and find that these returns have an average value of 10%.

However, in the case of Peru, studies that focus on estimating the returns of higher education are still limited. The studies by Yamada (2007), Yamada and Cárdenas (2007), Ventura (2012), Calvo Ramírez et al. (2015) and Rodríguez Lozano (2016) stand out. The studies by Yamada and Cárdenas (2007) and Yamada (2007) focus on analyzing the behavior of the returns of university and non-university higher education for the period 1985-2004 by estimating the Mincerian income equation. Yamada and Cardenas (2007) find that returns fluctuate around 10% during the study period. They also find a convexity in returns that indicates that the most educated individuals have the highest incomes. They also find that returns for women are on average one percentage point lower than for men. On the other hand, Yamada (2007), correcting the estimates of Yamada and Cárdenas (2007), finds that the return on education is reduced to 7% (correction for selection bias) and 8% (correction for instrumental variables).

On the other hand, it is necessary to mention that the scope of study is the Huánuco region, which is one of the 24 regions that make up Peru and which has agriculture as its main economic activity. Regarding economic and social development indicators, the region still has certain shortcomings, with greater emphasis on education. In this line, the Central Reserve Bank of Peru (BCRP), in its 2015 economic and social report, indicates that the Huánuco region is one of the regions that has the lowest human development index (HDI). The educational field of the region is not immune to this problem, because there are still discouraging figures regarding educational achievement (measured by the average years of education that a person aged 25 years or older has). In particular, the Huánuco region occupies position 21 out of 25 regions in terms of the 18-year-old population that has completed secondary education, because only 45.5% of the population has this level of education. However, in the last years educational indicators have improved substantially, an example of which is the significant reduction in the percentage of illiteracy among people aged 15 and over. At the level of university higher education, the region has two important national universities: Hermilio Valdizán National University (UNHEVAL) and the National Agrarian University of the Jungle (UNAS); and some private universities, the most prominent being the University of Huánuco (UDH).

It should also be mentioned that for the Huánuco region there are very few studies that analyze the education variable. Recent studies by Calero et al. (2022), Calero et al. (2023), Calero and Faustino-Jesus (2023), and Faustino-Jesus et al. (2023) stand out. However, these studies, except for Faustino-Jesus et al. (2023), link education with other economic variables. For example, Calero et al. (2022) and Calero and Faustino-Jesus (2023) focus on analyzing the effect of education on the condition of being employed and being poor, respectively. Meanwhile, Calero et al. (2023) study the determinants of school dropout in that region. On the other hand, Faustino-Jesus et al. (2023) estimates the impact of the possession of academic degrees on the salaries of university professionals.

In this context, the present study seeks to close the gap in the national literature and in particularly for the Huánuco region on the estimation of returns to university higher education. In this line, the objective of the study was to estimate the returns of university higher education in the Huánuco region, Peru for the year 2014 using as a theoretical framework the Mincerian income equation and the database of the National Survey of University Graduates and Universities.

2. Materials and Methods

2.1. Theoretical framework

The present study adopts as a theoretical framework the contribution of Mincer (1974), called the Mincerian equation of income. The Mincerian income equation is inscribed within the theory of human capital and the economics of education.

According to human capital theory, individuals invest in their education with the aim of

increasing their productivity in the labor market in order to earn higher wage incomes. This investment is called investment in human capital and is materialized through the acquisition of knowledge, improvement or development of capacities and skills. In this sense, it is argued that individuals with a higher level of education have greater productivity that will be rewarded with higher wage income.

Along these lines, Becker (1983) formally argues that increases in the future wage earnings of uneducated individuals tend to zero (U-line) regardless of age increase. On the other hand, individuals with education will receive low wage income during their apprenticeship period (younger age), and then this income will increase over the years (T-curve); For more detail, see Figure 1.

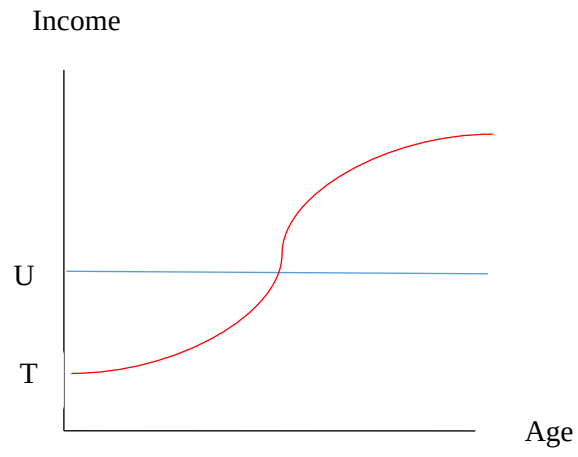

Figure 1. Life-Cycle Labor Income

Source: Adapted from Becker (1983)

2.1.1. Mincerian Income Equation

Mincer (1974) proposes a theoretical model that helps to understand what factors explain an individual's wage income, this model is called the Mincerian income equation or function. According to Mincer (1974), the wage income of individuals is a function of the following factors: years of education, years of work experience, and years of squared work experience. For Mincer (1974), years of education are the main determinant of wage income and this in turn is linked to the return on education in which the individual has invested.

Thus, at an empirical level, Mincer (1964) proposes a semi-logarithmic regression model in which it is assumed that wage income varies linearly with years of education and quadratically with years of work experience. In this model, the endogenous variable is the logarithm of wages, and the exogenous variables are years of education, years of work experience, and years of work experience squared. In this sense, the coefficient associated with the years of education constitutes the return on education, which, measured in terms of monetary units, indicates how much wage income increases when one more year of education increases. This model was estimated using the ordinary least squares method and based on the results, Mincer (1974) found evidence of a positive effect of years of education and work experience on wage income. However, it also found a negative impact of years of work experience squared as it increased.

The basic theoretical model is presented below. Be Y_0 and Y_1 the wage income of an individual with 0 and 1 education, respectively. The rate of return for 1 year of education is given by $Y_1(1 + r_1)$.

$$Y_1 = Y_0(1 + r_1) \qquad (1)$$

Assuming that the individual has n years of education and that rate of return is constant for each additional year of education equal to r , this is: $r_1 = r_2 = \cdots = r$. With this, equation (1) can be generalized, resulting in:

$$Y_n = Y_0(1 + r) \qquad (2)$$

Where and Y_n and Y_0 are wage income with r and 0 years of education, and e^u comes to be a residual term. Applying logarithm to equation (3), we get the Mincerian income equation:

$$ln\, Y_n = ln\, Y_0 + nr + u$$

Where $ln\, Y_n$ is the logarithm of wage income, $ln\, Y_0$ is the logarithm of wage income without any year of education, nr is the n years of

education that the individual possesses multiplied by the rate of return (r), and u is the residual term.

2.2. Methodological Strategy

The present study is framed within the quantitative approach. It was also applied because it used as a theoretical basis the model of Mincer (1974) called the Mincerian equation of income, which establishes a relationship between wage income and the years of education and work experience of an individual. An explanatory level was adopted, since it aimed to estimate the returns of university higher education in the Huánuco region, Peru for the year 2014 using data from the National Survey of University Graduates and Universities of 2014. A non-experimental design was adopted because neither the variables nor the study units were manipulated; Likewise, due to the type of data used, the design was cross-sectional, data were used for the year 2014, since data from the aforementioned survey are only available for that year.

The study population is made up of university professionals from the Huánuco region. According to figures from the 2014 National Survey of University Graduates and Universities, for that year, the population amounted to 1,427 university professionals. Along these lines, it should be mentioned that the data from the aforementioned survey (secondary source data) were used, therefore, a sample size is not determined. Given that the information of each university professional surveyed was accessed, the sample used in the study is equal to the population.

Since data from the National Survey of University and University Graduates (secondary source) have been used, the technique and instrument used for data collection were the collection of statistical data from secondary sources and the secondary data collection form in digital format, respectively.

Table 1 presents the operationalization of the variables under study, where the endogenous variable is the monthly salary income of the university professional. On the other hand, the exogenous variable is divided into two dimensions: level of education and work experience of the university professional.

Table 1. Operationalization of variables

Variable	Dimension	Indicator	Label
Endogenous	Monthly salary	Logarithm of Salary	$ln\ ln\ (SAL_i$
Exogenous	Level of education	Number of years of education	EDU_i
	Work experience	Number of years of work experience	EXP_i
		Number of years of work experience squared	EXP_i^2

Data analysis was performed using econometric analysis. Specifically, an econometric model of semi-logarithmic regression was estimated, which is derived from Mincer's theoretical model, presented above, to which the variable work experience is added, having the following specification:

$$ln\ ln\ (SAL_i) = \beta_0 + \beta_1 EDU_i + \beta_2 EXP_i + \beta_3 EXP_i^2 + \varepsilon_i$$

where $ln\ ln\ (SAL_i)$ is the endogenous variable and represents the logarithm of monthly wage income. Exogenous variables are years of education (EDU_i), years of work experience (EXP_i), and years of work experience squared (EXP_i^2). The coefficients β_1 and β_2 indicate the impact of years of education and work experience on the salaries of university professionals in the Huánuco region. In this sense, the value of the coefficient β_1 is the rate of return for an additional year of education. Finally, β_0 and ε_i are the intercept and the perturbation term, respectively.

3. Results

First, the correlational analysis between the variables is presented. Table 2 shows that there is a positive relationship between the number of years of education and the number of years of work experience with wage income. In particular, the highest correlation coefficient is given with the number of years of education (0.78), followed by the number of years of work experience (0.46). It should be mentioned that each of the estimated correlation coefficients are significant at the 5% significance level.

Table 2. Correlational analysis

		Logarithm of Salary $ln\ ln\ (SAL_i)$
Number of years of education	EDU_i	0.78
Number of years of work experience	EXP_i	0.46
Number of years of work experience squared	EXP_i^2	0.32

After the correlational analysis, the results of the estimation of the econometric model, which was estimated with the ordinary least squares method, are presented. Table 3 shows the estimated coefficients and statistical goodness-of-fit indicators of the estimated econometric model. According to the estimated equation, an additional year of education tends to increase wage income by 13%, this coefficient represents the return of university higher education in the Huánuco region for the year 2014.

It is also found that an additional year of work experience and squared work experience tends to increase wage income by 9% and 4%, respectively.

$$ln\ ln\ (SAL_i) = 0.10 + 0.13(EDU_i) + 0.09(EXP_i) + 0.07(EXP_i^2)$$

Finally, at the bottom of Table 3 are the statistical indicators of goodness-of-fit of the estimated model. In general, it can be seen that these statistical indicators indicate that the estimated model has a good fit, with relatively high values of the coefficient of determination ($R^2 = 0.78$) and the adjusted coefficient of determination ($R^2\ ajustado = 0.75$). Likewise, the Fisher-Snedecor F-test indicates that all the coefficients estimated together are statistically different from zero to 5% significance level. The Student's t-test, on the other hand, indicates that each coefficient estimated individually is statistically significant. Based on these results, the exogenous variables (EDU_i, and $EXPEXP_i^2$) included in the model contribute to significantly explain the variation in the logarithm of university professional wage income in the Huánuco region.

Table 3. Estimation of the econometric model

Exogenous variables	**Label**	**Coefficient**	
Number of years of education	(EDU_i)	0.13 (0.18)	*
Number of years of work experience	(EXP_i)	0.09 (0.10)	**
Number of years of work experience squared	(EXP_i^2)	0.07 (0.09)	**
Constant	β_0	0.10 (0.04)	*
Number of observations	1427		
R2	0.78		
Adjusted R2	0.75		
Statistic F	54.40		
p-value (F-statistic)	0. 000		

Note: The robust standard errors of each estimated coefficient are shown in parentheses. ***, **, and * indicate that the estimated coefficient (β_i) is significant at a significance level of 1% (*), 5% (***), and 10% (***), respectively.

4. Discussion

Correlational analysis indicates that the years of education and work experience of university professionals have a positive and significant relationship with their wage income. Likewise, from the estimation of the econometric model based on the Mincerian equation, it is found that education and work experience have positive effects on wages. In particular, it is found that an additional year of education tends to increase salary income by 13%, which constitutes the return of university higher education in the Huánuco region for the year 2014. In this sense, this finding constitutes the first empirical evidence on the returns of university higher education for the Huánuco region.

Based on the results of the estimation of the econometric model, a positive relationship is found between wage income, years of education and work experience of university professionals in the Huánuco region. Specifically, it is found that an additional year of education tends to increase salary income by 13%, which constitutes the return of university higher education in that region. These results constitute the first empirical evidence on the returns of university higher education for the Huánuco region, and at the same time, contribute to closing the gap in the national literature on the returns of education.

In this sense, it is argued that the findings of the present study are in line with the existing national and international evidence on the positive effects of years of education on the wage income of individuals. At the international level, the study by Montenegro and Patrinos (2021) finds that the returns to education globally have an average value of 10%. However, the study by Horie and Iwasaki (2021) finds a decline in returns to education globally. In line with the findings of Horie and Iwasaki (2021), for a set of Latin American countries, the study by Acosta et al. (2019) finds a reduction in returns to secondary education; Meanwhile, returns from higher education show a substantial reduction since the 2000s.

On the other hand, in the Peruvian case, the study by Yamada and Cárdenas (2007) analyzes the behavior of the returns of university and non-university higher education for the period 1985-2004 by estimating the Mincerian income equation. They find that the returns have a value that fluctuates around 10% over the study period. They also find a convexity in returns that indicates that the most educated individuals have the highest incomes. They also find that returns for women are on average one percentage point lower than for men. On the other hand, Yamada (2007), correcting the estimates of Yamada and Cárdenas (2007), finds that the return on education is reduced to 7% (correction for selection bias) and 8% (correction for instrumental variables).

Likewise, it also highlights the findings of Zhong (2011), who analyzes the relationship between the returns of higher education and the quality of university study centers in China, and finds that the income of professionals who come from low-quality universities tends to decrease over time.

Finally, it is necessary to mention some limitations of this study, among them, the null and scarce literature on returns to education for the Huánuco region and Peru, respectively. This limitation means that the comparison of the results found can be compared with others, taking into account the scope of study; as well as the methodology used. Another important limitation is the availability of secondary data for more recent years, given that the only survey aimed at university graduates was conducted in 2014.

Acknowledgments

The successful completion of this document would not have been possible without the help and fundamental contribution of the MSc in Economics Mr. Roberto Calero, for whom, a special recognition. Likewise, for all teachers of the Graduate School of the Faculty of Educational Sciences of the National University Hermilio Valdizán of the Huánuco region in Peru.

Reference

[1] Acosta, P., Cruces, G., Galiani, S. & Gasparini, L. (2019). Educational upgrading and returns to skills in Latin America: evidence from a supply–demand framework. Latin American Economic Review, 28(18). https://doi.org/10.1186/s40503-019-0080-6

[2] Banco Central de Reserva del Perú. (2015). Informe Económico y Social: Región Huánuco. Encuentro Económico. https://www.bcrp.gob.pe/docs/Proyeccion-Institucional/Encuentros-Regionales/2015/huanuco/ies-huanuco-2015.pdf

[3] Becker, G. S. (1964). Human capital: A theorical and empirical analysis, with special reference to Education. The University of Chicago Press. http://www.nber.org/books/beck94-1

[4] Becker, G. S. (1983). Human capital. Alianza Editorial S.A. Spain.

[5] Calero, R., Sosa-Cagna, M., Lino-Zuñiga, L. & Ponciano-Navarro, J. (2023). Determinants of school dropout in the Huánuco region, Peru. Challenges, 14(2). https://doi.org/10.37711/desafios.2023.14.2.401

[6] Calero, R. & Faustino-Jesús, J. (2023). Impact of regular basic education on monetary poverty in the Huánuco region, Peru. Challenges, 14(2). https://doi.org/10.37711/desafios.2023.14.2.394

[7] Calero, R., Chávez, E., Rivera, C., & Vega, A. (2022). Impact of education levels on employment in the Huánuco region, Peru, period 2000-2019. Business Innovation, 2(2), e14. https://doi.org/10.37711/rcie.2022.2.2.14

[8] Calvo Ramírez, C., Best Bandenay, P., Quiroz Vega, E., & Lozada Urbano, M. (2015). Education, work experience, and labor income. Infinitum, 5(2). https://doi.org/10.51431/infinitum.v5i2.305

[9] Chen, Y., Jiang, S., & Zhou, L. (2020). Estimating returns to education in urban China: Evidence from a natural experiment in schooling reform. Journal of Comparative Economics, 48(1), 218-233. https://doi.org/10.1016/j.jce.2019.09.004

[10] Gonzales, N. & Uwaifo, R. (2011). Are returns to education on the decline in Venezuela and does Mission Sucre have a role to play? Economics of Education Review, 30(6), 1348-1369. https://doi.org/10.1016/j.econedurev.2011.07.007

[11] Hungerford, T. & Solon, G. (1987). Sheepskin Effects in the Returns to Education. The Review of Economics and Statistics, 69(1), 175-177. https://doi.org/10.2307/1937919

[12] Huang, B., Tani M., Wei, Y., & Zhu, Y. (2022). Returns to education in China: Evidence from the great higher education expansion. China Economic Review, 74. https://doi.org/10.1016/j.chieco.2022.101804

[13] Kenayathulla, H. B. (2013). Higher levels of education for higher private returns: New evidence from Malaysia. International Journal of Educational Development, 33(4), 380-393. https://doi.org/10.1016/j.ijedudev.2012.05.008

[14] Khan Mamun, S., Taylor, B., Nghiem, S., Mafizur Rahman, M., & Khanam, R. (2021). The private returns to education in rural Bangladesh. International Journal of Educational Development, 84. https://doi.org/10.1016/j.ijedudev.2021.102424

[15] Mincer, J. (1974) Schooling, Experience and Earnings. Columbia University Press. https://www.nber.org/books-and-chapters/schooling-experience-and-earnings

[16] Montenegro, C. & Patrinos, H. (2021). A data set of comparable estimates of the private rate of return to schooling in the world, 1970–2014. International Journal of Manpower. https://doi.org/10.1108/IJM-03-2021-0184

[17] McGuinness, S., Kelly, E., Thi Thu Phuong, P., Thi Thu Thuy, H., & Whelan, A. (2021). Returns to education in Vietnam: A changing landscape. World Development, 138. https://doi.org/10.1016/j.worlddev.2020.105205

[18] Psacharopoulos, G. (1981). Returns to education: An updated international comparison. Comparative Education, 17(3), 321-341. https://doi.org/10.1080/0305006810170308

[19] Psacharopoulos, G. & Patrinos, H. A. (2004). Returns to investment in education: a further update. Education Economics, 12(2), 111-134. https://doi.org/10.1080/0964529042000239140

[20] Psacharopoulos, G. & Patrinos, H. A. (2018). Returns to investment in education: a decennial review of the global literature. Education Economics, 26(5), 445-458. https://doi.org/10.1080/09645292.2018.1484426

[21] Rodríguez Lozano, E. (2016). Over-education in the Labor Market: Determinants and Consequences in Peru 2001-2011. Economics, 39(77), 33-101. https://doi.org/10.18800/economia.201601.002

[22] Sánchez-Soto, G., Bautista-León, A. & Singelmann, J. (2019). The return-on-education gap between hispanics and non-hispanic whites. Population Papers, 24(98), 245-268. https://doi.org/10.22185/24487147.2018.98.42

[23] Schultz, T. (1961). Investment in human capital. The American Economic Review 51(1), 1-17. https://www.jstor.org/stable/1818907

[24] Ventura, E. (2012). Analysis of the heterogeneity in returns to education as a function of regional public expenditure. [Master's thesis, Pontificia Universidad Católica del Perú]. http://hdl.handle.net/20.500.12404/4894

[25] Yamada, G. (2007). Returns to Higher Education in the Labor Market: Is It Worth the Effort? University of the Pacific Research Center, Working Paper 78. https://repositorio.up.edu.pe/bitstream/handle/11354/229/DT78.pdf?sequence=1

[26] Yamada, G., & Cardenas, M. (2007). Higher education in Peru: uncertain and little-known profitability. Economy and Society, 63, 53-61. https://www.cies.org.pe/sites/default/files/files/otros/economiaysociedad/06-yamada.pdf

[27] Zhong, H. (2011). Returns to higher education in China: What is the role of college quality? China Economic Review, 22 (2), 260-275. https://doi.org/10.1016/j.chieco.2011.02.002