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The Economic Case for Education in Vietnam

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Abstract

Education is central to the development of human capital. Vietnam has made significant progress. This paper reviews existing research on the returns to education and makes the case for investment in schooling. In Vietnam, the returns to schooling are 10 percent overall. The returns to primary and secondary education have declined over time and are lower than the regional average. The returns to secondary education are low, but not much lower than the regional average. The returns to tertiary education are high, have increased considerably, and are about 20 percent. Therefore, investing in higher education makes sense for the individual and her family.

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The Economic Case for Education in Vietnam[1]

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Introduction

Education is positively related to economic growth. In addition, education is important in determining lifetime returns of individuals. Economists use the Mincer (1974) equation to explain (and estimate) employment earnings as a function of schooling and labor market experience. The equation provides estimates of the average monetary private returns of additional education. This information is important for policy makers who must decide on education spending, prioritization of schooling levels, and education financing programs such as student loans.

Research suggests that each additional year of education produces a private (i.e., individual) rate of return to schooling of about 10 percent per year. Estimates range from a low of 1 percent to more than 20 percent in some countries (Montenegro and Patrinos 2014; Patrinos 2016). Globally, the returns to tertiary education are highest, followed by primary and then secondary schooling; this represents a significant reversal from many studies' prior results (Psacharopoulos and Patrinos 2018). The returns are highest in Sub-Saharan Africa and globally higher for women than for men. Policy makers can learn much from these estimates. For example, further expansion of university education appears to be very worthwhile for the individual, meaning that governments need to find ways to make financing more readily available, and that high rates of return are found through investment in girls' education.

A dollar invested in a one-year increase in the mean years of schooling generates more than $5 in additional gross earnings in low-income countries and $2.5 in lower-middle income countries (Education Commission 2016). This is the case even after considering the costs incurred by governments and individuals and the current variability in education quality across countries. This is equivalent to a rate of return of 10 percent and 7 percent.

Vietnam has made significant progress. In this review of the research on the returns to education in Vietnam we find that the overall private rate of return to schooling in Vietnam is at the global average but higher than in most countries in the region, demonstrating that further investment in education is a sound priority. Returns to primary and secondary education have declined over time and are lower than the regional average. The returns to secondary are low, but not much lower than the regional average. The returns to tertiary education are high, and have increased considerably, and are about 20 percent. Investing in higher education, therefore, makes sense for the individual and her family. Education is central to the long-term development of human capital and to economic growth. Vietnam can continue to expand upper secondary and post-secondary education given the high returns to tertiary education. Given the relatively high private and social returns to higher education, some level of cost-recovery is warranted. Care should be taken to expand higher education equitably and sustainably, and to improving quality. However, most of the data reviewed here goes to 2012. Going forward, more recent data and analysis are needed.

The Case of Vietnam

Major economic reforms in Vietnam since 1986 have included several measures to liberalize the labor market. Salary reforms were introduced in 1993. In 1995, a labor law was passed, and a labor code was published that covers a wide range of labor issues including labor contracts, collective bargaining, social insurance, working conditions and training. Labor market adjustments occurred

during and after the East Asia economic and financial crisis of 1997 to 1999. The period 2002 to 2010 saw several revisions to Vietnam's Labor Codes to implement international regulations and to better protect the rights of both employees and employers. Prior to 2006, the state had one general minimum wage that applied throughout the country. However, since 2007 there are FDI firm and non-FDI firm minimum wage rates, which vary per the region that the firm operates in. There are four defined regions, which are classified per a socio-economic standards index. Thus, there are eight minimum wages, which cannot be less than the state's general minimum wage. The general minimum wage is mostly applied to state sector employees.

Vietnam has made significant progress in education in terms of access and quality. The country has achieved universal preschool education for five-year-old children and primary education and is working towards achieving universal lower secondary education.

Vietnam has achieved high levels of student learning. Per the recently published Program for International Student Assessment (PISA), Vietnam surpasses the OECD country average and many developed economies and places in the top 10 overall in science achievement. The 2015 PISA, with its focus on science, was no exception. Vietnam was clearly in the top 10 worldwide in science. This bodes well for preparing students for the world of work with the 21st century skills they need to succeed. Science and technology are fundamental to people's futures. Moving forward, the priority is to focus on higher levels of schooling.

However, the current higher education financing mechanism falls short. It fails to provide incentives for higher education institutions to improve quality and relevance to respond to labor market demand (World Bank 2017). The Higher Education Law of 2012 provides the legal basis for substantial reform in governance and financial mechanisms, but the required decrees and other elements of the normative framework need to be developed. There has been rapid expansion of enrollments in both public and private higher education institutions. The higher education budget will not be able to absorb the whole cost, which will require some level of "cost-sharing" going forward. Higher education financing needs to prioritize, promote competition, ensure education equity (or support disadvantaged students), encourage the internationalization of universities, and generate performance-orientation to incentivize higher education institutions to improve quality and relevance. Higher education financing needs to move towards better prioritization of public resources towards areas with high social returns.

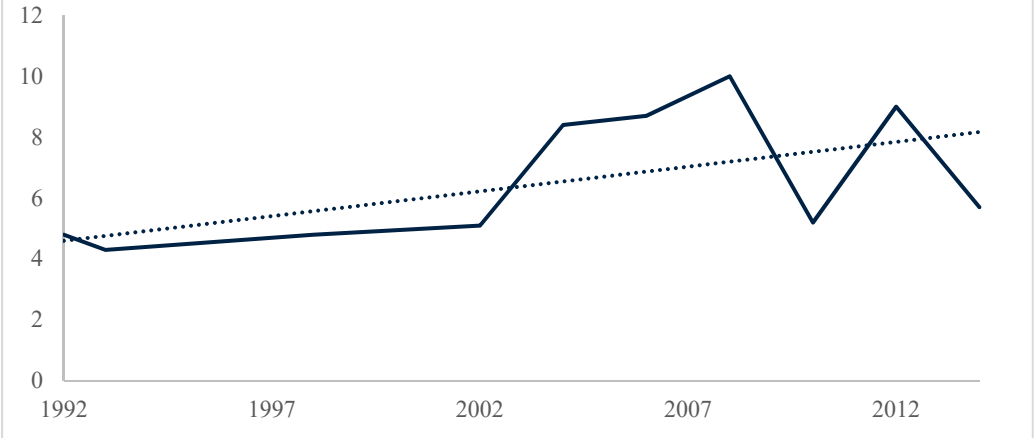
Higher education needs urgent attention to meet the demands for high-quality human resources. Enrollment in higher education has doubled roughly every five years over the last several decades but the policies of education finance, namely, tuition fee, public financing and private sector contribution have not been reformed efficiently, pushing higher education to the race of low quality and low cost. Graduates lack the skills required by employers. Research institutes and universities provide too little research, and what is produced is mostly not of sufficient quality and relevance for the economy's needs. The government has been providing more autonomy to some key institutions and universities, setting up an accreditation system and raising the tuition fee ceiling for the period of 5 years.

Perhaps the first study of the benefits of education in Vietnam appeared almost 50 years ago (Stroup and Hargrove 1969). In an analysis limited to rural South Vietnam in 1964, another year

of schooling increased earnings by 17 percent. In 1992, on average, the estimates of rates of return to schooling were relatively low, at about 5 percent. Private rates of return to primary and university education averaged 13 and 11 percent, but only 4 to 5 percent at the secondary and vocational levels. Returns to higher education were higher for females (12 percent) than for males (10 percent) (Moock, Patrinos and Venkataraman 20032003). In 1993, the returns to schooling were 4.3 percent (Nguyen 2004). In 1997 they were 4.7 percent, and slightly higher for women (Liu 2006). In 1998 they were 4.8 percent (Nguyen 2004). Gallup (2002) found that returns to education in Vietnam increased from 1993 to 1998. In 1997, the returns to schooling were 2.6 percent, but when using IV, as high as 7.0 percent (Arcand, d'Hombres and Gyselinck 2005). By 2002, they had reached 5.1 (Patrinos, Ridao-Cano and Sakellariou 2009).

More recent studies have found greater returns to higher levels of education. In relation to over time estimates, Liu (2006), Pham and Reilly (2007) and Oostendrop and Doan (2013) found the returns to increase over the period 1998 to 2006 (Figure 1). However, Phan and Coxhead (2013) reported that returns to education in Vietnam declined between the periods 1993 to 2002 and 2002 to 2008. The mixed findings that have been derived to date are most likely due to the employment of different estimation techniques across the various studies (e.g., Ordinary Least Squares versus Instrumental Variables), along with differences in the defined sample and control variables included in the estimated models (Phu Viet Le 2014; Tien 2014; Sakellariou and Fang 2010; Imbert 2010). Wigren and Nilsson (2015) estimate the returns to schooling in 2012 at 9 percent. The male and female education returns displayed a linear pattern in both 2002 and 2010, with earnings rising with increased levels of education. Relative to males with no qualifications, the returns to those with a vocational training qualification or below fell between 2002 and 2010, while the economic returns to a college education and above increased. Similar results were observed for females (McGuinness, Kelly, Thu and Thu 2015). Diep and Coxhead 2016 also find rising returns but not as high as in other studies. Returns soared in the 1990s but fell after the crisis (Doan, Tuyen and Quan 2018).

Figure 1: Returns to Schooling in Vietnam since the early 1990s



Source: Annex 1

The overall rate of return to schooling in Vietnam at about 9 to 10 percent, is at the global average. It is higher than in most countries in the region, demonstrating that further private investment in education is a sound priority (Table 1). The returns to primary schooling have decreased over time, which is not surprising given the level of achievement and universal access in Vietnam. The returns to primary schooling are lower than the regional average. The returns to secondary are low, but not much lower than the regional average. The returns to tertiary education are high, significantly higher that the regional average, and on par with China, the Philippines and Thailand. In fact, the returns to tertiary education in Vietnam are among the highest in the world.

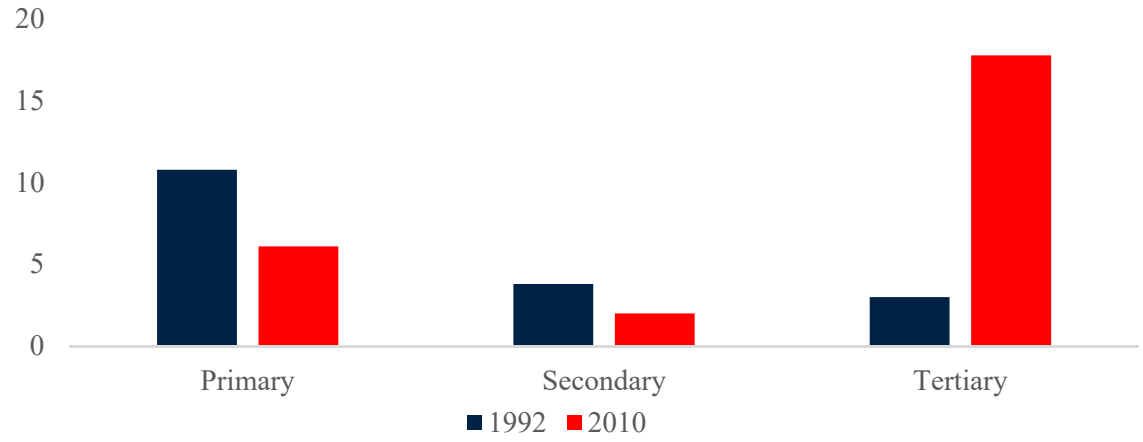
Table 1: Returns to Schooling (selected countries)

Economy	Year	Returns	Primary	Secondary	Tertiary
Australia	2010	13	14	20	4
Brazil	2012	11	8	6	17
Cambodia	2012	5	13	3	12
China	2002	17		9	21
Indonesia	2010	10	13	10	12
Japan	2007	14			9
Korea, Rep.	2010	13			13
Lao PDR	2008	5	11	5	6
Mongolia	2011	9	14	4	10
Philippines	2014	8	10	6	22
Russian Federation	2009	3			7
Singapore	1998	13	7	10	11
Thailand	2011	9	3	5	17
United States	2010	13		5	15
Vietnam	2010-2014	9-10	6.0	2-5	18-21

Source: Montenegro and Patrinos 2014

Since the early 1990s, the returns to higher education have increased significantly (Figure 2). In 1992, the returns to primary were 10.8 percent, secondary was 3.8 percent and tertiary 3.0 percent (Moock, Patrinos and Venkataraman 20032003). By 2008, the returns to tertiary had soared to 17 to 20 percent (Doan 2013; Montenegro and Patrinos 2014). In 2010, the returns to primary were 6.1, secondary 2.0, and tertiary was 17.8 percent (McGuinness, Kelly, Thu and Thu 2015). Thereafter, there seems to be a decline in the relatively high returns to university (Doan, Tuyen and Quan 2018), but it remains much higher than other levels. Similar findings are presented in Demombynes and Testaverde (2018).

Figure 2: Rising Returns to Higher Education in Vietnam since 1992



Source: Annex 1

Private and Social Returns to Higher Education

The private returns to higher education are now higher than the returns to primary schooling (Montenegro and Patrinos 2014; see also Colclough, Kingdon and Patrinos 2010). The returns to primary schooling are just above 10 percent and returns to secondary schooling are 7 percent. The private rate of return to university is 15 percent. It is highest in Sub-Saharan Africa at 21 percent and ranges between 10 (Europe and Central Asia) and 17 percent (South Asia) for the rest.

High returns to higher education signal that university is a good investment – especially for the student and her family. If you add to that the social benefits and costs of higher education, then one can argue that higher education has social returns as well. Financing higher education, however, requires a sustainable financial model, which in most countries entails smart cost-recovery (via, for example, income contingent student finance) and targeted support – which means guidance, information, supports, not just money – for those particularly disadvantaged.

How do we know that higher education might be a justified expenditure on the part of students (and their families) and society? Typically, we rely on cost-benefit analysis that gives us an estimate of the rate of return to investment in higher education. The rate of return to schooling equals the value of lifetime earnings of the graduate to the net present value of the costs of education. An economically justified investment has a positive rate of return which is higher than the alternative. For the prospective student, assessing costs and benefits means investing until the rate of return exceeds the private discount rate (the cost of borrowing and an allowance for risk). The costs are the student's foregone earnings while studying, plus any fees or incidental expenses incurred while attending classes. The private benefits amount to how much extra money a graduate earns compared with someone with less education. In the case of higher education, the comparison is made with secondary school leavers.

The social rate of return is calculated by adding society's spending on higher education on the cost side – for example, money spent on renting buildings and professorial salaries – and the benefits

to society beyond wages. Ideally, the social benefits should include non-monetary benefits of education, such as improved health and nutrition practices and inter-generational well-being. Given the scant empirical evidence on the social benefits (Oreopoulos and Salvanes 2011; see also McMahon 2004), estimates of the social rate of return are typically based on observable monetary costs and labor market earnings (Jimenez and Patrinos 2008).

The returns to higher education have changed over time. The returns to an additional year of schooling tend to decline as the level of schooling rises. But the returns have declined modestly in past decades despite rising average years of schooling. In 2010, the world population aged 15 and above is estimated to have had an average of 8 years of schooling, having increased steadily from just over 5 years in 1980 (Barro and Lee 2013). While the enrollment rate in higher education grew significantly over time, the returns to higher education remain high. This suggests that global demand for skills has kept the returns to schooling high. It is thus safe to say that education is a good investment globally.

Vietnam is following the general case of increasing returns to tertiary education. Analysis of the social returns to schooling in Vietnam is limited. Using published data on costs and wage differentials by level in Nguyen (2004), we estimate the social rate of return using the "short cut" method (Psacharopoulos 1995). The social rate of return to schooling was very low in Vietnam in 1993, and just about 0 percent at the tertiary level. By 1998, social returns had risen considerably, and the highest returns were for tertiary education, at 12 percent, compared to primary and secondary, both at 5 percent.

Financial Implications

For the individual and her family, the good news is that the returns to higher education remain high. Higher education is a likely good investment for people to consider. But decisions on investing should be based on full information about the costs and benefits for an individual student, as well as full information on the course of study. Enrolling in higher education will not lead to higher earnings if the student is in the wrong school or faculty or discipline based on their own interests and capabilities.

For society, better educated citizens and workers are more productive and impart social benefits. However, before committing to increases in funding, governments would be wise to plant incentives for the efficient and equitable use of funds. This might mean selective fees near the social cost of higher education. Expanding opportunities could also mean student finance options, but given the experience with traditional student loans, options to tap future earnings to finance current education (e.g., income contingent loans and human capital contracts) might be considered.

Given the high private returns to tertiary education, it is right to expect a greater private contribution. In low-income countries, returns on investment reach 22.8 percent per additional year (Education Commission 2016).

Conclusions

Education is central to the long-term development of human capital and to economic growth. Schooling empowers people and strengthens nations. It affirms human dignity and provides individuals with capabilities to compete in the global economy. Good-quality education is among the most powerful instruments known to reduce poverty and inequality and to foster dynamic and competitive economies over the long term. In today's global economy, a high-quality education is critically important for creating, applying and disseminating knowledge.

Globally, the social rate of return to education is 10 percent in low-income and 7 percent in middle-income economies. These returns to education are well above average returns to investment in stocks (4.6 percent), bank deposits (4.6 percent), housing (2.8 percent), and long-term bonds (2.7 percent). Evidence from advanced economies also shows that improving quality and learning outcomes, in addition to years of schooling, delivers even greater benefits than improving enrollment alone.

The private rate of return to schooling in Vietnam is at the global average. It is higher than in most countries in the region, demonstrating that further investment in education is a sound priority. The returns to primary schooling have decreased over time, which is not surprising given the level of achievement and universal access in Vietnam. The returns to primary schooling are lower than the regional average. The returns to secondary are low, but not much lower than the regional average. The returns to tertiary education are high, significantly higher that the regional average, and on par with China, the Philippines and Thailand. In fact, the returns to tertiary education in Vietnam are among the highest in the world. This reflects economic policy outcomes and the long-standing tradition of valuing education in Vietnam.

Vietnam can continue to expand upper secondary and post-secondary education given the high returns to tertiary education. Given the relatively high private and social returns to higher education, some level of cost-recovery is warranted. Care should be taken to expand higher education equitably and sustainably, and to improving quality. Given the rising returns despite rapid increases in schooling levels suggests the demand for skills is rising. Investment should rapidly expand quality secondary and higher education. The high quality of basic education and the universal coverage at this level suggests more resources should go into post basic education. This includes higher education but also universal coverage of upper secondary schooling to make it possible for more students to enter university. Given the high returns to education in Vietnam and globally, which surpass the returns to other viable investments, then expanding education spending – by family and society – makes economic sense.

Most of the data reviewed here go to 2012. More recent data and analysis are needed. The returns to schooling should be analyzed with controls for endogeneity. One idea would be to use the introduction of compulsory schooling in 1991 as an instrument (Dang 2017).

Since most of the research thus far in Vietnam has produced estimates of private returns to schooling, then it would make sense to estimate social returns. This could be done in combination with work on appropriate levels of cost-recovery and financing mechanisms. Future research should also look at the impact of raising the level of cost-recovery at the university level. More

research is also needed on the returns to quality in Vietnam, at the secondary and tertiary levels. Future analysis should focus on more recent data and consider labor market conditions.

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Annex 1: Returns to Schooling in Vietnam over Time

Year	Returns	Primary Total	Secondary Total	Tertiary Total	Primary Male	Secondary Male	Tertiary Male	Primary Female	Secondary Female	Tertiary Female	Source
1964	17.0										Stroup and Hargrove 1969
1992	4.8	10.8	3.8	3.0							Moock, Patrinos and Venkataraman 20032003
1993	4.3			5.0		4.4					Nguyen 2004
1997	4.7										Liu 2006
1998	4.8										Nguyen 2004
2002	5.1										Patrinos, Ridao-Cano and Sakellariou 2009
2004	8.4										Doan and Stevens 2011
2006	8.7	2.7	5.3	18.4	1.6	4.1	18.8	3.3	7.6	17.8	Montenegro and Patrinos 2014
2008	10.0		5.6	20.5		4.4	20.4		8.1	21.4	Montenegro and Patrinos 2014
2010	5.2	6.1	2.0	17.8	7.5	2.6	11.2	7.7	4.4	11.7	Montenegro and Patrinos 2014; McGuinness et al 2015
2012	9.0										Wigren and Nilsson 2015
2014	5.7										Doan and Stevens 2011