



Addressing Inequality in Higher Education in Peru:

Structural Inequalities Bias Expectations and Access to the Best-quality Universities and Well-paid Jobs

This policy brief summarises new research findings from two studies using Young Lives data (see Box 1) that investigate how unequal backgrounds and gender, alongside skills and abilities, influence educational attainment in Peru. This includes analysis of who completes higher education, who has access to the best-quality universities and technical institutes and in which major/degree, and how this subsequently affects access to more highly paid jobs, including in relation to the impact of the COVID-19 pandemic.

An analysis of young people's expectations of the earnings potential for completing both secondary and higher education, compared to realised monetary returns, shows how expectations biased by inequality and gender may have an impact on decision making. The brief presents key policy recommendations in response to these findings.

Overview

Peru has shown significant increase in access to higher education over the last two decades, improving social mobility and access to decent jobs. There has been a rapid increase in higher education enrolment (both universities and technical institutes), with the gross enrolment rate more than doubling from 30 per cent in 2001 to 71 per cent in 2017 (compared to an average of 52 per cent across Latin America and the Caribbean). There was virtually no gender gap in higher education enrolment in 2001, and a small pro-female gap by 2017 (World Bank 2020).

Despite these gains, previous research has shown significant inequalities in higher education enrolment, particularly in relation to household wealth and area of residence (urban and rural), even after adjusting for educational attainment and skills accumulated over the course of a student's life (Sánchez and Singh 2018).

There is also large variation in the quality of higher education, demonstrated by 35 per cent of universities in Peru failing to get recent government accreditation,¹ and dropout rates are persistently high. Labour market returns on completion of higher education vary significantly across different institutions (Lavado, Martínez, and Yamada 2014), and while there is impressive gender parity on overall higher education enrolment, there is a **significant gender gap in relation to subsequent earnings and employment opportunities**.

The COVID-19 pandemic continues to have a huge impact in exacerbating these inequalities. Interrupted education due to the national lockdown and related restrictions has resulted in a lost year of learning for many students. Young Lives evidence shows that 18 per cent of 19-year-old students were not back in classes by the end of 2020, with those from the poorest households most likely to have dropped out altogether (Sánchez et al. 2021). In addition, the gender gap in earnings has almost doubled; our results show that even after controlling for career choices, education and skills, the income penalty against females increased from 12 per cent to 22 per cent during the pandemic.

This new research shows that wealthier students are not only more likely to attend higher education but are also significantly more likely to attend the best-quality universities and get the highest-paid jobs. While there is no gender gap in overall higher education enrolment rates, female students are significantly underrepresented in specific degree subjects/majors leading to more highly paid jobs, which underpins a huge gender gap in earnings.

Our findings also show that young people's expectations of earnings for completing both secondary and higher education are biased by both gender and wealth inequalities, even after controlling for educational attainment and skill sets. Those from poorer backgrounds and young women are therefore more likely to make choices that reinforce existing structural inequalities

and gender bias, resulting in less access to the best universities and reducing their chances of a highly paid job.

Key policy recommendations

- 1. Invest in programmes to reduce inequality in early years education.** All approaches to addressing inequality in higher education must be underpinned by continuing investment in addressing inequality in early years education (both primary and secondary education).
- 2. Widen participation in quality higher education.** Promote higher education outreach programmes to target schools in poorer areas and encourage students to apply to quality universities and universities that have the highest income for graduates (e.g. through school outreach, mentoring, parental engagement, scholarships and bursaries).
- 3. Maintain university accreditation.** The evaluation of universities by SUNEDU, the institution in charge of granting accreditation, is important to help maintain and improve the quality of higher education. The accreditation also provides an important signal of quality to help inform both prospective students and their future employers.
- 4. Support students currently studying in non-accredited universities.** Universities which have not received accreditation must close in the next few years; specific support should be provided to students at these institutions, including supporting potential transfers to accredited universities.
- 5. Expand accreditation to include technical institutes.** Excluding technical institutes from evaluation and related accreditation may undermine the future status and quality of these important higher education institutions.
- 6. Address the underrepresentation of young women in specific degree subjects/majors.** Promote gender-sensitive campaigns to encourage more female students to undertake majors/degree courses in subjects where women are in a minority, typically those leading to more highly paid jobs (especially engineering subjects).
- 7. Address gender bias in the highest-paid jobs.** Work in partnership with specific professions and major employers where women are underrepresented, to shift public perception and broaden appeal to female employees (e.g. jobs that require programming skills, construction and mining firms, etc). This should include broad efforts to address gender stereotypes in different fields of work, promoting a wider range of aspirations and expectations for both girls and boys.
- 8. Ensure adequate funding is allocated to education in COVID-19 recovery plans, including higher education**, particularly at a time when significant amounts of aid have been redirected to health priorities.

¹ The evaluation of universities and graduate schools in Peru by the *Superintendencia Nacional de Educación Superior Universitaria* (SUNEDU) has so far granted 94 institutions university accreditation with permission to continue operating, while 52 have been denied accreditation and must close in the next few years.

Key findings from the two studies

Wealthier students are more likely to attend higher education, access the best-quality universities and get the highest-paid jobs

Our results support the well-documented finding that students from wealthier households are more likely to attend higher education. Overall enrolment in higher education is positively associated with household expenditure, those whose mother has a higher level of education, and those living in urban areas. However, inequality also predicts where and what students study within the higher education sector, with significant impact on resulting labour market outcomes.

Students from wealthier households and those with educated parents were significantly more likely to attend good-quality universities,² and universities that result in the highest graduate incomes. There was no effect of wealth on non-accredited university enrolment, and in fact enrolment in technical institutes was slightly higher for those from poorer backgrounds.

Similarly, wealth also predicts the choice of major/degree studied. Students from the wealthiest households were more likely to choose majors that lead to more highly paid jobs, including engineering, economics and law.

Skills and competencies acquired early in life increase the chances of attending a good-quality university and getting the highest-paid jobs, but being poor still holds students back, highlighting persistent structural inequalities

Cognitive skills (measured through maths and vocabulary test scores) and socio-emotional competencies (measured through own-reported self-efficacy levels) acquired by age 12 are significant predictors of attending good-quality universities. Similarly, students with higher maths skills were more likely to be enrolled in majors leading to more highly paid jobs.

While it is not surprising that students with the highest skill levels are most likely to go to good-quality universities (as they are more likely to fulfil admission requirements or related exams), our findings show that **those from the poorest backgrounds are still significantly disadvantaged from age 12, even after controlling for their skills and competencies**, suggesting that structural inequalities disadvantage poorer students at the top end of the higher education system. Notably, the relationship between skills acquired early in life and enrolment in higher education was not observed for those attending lower-quality universities, nor for technical institutes.

There are hidden gender gaps in higher education, with girls and young women less likely to study subjects that lead to the highest-paid jobs

As expected, we did not observe significant gender differences in overall enrolment rates in higher education, including attending good-quality universities. However, our results showed that girls and young women are significantly less likely to enrol in universities with the highest graduate incomes, and less likely to study subjects that lead to more highly paid jobs.

Female students were much more likely to enrol in majors leading to the lowest graduate incomes, including subjects such as nursing and secretarial/administration, even after controlling for household wealth, parental education and skills. It is therefore likely that this gender gap is predominantly explained by gender stereotypes and social expectations prevalent in Peru.

Young men earned significantly more than young women, regardless of the level of education completed

The gender gap in earnings was particularly high for those who only completed secondary school, and especially in urban areas. Young women (aged 24-25) who had completed secondary school earned an average of US\$220 per month, about a third less than young men (US\$345 per month). The gap was slightly lower among university graduates, although young men still earn persistently higher salaries; female university graduates earned an average of US\$340 per month, which is about a quarter less than male graduates (US\$457 per month).

A significant gender gap in earnings persists even after controlling for a range of explanatory factors, including area of residence, skills, education, and career choices, with females earning on average about 12 per cent less than their male peers (before the pandemic). This suggests a fundamental gender pay inequality underpinning differences in male and female employment.

Higher education typically results in higher earnings, particularly for those attending good-quality universities

Earnings for those who had completed higher education were significantly higher than for those who had only completed secondary education, though with some regional variation. By age 26, those who had attended accredited universities received an average income premium of 23 per cent, compared to those not enrolled in higher education.

No significant income premium was observed for those who had attended universities without accreditation, or technical institutes.

² 'Good-quality universities' are defined as universities accredited by SUNEDU.

Young peoples' expectations about their earnings if they completed a certain level of education were largely in line with actual earnings, though they tend to expect very high rewards from completing university

At age 15, young people expected to earn an average of US\$747 per month by the age of 25, if they completed university, more than three times what they would expect to earn if they had only completed secondary school (US\$237 per month). This is quite a large overestimate (of around US\$352 per month). In contrast, earnings expectations after completing secondary school were much closer to actual earnings, with expectations slightly below the actual level (by US\$59 per month).

Higher education graduates have been largely protected from income losses during the COVID-19 crisis

Despite widespread economic and social distress throughout the pandemic, our results show that being a higher education graduate acted as a protective factor for earnings. This was observed across all graduates, though with much wider variation for those attending technical institutes and universities without accreditation.

The income premium for higher education graduates (at age 26) from good-quality universities increased from 23 per cent before the pandemic to 46 per cent during the pandemic. Similarly, the income premium for those who studied majors/degrees in the top tercile for related graduate incomes more than doubled, from 27 per cent to 52 per cent.

However, the gender gap in earnings has almost doubled during the pandemic

The relative protection of incomes for higher education graduates has not helped to address the persistent gender gap in earnings. On the contrary, our results show that even after controlling for other factors including area of residence, skills, education and career choices, the income penalty against females increased from 12 per cent to 22 per cent during the pandemic.

Likewise, recent Young Lives evidence shows that the gender employment gap has continued to increase over the course of the coronavirus pandemic, rising from 16 per cent before the pandemic to 25 per cent by the end of 2020; while employment levels for young men have returned to pre-pandemic levels, this has not yet been the case for young women (Sánchez et al. 2021).

Earnings expectations matter, particularly for university enrolment, and reflect persistent structural inequalities and gender disparities

Our results show that the earnings expectations that young people have at age 15 predict university enrolment: those who expect a high reward from completing university are more likely to enrol.

Wealth inequality and area of residence have an impact on earnings expectations, particularly in relation to completing university

Young people living in rural areas, those from the poorest households and those with less-educated mothers (none or only primary education completed) had similar expectations to their more advantaged peers about secondary education earnings, but tended to make **significantly lower estimates of their expected earnings upon completing university**.

Given that our survey asked about an individual's self-belief (i.e. how much will you be able to earn after completing secondary school or university?) rather than about more general population-level belief (i.e. how much could someone earn after completing secondary school or university?), this finding suggests that young people from disadvantaged backgrounds are aware they will have less opportunity to access well-paid jobs than their more advantaged peers, even if they graduate from university.

Gender impacts expectations: boys have significantly higher earnings expectations than girls upon completion of both secondary school and university

Our results show that boys had significantly higher earnings expectations than girls, in relation to completing both secondary school and university, and in both rural and urban areas. Girls expected to earn up to 25 per cent less than boys upon completion of university. This gender gap in earnings expectations is largely in line with the gender gap in actual realised earnings, and remains robust even after controlling for educational attainment, skill sets and parental background, again signalling significant disadvantages for women in accessing more highly paid jobs.

For secondary education earnings, the proportion of girls (and particularly urban girls) expecting worse than actual earnings (41 per cent) is significantly higher than the proportion of boys (26 per cent). Boys were also more optimistic about the chances of getting a job after secondary school, reflecting the significant gender gap in employment levels at this level. By contrast, the gender gap in expected employment levels for university graduates was very low, with a similar proportion of male and female respondents expecting to be employed after completing university.

Performing better at school and stronger skill sets increase earnings expectations

Not surprisingly, young people with higher education attainment (who had completed a higher number of grades by age 15) and stronger skill sets (higher self-efficacy and self-esteem, and higher numeracy and literacy skills at age 15), had higher earnings expectations for both secondary education and university earnings, and were more optimistic about getting a job, particularly upon completing university, compared to their peers.

Young people who were still in education, and those who attended private schools, expected a higher return to university education than those who dropped out at younger age.

Conclusion

These two studies clearly demonstrate the persistent and significant impact of inequality and gender on educational choices for higher education in Peru, including who has access to the best-quality universities and which major/degree they study, affecting access to more highly paid jobs. Our findings suggest that earnings expectations tend to be largely in line (or better than) actual earnings realised, such that a lack of reliable information on the benefits of higher education is not likely to be a key reason for different educational choices. Rather, young people's expectations of the earnings potential for completing both secondary and higher education are significantly biased by wealth and

gender inequality, even after controlling for educational attainment and skills.

While those with higher education qualifications appear to have been relatively protected from income losses during the COVID-19 pandemic, compared to those who only completed secondary education, the crisis has undoubtedly further exacerbated existing inequalities and gender employment and pay gaps.

Ensuring more equitable access to good-quality higher education and decent jobs requires addressing the systemic challenges posed by persistent inequality and gender stereotypes, both within the education system and across wider society, including working with major employers. Further research is required to better understand why female students are underrepresented in higher education majors/degrees that lead to the highest-paying jobs, and what works in terms of positively influencing expectations and educational choices.

Box 1. Research overview

Study 1: Stratification of Returns to Higher Education in Peru: The Role of Education Quality and Major Choices (Alan Sánchez, Marta Favara, Catherine Porter, 2021)

This study investigates the factors associated with completing higher education using longitudinal data from Young Lives since 2002. Phone survey data collected in 2020 provides a unique opportunity to measure earnings controlling for skills accumulated before entering higher education, and also allows investigation into the returns to higher education before and during the COVID-19 pandemic. The study matched Young Lives data with information from the Peruvian National Household Survey (ENAHO) to calculate the average income of higher education graduates by institution and major studied. It also used a recent evaluation of universities in Peru by SUNEDU as a proxy for the quality of institutions: to date, 94 universities have been granted accreditation, and 52 denied it.

Data sources: longitudinal data from Young Lives in Peru (the Older Cohort born in 1996) tracked between 2002 and 2020, from 8 to 26 years old; education and labour market modules (2014-2018) of ENAHO; and data from SUNEDU, a Peruvian government institution overseeing the quality of universities.

Study 2: Expecting Better? How Young People Form Their Earnings Expectations (Marta Favara, Paul Glewwe, Catherine Porter, Alan Sánchez, 2021)

This is one of only a few studies investigating subjective expectations in low- and middle-income countries in a non-experimental setting. The approach is motivated by evidence suggesting that individuals have biased expectations due to limited information on returns to different education alternatives. In addition, the study builds on behavioural economic theory which suggests that forward-looking decisions are particularly costly for people living in poverty who face daily surviving threats and have limited access to information; that those from wealthier households are likely to be better informed; and that more skilled individuals are likely to make more efficient use of the information available.

Data sources: Young Lives respondents' earnings expectations at age 15, captured in Round 5 (2016) of the study; earnings observed for a national representative sample of young adults aged 24-25 and living in the same region, captured using the 2010-2016 ENAHO; Young Lives respondents' enrolment in university, captured by call 3 of the Young Lives COVID-19 phone survey.



References

Favara, M., P. Glewwe, C. Porter, and A. Sánchez (2021) *Expecting Better? How Young People Form Their Earnings Expectations*, IZA Discussion Paper 14289, <http://ftp.iza.org/dp14289.pdf> (accessed 27 April 2021).

Lavado, P., J.J. Martínez, and G. Yamada (2014) 'An Incomplete Promise? The Quality of Higher University Education and the Professional Subset in Peru' [in Spanish], Peruvian Economic Association Working Paper 23, <http://perueconomics.org/wp-content/uploads/2014/01/WP-23.pdf> (accessed 27 April 2021).

Sánchez, A., M. Favara, and C. Porter (2021) 'Stratification of Returns to Higher Education in Peru: The Role of Education Quality and Major Choices', <http://perueconomics.org/wp-content/uploads/2021/05/WP-180a.pdf> (accessed 5 May 2021).

Sánchez, A., S. Cueto, M. Penny, J. Lopez, and N. Lago (2021) 'Listening to Young Lives at Work in Peru: Third Call', Oxford: Young Lives.

Sánchez, A., and A. Singh (2018) 'Accessing Higher Education in Developing Countries: Panel Data Analysis from India, Peru, and Vietnam', *World Development* 109: 261–78.

World Bank (2020) 'School Enrollment, Tertiary (% gross) – Peru', <https://data.worldbank.org/indicator/SE.TER.ENRR?view=chart&locations=PE> (accessed 29 April 2021).



Acknowledgments

Young Lives is an innovative longitudinal study following the lives of 12,000 young people in Ethiopia, India (in the states of Andhra Pradesh and Telangana), Peru and Vietnam since 2001. The study is divided into two age groups: 4,000 young people born in 1994 (the Older Cohort, now aged 26) and 8,000 born in 2001 (the Younger Cohort, now aged 19).

The Young Lives COVID-19 phone survey, funded by the Foreign, Commonwealth & Development Office (FCDO) as part of the Young Lives at Work programme, consisted of three phone calls with each of our respondents in all four study countries between June to December 2020, to better understand the impact of the pandemic on their lives and help to inform COVID-19 recovery plans.

This policy brief was written by Kath Ford, with valuable insights, comments and suggestions from Catherine Porter, Alan Sánchez and Marta Favara. Thanks to Adam Houlbrook for copyediting, Garth Stewart for design and Julia Tilford for overseeing the publication process. We particularly wish to thank the Young Lives participants and their families for generously giving us their time and cooperation. Special thanks to the Economic and Social Research Council (ESRC) for funding this brief and the related two studies as part of the Inequality of Opportunity in Peru, GCRF project (ES/S004564/1).

The views expressed are those of the authors. They are not necessarily those of, or endorsed by, Lancaster University, the University of Oxford, Young Lives, the ESRC or other funders.



© Young Lives May 2021

Young Lives, Oxford Department of International Development (ODID)
University of Oxford, 3 Mansfield Road, Oxford OX1 3TB, UK

www.younglives.org.uk

Tel: +44 (0)1865 281751 • Email: younglives@qeh.ox.ac.uk • Twitter: @yloxford

