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Impact of Local Government-Led Higher Education Scholarships in Developing Countries: Insights from the Philippine Case and Policy Implications for Korea's Cooperation

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Executive Summary

Impact of Local Government-Led Higher Education Scholarships in Developing Countries: Insights from the Philippine Case and Policy Implications for Korea's Cooperation

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Education is central to human capital accumulation, productivity growth, and social mobility. While global progress has been substantial in expanding access to primary education, participation in secondary and tertiary education remains uneven in many developing countries. The Philippines exemplifies this challenge: despite improvements in basic education, structural barriers—including financial constraints, labor-market uncertainty, and skills mismatches—continue to limit access to higher education and weaken incentives for households to invest in university study. Scholarship programs are therefore a key policy instrument for easing financial constraints and expanding participation in higher education in the short run.

This report evaluates the impact of a local university scholarship program implemented by the Cagayan de Oro City government in the Philippines. Moving beyond enrollment alone, the study examines a range of student outcomes, including academic persistence, academic specialization and performance, intentions to pursue professional certification, civic engagement, and short-run psychological well-being. By doing so, the report attempts to provide new evidence on the mechanisms through which scholarships may influence human capital formation before long-term outcomes such as graduation and labor-market earnings materialize.

The analysis finds that the scholarship program leads to modest improvements in student persistence, but shows limited short-run effects on academic performance, field specialization, and most indicators of psychological well-being. Strong conclusions regarding mental health impacts are not warranted. The findings highlight the need for further research on how financial aid affects students'

educational outcomes and psychological well-being in a short run.

An important feature of the program is that, although it is formally income-targeted, the income threshold is relatively mild, and the program functions in practice more as a merit-oriented than a need-based intervention. The modest gains in persistence combined with limited broader effects suggest that merit-based scholarships alone may not be sufficient to generate sustained or multidimensional impacts, particularly in settings where financial stress, academic preparedness, and labor-market uncertainty interact.

From a policy perspective, the findings underscore the importance of careful scholarship design. Scholarships can be effective in improving persistence, but their impact may be strengthened by incorporating stronger need-sensitive components and complementary support, such as academic advising, mental-health services, or living-expense subsidies. Without such design features, merit-based programs risk producing narrow benefits or reinforcing existing inequalities.

The report also carries implications for Korea's development cooperation strategy. While Korea's ODA has supported Filipino students primarily through scholarships for study in Korea, this approach generates limited spillovers for the Philippine higher education system and domestic labor market. International experience—such as Australia's in-country scholarships in Papua New Guinea and Germany's in-region postgraduate programs—suggests that locally embedded scholarship programs, implemented in partnership with domestic universities and aligned with national skill needs, can foster more sustainable human capital development.

The report therefore recommends that Korea expand its support toward locally grounded, jointly designed scholarship and training programs in the Philippines, potentially linked with industry partnerships in strategic sectors such as digital technology, engineering, and green industries. Such an approach can simultaneously strengthen the Philippines' domestic human capital base

and support deeper economic and industrial cooperation with Korea.

Overall, the report concludes that scholarship programs are a valuable but incomplete policy tool. When carefully designed and embedded within broader education and labor-market strategies, they can contribute meaningfully to human capital development, equity, and long-term inclusive growth.

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1.1 Background

Key to human capital accumulation, education is central to economic and productivity growth, innovation, and upward social mobility. The global development agenda has therefore prioritized universal access to primary education, with notable progress under the Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs). Primary school enrollment rates have risen significantly worldwide. However, progress in secondary and tertiary education remains uneven, particularly in developing countries. This imbalance poses a serious challenge, as higher levels of education are essential for cultivating advanced skills and sustainable growth in today's global economy. The Philippines is one of example countries that suffers from such development challenge: while primary education access has expanded considerably, persistent barriers continue to limit opportunities in higher education.

This report addresses this issue by examining the impact of a local university scholarship program in the Philippines, with a focus on the Cagayan de Oro City government's financial support scheme. Scholarship programs are among the most direct policy tools to promote higher education from the labor supply side by making higher education affordable and accessible. Thus, understanding how scholarships affect students' outcomes is important to tackling the Philippines' higher education participation problem in a short run. Specifically, this report analyzes how scholarships influence students' academic achievements and psychological well-being. By moving beyond enrollment numbers alone, the report provides a more comprehensive understanding of how scholarships shape student's human capital outcomes.

Analyzing scholarship programs is particularly important in the Philippine context. Expanding access to higher education remains a central challenge for the Philippines as it seeks to strengthen human capital and sustain inclusive growth. Despite progress in recent decades, participation in tertiary education is still shaped by the structural barriers of the labor market. Persistent underemployment, weak demand for high-skill labor in certain sectors, and skills mismatches often undermine the perceived returns to higher education. These demand-side constraints discourage many households from investing in

university study, reinforcing cycles of low educational attainment and constrained upward mobility.

Yet focusing exclusively on labor demand risks obscuring the role of policies that can immediately influence educational decisions. On the supply side, financial constraints remain a significant barrier for students from lower-income backgrounds. Even when the labor market signals uncertain returns, households face pressing short-term choices about whether they can afford to send their children to university. Scholarship programs directly target this bottleneck by lowering the cost of participation and reducing the risks associated with pursuing higher education.

Evaluating the impact of scholarship programs is therefore of high policy importance. Unlike structural reforms to labor markets—which unfold gradually—scholarships can shift participation rates in the near term, with implications for both equity and efficiency. By identifying whether such programs succeed in expanding access, improving persistence, and supporting completion, policymakers gain critical insights into how supply-side instruments can complement longer-term efforts to strengthen labor demand. In the Philippine context, where inequality in educational opportunity remains pronounced, understanding the effectiveness of scholarships is essential to designing a balanced policy mix that aligns immediate interventions with broader development strategies.

In addition, in recent years, both local governments and universities in the Philippines have significantly expanded scholarship schemes, aiming not only to improve academic outcomes but also to strengthen student leadership capacity. Many capable students facing financial constraints are forced to either abandon their studies or divide their time between academics and income-generating activities. This not only undermines their academic performance but also contributes to stress, mental health concerns, and lost opportunities for leadership and civic engagement. Scholarships directly address this constraint and have the potential to accelerate national human capital accumulation.

Despite this potential, empirical research on scholarships in developing countries remains limited. Most studies focus on advanced economies and measure narrow outcomes such as enrollment or completion rates. Even fewer studies investigate multidimensional

impacts including academic performance and mental health in a developing country context. This evidence gap constrains effective policy design, particularly in countries like the Philippines where scholarships are increasingly integrated into human capital development strategies. This report addresses the evidence gap by analyzing the impact of a local university scholarship program on students' academic achievement and psychological well-being.

For Korea, as it strengthens its role in international development cooperation, understanding the impact of local scholarship programs and the significance of higher education cooperation extends beyond development assistance. Korea's own experience demonstrates the transformative role of education in driving rapid industrialization and social progress. Today, Korea ranks among the strongest global performers in education, with high levels of attainment, performance, and investment in human capital. Leveraging this comparative strength, Korea is well-positioned to share lessons and support higher education systems abroad. Cooperation in this area aligns with Korea's SDG commitments, reinforces its reputation as a trusted knowledge-sharing partner, and lays a foundation for deeper collaboration in areas such as digital transformation, climate resilience, and innovation. Supporting higher education in the Philippines thus serves not only as a development contribution but also as a strategic investment in building long-term partnerships across the region. In this respect, the study carries direct implications for Philippine policymakers as they refine higher education and human capital strategies, while also offering insights for Korea as it expands its role in international development cooperation.

To complement the existing literature, which largely focuses on educational attainment or long-run labor market outcomes of scholarships, this paper examines short-run effects that plausibly constitute early steps toward leadership development and future professionalization. Specifically, it analyzes outcomes such as student persistence, intentions to pursue board-review certification, and civic engagement, to understand mechanisms that operate before long-term outcomes such as graduation or earnings materialize. The paper also examines short-run psychological well-being. Since the results are inconsistent and noisy, the paper suggests that further research is needed to understand whether and how scholarship support affects students' mental health in financially vulnerable contexts.

This paper also analyzes the effects of a merit-oriented scholarship program. Although the program is formally targeted at students from families below a specified income threshold, this constraint is relatively mild, and the program functions in practice more as a merit-based than a need-based intervention. The findings — that persistence improves modestly, while academic specialization and short-run academic performance do not — should therefore be interpreted in light of this design. While this feature constitutes a limitation of the analysis, it speaks to how scholarship programs should be carefully designed to be effective and contributes to the broader debate on how tightly targeted such programs should be.

1.2 Literature Review

1.2.1 Educational Attainment and Leadership

Financial constraints are among the most significant factors impeding students' academic engagement. To alleviate these pressures, scholarships serve as an essential mechanism to support students' educational pursuits. Consequently, understanding the impact of scholarships has long been a central concern for education policymakers. The relationship between scholarships and academic performance has been extensively studied. In addition to conventional measures such as GPA or grades, indicators such as enrollment, persistence, completion, and graduation are also commonly regarded as dimensions of academic achievement.

A substantial body of research shows that both merit-based and need-based scholarships can enhance academic performance, but their relative effects are far from consistent across contexts. For instance, Stater (2009) finds that while both types of scholarships raise college GPA, the effect is stronger for merit-based awards, suggesting that academic incentives may reinforce existing student motivation. Similarly, de Sivatte and Gabaldón (2023) show that scholarship recipients in European business programs earn higher GPAs, largely due to increased class attendance, although the study does not sharply distinguish merit and need.

In contrast, several studies emphasize the strong role of financial need in developing countries. In developing country settings, need-based scholarships often appear more impactful. Mulyaningsih *et al.* (2022) reports that Indonesia's Bidikmisi program—targeting academically capable but financially disadvantaged students—raises GPA by 0.16 SD and improves both graduation rates and academic persistence. Likewise, Ahmed *et al.* (2022) finds that need-based scholarships significantly improve academic outcomes, whereas merit-based scholarships show no statistically significant effect.

These contrasting findings suggest that merit-based incentives and financial-need relief may operate through distinct mechanisms: the former by rewarding performance and the latter by reducing economic barriers. The literature, however, provides no consensus regarding which mechanism dominates.

Beyond grades, many studies document positive effects of scholarships on enrollment, retention, and timely progression. Grants have been shown to improve student persistence using panel and regression discontinuity designs in the United States (Bettinger 2004). In Italy, scholarship recipients earn more credits, reduce dropout risk, and graduate more quickly (Agasisti and Murtinu 2016). Similarly, the Florida Student Access Grant program increases credit accumulation and degree completion through financial support (Castleman and Long 2016). Yet, not all studies find strong causal impacts. Cristobal Velásquez *et al.* (2025), examining the Peruvian context, reports no statistically significant scholarship effects on GPA and finds no influence on students' field-of-study choices.

The study provides modest evidence of positive effects on enrollment and timely academic progression in the Philippines' Cagayan de Oro context. These results underscore the variability of scholarship impacts across contexts. By focusing on the causal effects of a high-education scholarship, our analysis contributes to the broader literature that seeks to disentangle the mechanisms through which scholarships operate. The divergent findings across merit-based and need-based programs underscore the importance of context-specific evaluation—particularly in systems where financial pressures strongly condition students' academic trajectories.

A growing body of research suggests that scholarship programs influence not only

educational attainment but also civic participation and leadership development among recipients. Evaluations of large-scale initiatives, such as the Mastercard Foundation Scholars Program in sub-Saharan Africa, show that combining financial aid with mentoring, leadership training, and community service fosters a sense of civic duty and leadership potential (Cosentino *et al.* 2019). Similarly, the Gates Millennium Scholars Program in the United States, which targets high-achieving low-income students of color, has been found to increase collaboration, community engagement, and extracurricular participation (Boatman and Long 2016). In low-income contexts, long-term evidence also points to leadership-related career trajectories. A 15-year randomized evaluation in Ghana found that secondary school scholarships significantly raised tertiary completion and public-sector employment, especially among women—sectors typically associated with civic responsibility and local leadership (Duflo, Dupas and Kremer 2024).

Tracer studies of global scholarship programs such as the Commonwealth, Chevening, and Australia Awards similarly report alumni occupying leadership positions in government, academia, and civil society (Australia Awards Global Tracer Facility 2023; Commonwealth Scholarship Commission in the UK 2021). While these programs explicitly aim to cultivate leadership and social change, independent reviews have emphasized the need for stronger, outcomes-based assessments of post-award leadership behavior (Perera, Singh and O'Brien 2023).

Overall, the literature indicates that scholarship programs can foster civic-mindedness and leadership through both expanded educational access and structured non-academic components. However, robust causal evidence on sustained leadership or civic engagement outcomes after graduation remains limited, suggesting an important area for future research.

Beyond broad leadership narratives, a related strand of research examines more proximate outcomes that can serve as early markers of leadership trajectories, such as professional credentialing, career intentions, and civic participation. Long-run evidence from Ghana shows that scholarship support increases tertiary completion and raises public-sector employment. This sector is often associated with civic responsibility and

local leadership (Duflo, Dupas and Kremer 2024). These findings suggest that financial aid can influence not only educational attainment but also the types of professional pathways that students pursue.

A parallel and more extensive literature documents the strong relationship between education and civic engagement. Recent empirical work, including Le and Nguyen (2021), shows that increases in schooling can raise political interest and other forms of political engagement, although effects on behaviors like voting are more mixed. Studies of higher education experiences further indicate that exposure to college-level coursework and civic-learning environments predicts higher levels of community involvement and political engagement after graduation (Perrin, McFarland *et al.* 2019). Research on student civic engagement typically conceptualizes outcomes along behavioral (e.g., voting, volunteering), attitudinal (e.g., civic-mindedness), and skill-based (e.g., leadership and organizational skills) dimensions, with evidence that structured university programs can strengthen these traits during college.

Despite these advances, there remains limited causal evidence on short-run behavioral outcomes that may lie on the pathway to leadership—such as intentions to sit for professional examinations, immediate employment plans, sectoral preferences, or concrete civic behaviors (voting in specific elections or years of community service). Most scholarship evaluations focus on educational attainment or long-run occupational status, and tracer studies often rely on self-reported leadership roles rather than well-defined behavioral indicators. This gap highlights the need for studies that measure leadership-adjacent behaviors in the early stages of students' careers.

Against this backdrop, our study makes two key contributions. First, whereas most existing scholarship evaluations focus on educational attainment or long-run employment outcomes (Duflo, Dupas and Kremer 2024), we examine a set of short-run behavioral indicators that plausibly serve as early steps toward future leadership. These include intentions to prepare for professional or board examinations, immediate career plans, preferences over public- versus private-sector work, and concrete civic behaviors such as voting in a national election and accumulated years of community service. These

outcomes are rarely measured in prior studies, despite their relevance for understanding how financial aid might shape the early professional and civic trajectories of young adults.

Second, our setting provides quasi-experimental evidence on a large-scale financial-aid program that does not explicitly incorporate leadership training or civic-development components. This allows us to isolate the extent to which easing financial constraints alone can shift leadership-adjacent behaviors in the short run. Leveraging a sharp regression discontinuity design, we identify local causal effects among applicants near the eligibility threshold. The results—most notably, a consistent increase in the intention to review for board examinations and suggestive patterns in past voting and community service—help clarify both the potential and the limits of financial scholarships as a mechanism for fostering early civic and professional engagement, even in the absence of explicit leadership programming.

1.2.2 Mental Health

The economic burden associated with mental illness is substantial. In high-income countries, mental health conditions are estimated to cost 4 to 8 percent of GDP when accounting for both direct healthcare costs and indirect costs such as labor force participation, absenteeism, and lower productivity (OECD 2023; Arias, Saxena and Verguet 2022; WHO 2020). The economic costs may be even more pronounced in low- and middle-income countries, yet it remains under-researched due to diagnostic challenges, under-resourced health systems and social protection, and lack of reliable data. Despite increasing policy attention, mental health spending in most developing countries remain below 2 percent of the total health expenditures (WHO 2020), underscoring the urgent need for evidence-based interventions and policy responses.

Psychological health transcends individual well-being and constitutes a critical dimension of broader societal development, particularly through its role in shaping human capital. Although Grossman (1972) did not explicitly emphasize psychological health, the importance of health as a component of human capital has been widely recognized since his foundational work. The quality of labor is influenced by the psychological condition of

individuals, which in turn has implications for long-term economic development. Empirical evidence shows that poor mental health hinders educational attainment and disrupts the process of human capital accumulation. These disruptions can lead to lower lifetime earnings at the individual level and reduced productivity at the macroeconomic level (OECD 2012; OECD 2015).

Given the interconnectedness of educational attainment, human capital formation, and psychological health, there is a compelling need to investigate the effects of interventions that may address both educational and mental health outcomes. Scholarship programs for higher education are widely considered and implemented policy tools in developing countries to promote participation in higher education and to reduce financial barriers. Their potential impacts can be extended beyond academic achievement and encompass important psychological dimensions. By alleviating financial stress and uncertainty, scholarships may foster a more stable and supportive environments for the beneficiaries. Despite this potential benefit, empirical evidence on the psychological effects of scholarship interventions remains limited, especially in low- and middle-income countries. Understanding whether and how such programs contribute to improved mental well-being is essential for designing educational policies and international cooperation strategies that would foster higher education and support broader human capital development.

This study seeks to fill in the gap in the literature by examining the effects of scholarship provision on students' mental health within a developing country context. Utilizing a local scholarship program in the Philippines, we exploit eligibility cutoffs to implement a regression discontinuity design. Although positive in happiness and life satisfaction, this study finds the scholarship do not statistically significant changes in students' self-reported psychological well-being. The effect of the scholarship on students' mental health after graduation should be thoroughly evaluated in the future studies to understand the life-long effects.

A growing body of research highlights the potential for scholarship programs to directly alleviate mental health burdens among university students by relaxing financial constraints. At a fundamental level, scholarships act as an in-kind transfer for education,

which can mitigate liquidity constraints faced by students and their families. Financial relief shows strong correlation with symptoms of depression and anxiety (Ridley *et al.* 2020). The relationship would be especially pronounced for students who would otherwise be compelled to finance their education through student loans, since extensive evidence suggest that student loan debt can exert substantial negative effects on mental health (Sinha, Viswanathan and Larrison 2024). In such cases, scholarship receipt would likely prevent or mitigate the psychological burden associated with educational debt.

Furthermore, by directly funding tuition expenses that households would otherwise have to finance from their own resources, scholarships alleviate budgetary constraints and enable the reallocation of household spending toward domains that support psychological well-being. These indirect effects may operate through several channels. For example, alleviated budgetary constraints can lead to increased consumption of nutritious food which is often more costly, as well as improved food security, healthcare access, and opportunities for physical activity. In addition, scholarships may allow students to reduce the time spent on paid employment which might have been necessary to meet educational expenses without scholarships. This would lead to freed up time for study or leisure activities which are positively associated with mental health.

Our study contributes to the literature on the impacts of expanding access to higher education by providing new evidence on its effects on college students' mental health, and outcome that has received relatively little attention in existing literature. A considerable body of labor economics research has examined the impacts of expansion of higher education on educational attainment and long-term labor market outcomes. However, there remains a distinct scarcity of research on the direct effects of university eligibility on students' mental health, and our findings address this gap in the literature. Among the limited empirical studies examining this relationship, Heckley, Nordin and Gerdtham (2022) provide evidence from Sweden by exploiting an arbitrary university eligibility cutoff to examine the impact of college attendance among marginally eligible students' mental health. Their findings highlight notable gender heterogeneity. College attendance reduced self-harm among the female students, indicating a robust positive effect on their

psychological well-being. In contrast, the effects among male students were more complex, with observed decreases in risky behaviors such as prescription painkiller use, together with an increase in alcohol related hospitalizations. These results underscore the importance of considering both beneficial and adverse channels, such as peer pressure or academic stress, when evaluating the health returns to higher education access.

Our study also contributes to the literature examining the mental health effects of public assistance policies for college students, by providing novel causal evidence from a developing country context. Specifically, we analyze the psychological consequences of targeted financial assistance using quasi-experimental methods and rich data from the Philippines. Numerous existing studies have documented a strong association between economic insecurity and adverse mental health outcomes, a relationship documented across diverse settings including Southeast Asia. Dessauvagie *et al.* (2022) provide a systematic review encompassing 335 studies on university students across six ASEAN countries, and find that perceived financial hardships and economic status are consistently identified as key determinants in explaining the mental health problems. These findings suggest that public assistance policies that mitigate financial stress among college students may serve as an effective policy tool for supporting their psychological well-being.

Despite this growing body of correlational evidence, there remains a limited number of causal studies evaluating the effects of such policies specifically among college student populations. Notably, Cowan and Hao (2021) examine the impact of Medicaid expansion in the United States, which effectively enhanced access to mental health care services for college students. Their results reveal increases in public insurance coverage and higher rates of diagnosis for common mental health conditions, particularly among low-income students. This suggests greater utilization of mental healthcare services within this marginalized group. However, the study finds no significant short-term improvements in mental health outcomes or academic performance. Our analysis builds on this emerging strand of literature by adding new evidence on mechanisms through which financial assistance can influence students' well-being and human capital accumulation beyond academic and labor market outcomes.

In this study, mental health among students is assessed using the Patient Health Questionnaire (PHQ-9), a widely recognized and validated instrument for evaluating depressive symptoms. The PHQ-9 has been serving as a central depression screening metric for depression (Kroenke, Spitzer and Williams 2001), and extensively applied in population-based surveys as well as scholarly research to quantify and examine both mental health status and depression prevalence. Numerous studies have investigated changes in PHQ-9 scores to gauge the effectiveness of interventions, including health interventions and anti-poverty interventions. For example, Angelucci, Heath and Noble (2023) examine the mental health impact of a multi-dimensional intervention providing financial resources, business development support, mentorship, and social integration for ultra-poor women in the Democratic Republic of Congo. Garabiles *et al.* (2020) utilize PHQ-9 in their assessment of mental health disorders and validate its appropriateness among Filipino migrant domestic workers residing in Macao. Similarly, Vu *et al.* (2022) also analyze the relationship between socioeconomic characteristics and PHQ-9 scores within the Vietnamese context, affirming the usage of PHQ-9 in capturing the mental health status of the general population.

1.3 Structure of the Report

The structure of this report is as follows. Chapter 2 provides an overview of higher education in the Philippines, outlining the current status and key challenges to expanding access and improving quality. Chapter 3 introduces the scholarship program under study and data used for the analysis. Then, chapter 4 details the research design and presents the results of the impact analysis. Chapter 5 concludes by drawing policy implications, with particular attention to how Korea can strengthen international cooperation in promoting higher education in the Philippines and, more broadly, contribute to global development goals.

Chapter II.

Higher Education in the Philippines: Current Status and Key Challenges

2.1 Overview of the Philippine Higher Education System

2.1.1 Governance

The Higher Education Act of 1994, enacted in 1994, laid the foundation for the governance of the current education system in the Philippines. Under this law, the Commission on Higher Education (CHED) was established under the Office of the President, resulting in three agencies each overseeing a distinct domain of education. CHED is responsible for tertiary and graduate education; the Department of Education (DepED) for basic education; and the Technical Education and Skills Development Authority (TESDA) for technical-vocational education and middle-level education.[1]

The Higher Education Act of 1994 also defines the powers and functions of the CHED. The key provisions include[2]:

- Formulating and recommending development plans, policies, priorities, and programs for higher education and research.
- Recommending to the executive and legislative branches priorities and subsidies for higher education and research.
- Monitoring and evaluating higher education institutions (HEIs) and their outcomes, and, based on these assessments, providing appropriate incentives; recommending the reduction or withdrawal of subsidies; recommending the downgrading or withdrawal of accreditation; and imposing sanctions such as the closure of programs or institutions.
- Establishing additional criteria for the allocation of financial resources, such as research and program development grants and scholarships.

HEIs are classified into State Universities and Colleges (SUCs), Local Universities

[1]Commission on Higher Education, https://chedcar.com/pertinent-laws.
[2]Commission on Higher Education, https://chedcar.com/powers-and-functions.

and Colleges (LUCs), and private higher education institutions. As of October 2024, there were 1,973 HEIs (or 2,410 including satellite campuses), consisting of 113 SUCs (550 including satellite campuses), 137 LUCs, 1,704 private institutions, and 13 other government schools, CHED-supervised institutions, and special schools.[3]

The Higher Education Modernization Act of 1997 further defined the composition, powers, and responsibilities of the Governing Boards of SUCs, including the process of selecting SUC presidents and their terms of office. The main powers and responsibilities of the Governing Boards, as set out in Republic Act No. 8292, include[4]:

- Formulating the rules and regulations of SUCs.
- Determining appropriate levels of tuition, school charges, matriculation fees, graduation fees, and laboratory fees.
- Applying a 'socialized' tuition and fee scheme for qualified low-income students.
- Absorbing non-chartered tertiary institutions in the provinces, in consultation with CHED and the Department of Budget and Management, to ensure equal educational opportunities.
- Enhancing efficiency, relevance, productivity, and competitiveness of SUCs by collaborating with other SUC Governing Boards within provinces or regions, under the supervision of CHED and in consultation with the Department of Budget and Management.

In summary, CHED oversees higher education governance at the macro level through institutional design, incentives, and regulatory frameworks, while the Governing Boards of SUCs manage micro-level governance by establishing rules and operating public higher education institutions to meet objectives such as equity, efficiency, and competitiveness. Furthermore, the Chairperson of CHED also serves as the Chair of the SUC Governing Boards, ensuring coordination between macro- and micro-level governance within the

[3]Commission on Higher Education, https://ched.gov.ph/statistics/?appgw_azwaf_jsc=LeNTAowiC2Aa8dfYZ4uZI8wZcABoF22T8_ZphHUlZko.
[4]Republic Act No. 8292, https://lawphil.net/statutes/repacts/ra1997/ra_8292_1997.html.

higher education system.

2.1.2 Key Legislative and Policy Frameworks in Philippine Higher Education

Over the past decade, several major policies have been introduced in relation to higher education in the Philippines. Notable among these are the Unified Student Financial Assistance System for Tertiary Education (UniFAST) Act, enacted in October 2015, and the Universal Access to Quality Tertiary Education Act, enacted in August 2017.

The UniFAST Act was established to (i) integrate and improve student financial assistance policies and programs, (ii) promote regional equity, (iii) develop a pool of high-level human resources, (iv) provide grants-in-aid for students from poor and marginalized households, and (v) extend student loan programs to those facing liquidity constraints.[5]

The Universal Access to Quality Tertiary Education Act institutionalized several key programs: Free Higher Education in SUCs and LUCs; Free Technical-Vocational Education and Training (TVET) in Post-Secondary Technical-Vocational Institutions (TVIs); and the Tertiary Education Subsidy (TES). The provision of Free Higher Education in SUCs and LUCs applies to all Filipino students, provided that they meet admission and retention requirements. Under the law, tuition and other fees are waived, but institutions must establish mechanisms that allow students with the financial capacity to voluntarily opt out of the subsidy or provide contributions to the institution. All tuition payments or contributions collected are to be reported to CHED. The provision of Free TVET in Post-Secondary TVIs exempts all Filipino students from tuition and other fees in non-degree certificate or diploma programs offered by state-run TVIs under TESDA. As with SUCs and LUCs, TVIs are required to establish an opt-out mechanism for students with the ability to pay, who may also contribute voluntarily to the institution.

However, there are exceptions. For SUCs and LUCs, free higher education does not cover: (i) students who have already earned a bachelor's degree or equivalent from either public or private HEIs; (ii) students who fail to comply with policies of HEIs; or (iii)

[5]Republic Act No. 10687, https://lawphil.net/statutes/repacts/ra2015/ra_10687_2015.html.

students who fail to complete their bachelor's degree within one year after the prescribed period of study. For state-run TVIs, free education does not cover: (i) students who have already obtained a bachelor's degree or a certificate or diploma equivalent to at least National Certificate Level III; or (ii) students who fail in any course enrolled in during their program of study.

The Tertiary Education Subsidy supports the full or partial cost of tertiary education for Filipino students enrolled in SUCs, LUCs, private HEIs, and TVIs. Priority is given first to students belonging to households listed in Listahanan 2.0[6] Students are ranked according to estimated per capita household income. The next priority group includes students not listed in Listahanan 2.0, who are ranked according to submitted proof of income as determined by the UniFAST Board. This prioritization, however, does not apply to students living in cities or municipalities without SUC or LUC campuses.

These Philippine higher education support policies—scholarships, free tuition, and student loans—are noteworthy not only because they consider equity in terms of income and access, but also because they introduce differentiated prioritization and performance-based conditions for beneficiaries. For example, under the Universal Access to Quality Tertiary Education Act, the National Student Loan Program gives priority to the top ten graduates of every public high school. Beneficiaries are subject to academic performance requirements, and failure to comply results in loss of eligibility.

Another relevant initiative is the Ladderized Education Act of 2014, which institutionalized an education pathway linking TVET and higher education. This law was designed to facilitate career and educational mobility for students and workers. Its core mechanism is the Philippine Qualifications Framework (PQF), a national quality assurance system that promotes the alignment of TVET and higher education, establishes linkages between education, training, and the labor market, and ensures comparability with international qualification frameworks to support global labor mobility.

Specifically, the Ladderized Education framework strengthens linkages through credit

[6]According to Velarde(2018), it is formally known as the National Household Targeting System for Poverty Reduction (NHTS-PR), the Listahanan was adopted as the Government's primary mechanism for targeting poor households for social protection programs in March 2010 through Executive Order 867.

transfer, embedded TVET qualifications in ladderized degree programs[7], and enhanced equivalency. Credit transfer refers to a system in which units earned from different modalities are recognized by institutions. An embedded TVET qualification in a ladderized degree program allows students enrolled in degree programs to obtain TVET qualifications that lead to job opportunities, even if they exit the degree program before completion; in such cases, they still earn a full TVET qualification. More broadly, ladderized education refers to the harmonization of education and training systems that allow students and workers to move between TVET and higher education, enabling flexible entry, exit, and re-entry.

In sum, the Ladderized Education Act of 2014 enhanced articulation between TVET and higher education by providing flexible learning pathways and ensuring alignment through the PQF. This framework has not only facilitated student mobility within the Philippine education system but also strengthened international comparability and recognition of qualifications.

2.1.3 Statistical Overview of Philippines Higher Education

Table 2.1 presents higher education enrollment in the Philippines disaggregated by sex and institutional type. A salient feature is that female enrollment consistently surpasses male enrollment across program levels. Moreover, at the baccalaureate, master's, and doctoral levels, private higher education institutions account for a larger share of total enrollment compared to public institutions, namely SUCs and LUCs. This underscores the

Table 2.1. Enrollment by HEI Type, Program Level, and Sex (AY 2022–2023)

HEI Type	Pre-baccalaureate		Baccalaureate		Post-baccalaureate		Masteral			Doctorate	
	Male	Female	Male	Female	Male	Female	Male	Female	Unspecified	Male	Female
LUC	2,780	3,407	201,485	290,098	42	117	1,155	2,039		120	210
OGS	5	79	829	364			547	177		4	2
Private	12,076	10,801	1,193,161	1,339,215	788	1,643	35,198	84,760	11	9,325	14,171
SUC	19,137	12,849	758,421	1,032,182	2,037	4,012	30,337	60,274		6,568	9,983
Grand Total	**33,998**	**27,136**	**2,153,896**	**2,661,859**	**2,867**	**5,772**	**67,237**	**147,250**	**11**	**16,017**	**24,366**

Source: https://ched.gov.ph/2024-higher-education-facts-and-figures/?appgw_azwaf_jsc=81gZukQULdjELflN0ADKQGSXoCalIpt4W8.

[7]Ladderized Education refers to the harmonization of all education and training systems, enabling students and workers to move between technical-vocational education programs and higher education programs.

significant role of the private sector in the provision of higher education in the Philippines.

According to Table 2.2, across institutions, the number of female graduates exceeds that of male graduates, with the exception of other government schools (OGS). Table 2.3 shows that baccalaureate graduates constitute the overwhelming majority of higher education graduates. A similar pattern is observed across degree levels: at the baccalaureate, master's, and doctoral levels, female graduates outnumber their male counterparts.

Table 2.2. Higher Education Graduates by Sex and Institutional Type (AY 2022–2023)

HEI Type	Male	Female
LUC	28,535	48,974
OGS	735	305
Private	162,367	231,235
SUC	140,409	216,226
Grand Total	**332,046**	**496,713**

Source: https://ched.gov.ph/2024-higher-education-facts-and-figures/?appgw_azwaf_jsc=81gZukULdjELflN0ADKXGWWolR-iQGSXoCalIpt4W8.

Table 2.3. Higher Education Graduates by Sex and Program (AY 2022–2023)

Program Level	Male	Female
Pre-baccalaureate	7,779	10,314
Baccalaureate	307,093	456,576
Post-baccalaureate	1,094	2,090
Master's	13,486	24,051
Doctorate	2,594	3,682
Grand Total	**332,046**	**496,713**

Source: https://ched.gov.ph/2024-higher-education-facts-and-figures/?appgw_azwaf_jsc=81gZukQULdjELflN0ADKXGWWolR-iQGSXoCalIpt4W8.

As shown in Table 2.4, the number of baccalaureate graduates is relatively comparable between private and public higher education institutions. In contrast, at the master's and doctoral levels, the number of graduates from private institutions substantially exceeds that of public institutions.

Table 2.4. Higher Education Graduates by Program Level and Institution Type (AY 2022–2023)

Program Level	Private	SUC	LUC	OGS
Pre-baccalaureate	5,975	10,278	1,763	77
Baccalaureate	358,736	329,848	74,853	233
Post-baccalaureate	575	2,596	13	
Master's	24,082	11,933	798	724
Doctorate	4,235	1,980	55	6
Grand Total	**393,603**	**356,635**	**77,482**	**1,040**

Source: https://ched.gov.ph/2024-higher-education-facts-and-figures/?appgw_azwaf_jsc=81gZukQULdjELflN0ADKXGWWolR-iQGSXoCalIpt4W8.

Table 2.5 indicates that the National Capital Region, with 34,237 faculty members, has the highest concentration of higher education faculty in the Philippines. Unlike most other regions, a substantial majority of faculty in the National Capital Region are employed in private institutions rather than public ones. Overall, private higher education institutions employ more faculty nationwide, with the National Capital Region and CALABARZON accounting for the largest shares, thereby indicating significant regional disparities. By contrast, in regions such as Eastern Visayas, the Cordillera Administrative Region, and MIMAROPA, faculty employment is more heavily concentrated in public institutions, underscoring the critical role of public higher education in these areas.

Table 2.5. Number of Higher Education Faculty by Institution Type and Region (AY 2023–2024)

Region	Private	SUC	LUC	OGS
Ilocos Region	3,437	3,925	792	
Cagayan Valley	3,078	2,201		
Central Luzon	8,132	6,051	184	
CALABARZON	13,778	7,929	1,904	46
Bicol Region	5,288	4,316	1,509	
Western Visayas	7,486	5,973	702	
Central Visayas	8,733	2,908	1,086	
Eastern Visayas	2,159	3,984	239	
Zamboanga Peninsula	3,095	3,628	140	
Northern Mindanao	4,532	3,441	1,081	
Davao Region	6,353	1,524	686	
Soccsksargen	3,605	1,338	156	
Nat. Capital Region	23,460	6,450	4,327	
Cordillera Adm. Region	2,140	2,251		
Caraga	2,192	1,759		
MIMAROPA	1,517	2,942	186	
Grand Total	**98,985**	**60,602**	**12,972**	**46**

Source: https://ched.gov.ph/2024-higher-education-facts-and-figures/?appgw_azwaf_jsc=81gZukQULdjELflN0ADKXGWWolR-iQGSXoCalIpt4W8.

Table 2.6 shows that the average faculty–to-student ratio in private higher education institutions is 1:28, which is lower than the public higher education average of 1:34. Nonetheless, regional disparities are also evident within the private sector. Despite having the largest number of both students and faculty, the National Capital Region records a ratio of 1:22, which is below the private sector average. In contrast, the ratio in Soccsksargen reaches 1:48, underscoring substantial regional variation.

Table 2.6. Faculty–Student Ratio by Sector (AY 2023–2024)

Region	Private			Public		
	Faculty	Student	Ratio	Faculty	Student	Ratio
Ilocos Region	3,437	140,765	1:41	4,717	136,256	1:29
Cagayan Valley	3,078	90,728	1:30	2,201	109,914	1:50
Central Luzon	8,132	240,488	1:30	6,235	286,065	1:46
CALABARZON	13,778	357,706	1:26	9,879	319,650	1:33
Bicol Region	5,288	142,395	1:27	5,825	177,217	1:31
Western Visayas	7,486	179,636	1:24	6,675	210,370	1:32
Central Visayas	8,733	231,628	1:27	3,994	175,394	1:44
Eastern Visayas	2,159	65,594	1:31	4,223	152,896	1:37
Zamboanga Peninsula	3,095	76,445	1:25	3,748	91,853	1:25
Northern Mindanao	4,532	126,312	1:28	4,522	128,904	1:29
Davao Region	6,353	178,361	1:29	2,210	80,098	1:37
Soccsksargen	3,605	170,517	1:48	1,494	57,922	1:39
Nat. Capital Region	23,460	507,077	1:22	10,777	288,171	1:27
Cordillera Adm. Region	2,140	87,947	1:42	2,251	61,896	1:28
Caraga	2,192	60,425	1:28	1,759	63,594	1:37
MIMAROPA	1,517	45,125	1:30	3,110	99,060	1:32
Grand Total	**98,985**	**2,701,149**	**1:28**	**73,620**	**2,439,260**	**1:34**

Source: https://ched.gov.ph/2024-higher-education-facts-and-figures/?appgw_azwaf_jsc=81gZukQULdjELflN0ADKXGWWolR-iQGSXoCalIpt4W8.

Table 2.7 presents figures on COE (Center of Excellence) and COD (Center of Development) designations, key indicators for assessing the qualitative level of higher education institutions. 59.4% of the designated COE and COD programs are private, and 40.6% are SUC, indicating a higher concentration of quality-accredited programs in the private sector. The proportions of COE and COD are 51.7% and 48.3% for Public institutions,

and 40.3% and 59.7% for Private institutions. Public institutions account for 46.7% of COE and 35.7% of COD, while Private institutions account for 53.3% of COE and 64.3% of COD. This confirms the larger share of the Private sector in both designation types. Simultaneously, the fact that the Public sector consistently holds approximately 40% of the total COE and COD designations demonstrates that, despite the clear gap with the Private sector, public higher education institutions maintain a significant proportion and role in the quality foundation of Philippine higher education.

Table 2.7. Number of Designated COE/COD Cases (By Program Unit, National Total)

HEI Type	COE (Center of Excellence)	COD (Center of Development)	Total
SUC	93 (46.7%)	87 (35.7%)	180 (40.6%)
Private	106 (53.3%)	157 (64.3%)	263 (59.4%)
Total	**199 (100%)**	**244 (100%)**	**443 (100%)**

Notes: The figures presented reflects the statistics as of 2022; COE refers to a department within a higher education institution, which continu-ously demonstrates excellent performance in the areas of instruction, research and publication; COD refers to a department within a higher education institution, which demonstrates the potential to become a COE in the future.

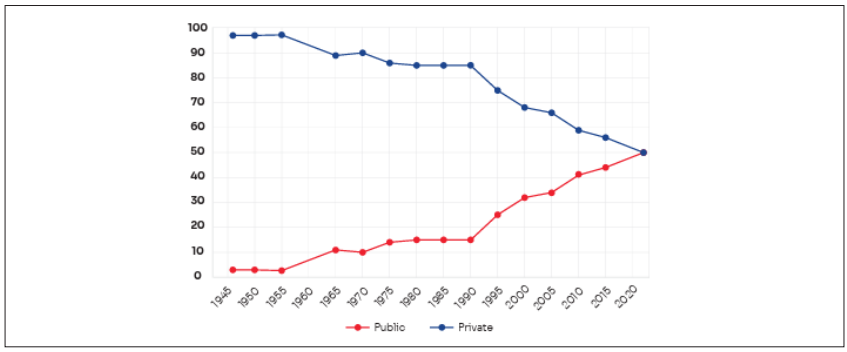
Source: https://ieducationphl.ched.gov.ph/wp-content/uploads/2022/02/List-of-Centers-of-Excellence-and-Development.pdf.

Figure 2.1 illustrates the long-term trend in student enrollment shares between public and private providers in Philippine higher education from 1945 to the early 2020s. The graph shows that while private higher education institutions historically accounted for the majority of enrollment, the share of the Public sector has gradually expanded over time, leading to a decrease in the Private sector's share. Recently, the shares of the two sectors have converged to nearly a 50:50 ratio, with the Private sector's enrollment share reaching its lowest level since 1945, at approximately 50% as of 2022.

According to Second Congressional Commission on Education (2024), the increase in Public sector enrollment is attributed to the rapid growth in enrollment at SUCs main and satellite campuses over several decades, which dramatically boosted the Public sector's share and consequently drove the Private sector's share down to its post-1945 minimum of 50%. Moreover, this sharp decline in the Private sector's share has been characterized as a *private education crisis*. Consequently, a key policy challenge has emerged: determining

how to implement the constitutional principle of Public-Private complementarity in the higher education system.

Figure 2.1. Philippine Enrollment Share by Private vs. Public Providers



Source: Second Congressional Commission on Education (2024). Miseducation: The failed system of Philippine education, EDCOM II year one report. Second Congressional Commission on Education.

2.2 Higher Education Demand and Labor Market Implications in the Philippines

Over the past two decades, the Philippines has witnessed a profound transformation in both its education system and its labor market. Major reforms such as the introduction of the K–12 program and the Universal Access to Quality Tertiary Education Act (2017) have reshaped the structure of schooling and expanded access to higher learning. At the same time, the country's young and growing population has reinforced the demand for education as a pathway to social mobility.

Shifts in the labor market have also altered the value of education. The rapid growth of knowledge-intensive industries, the expansion of the IT-BPM sector, and sustained opportunities for overseas employment have strengthened the perception of tertiary education as a prerequisite for economic advancement. Higher education is increasingly regarded not only as a means of securing employment but also as a route to upward mobility both domestically and abroad.

This section first examines the demand for higher education and then discusses the labor market outcomes of college graduates.

2.2.1 Demand for Higher Education

The implementation of the K–12 reform fundamentally reshaped the Philippine education system by adding two years of Senior High School (SHS). Since its full rollout in 2016, SHS has created a larger and more structured pool of graduates eligible for tertiary education. In School Year (SY) 2024–25, more than 3.3 million students were enrolled in SHS, a scale that far exceeds the cohorts produced under the previous 10-year basic education cycle.[8] This expansion ensures that higher education institutions (HEI) face sustained and growing pressure to absorb new cohorts.

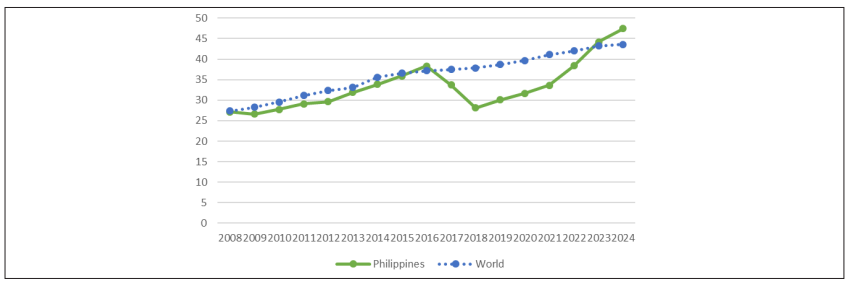
The SHS curriculum is also more explicitly linked to higher education pathways. The Academic Track includes specialized strands such as Science, Technology, Engineering, and Mathematics (STEM), Accountancy and Business Management (ABM), and Humanities and Social Sciences (HUMSS), all designed to prepare students for corresponding college programs. In contrast, the Technical-Vocational-Livelihood (TVL) Track provides an alternative exit into employment or vocational training. However, evidence indicates that most SHS graduates still aspire to continue their education. A national tracer study reports that around 70 % of SHS graduates enroll in college, with some cohort studies suggesting even higher participation rates—up to 98 %.[9] In practice, SHS has become less of a terminal stage and more of a feeder system to universities, intensifying demand for tertiary education.

Over the past decade, this demand has translated into steady enrollment growth in higher education. Total HEI enrollment increased from 2.7 million in AY 2009–10 to over 4.1 million in AY 2015–16, before dipping temporarily during the transition years of K–12. Numbers have since rebounded, with about 3.4 million students enrolled in AY

[8]Inquirer (2024), "SY 2024–2025 sees over 23 million enrollees in elementary, high school." https://newsinfo.inquirer.net/1969717/sy-2024-2025-sees-over-23-million-enrollees-in-elementary-high-school.
[9]Pathways of Senior High School Graduates in the Philippines: A National Tracer Study.
[10]World Bank, School enrollment, tertiary (gross), Philippines, https://data.worldbank.org/indicator/SE.TER.ENRR?locations=PH.

2019–20. According to the World Bank, the gross tertiary enrollment ratio reached 45 % in 2023, up sharply from 28 % in 2009.[10] Public HEIs have become especially important, now accounting for nearly half of total enrollment, in part due to the Universal Access to

Figure 2.2. Tertiary School Enrollment



Source: World Bank Data.

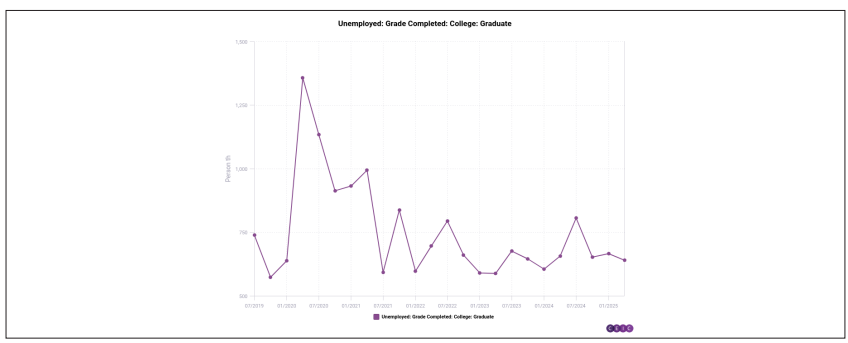
Quality Tertiary Education Act (2017), which provided free tuition in state universities and colleges.

Gender patterns in enrollment also reveal important shifts. Female students now account for a majority of tertiary enrollment in the Philippines, reaching about 53 % in 2023 compared to 38 % for males. This reflects not only the global trend of women increasingly outpacing men in higher education, but also country-specific factors that amplify this pattern. OECD reports highlight that the Philippines has higher tertiary enrollment rates than most ASEAN countries, pointing to relatively strong access to higher education.(OECD 2017) Moreover, Filipino women constitute a significant share of workers in the BPO sector and dominate overseas employment flows.(Santiago 2008) These structural features—robust higher education access, strong demand for educated women in domestic service industries, and a well-established pathway from higher education and English proficiency to overseas employment—create powerful incentives for female tertiary participation. As a result, the gender gap in higher education in the Philippines is not only reversed but reinforced by labor market and migration opportunities that reward women's educational investment.

2.2.2 Labor Market Outcomes for College Graduates

The rapid expansion of higher education in the Philippines has generated both new opportunities and persistent challenges in the labor market. While tertiary education has grown rapidly, the benefits in the labor market have been uneven. College graduates

Figure 2.3. Philippines Unemployment: College Graduate



Source: CEIC.

continue to enjoy higher earnings relative to non-graduates, yet unemployment and underemployment remain persistent. Many graduates face difficulties in securing jobs aligned with their skills, reflecting structural mismatches between education supply and labor demand. International migration further shapes graduate outcomes, particularly in nursing and maritime occupations, where global demand continues to influence educational choices and employment pathways.

Employment and Unemployment Outcomes

Despite relatively low national unemployment rates of 3.7 % as of June 2025, college graduates in the Philippines face disproportionate challenges in the labor market. Although tertiary education improves employability and long-term earnings, graduates are more likely than less-educated workers to experience unemployment or underemployment, reflecting structural frictions in the school-to-work transition.

As of January 2025, approximately 666,000 college graduates were unemployed, accounting for 38 % of all unemployed even though graduates make up less than one-third of the labor force.[11] This indicates that unemployment risk is not confined to the less educated, but also affects degree holders.

The transition period for new graduates is a particular pressure point. Each year, large cohorts enter the labor market between April and June, often leading to temporary spikes in unemployment. For example, in July 2024 the national unemployment rate rose from 3.1 % in June to 4.7 %, largely due to the influx of fresh graduates seeking their first jobs.[12] Many graduates remain unemployed for several months as they queue for higher-quality positions, rather than accepting immediate employment in low-wage or informal sector jobs.

While most graduates are eventually absorbed, underemployment remains elevated. In 2024, the underemployment rate for college graduates was around 12 %, meaning a sizable share of degree holders were employed in jobs that did not fully utilize their skills or did not provide adequate hours.[13][14] This highlights that the issue is not only whether graduates find jobs, but also the quality of those jobs.

Youth unemployment further illustrates these dynamics. Among those aged 15–24, the unemployment rate stood at 6.6 % in 2024, modestly higher than the overall rate of about 3.7 %.[15] While this figure suggests that mass youth joblessness is not a crisis, it does point to persistent difficulties in securing stable employment immediately after graduation.

Overall, these patterns indicate that while a college degree increases employability in the long term, structural frictions such as limited entry-level opportunities and skills

[11] CEIC, Labor Force Survey: Unemployment by Age and Class.
[12] PSA, Labor Force Survey 2024.
[13] *Ibid.*
[14] "Underemployed persons are employed persons who express the desire to have additional hours of work in their present job, or to have an additional job, or to have a new job with longer hours of work." Source: Philippine Statistics Authority (PSA).
[15] World Bank, World Development Indicators.

Wage Premiums

Tertiary education in the Philippines continues to yield significant private returns, although these returns have moderated over time and vary considerably across fields of study and segments of the labor market.

On average, college graduates earn substantially more than workers with only secondary education. In 2022, degree holders earned about 95 % more than high school graduates, while individuals with "some college" but no degree earned about 61 % more.[16] Historical evidence shows that these premia were even higher in earlier decades. Between the 1990s and early 2000s, tertiary-educated workers earned 177–203 % more than those without college education.[17]

The trend, however, has been one of decline. Research by the Philippine Institute for Development Studies (PIDS) indicates that the rate of return to tertiary education fell between 2005 and 2022, converging with returns to lower levels of education.[18] The steepest drop occurred among workers in the bottom 20 % of the wage distribution, suggesting that the labor market increasingly rewards field-specific skills and relevance to industry rather than the degree alone.

Returns are also heterogeneous across disciplines. Graduates in nursing, engineering, and information technology consistently enjoy higher premia, as their skills are in demand both domestically and internationally. Nurses benefit from overseas demand and professional licensure standards that raise the wage floor. By contrast, graduates in education, general business administration, and the social sciences face lower premia and higher risks of underemployment, reflecting oversupply in these fields.

College wage premiums are also distributed unevenly across jobs. High-skill services such as IT-BPM, finance, and healthcare offer competitive salaries, while graduates employed in clerical or informal sector roles earn only modestly more than high school

[16]World Bank (2023), Overcoming Poverty and Inequality in the Philippines: Past, Present, and Prospects for the Future.
[17]World Bank (2010), Skills for the Labor Market in the Philippines.
[18]PIDS (2024), Returns to Education in the Philippines (2005–2022): Declining Benefits, Increased Inequities.

graduates. This inequality is compounded by over-education: workers employed in jobs requiring lower qualifications see sharply reduced returns—about 5 % for surplus schooling years, compared with 7–19 % for education aligned with job requirements (PIDS 2024).

Gender disparities further shape earnings outcomes. Although women now account for the majority of tertiary enrollment, female graduates remain concentrated in lower-paying fields such as education and social services. They remain underrepresented in higher-paying fields such as engineering and IT, and overrepresented in lower-paying sectors like education and social services.[19] This occupational segregation contributes to persistent gender wage gaps, even as women benefit disproportionately from access to higher education.

Sectoral Employment

The labor market outcomes of college graduates in the Philippines are shaped not only by overall employment trends but also by the distribution of opportunities across sectors. Graduates are primarily absorbed in the services sector, which dominates the Philippine economy, while smaller but important opportunities exist in healthcare and public services. Absorption patterns, however, remain uneven, with some subsectors experiencing oversupply and others facing persistent shortages.

(1) Services Sector as the Primary Employer

The services sector accounts for the majority of employment in the Philippines, absorbing over 60 % of the total workforce as of 2024. [20] For college graduates, the share is even higher, as services offer the largest demand for degree-based skills. Within services, three sub-sectors stand out:

Information Technology and Business Process Management (IT-BPM): The IT-BPM industry is the single most important employer of college graduates. As of 2024, the sector employed 1.82 million workers and generated revenues of USD 38 billion, with projections of 1.9 million workers in 2025.[21] Demand is concentrated in business administration, information technology, accounting, and health-related services. The sector's continuous growth reflects its role as a key driver of graduate employment and

foreign exchange earnings. **Finance and Business Services**: Banks, insurance, and related services employ a steady stream of graduates in economics, management, and accountancy. Employment here is relatively stable but concentrated in Metro Manila and other major cities. **Education and Public Sector Employment**: Teaching remains a traditional pathway, as the education sector absorbs large numbers of graduates from teacher education programs. However, the sector suffers from oversupply, with many graduates in short-term or underpaid teaching contracts. Meanwhile, the broader public sector remains an attractive employer due to job stability and benefits, but hiring is constrained by fiscal and bureaucratic limits.

(2) Healthcare and Nursing

Healthcare is another major destination for graduates, especially nurses. Nursing is one of the most popular degree programs in the country, reflecting strong domestic and global demand. While local hospitals employ many nurses, domestic wages are low relative to international opportunities, leading to high levels of outmigration. This phenomenon contributes to periodic shortages of nurses domestically, even as new graduates continue to enter the labor force each year.

Migration and International Labor Markets

International migration is a defining feature of labor market outcomes for Philippine college graduates. The country has long been a leading global supplier of skilled and semi-skilled workers, and overseas employment continues to shape both educational choices and graduate trajectories. For many Filipino households, higher education is not only an investment in domestic labor market opportunities but also a pathway to international mobility.

Nursing and Health Professions: Nursing remains one of the most popular degree programs in the Philippines, reflecting the enduring demand for Filipino nurses abroad. The Philippines is among the world's largest exporters of nurses, with substantial de-

[19]Pintilie, Adina, et al. "Status of gender equality in higher education sector: an East Asia scoping study."
[20]PSA, Labor Force Survey 2024.
[21]IBPAP, 2024 Industry Report.

ployment to the United States, United Kingdom, and Gulf Cooperation Council (GCC) countries. Domestic hospitals employ many graduates, but relatively low wages compared to international standards encourage outmigration. The Department of Migrant Workers(DMW) has repeatedly cited nursing as one of the most in-demand professions for overseas deployment (DMW Statistics). This dynamic contributes to periodic shortages of nurses domestically, despite large numbers of graduates entering the labor force each year.

Maritime and Seafaring: The Philippines is the largest supplier of seafarers worldwide, accounting for roughly 25 % of the global maritime workforce Maritime academies and engineering programs funnel thousands of graduates into international shipping, cruise, and logistics companies. This sector provides high wages and stable remittances, making it a critical outlet for technical graduates. However, heavy dependence on foreign shipping demand exposes Filipino graduates to global economic cycles.

Information Technology and Business Process Management (IT-BPM): While the IT-BPM industry is a major absorber of graduates domestically, it also links Filipino professionals to global labor markets. Some graduates engage in remote outsourcing arrangements with overseas clients, while others migrate to work abroad in IT hubs. The rise of digital platforms has further blurred the boundary between domestic and international employment, allowing Filipino IT professionals to access global demand without physically leaving the country.

The strong pull of international markets also creates domestic challenges. Outmigration of nurses and other professionals has produced persistent shortages in critical sectors, including healthcare and education. For example, despite producing tens of thousands of nursing graduates annually, the Philippines continues to face staffing deficits in public hospitals as qualified nurses seek higher pay abroad. This tension between domestic needs and international opportunities highlights the dual role of migration as both an economic lifeline and a constraint on local labor supply.

2.2.3 Comparative Characteristics of the Philippine Labor Market

While the previous sections have examined employment outcomes for college graduates within the Philippines, a comprehensive understanding requires situating these outcomes within the broader structural context of the national labor market. A clearer picture emerges when accounting for the distinct features that shape employment in the country. The Philippine labor market is marked by service-driven economic expansion, pervasive reliance on overseas migration and remittances, and enduring informality across sectors. Together, these structural characteristics determine the quality and distribution of jobs and profoundly affect how higher education translates into labor-market success.

Service-Led Structural Transition

The Philippine labor market exhibits several structural specificities distinct from other developing and Southeast Asian economies. Unlike many regional peers that underwent manufacturing-led industrialization, the Philippines has followed a predominantly service-oriented growth trajectory. As of 2023, the service sector accounted for 59% of total employment, compared with 18% in industry and 23% in agriculture.[22] Over the past decade, industrial employment has remained largely stagnant, showing limited structural movement toward manufacturing compared with economies such as Vietnam or Indonesia, where industrial job creation has been robust. The rapid expansion of business process outsourcing (BPO) and other ICT-based services has partially compensated for this weakness. The country's English-proficient workforce and growing digital infrastructure have enabled sustained job generation in BPO and shared-services industries, a pattern contrasting with export-oriented manufacturing growth observed in Vietnam and Thailand.[23]

Labor Migration and the Remittance-Driven Economy

A defining feature of the Philippine labor system is its chronic dependence on overseas employment and remittances. Overseas Filipino Workers (OFWs) form a vital labor segment, with remittances constituting about 8.9% of GDP in 2023—among the world's

[22]Philippine Statistics Authority (PSA), 2024; Statista, 2023.
[23]ASEAN Briefing (2024), Labor Market Trends in the Philippines; ILO, Philippines Employment Outlook (2023).

highest ratios.[24] This labor-export mechanism serves as an adjustment valve for domestic job deficits and wage pressures, effectively outsourcing a portion of employment creation that other ASEAN nations internalize through industrialization. By comparison, Indonesia and Vietnam also deploy migrant workers, but at a substantially smaller and less institutionalized scale.[25] The Philippines, by contrast, consistently deployed roughly two million OFWs annually before the pandemic, with remittances reaching USD 37 billion in 2023. This dynamic underscores how transnational labor mobility has become structurally embedded in the Philippine economy, interacting closely with education, skills development, and labor policies.

Informality and Job Quality

Extensive informality continues to shape labor outcomes, constraining job quality and limiting education returns. National and international studies estimate informal employment to encompass between 40 and 80 % of the workforce.[26] Informal work dominates among self-employed and unpaid family workers, together comprising about one-third of all employment. Consequently, despite steady educational progress, many workers—including those with tertiary credentials—remain engaged in low-productivity, unregistered, and unprotected activities. This persistence reflects the economy's limited capacity to generate sufficient formal-sector jobs. Graduates often enter small-scale services, retail, and transport, where formal contracts and skill upgrading are rare. Education therefore does not automatically lead to higher job stability or earnings, undermining the human-capital returns expected from tertiary attainment.

Regionally, the Philippines demonstrates higher informality than industrializing ASEAN economies. Roughly 80% of workers in the Philippines are informally employed, compared with 65% in Thailand and 69% in Vietnam.[27] These figures highlight the slower structural transformation in the Philippine economy, still dominated by small-scale service

[24]World Bank (2024), Migration and Development Brief; Bangko Sentral ng Pilipinas (BSP), 2023.
[25]OECD (2022), Review of Indonesian Emigrants; ILO TRIANGLE in ASEAN (2024).
[26]Asian Development Bank (ADB), Key Indicators for Asia and the Pacific, 2024; International Labour Organization, Informal Economy Country Profile: Philippines, 2023.
[27]Economica (2022); UPCIDS Policy Briefs (2022); ASEAN Labour Statistics, 2024.

but also perpetuates income vulnerability and inequality.

Youth and Gender Employment Challenges

Gender and generational disparities further condition labor outcomes. Men's employment-to-population ratio (71%) exceeds that of women (49%), while youth aged 15–24 record a NEET rate near 13%, close to the ASEAN average.[28] Social norms, care responsibilities, and limited flexible work arrangements reinforce gender gaps. Meanwhile, persistent skill mismatches and uneven access to technical and vocational training limit youth labor participation. Employers continue to report shortages in technical and STEM-related skills, while an oversupply of graduates in business, education, and communications fields intensifies underemployment.

Overall, the Philippine labor market diverges from comparable developing economies through its service-oriented structure, large-scale labor migration, and extensive informality. These traits influence how college graduates are absorbed and signal the need for stronger alignment between tertiary education and both domestic and international labor demand.

2.3 Summary and Implications

2.3.1 Summary

The Higher Education Act of 1994 established the governance framework for higher education in the Philippines by creating the Commission on Higher Education under the Office of the President. This institutional arrangement delineated the responsibilities of three agencies: the Department of Education for basic education, the Technical Education and Skills Development Authority for technical and vocational education, and CHED for higher education. CHED's mandates include formulating development plans, issuing policy recommendations, evaluating institutional performance, and setting criteria for financial support. In 2024, there were 1,973 higher education institutions in the Philippines, which included state universities and colleges, local universities and colleges, and private

[28] Ulandssekretariatet (2025); PSA Labor Force Survey (2024).

institutions. The Higher Education Modernization Act of 1997 further clarified the powers and functions of SUC governing boards, with the CHED Chairperson concurrently serving as board chair to ensure alignment between policy and institutional operations.

Based on this institutional framework, recent policy developments have increasingly focused on improving access and equity in higher education. The 2015 Unified Student Financial Assistance System for Tertiary Education Act consolidated scholarships, grants, and student loans to support low-income and marginalized groups. The 2017 Universal Access to Quality Tertiary Education Act institutionalized tuition and fee exemptions and the Tertiary Education Subsidy for students in public universities and technical institutions. These measures aim to achieve structural equity through income-based targeting and performance-linked conditions, rather than offering blanket free education. Additionally, the 2014 Ladderized Education Act strengthened the integration of vocational training and higher education, institutionalizing credit transfer and international qualification compatibility through the Philippine Qualifications Framework.

Current data on Philippine higher education reveal distinct patterns in enrollment, graduation, and faculty distribution. Female students consistently outnumber males in both enrollment and graduation rates. Private institutions account for the majority of total enrollments and graduates, although bachelor's degree completions are relatively balanced between the public and private sectors. In contrast, postgraduate degrees are predominantly awarded by private universities. Faculty members are heavily concentrated in the National Capital Region, with approximately 34,000 instructors, most of whom are affiliated with private institutions. Regions such as Eastern Visayas, Cordillera, and MIMAROPA exhibit a higher proportion of public institutions, indicating a stronger role for public provision in those areas. The faculty-to-student ratio averages 1:28 in private institutions and 1:34 in public ones, although regional disparities are notable—ranging from 1:22 in the National Capital Region to 1:48 in Soccsksargen.

Over the past two decades, the Philippines has undergone concurrent structural transformations in its education system and labor market. The introduction of the K–12 curriculum and the enactment of the Universal Access to Quality Tertiary Education Act

in 2017 reconfigured the educational framework and expanded access to higher education. A young and rapidly growing population increasingly views education as a key vehicle for upward social mobility. The expansion of the IT-BPM sector and overseas employment opportunities has positioned higher education not only as a pathway to employment, but as a conduit for economic and social advancement.

The K–12 reform added two years to secondary education, resulting in a surge in higher education aspirants. In the academic year 2024-25, approximately 3.3 million students are enrolled in the Senior High School, with 70 to 98 percent expressing the intention to pursue tertiary education, thus exerting pressure on institutional capacity. The enrollment in universities increased from 2.7 million in 2009 to 3.4 million in 2019, while the gross tertiary enrollment rate increased from 28 percent in 2009 to 45 percent in 2023. Following the implementation of the Universal Access Act, the share of public university enrollment expanded, and female students now constitute 53 percent of total enrollees.

Although the expansion of higher education has broadened employment opportunities, labor market outcomes for graduates remain uneven. College graduates continue to earn higher incomes than non-graduates; however, unemployment and underemployment persist, reflecting pronounced mismatches between academic training and occupational placement. As of 2025, college graduates accounted for 38 percent of the total unemployed, and short-term unemployment rates typically spike immediately after graduation. While wage premiums persist, they have shown a gradual decline. Graduates in nursing, engineering, and information technology continue to command higher earnings, whereas those in education and the social sciences face oversupply, lower returns, and higher unemployment. Despite the high participation of women in higher education, they remain concentrated in low-wage sectors, perpetuating gender-based earnings disparities.

The service sector is the primary employer of college graduates, accounting for over 60 percent of total employment. The IT-BPM industry alone employs 1.82 million workers as of 2024, making it the largest absorption channel, followed by finance, education, and public administration. Overseas employment is prominent in nursing and maritime professions.

Filipino nurses migrate in large numbers to the United States, United Kingdom, and GCC countries, contributing to domestic hospital staffing shortages. Maritime workers benefit from high wages and stable remittances, though the sector is sensitive to global economic fluctuations. The overseas labor market continues to shape educational choices and workforce composition, reinforcing strong linkages between domestic and international employment systems.

The Philippine labor market exhibits a service-oriented growth trajectory rather than manufacturing-led industrialization. As of 2023, employment shares are 59 percent in services, 18 percent in industry, and 23 percent in agriculture. Overseas employment and remittances account for approximately 8.9 percent of GDP, alleviating domestic labor pressure but exacerbating shortages in critical sectors such as healthcare and education. Informal employment constitutes 36 percent of non-agricultural jobs, and one-third of total employment consists of self-employment or unpaid family labor, limiting productivity gains and income equality. Male employment rates (71 percent) exceed those of females (49 percent), and the NEET rate among youth aged 15–24 stands at approximately 13 percent, aligning with ASEAN averages. These structural characteristics suggest that while higher education enhances long-term employability, the dominance of services, prevalence of informal work, and reliance on overseas labor constrain qualitative improvements in labor market outcomes.

2.3.2 Implications

A comprehensive examination of the Philippine higher education system—covering institutional structures, statistical trends, and labor market dynamics—reveals several structural features and key challenges that continue to shape its performance and socioeconomic relevance. These challenges underscore the complex linkages between higher education outcomes, labor market demand, and regional disparities.

Gender Disparities in Labor Outcomes

Although women constitute a substantial share of total higher education enrollment,

they remain concentrated in lower-paying occupations, while men continue to dominate high-income professional fields. As a result, gender-based disparities in both wages and occupational distribution persist. Moreover, female graduates are heavily represented in education and social service professions, whereas their participation in higher-paying fields such as engineering and information technology remains limited.

Regional and Institutional Inequality

Higher education opportunities and resources are highly concentrated in the National Capital Region and CALABARZON, where private institutions account for a significant portion of total enrollment and faculty. In contrast, other regions rely more heavily on public universities and colleges, reflecting uneven access to higher education across the country. This regional concentration, combined with the dominance of private institutions, contributes to widening disparities in both the quality and availability of education.

Labor Market Mismatch and Graduate Underemployment

While the number of college graduates has steadily increased, unemployment and underemployment remain persistent, with many graduates employed in occupations unrelated to their field of study or in temporary positions. Short-term unemployment spikes are also observed immediately after graduation, underscoring underemployment and job quality as central challenges in graduate labor market outcomes.

Declining Wage Premiums and Field-Specific Inequality

The wage premium associated with tertiary education has been declining over time, and substantial income differentials persist across academic disciplines. Graduates in nursing, engineering, and information technology enjoy higher earnings, whereas those in education and the social sciences face lower returns and higher unemployment. Notably, the average wage premium for degree holders has declined markedly since the 2000s compared with the 1990s, reflecting widening disparities linked to the alignment between skills and industry demand.

Service-Led and Migration-Dependent Labor Structure

The Philippine labor market is predominantly service-oriented, with the IT-BPM industry serving as the largest absorber of college graduates. In particular, large numbers of workers in nursing and maritime professions migrate overseas, leading to labor shortages in domestic hospitals and related industries. This continued reliance on overseas employment highlights the close interconnection between the country's higher education system and global labor markets.

Chapter III.

About the Scholarship Program and Data

3.1 About the Program

This study examines the impacts of a Scholarship Program in Cagayan de Oro City, a higher education initiative in Northern Mindanao, Philippines. Launched in 2014, the scholarship program is one of the key components of the city's strategy to improve post-secondary educational attainment in the region. The legal framework for the program is established in City Ordinance No. 13362-2018 (Cagayan de Oro City Council 2018), which is also known as the Scholarship Code of 2018.[29] This ordinance mandates the allocation of a dedicated budget and established a formal system for institutional monitoring and program administration.

The City Government of Cagayan de Oro has outlined a comprehensive development framework known as the RISE agenda, which encompasses multiple dimensions of the city's growth. This agenda includes regionalization and metropolization through enhanced inter-city connectivity, institutional development focusing on transparent and effective governance, the provision of social safety nets, and economic recovery aimed at fostering resilience. The scholarship program is an integral part of this broader agenda, as it seeks to address poverty and promote social mobility by linking access to higher education with longer-term economic growth and development.[30] The City Scholarships Office clearly states that the scholarship program is part of the administration's RISE agenda.[31]

Between 2020 and 2024, the scholarship program attracted more than 20,000 applicants, and awarded scholarships to more than 10,000 students. Cumulative expenditure between the inception of the program in 2014 and 2022 totals approximately 17 million USD. This scholarship is tenable at eleven higher education institutions in the region, which are partnered institutions of this scholarship, including both public and private universities within the region. A student who receives an offer must enroll in one of these partner institutions to remain eligible for the scholarship. The scholarship package provides

[29] Cagayan de Oro City Office of the City Council. Financial Assistance Program General Guidance. https://services.cagayandeoro.gov.ph:8087/cityscholar/pdf/FINANCIAL-ASSISTANCE-GENERAL-GUIDELINES.pdf

[30] City Government of Cagayan de Oro. RISE. https://www.cagayandeoro.gov.ph/index.php/news/the-city-mayor/rise1.html

[31] City Scholarships Office. https://www.cagayandeoro.gov.ph/index.php/news/the-city-mayor/rise1.html

comprehensive financial support, covering full tuition, a monthly stipend for living expenses, and access to an optional leadership training program.

The selection process of the scholarship combines merit-based and need-based principles. This dual focus is explicitly mentioned on the official City Scholarship Office website, which states the grant is for "poor but deserving students of Cagayan de Oro."[32] Award decisions are based on a composite index score calculated by the City Scholarship Office to rank all applicants. This index incorporates merit-based factors, including the applicant's high school grades and scholarship examination scores, and extra-curricular activities. In addition, the index includes need-based factors such as household income and whether the applicant is a member of an Indigenous Peoples (IP) community. The inclusion of family income and IP status serves a redistributive purpose, as it aims to improve access for students from disadvantageous backgrounds (Philippines Statistics Authority 2025). [33]

To be eligible for consideration, an applicant must satisfy several conditions. The applicant must be a Filipino citizen with permanent residency in Cagayan de Oro City. Academically, the candidate must be a graduate of senior high school who intends to pursue an undergraduate degree on a full-time basis as an incoming first-year student for the next academic year. Due to this condition, students who are already enrolled in a college or university are not eligible. The program also features a need-based component, in addition to its consideration of family income of the student, the applicant's total annual family income cannot exceed PHP 300,000. Finally, there is a restriction that only one member of a family can be a recipient of this scholarship at any given time. Consequently, an application is automatically disregarded if a sibling or other family member is a current scholar.

Given the application pool and allocated slots each year, the City Scholarship Office establishes a cutoff to grant the scholarships. This cutoff is for the composite index score to grant the scholarships. All applicants with a score above this cutoff are offered the scholarship. A key assumption for a valid regression discontinuity design (RDD) is that

[32]City Scholarship Office, https://www.cagayandeoro.gov.ph/index.php/news/the-city-hall/the-departments-and-offices/115-city-scholarships-office.html (Accessed: August 10, 2025.).
[33]Philippines Statistics Authority(2025), Poverty Incidence Declined from 2021 to 2023 in Ten Basic Sectors. https://psa.gov.ph/statistics/poverty.

applicants cannot manipulate the running variable to alter the treatment status. Our fieldwork confirms that manipulation is highly unlikely, and we formally test in Section 4.3 by examining the distribution of these scores around the cutoff. From 2020 to 2024, the number of allocated slots was 2,000 annually. Depending on the total number of applications received each year, the scholarship's acceptance rate has varied from 34% to 65% of the applicants. The City Scholarship Office uses a waitlist to manage attrition from the admitted cohort, which occurs when students choose to attend a non-partner institution or forgo higher education. This waitlist consists of applicants with scores just below the cutoff who may subsequently be awarded the scholarship if initial recipients decline their offers.

Providing scholarships and financial assistance can be a highly effective strategy for increasing participation in higher education, particularly within the Philippines context. Table 3.1 presents the percentage distribution of reasons cited by 16- to 24-year-olds in the Philippines for not attending school, based on survey data from 2003, 2008, and 2013. Although a variety of factors are reported, the high cost of education consistently stands out as one of the leading barriers, accounting for 20.5% in 2003, and rising to 24.5% in 2008. In 2013, the introduction of a new response category, "family income not sufficient to send child to school," captured a significant share of cost-related responses. When combined, the categories "high cost of education" and "family income not sufficient to send child to school" constitutes 23.4% of reported reasons, indicating that financial constraints remain a prominent obstacle to education access. These survey findings underscore the ongoing importance of economic barriers in limiting access to higher education. The City Scholarship program addresses these cost-related obstacles and support continued participation in education among youth from disadvantaged backgrounds.

Table 3.1. Percentage Distribution of 16– to 24–Year Olds Not Attending School by Reason

Reason for Not Attending	2003	2008	2013
Philippines ('000)	9,444	10,064	10,570
Total	100.0	100.0	100.0
Schools are very far	0.6	0.7	0.3
No school within the barangay	0.2	0.2	0.1
No regular transportation	0.1	0.2	*
High cost of education	20.5	24.5	7.8
Illness/disability	1.6	1.9	2.1
Housekeeping	14.2	4.4	4.1
Marriage	11.9	13.9	
Employment/looking for work	36.4	26.1	30.9
Lack of personal interest	17.7	17.1	12.9
Cannot cope with school work	0.9	1.1	0.6
Finished schooling	8.1	10.9	
Problem with school record	0.3	0.2	
Problem with birth certificate	0.1	0.1	
Too young to go to school	0.1		*
Family income not sufficient to send child to school			15.6
Others	7.8	3.2	0.5

Notes: An asterisk (*) denotes a figure less than 0.05%.
Source: This table is a reproduction of Table 3 in the ADBI, citing the Philippines Statistics Authority. https://doi.org/10.56506/ZBMA8443

To comprehend the magnitude of the financial burden that tertiary education imposes on families in the Philippines, it is instructive to compare its cost to average household income and expenditures. Based on the findings from An analysis of the official Family Income and Expenditure Survey (FIES), Philippine Statistics Authority (2024) present that average annual family income and expenditure in 2023 as PHP 353,230 and PHP 258,050, respectively. On average, education expenditure consists 2.6 percent of the total expenses among Philippines households (Philippine Statistics Authority 2024). However, these aggregate figures mask significant heterogeneity across regions and, more importantly, across income deciles. Congressional Policy and Budget Research Department (2022) shows that the bottom 10 percent income group has much lower income, approximately PHP 176,560, with mean annual expenditures of PHP 165,000, leaving nominal saving of only PHP 11,560 (Congressional Policy and Budget Research Department 2022). Table 3.2 shows the estimated breakdown of the expenditures, which reveals very small room for education expenditures. These statistics suggests that there is a severe economic constraints

among the lower income population in the Philippines, making tertiary education for their children virtually unattainable without external support. This highlights the potentially large impact that targeted scholarship for tertiary education could have on promoting

Table 3.2. Estimated Annual Expenditure Breakdown for a Household in the Bottom 10% Income Bracket

Expenditure Item	Amount (PHP)	Percentage of Total (%)
Food and non-alcoholic beverages	100,650	61.0
Housing, water, electricity, gas, and other fuels	26,400	16.0
Miscellaneous goods and services	8,250	5.0
Transport	7,425	4.5
Alcohol and tobacco	3,795	2.3
Other expenditures	18,480	11.2
Total Annual Expenditure	**165,000**	**100.0**

Source: Philippines Statistics Authority. https://psa.gov.ph/statistics/income-expenditure/fies; Congressional Policy and Budget Research Department. https://econgress.gov.ph/wp-content/uploads/publications/FF2022-71%20Consumption%20Patterns%20Among%20Fil%20Households,%202021.pdf.

social mobility and human capital accumulation.

According to the most recent data from the Commission on Higher Education (CHED), the tuition per unit for bachelor's programs in state university colleges (SUCs) in Northern Mindanao remained relatively stable between the academic years 2014-15 and 2018-19. As presented in Table 3.3, the tuition fees ranged from PHP 100 to PHP 325 during the 2014-2018 period, adjusting slightly to a range of PHP 100 to PHP 425 in the 2018-19 academic year. Despite sparse data for more recent years, these figures suggest a general trend of stability within the public higher education sector. In contrast, private universities in the Philippines generally impose much higher fees. The last column of Table 3.3 highlights this disparity, showing that the private tuition fee per unit is substantially higher than the state-run counterpart in Northern Mindanao. Even when compared to the SUCs with the highest tuition fees in the table, the cost is nearly double. Moreover, with the inclusion of miscellaneous fees (such as facilities improvement fee, athletics fee, energy fee, ICT development fee), further increases this already substantial gap.

Beyond the tuition fees, the total cost of attending university varies drastically by region and institution type. Tan and Siriban (2021) note that the full cost per year to

attend university in the Metro Manila area can range from PHP 51,000 to PHP 119,900, with the most prestigious institutions costing as much as PHP 200,000 annually. However, these costs are heavily dependent on location. For instance, the study highlights significant regional disparities, noting that the annual cost in regions such as Bicol can be significantly lower, ranging from PHP 22,040 to PHP 38,360. Still, the expense constitutes 13 to 23 percent of the total annual expenditure for a family in the bottom 10 percent of the income bracket, according to the figures in Table 3.2. For these families, sending a single child to a university in the Metro Manila area could cost between 31 and 73 percent of their annual household expenditure, suggesting that, depending on the institution and the location chosen, higher education can be effectively inaccessible. This comparison underscores that while public tuition fees may appear stable, the broader financial burden is largely determined by the choice of location and the type of institution.

The relationship between the CSO scholarship program and the Universal Access to Quality Tertiary Education Act (UAQTEA) is defined by distinct institutional focuses and beneficiaries. While the UAQTEA mandates free tuition for all state and local universities, the CSO program generally supports students who are admitted to private institutions in Cagayan de Oro. With the exception of the University of Science and Technology of Southern Philippines (USTP), all partner institutions are private universities. Consequently, CSO scholars enrolled at USTP receive financial support for non-tuition expenses and allowances, as their tuition is already covered by the UAQTEA. Although the CSO scholarship's role may appear limited given the breadth of the universal free tuition law, it remains strategically significant as it effectively targets a specific demographic of students who possess the academic merit to secure admission into private universities but are otherwise prevented from enrolling due to financial constraints.

Table 3.4 summarizes the amount of in-kind transfer of CSO scholarship. According to CSO administrative data on scholarship beneficiaries, the value of the in-kind transfer varies significantly by the higher education institution attended and the scholar's specific degree program. On average, the program provides a tuition transfer ranging from PHP 6,790 to PHP 33,564 per semester. When miscellaneous fees, which vary from PHP 5,098

Table 3.3. Tuition Fee per Unit in the Universities in Northern Mindanao

Name of the University	Category	AY 14-15	AY 15-16	AY 16-17	AY 17-18	AY 18-19	AY 25-26
Bukidnon State University	SUC	225	225	225	225	225	–
Camiguin Polytechnic State College	SUC	–	24	24	25	–	–
Central Mindanao University	SUC	150	150	150	150	–	–
Mindanao State University-Iligan Institute of Technology	SUC	100	100	100	100	100	–
Mindanao University of Science and Technology	SUC	325	325	325	–	–	–
Misamis Oriental State College of Agriculture and Technology	SUC	150	150	150	–	–	–
Northwestern Mindanao State College of Science and Technology	SUC	150	150	150	150	150	–
University of Science and Technology of Southern Philippines	SUC	–	325	325	425	–	425
University of Science and Technology of Southern Philippines-Claveria	SUC	150	150	425	–	–	–
Xavier University	Private	–	–	–	–	–	845

Notes: Commission on Higher Education (2017, 2018) State Universities and Colleges tuition Fee per Unit data, Higher Education Statistical Data; Xavier University Tuition and Fees (2025); University of Science and Technology of Southern Philippines Tuition and Other School fees (2025).
Source: Commission on Higher Education; Xavier University; University of Science and Technology of Southern Philippines.

Table 3.4. Tuition and Other Fees of CSO Scholarship Beneficiaries

Name of the School	Tuition (per semester)		Misc Fees (per semeter)		Total (per semester)	
	Min	Max	Min	Max	Min	Max
Capitol University	9,138	41,167	2,510	35,997	11,648	77,164
Liceo de Cagayan University	5,486	49,061	9,562	9,748	15,048	58,809
Lourdes College	7,309	33,476	6,464	7,857	13,773	41,333
PHINMA Cagayna de Oro College	1,953	22,500	2,365	12,721	4,318	35,221
Pilgrim Christian College	2,105	20,700	6,879	8,919	8,984	29,619
Southern de Oro Philippines College	7,337	12,516	5,095	5,838	12,432	18,355
STI College	10,690	62,490	9,666	27,846	20,356	90,336
Vinyard International Polytechnic College	6,650	12,000	2,938	6,563	9,588	18,563
Xavier University	10,440	48,165	400	44,350	10,840	92,515
Average (PHP)	6,790	33,564	5,098	17,760	11,887	51,324
Average (USD)	119	589	89	312	209	900

Notes: The summary statistics are generated from the administrative records of CSO scholarship beneficiaries.
Source: City Scholarships Office, Cagayan de Oro.

to PHP 17,760, are included, the total semi-annual in-kind transfer per student averages PHP 51,324. It is important to note that these average values are simple averages across institutions and are not weighted by the actual number of beneficiaries, and the actual magnitude of transfer would depend heavily on the distribution of scholars across higher- versus low-cost institutions. At the institutional level, the transfer is most substantial for students enrolled at Xavier University and STI College, where the total transfer can exceed PHP 90,000 per semester. Across all partner institutions, these figures represent a significant relief of financial burden, expanding access to prestigious higher education institutions that might otherwise be cost-prohibitive. The program effectively covers a broad range of educational costs through direct administrative payments complemented by personal allowances, which are not included in Table 3.4.

Regional Economic Profile of Cagayan de Oro City

This subsection provides an overview of the regional economic characteristics of Northern Mindanao in order to contextualize local labor market conditions. Such a profile is also helpful for assessing the external validity of our findings. The Philippines comprises 18 administrative regions, including Northern Mindanao (Region X), which includes the city of Cagayan de Oro. As the regional center and largest city of Northern Mindanao, Cagayan de Oro ranks as the 10th most populous city in the country. This status ensures the city hosts major urban amenities while serving as a vital regional hub. Located 790 kilometers south of Manila, Cagayan de Oro is linked to the capital by a high frequency air route that bridges the distance in approximately 90 minutes.

Northern Mindanao is among the fastest-growing regions in the country, recording a Gross Regional Domestic Product (GRDP) growth rate of 6.0 percent in 2023, surpassing the national GDP growth rate of 5.7 percent (Philippines Statistics Authority). The region remains in transition from its historically agricultural-dominated economy, as agriculture continues to account for a relatively large share of GRDP compared to more urbanized regions. Still, recent economic growth has been driven primarily by the industry and services sectors. Table 3.5 compares the sectoral growth rates of Northern Mindanao and

the Philippines as a whole, showing that the region outperforms the national average in both industry and services growth. Cagayan de Oro City is the main contributor to the GRDP growth of Northern Mindanao, leading the region's economic growth in recent years.[34]

Table 3.5. Comparison of Key Growth Indicators

Indicator	Category	2021	2022	2023	2024
Real GRDP/GDP Growth Rate (%)	Northern Mindanao	6.3%	7.2%	5.3%	6.0%
	Philippines	5.7%	7.6%	5.6%	5.7%
Industry Growth (%) - AFF	Northern Mindanao		0.5%	0.3%	0.1%
	Philippines		0.5%	1.2%	
Industry Growth (%) - Industry	Northern Mindanao		6.6%	3.8%	7.5%
	Philippines		6.5%	3.6%	
Industry Growth (%) - Services	Northern Mindanao		10.1%	7.8%	7.4%
	Philippines		9.2%	7.2%	

Notes: The AFF sector includes agriculture, forestry, and fishing. The Industry sector includes mining and quarrying; manufacturing; electricity, steam, water, and waste management, as well as construction. The services sector includes wholesale and retail trade; repair of motor vehicles and motorcycles; transportation and storage; accommodation and food service activities; information and communication; financial and insurance activities; education; and Human health and social work activities.

Source: Reconstructed from Philippine Statistics Authority (PSA); National Economic and Development Authority (NEDA) data.

The city of Cagayan de Oro is highly urbanized, with a relatively high income and a predominant service sector (75.4% in 2022), suggesting that the city is undergoing a faster transition than the rest of the region toward a knowledge and service-based economy.[35] This structural change creates profound implications for the local labor market, generating a stronger demand for highly educated workers. With Cagayan de Oro city's per capita GDP (PHP 358,879, 2018 constant prices) being approximately double the regional average (PHP 190,554, 2018 constant prices) in 2023, there are growing concerns about potential "brain drain" from surrounding agricultural heavy areas to Cagayan de Oro city.[36] These characteristics create demand for professionals in finance, information technology, business management, and specialized retail, rather than manual or agricultural labor. Consequently, Cagayan de Oro serves as an attractive labor market for highly educated individuals, potentially drawing talent from within the region.

[34]Philippine Statistics Authority (2024), Cagayan de Oro City Tops Contribution to NorMin's Economic Growth in 2023. https://rsso10.psa.gov.ph/content/cagayan-de-oro-city-tops-contribution-normins-economic-growth-2023.

[35]Philippine Statistics Authority (2023) CDO Economic Growth Registers 9.4% in 2022. https://rsso10.p

Long-standing regional observations identify Cagayan de Oro as the locus of higher education in the Northern Mindanao region, a reputation that is increasingly corroborated by development studies. According to UN-Habitat Philippines (2020), the city constitutes a 'magnet' for the region, where the availability of quality tertiary education and vocational education drives significant demographic inflows. This educational capacity supports the city's economic activities including trade, logistics, and ICT. The Commission on Filipinos Overseas (2024) corroborates Cagayan de Oro's role as an educational hub in the region, describing a trend of highly skilled migration originating from the city, which reflects the robust quality of its educational infrastructure.

3.2 Linking Administrative and Survey Data

The study combines two data sets for analysis: (1) the application records submitted by the respondent when they applied for the scholarship prior to their college admission, and (2) the survey data collected via an online survey filled out by the respondent 1-3 years after their application.

The application records from 2021-2023, hereafter referred to as administrative data, served as the baseline, while the survey data measured the outcomes of interest. Both administrative and survey datasets were uniquely identified at the respondent level through the email address[37] they submitted upon application. Survey respondents whose email address did not match the admin data are mostly those who used a different email address upon answering the survey and were instead manually matched using their full names.

3.3 Administrative Data

The administrative data is collected via the online form filed out by the respondents during their application to the CSO and this serves as the baseline dataset.

sa.gov.ph/content/cdo-economic-growth-registers-94-2022.

[36] Philippine Statistics Authority (2025) Northern Mindanao enters trillion-peso economy, posts 6.0 percent economic growth in 2024. https://rsso10.psa.gov.ph/content/northern-mindanao-enters-trillion-peso-economy-posts-60-percent-economic-growth-2024.

[37] Email addresses had less variability in matching compared to full names due to the use of capital letters and initials.

Application Process

The application process opens annually in February and includes three main steps: (1) Filling up an online application forms, (2) submitting document requirements online, and (3) taking a face-to-face qualifying exam. The process typically spans four months, with results announced by the end of May - timed to coincide with the start of college enrollment in June.

General Qualifications

To be eligible for the scholarship, applicants must meet the following criteria:

- Must be a Filipino citizen;
- Must be a permanent resident of Cagayan de Oro City;
- Must be pursuing an undergraduate degree on a full-time basis;
- Must be a Senior High School graduate;
- Must be an incoming first-year college student by the start of SY 2024–2025;
- Must not have been previously enrolled in college;
- Must have a gross total family income not exceeding Php 300,000 annually; and
- Must not have a sibling or family member who is currently a city scholar.

Scholarship Types

There are two types of scholarships offered under the program:

- **Academic Scholarship**: Accepted applicants may enroll in any partner school of their choice and pursue any program, including board- and medical-related courses (e.g., Nursing, Medical Technology, Pharmacy), depending on their ranking in the qualifying exam.

- **Non-Academic Scholarship**: Accepted applicants may enroll in any non-board and non-medical-related course offered by a school approved by the City Scholarships Committee.

The type of scholarship awarded is determined by the applicant's ranking as assessed by the City Scholarships Committee.

Application Form Components

The application form includes four main components: (1) Personal Background, (2) Educational History of Applicant, (3) Preferred College to Enroll, and (4) Open-Ended Questions.

Personal Background

The Personal Background section of the application form collects basic demographic and household information about the applicant and their parents. It begins with basic identifying details such as the applicant's full name, gender, civil status, citizenship, religion, contact information, and home address. It also records their date and place of birth, age, and voter registration status in Cagayan de Oro City. Additional questions capture household circumstances, including living arrangements and affiliation with specific sectors such as Indigenous Peoples (IP), Persons with Disabilities (PWD), 4Ps beneficiaries, senior citizens, out-of-school youth, children in conflict with the law (CICL), Solo Parents (SP), and Alternative Learning System (ALS) participants.

Information about the applicant's parents is also collected, covering their names, birth details, occupations, contact information, sector affiliations, and individual monthly income. The form concludes with questions on the family's total monthly income and the number of dependents aged 18 years and below. These data points help the City Scholarships Office assess both the socioeconomic background and eligibility of applicants based on financial need and residency requirements.

Educational History of Applicant

The Educational History section captures the applicant's academic background from his basic education years in elementary to senior high school. Applicants are asked to indicate the name of each school attended, the corresponding years of attendance, and any academic honors received. Applicants must also specify their academic strand and report their General Weighted Average (GWA) for the first semester in senior high school. The section further gathers information on the applicant's special skills, other qualifications, and leadership experiences or positions previously held.

These details allow the CSO to assess not only the applicant's academic performance but also their leadership potential and extracurricular involvement. Data from this section form part of the basis for evaluating merit and determining applicant ranking during the scholarship selection process.

Preferred College to Enroll

The Preferred College to Enroll section gathers information on the applicant's preferred college or university, the degree program and its duration, as well as their first and second choices for both schools and courses. The section also requires applicants to provide character references, which may be used to validate the applicant's background and suitability for scholarship support.

The City Scholarships Office currently partners with eleven (11) higher education institutions in Cagayan de Oro City, comprising mostly private universities and one state university. These include:

- **PHINMA Cagayan de Oro College** (Private university);
- **Capitol University** (Private university);
- **Lourdes College** (Private university);
- **Pilgrim Christian College** (Private university);
- **Southern de Oro College** (Private university);

- **STI College** (Private university);
- **Liceo de Cagayan University** (Private university);
- **Vineyard International Polytechnic College** (Private university);
- **Golden Heritage Polytechnic College** (Private university);
- **University of Science and Technology of Southern Philippines (USTP)** (State university);
- **Xavier University – Ateneo de Cagayan** (Private university).

Information from this section allows the Scholarships Office to align applicants' school and course preferences with available scholarship types, ensuring that placements are consistent with institutional partnerships, scholarship slots provided in each college, and their program coverage.

Open-Ended Questions

The application form concludes with open-ended questions that capture the applicant's motivations, aspirations, and contingency plans. Applicants are asked why they deserve the scholarship, how they plan to continue their studies if not qualified, what their greatest dream is, how long they have lived in Cagayan de Oro City, and whether they would consider taking technical-vocational courses instead if not accepted.

Responses to these questions help the City Scholarships Office understand each applicant's commitment to education and resilience despite challenges. While not included in the scoring process, these responses serve as reference for appeals and reconsiderations.

3.3.1 Running Variable

The application score assigned by the City Scholarships Office serves as the running variable that determines assignment to treatment or the awarding of a scholarship slot. The scoring system, which varies slightly across years, primarily considers (1) applicants' high school academic performance, (2) leadership involvement, and (3) membership in identified vulnerability groups. After applicants are ranked based on their total scores,

household income is used as an eligibility filter to confirm scholarship qualification.

Table 3.6. Summary of Application Statistics from 2021 to 2023

Year	Total Applicants	No. of Slots	Highest Possible Score	Highest Actual Score	Lowest Actual Score	Cut-Off Score
2021	3,058	2,000	50	47	21	35
2022	3,240	2,000	100	100	2	59
2023	4,465	3,000	100	98	30	61

Source: Calculated by the authors based on the survey result.

In 2021, the maximum possible application score was 50 points, consisting of 45 points (90%) for high school academic performance and 5 points (10%) for leadership involvement. Academic scores were assigned based on high school grades, with a maximum of 45 points awarded to applicants with a 99% grade. Each 1% decrease in grade corresponded to a 1-point deduction, with a minimum of 21 points for the passing grade of 75%. Leadership involvement contributed 1 to 5 points, based on applicant's non-academic awards.

Applicants could also earn up to 3 additional points for membership in identified vulnerable groups, including persons with disabilities (PWD), indigenous peoples (IP), and beneficiaries of the Pantawid Pamilyang Pilipino Program (4Ps).[38] The eligibility for the scholarship was further restricted to applicants from households with a monthly income below PHP25,000, provided that their total score met the established cut-off point.

In 2022, the maximum possible application score was 100, with 75 points (75%) taken from the qualifying exam score and 25 points (25%) from their high school grades. For their qualifying exam, increments of 15 points from 0 to 75 were scored based on the Test Performance Description (TPD).[39] Depending on their high school grades, points were assigned according to the grade percentage, where each 1% decrease in grade corresponds to a 1-point decrease in score, starting from a maximum of 25 points for grades of 99% and ending with a minimum of 1 point for the passing grade of 75%.

Up to 3 bonus points were also given, with 1 point coming from their leadership involvement, and 2 points from their membership in a vulnerable group. Unlike 2021, they allocated 0.5 points for each vulnerable group (e.g., PWD, IP, 4Ps, and SP) that they are a member of and added solo parents (SP) to the list. Regardless of the position held,

[38]A national conditional cash transfer program for poor households.

[39]TPD: Needs Improvement - 15, Moving Towards Average - 30, Average - 45, Approaching Excellence - 60, Excellence - 75.

applicants received 1 point for leadership roles in campus-based or external organizations, or for recognition through non-academic awards. If their monthly household income is Php 25,000 and below, the applicant was eligible for the scholarship.

In 2023, the maximum application score remained 100 points, but the allocation shifted to 60 points (60%) from the qualifying exam and 40 points (40%) from high school grades. This change increased the weight given to high school performance while maintaining consideration of exam results. Depending on their qualifying exam, the applicant falls under a category from 0 to 9, with the following 0 pts given for 0, 25 pts for 1, 30 pts for 2 and 3, 35 pts for 4, 40 pts for 5, 45 pts for 6, 50 pts for 7, 55 pts for 8, 60 pts for 9. Depending on their high school grades, points were assigned according to the grade percentage, where each 1% decrease in grade corresponds to a 1-point decrease in score, starting from a maximum of 40 points for grades of 99% and ending with a minimum of 16 point for the passing grade of 75%.

Bonus point rules remained similar to 2022, with 1 point for leadership involvement and up to 2 points for membership in vulnerable groups. If their monthly household income is Php 25,000 and below, the applicant was eligible for the scholarship should they be granted a slot given their points.

Although the scholarship program is targeted to low-income families, the scoring system reflects a predominantly merit-based selection mechanism that prioritizes high school academic achievement and examination performance among the eligible applicants. From 2021 to 2023, 90–100% of the total score is determined by high school and qualifying exam performance, with only minor adjustments for leadership involvement and vulnerability indicators. The transition from a grade-based system in 2021 to one centered on qualifying examinations from 2022 onward reflects a shift toward more standardized and performance-based evaluation.

3.4 Survey Data

3.4.1 Data Collection

The data was collected from November 15, 2024, to December 19, 2024, via an online survey. The final survey questionnaire has 12 sections asking about various characteristics of the respondent, including schooling outcomes, labor outcomes, life outcomes, time use, and individual and household characteristics. A pilot survey with 10 respondents was conducted in September to test the user experience and clarity of survey instructions before finalizing the questionnaire.

The online survey was disseminated through emails with links. To maximize response rates and as a supplementary method to identify applicants with inactive email addresses or those who did not receive the email invitation, the posts were published on November 18 and 25 on the CSO's official Facebook page to notify 2021–2023 scholarship applicants about the survey invitation emails sent to them. In addition, a series of texts was sent to the target respondents to notify them of an email inquiry.

In total, 1935 valid responses were collected after excluding incomplete and duplicate responses. Responses that did not consent to the survey participation were also excluded.[40]

3.4.2 Survey Questionnaire

The survey questionnaire consists primarily of the informed consent form, individual and household characteristics, and questions about the outcomes of interest. Specifically, data on the following 7 broad outcome groups were collected: (1) College Enrollment; (2) Academic Performance; (3) Employment, Working Hours, and Earnings; (4) Occupation and Income Expectations; (5) Civic Participation; (6) Psychological Well-Being; and (7) Time Use.

[40]Survey participants were asked to consent to two things at the beginning of the survey: (1) access to and use of their application records for research and (2) their survey participation.

(1) College Enrollment

This section collects information about respondents' college enrollment status, major of study, and current academic engagement in units or credit hours. For currently enrolled respondents, the questionnaire particularly collects information on their college/university and the strand most closely related to their major of study. For non-enrolled respondents, the questionnaire explores potential factors for not pursuing a higher education at the time of survey. The section concludes with the tracking of credit hours and number of subjects from two semesters: second semester of A.Y. 2023-2024 and the first semester of A.Y. 2024-2025. This allows us to compare the higher education engagement of respondents whether or not they were granted the city scholarship.

(2) Academic Performance

This section collects information on respondents' academic performance, including their institution's grading mechanism, college grade point average (GPA), and dean's list standing. Given that higher education institutions in the city employ two distinct grading systems - a 5-point scale (5 as lowest/failed, 1 as highest) and a 4-point scale (0 as lowest/failed, 4 as highest), respondents first identify their institution's system to enable standardization and comparison. The questionnaire then captures both semester-specific GPA for the second semester of A.Y. 2023-2024 and cumulative GPA from first year through the current academic period (for enrolled respondents). This allows for assessment of academic performance differences between scholarship recipients and non-recipients, while accounting for varying grading standards across institutions.

(3) Employment, Working Hours, and Earnings

This section captures respondents' employment history prior to entering college/university and since college enrollment. For each period, respondents indicate whether they engaged in part-time work only, full-time work only, both types of employment, or neither, enabling analysis of how college enrollment affects labor force participation after graduating high school.

For currently employed respondents, the section collects details on employment type: internships, part-time jobs, full-time jobs, family business involvement, self-owned businesses, and freelance work. The questionnaire then measures work intensity through hours worked and total earnings in Philippine pesos (PhP) over the past seven days. The section concludes by exploring respondents' primary motivation for working from six options: personal leisure expenses, savings accumulation, work experience acquisition, school-related expenses, personal living expenses, or household expense contributions. These outcomes provide insights into work motivations and enable assessment of whether scholarship support reduces the need for scholars to work while studying, a common challenge in the Philippine higher education context.

(4) Occupation and Income Expectations

This section captures respondents' post-graduation employment expectations and plans. It collects information on intended career pathways after completing their degree, including self-employment, formal employment, board exam preparation, further education, or other plans. For those planning to work, the questionnaire explores sector preferences (public, private, non-profit, or other business arrangements), while for those not planning to work, it identifies the primary reasons for this decision. Geographic work preferences are also captured, asking respondents where they consider working after graduating college and their motivations for this choice.

The section also examines educational perceptions and constraints. It explores respondents' ideal educational attainment in the absence of binding constraints, identifies the two most significant barriers to achieving this ideal level, and assesses whether they perceive higher education as essential to success. Additionally, the questionnaire captures respondents' wage expectations for high school graduates versus college graduates, providing insight into their perceived returns to education. These outcomes are crucial for the City Scholarship Office to assess whether locally granted government scholarships contribute to local economic development through the retention of college-educated workers in the local labor force and whether scholarship recipients perceive sufficient economic opportunity within the city to justify remaining after graduation.

(5) Civic Participation

This section examines civic engagement and participation patterns among respondents. The scholarship program includes a non-compulsory leadership formation component for interested scholars, designed to cultivate civic awareness and community involvement. This section enables comparison of civic participation levels between scholarship recipients and non-recipients to assess whether scholarship grants contribute to enhanced civic engagement among grantees.

The questionnaire captures voter registration status, participation in the 2022 national elections, and intentions to vote in the 2025 midterm elections. It also asks whether respondents participated in any community service or volunteer activities in the past year and the duration of their involvement. These indicators collectively assess civic participation levels that can be compared between scholarship recipients and non-recipients, enabling evaluation of whether the program cultivates civic-minded graduates who contribute to their communities beyond academic and economic outcomes.

(6) Psychological Well-Being

This section assesses respondents' mental health, subjective well-being, and financial satisfaction using validated instruments. Depression screening employs the Patient Health Questionnaire-9 (PHQ-9), which measures nine depressive symptoms over the past two weeks on a 4-point frequency scale (0 = not at all, 3 = nearly every day). Subjective well-being is measured using items with varying point-scales from the World Values Survey (WVS), including overall happiness, self-rated health, perceived freedom and control over life, and overall life satisfaction. Financial well-being is captured through two 10-point satisfaction scales measuring household financial situation and personal financial well-being. The section concludes with a WVS item on attitudes toward government responsibility, providing context on beliefs about social welfare that may relate to perceptions of scholarship support.

(7) Time Use

This section measures how respondents allocate their time across seven major activity categories over the past seven days: commuting, attending classes, studying outside of class, paid work, extracurricular activities, household chores, and leisure activities. This time-use approach captures how students balance academic, economic, household, and personal demands, enabling comparison between scholarship recipients and non-recipients to assess whether financial support allows scholars to prioritize academics over paid work. The section also asks whether respondents worked during the most recent summer break (May-July 2024) to raise money and the weekly hours worked, providing additional insight into financial pressures during academic breaks.

3.5 Survey Descriptive Statistics

(1) College Enrollment

Table 3.7 presents descriptive survey statistics on college enrollment by application cohort (2021–2023). Overall enrollment rates are very high across all cohorts: 92 percent of the 2021 applicants, 96 percent of the 2022 applicants, and 97 percent of the 2023 applicants report being currently enrolled in college. Among those who are not currently enrolled, the large majority indicate plans to enroll within the next two years, with this share rising from 82 percent in the 2021 cohort to 92 percent in 2022 and 96 percent in 2023. Taken together, these patterns suggest that most applicants either have already transitioned into higher education or intend to do so in the near term.

The type of institution attended varies somewhat across cohorts. Among respondents, the share enrolled in private institutions increases from 45 percent in the 2021 cohort to 52 percent in 2022 and 67 percent in 2023, while the share in public institutions declines over the same period. The distribution of majors also shows shifts across cohorts. The share of students in Science, Technology, Engineering, and Mathematics (STEM) declines from 38 to 27 percent between 2021 and 2023, whereas the proportion in Humanities and Social Sciences (HUMSS) and in the General Academic Strand (GAS) gradually

rises. Enrollment in the Accountancy, Business, and Management (ABM) track remains relatively stable, while the Technical-Vocational-Livelihood (TVL) and Sports tracks account for smaller but non-negligible shares of respondents. These patterns reflect a diversified set of academic pathways among scholarship applicants, with some movement away from STEM toward HUMSS and GAS in more recent cohorts.

Table 3.7. Survey Descriptive Statistics on College Enrollment

	(1) 2021		(2) 2022		(3) 2023	
	Mean (SD)	Obs	Mean (SD)	Obs	Mean (SD)	Obs
=1 if currently enrolled in college	0.92	479	0.96	559	0.97	837
	(0.26)		(0.20)		(0.18)	
Private	0.45	479	0.52	559	0.67	839
	(0.50)		(0.50)		(0.47)	
Public	0.51	479	0.47	559	0.31	839
	(0.50)		(0.50)		(0.46)	
(if not enrolled) =1 if plan to enroll in next 2 years	0.82	62	0.92	60	0.96	100
	(0.39)		(0.28)		(0.20)	
Major of study:						
Science, Technology, Engineering, and Mathematics (STEM)	0.38	479	0.31	559	0.27	839
	(0.49)		(0.46)		(0.45)	
Accountancy, Business, and Management (ABM)	0.24	479	0.21	559	0.23	839
	(0.43)		(0.41)		(0.42)	
Humanities and Social Sciences (HUMSS)	0.17	479	0.20	559	0.24	839
	(0.38)		(0.40)		(0.43)	
General Academic Strand (GAS)	0.06	479	0.08	559	0.11	839
	(0.24)		(0.28)		(0.31)	
Technical Vocation and Livelihood (TVL) Track	0.10	479	0.16	559	0.13	839
	(0.30)		(0.36)		(0.33)	
Sports Track	0.03	479	0.03	559	0.01	839
	(0.18)		(0.17)		(0.12)	

Note: For each cohort, the table shows the mean and standard deviation (in parentheses) and the number of observations (Obs). Sample sizes vary by item due to nonresponse and because some questions apply only to currently enrolled respondents.

Table 3.8 summarizes survey measures of respondents' educational aspirations and wage expectations by application cohort. Across cohorts, aspirations are generally high. Only about one-fifth of respondents report a desired highest attainment of a bachelor's degree (19–21 percent), while the majority express aspirations for graduate education. In each cohort, roughly one-third to two-fifths report a master's degree as their desired

attainment (33–40 percent), and an additional 38–44 percent report doctoral education. These patterns suggest that applicants to the scholarship program tend to report ambitious educational goals, with relatively little variation over time.

The table also reports respondents' accepted lowest monthly salary (in USD) under two counterfactual education levels. Expected minimum monthly pay with only a high school diploma is around USD 140–151 across cohorts, while the corresponding figure with a college degree is substantially higher, around USD 292–301. The gap between these two figures is large in all cohorts, consistent with respondents perceiving sizable economic returns to college completion.

Table 3.8. Survey Descriptive Statistics on Perceptions on Higher Education

	(1) 2021		(2) 2022		(3) 2023	
	Mean (SD)	Obs	Mean (SD)	Obs	Mean (SD)	Obs
Desired education attainment:						
Bachelor's	0.19	479	0.20	559	0.21	839
	(0.39)		(0.40)		(0.41)	
Master's	0.40	479	0.33	559	0.34	839
	(0.49)		(0.47)		(0.47)	
Doctoral	0.38	479	0.44	559	0.41	839
	(0.48)		(0.50)		(0.49)	
Accepted lowest monthly salary (USD):						
Only with high school diploma	150.81	479	145.43	559	140.11	839
	(109.90)		(175.42)		(136.15)	
With college degree	292.07	479	291.59	559	300.73	839
	(176.89)		(195.72)		(328.97)	

Note: For each cohort, the table shows the mean and standard deviation (in parentheses) and the number of observations (Obs). Sample sizes vary by item due to nonre-sponse and because some questions apply only to currently enrolled respondents.

(2) Academic Performance

Table 3.9 summarizes statistics on grading systems and self-reported academic performance by application cohort. Most respondents attend institutions using a 5-point grading scale (where 1 is highest and 5 lowest): about 82-84 percent across cohorts. A smaller share report using a 4-point scale (0 to 4), accounting for roughly 8-10 percent.

Among respondents reporting GPAs, mean GPAs are broadly similar across cohorts, though reported values differ mechanically by grading system. On the 5-point scale, average GPA is around 1.8–1.9 for both last-semester and cumulative measures. On the 4-point scale, average GPAs range from about 2.3–2.8, with noticeably smaller sample sizes. Finally, approximately one-quarter to one-third of respondents report being on the Dean's List (or an equivalent recognition) in the most recent semester, with rates of 32 percent (2021 cohort), 26 percent (2022 cohort), and 27 percent (2023 cohort). Overall, these descriptive patterns suggest broadly comparable distributions of academic performance across cohorts, while also highlighting variation in grading systems and non-trivial missingness in GPA reporting.

Table 3.9. Survey Descriptive Statistics on Academic Performance

	(1) 2021		(2) 2022		(3) 2023	
	Mean (SD)	Obs	Mean (SD)	Obs	Mean (SD)	Obs
Grade point system used:						
5-point scale (5 as lowest/failed, 1 as highest)	0.82	489	0.84	573	0.82	869
	(0.39)		(0.37)		(0.39)	
4-point scale (0 as lowest/failed, 4 as highest)	0.10	489	0.08	573	0.10	869
	(0.30)		(0.27)		(0.30)	
GPA last semester:						
5-point scale	1.88	344	1.94	423	1.82	622
	(0.43)		(0.46)		(0.39)	
4-point scale:	2.84	41	2.64	37	2.28	70
	(0.75)		(0.75)		(0.80)	
Cumulative GPA:						
5-point scale	1.88	311	1.91	372	1.81	581
	(0.45)		(0.45)		(0.41)	
4-point scale:	2.74	43	2.59	34	2.31	65
	(0.83)		(0.77)		(0.82)	
=1 if Dean's List (or equivalent) last semester	0.32	479	0.26	559	0.27	839
	(0.47)		(0.44)		(0.44)	

Note: For each cohort, the table shows the mean and standard deviation (in parentheses) and the number of observations (Obs). Sample sizes vary by item due to nonresponse and because some questions apply only to currently enrolled respondents.

(3) Employment, Working Hours, and Earnings

Table 3.10 reports descriptive statistics on students' work experience, employment status, and labor supply measured in the follow-up survey, separately by application cohort. Across cohorts, roughly one-quarter of respondents report having worked part-time before entering college (21–27 percent), while only a small minority report full-time work or both part-time and full-time work prior to college (each around 2–4 percent). Correspondingly, about two-thirds to three-quarters report never having worked before college, with the share reporting no prior work rising from 67 percent in the 2021 and 2022 cohorts to 73 percent in the 2023 cohort.

Work during college is also common, though patterns vary slightly across cohorts. About 19–29 percent report working part-time since entering college, while full-time work remains rare (1–3 percent). The share reporting no work since entering college increases across cohorts, from 66 percent (2021) to 71 percent (2022) and to 80 percent (2023), consistent with the 2023 cohort being closer to the start of college at the time of the survey. Current employment status mirrors this pattern: around 19–27 percent report currently working at the time of the survey.

Among respondents who are currently working, part-time jobs are the dominant form of employment (54–74 percent across cohorts). Other work arrangements are less common and vary by cohort, including internships (notably higher in the 2021 cohort), freelance work, and work in a family business. The most frequently reported reason for working is to help cover school-related expenses (about 32–42 percent), followed by earning additional personal allowance (about 14–23 percent), and contributing to one's own living expenses or household expenses (each about 13–14 percent).

Finally, among those reporting weekly hours and earnings, respondents work roughly 21–24 hours on average in the past seven days, with average weekly earnings declining across cohorts (about USD 39 in 2021, USD 31 in 2022, and USD 25 in 2023). These outcomes should be interpreted with caution given the smaller sample sizes for hours and earnings (reflecting that they are only observed among working respondents and subject to item nonresponse).

Table 3.10. Survey Descriptive Statistics on Labor Supply

	(1) 2021		(2) 2022		(3) 2023	
	Mean (SD)	Obs	Mean (SD)	Obs	Mean (SD)	Obs
Ever worked before college:						
Part-time only	0.27	479	0.27	559	0.21	839
	(0.44)		(0.44)		(0.41)	
Full-time only	0.04	479	0.04	559	0.04	839
	(0.19)		(0.20)		(0.19)	
Both	0.02	479	0.02	559	0.02	839
	(0.15)		(0.14)		(0.14)	
Neither	0.67	479	0.67	559	0.73	839
	(0.47)		(0.47)		(0.45)	
Since entering college:						
Part-time only	0.29	479	0.26	559	0.19	839
	(0.45)		(0.44)		(0.39)	
Full-time only	0.03	479	0.02	559	0.01	839
	(0.17)		(0.15)		(0.08)	
Both	0.02	479	0.01	559	0.01	839
	(0.13)		(0.08)		(0.10)	
Neither	0.66	479	0.71	559	0.80	839
	(0.47)		(0.45)		(0.40)	
=1 if currently working	0.27	479	0.27	559	0.19	839
	(0.45)		(0.44)		(0.39)	
Internship	0.19	130	0.01	149	0.02	158
	(0.40)		(0.12)		(0.14)	
Part-time	0.54	130	0.70	149	0.74	158
	(0.50)		(0.46)		(0.44)	
Full-time	0.15	130	0.09	149	0.06	158
	(0.36)		(0.29)		(0.24)	
Family business	0.05	130	0.09	149	0.14	158
	(0.21)		(0.29)		(0.35)	
Own business	0.05	130	0.03	149	0.04	158
	(0.21)		(0.16)		(0.21)	
Freelancer	0.16	130	0.16	149	0.08	158
	(0.37)		(0.37)		(0.27)	
Main reason for working:						
Help with school-related expenses	0.32	130	0.42	149	0.32	158
	(0.47)		(0.49)		(0.47)	
Additional allowance for personal leisure	0.14	130	0.19	149	0.23	158
	(0.35)		(0.39)		(0.42)	
Help with my own living expenses	0.13	130	0.14	149	0.14	158
	(0.34)		(0.35)		(0.35)	
Contribute to household expenses	0.13	130	0.13	149	0.13	158
	(0.34)		(0.33)		(0.33)	
Earn money to save	0.08	130	0.05	149	0.06	158
	(0.27)		(0.21)		(0.23)	
Gain work experience	0.05	130	0.03	149	0.01	158
	(0.23)		(0.16)		(0.11)	
Number of hours worked (past 7 days)	23.86	87	20.55	108	20.78	98
	(19.68)		(18.32)		(20.47)	
Total earnings (past 7 days, USD)	39.38	85	31.11	111	25.29	98
	(37.21)		(34.42)		(22.66)	

Note: For each cohort, the table shows the mean and standard deviation (in parentheses) and the number of observations (Obs). Sample sizes vary by item due to nonresponse and because some questions apply only to currently enrolled respondents.

(4) Occupation and Income Expectations

Table 3.11 summarizes respondents' stated plans after completing their degree program and their preferred work arrangements, by application cohort. Across cohorts, the most common stated plan is to review for board examinations (43–48 percent), followed by plans to be employed by an employer (25–35 percent). The share reporting an intention to be self-employed or start a business is smaller but rises across cohorts, from about 8–9 percent in 2021–2022 to 14 percent in 2023. Plans to pursue further education and uncertainty about next steps are each reported by a nontrivial minority (roughly 5–8 percent), while other responses are rare.

Preferences over work arrangements show a strong inclination toward government or public-sector employment, reported by about 60 percent of respondents in the 2021 and 2022 cohorts and about 50 percent in the 2023 cohort. Preferences for private companies (9–15 percent) and multinational corporations (8–11 percent) are less common but persistent across cohorts. Interest in starting one's own business increases modestly (from 5 percent in 2021 to 10 percent in 2023), while freelance work is selected by a small share (3–6 percent). Overall, these responses should be interpreted as intentions and preferences measured at the time of the survey; differences across cohorts may partly reflect cohort composition and the fact that cohorts were at different points in their college trajectories when surveyed.

Table 3.11. Survey Descriptive Statistics on Career Aspects

	(1) 2021		(2) 2022		(3) 2023	
	Mean (SD)	Obs	Mean (SD)	Obs	Mean (SD)	Obs
Plan after program completion:						
Review for board exams	0.43	479	0.48	559	0.44	839
	(0.50)		(0.50)		(0.50)	
Employed by an employer	0.35	479	0.28	559	0.25	839
	(0.48)		(0.45)		(0.43)	
Self-employed/Start a business	0.08	479	0.09	559	0.14	839
	(0.27)		(0.29)		(0.35)	
Pursue further education	0.05	479	0.06	559	0.08	839
	(0.22)		(0.24)		(0.28)	
Don't know	0.07	479	0.06	559	0.08	839
	(0.25)		(0.23)		(0.27)	
Other	0.02	479	0.02	559	0.01	839
	(0.14)		(0.15)		(0.11)	
Preferred work arrangement:						
Government/public sector	0.60	479	0.60	559	0.50	839
	(0.49)		(0.49)		(0.50)	
Private company	0.15	479	0.09	559	0.13	839
	(0.35)		(0.29)		(0.33)	
Multinational corporation	0.08	479	0.11	559	0.10	839
	(0.27)		(0.31)		(0.30)	
Not sure	0.05	479	0.07	559	0.10	839
	(0.23)		(0.26)		(0.31)	
Start my own business	0.05	479	0.07	559	0.10	839
	(0.22)		(0.25)		(0.30)	
Freelance	0.06	479	0.04	559	0.03	839
	(0.23)		(0.19)		(0.16)	
Other	0.01	479	0.01	559	0.02	839
	(0.10)		(0.10)		(0.14)	
Work for family business	0.00	479	0.00	559	0.01	839
	(0.05)		(0.06)		(0.09)	
Do not wish to work	0.00	479	0.00	559	0.01	839
	(0.05)		(0.04)		(0.08)	
Non-profit organization	0.00	479	0.00	559	0.00	839
	(0.00)		(0.04)		(0.07)	

Note: For each cohort, the table shows the mean and standard deviation (in parentheses) and the number of observations (Obs). Sample sizes vary by item due to nonre-sponse and because some questions apply only to currently enrolled respondents.

(5) Civic Participation

Table 3.12 reports descriptive statistics on civic engagement and political participation by cohort. Across all cohorts, voter registration rates are very high (94–97 percent), and nearly all respondents report intending to vote in the 2025 midterm elections (98–99 percent). Reported turnout in the 2022 national elections varies substantially by cohort: it

is highest among 2021 applicants (0.89) and lower for later cohorts, particularly 2023 (0.42), which likely reflects age eligibility and timing—many respondents in the younger cohorts may not yet have been eligible to vote in 2022 or may have faced different registration and participation constraints.[41]

Participation in community service or volunteer activities during the past year is common, with about 59–67 percent reporting any involvement. Conditional on responding to the duration question, respondents report multiple years of participation on average (roughly 2.5–3.5 years), although sample sizes are smaller for this item, suggesting higher nonresponse or that some respondents did not provide a duration. Overall, these patterns indicate high stated civic engagement, particularly in voter registration and intentions to vote, alongside meaningful levels of community participation.

Table 3.12. Survey Descriptive Statistics on Civic Participation

	(1) 2021		(2) 2022		(3) 2023	
	Mean (SD)	Obs	Mean (SD)	Obs	Mean (SD)	Obs
=1 if registered voter	0.97	479	0.97	559	0.94	839
	(0.18)		(0.18)		(0.23)	
=1 if voted in 2022 notional elections	0.89	479	0.75	559	0.42	839
	(0.31)		(0.43)		(0.49)	
=1 if plan to vote in 2025 midterm elections	0.99	479	0.99	559	0.98	839
	(0.12)		(0.10)		(0.14)	
=1 if participated in community service/volunteer activities (past year)	0.67	479	0.59	559	0.61	839
	(0.47)		(0.49)		(0.49)	
Number of years volunteering/participating in community services	3.45	307	3.36	321	2.47	488
	(2.50)		(2.62)		(2.13)	

Note: For each cohort, the table shows the mean and standard deviation (in parentheses) and the number of observations (Obs). Sample sizes vary by item due to nonresponse and because some questions apply only to currently enrolled respondents.

(6) Psychological Well-Being

Table 3.13 summarizes respondents' psychological well-being and related perceptions. Panel items from the PHQ-9 capture the frequency of nine depressive symptoms over the past two weeks, while the remaining items draw from World Values Survey (WVS) questions on subjective well-being, health, perceived control, and satisfaction.

[41]For example, respondents in the 2023 applicant cohort are observed closer to the end of senior high school and early college years at the time of the 2022 elections, which may affect eligibility and turnout.

Across cohorts, average PHQ-9 item responses are generally between 1.1 and 1.9, suggesting that respondents, on average, report experiencing most symptoms between "several days" and "more than half the days" on the standard PHQ-9 response scale.[42] Symptom means appear broadly similar by cohort. The highest averages are for sleep problems and low energy (around 1.65–1.92), while the lowest averages are for psychomotor changes (around 1.13–1.19) and self-harm thoughts (around 0.90–1.08), though the latter still exhibits substantial within-cohort variation as indicated by standard deviations near one.

Self-reported happiness and life satisfaction are also relatively similar across cohorts. Average overall happiness is around 2.8–2.9 on the 1–4 scale, self-rated health averages about 3.4–3.5 on the 1–5 scale, and perceived control over life averages around 6.8–7.0 on the 1–10 scale. Overall life satisfaction averages about 6.4–6.5 (1–10 scale). Financial satisfaction measures are notably lower, averaging about 4.5–4.8 for household finances and 4.2–4.4 for personal well-being, which is consistent with a population facing meaningful economic constraints. Finally, responses on the "individual vs. government responsibility" item cluster around 5, suggesting moderate views on the balance between individual and government responsibility.

[42]PHQ-9 items are typically coded 0–3 (0 = not at all; 1 = several days; 2 = more than half the days; 3 = nearly every day). The table reports item-level means rather than a summed PHQ-9 total score.

Table 3.13. Survey Descriptive Statistics on Psychological Wellbeing

	(1) 2021		(2) 2022		(3) 2023	
	Mean (SD)	Obs	Mean (SD)	Obs	Mean (SD)	Obs
PHQ-9 (past 2 weeks):						
Little interest or pleasure in doing things	1.49	479	1.54	559	1.47	839
	(0.90)		(0.92)		(0.86)	
Feeling down, depressed, or hopeless	1.43	479	1.57	559	1.50	839
	(0.96)		(0.91)		(0.92)	
Trouble falling or staying asleep, or sleeping too much	1.65	479	1.71	559	1.68	839
	(1.05)		(0.98)		(0.99)	
Feeling tired or having little energy	1.76	479	1.92	559	1.86	839
	(0.92)		(0.87)		(0.91)	
Poor appetite or overeating	1.45	479	1.52	559	1.50	839
	(1.01)		(0.97)		(1.00)	
Feeling bad about yourself	1.62	479	1.76	559	1.73	839
	(1.04)		(1.00)		(1.01)	
Trouble concentrating on things	1.37	479	1.42	559	1.47	839
	(0.99)		(0.99)		(1.02)	
Moving/speaking so slowly that other ppl could have noticed	1.13	479	1.19	559	1.16	839
	(0.96)		(1.00)		(0.96)	
Thoughts you'd be better off dead, or of hurting yourself	0.90	479	1.08	559	1.01	839
	(1.02)		(1.08)		(1.04)	
Life satisfaction & happiness:						
Overall happiness (1-4 scale)	2.89	479	2.82	559	2.88	839
	(0.72)		(0.71)		(0.74)	
State of health (1-5 scale)	3.51	479	3.39	559	3.47	839
	(0.89)		(0.88)		(0.88)	
Control of life (1-10 scale)	7.03	479	6.84	559	6.82	839
	(1.95)		(1.90)		(1.95)	
Overall life satisfaction (1-10 scale)	6.54	479	6.44	559	6.53	839
	(2.12)		(2.04)		(2.09)	
Overall satisfaction with financial situation (1-10 scale)	4.56	479	4.52	559	4.81	839
	(2.22)		(2.09)		(2.22)	
Overall satisfaction with personal well-being (1-10 scale)	4.21	479	4.22	559	4.37	839
	(2.31)		(2.21)		(2.25)	
Responsibility: individual vs. government (1-10 scale)	4.99	479	4.92	559	5.11	839
	(2.77)		(2.59)		(2.54)	

Note: For each cohort, the table shows the mean and standard deviation (in parentheses) and the number of observations (Obs). Sample sizes vary by item due to nonresponse and because some questions apply only to currently enrolled respondents.

(7) Time Use

Table 3.14 summarizes respondents' self-reported time allocation over the past seven days, by application cohort. Across cohorts, students report substantial time commitments to schooling and household responsibilities. Average hours spent taking classes are higher for later cohorts (about 23–24 hours in 2022–2023 versus 18 hours in 2021), while time

spent studying outside of class ranges from about 12 to 14.5 hours. Reported time in paid work is lower on average, particularly for the 2023 cohort (4.6 hours), though the large standard deviations across all cohorts indicate considerable heterogeneity in time use. Commuting, household chores, and leisure each account for sizable shares of weekly time, with means typically between 11 and 17 hours but again with wide dispersion. Overall, the descriptive patterns suggest meaningful variation in how students balance academic demands with work and household responsibilities.

Table 3.14. Survey Descriptive Statistics on Time Use

	(1) 2021		(2) 2022		(3) 2023	
	Mean (SD)	Obs	Mean (SD)	Obs	Mean (SD)	Obs
Number of hours spent on (past 7 days):						
Commuting	12.81	472	11.10	543	12.33	816
	(20.09)		(16.70)		(21.56)	
Taking classes	17.55	473	23.10	552	24.16	829
	(19.59)		(23.24)		(25.34)	
Studying/doing schoolwork outside of classes	13.03	473	14.48	557	11.66	836
	(17.10)		(17.92)		(15.44)	
Working for money	7.38	476	7.01	554	4.62	836
	(16.40)		(16.54)		(12.40)	
Extra-curricular activities (e.g., clubs/orgs, volunteering)	4.92	477	5.37	558	4.52	834
	(12.82)		(10.06)		(8.30)	
Doing household chores	14.91	478	13.80	556	13.80	836
	(20.01)		(20.84)		(20.20)	
Leisure activities (e.g. meeting with friends, playing sports)	17.04	476	16.11	558	16.29	837
	(21.99)		(21.22)		(23.57)	

Note: For each cohort, the table shows the mean and standard deviation (in parentheses) and the number of observations (Obs). Sample sizes vary by item due to nonresponse and because some questions apply only to currently enrolled respondents.

Chapter IV.

Evaluating the Impact of the Scholarship Program

4.1 Estimation Strategy

We estimate the local reduced-form (intent-to-treat) effect of scholarship eligibility at the cutoff using a local polynomial regression discontinuity (RD) design centered at the eligibility cutoff. Specifically, we implement a sharp RD model of the form:

$$Y_{i(c)} = \tau 1(S_{i(c)} \geq c_c) + f_p(S_{i(c)} - c_c) + \lambda_c + \varepsilon_{i(c)}, \tag{4.1}$$

where $Y_{i(c)}$ denotes the outcome of interest for individual i (in cohort c), $S_{i(c)}$ is the running variable (the standardized and recentered application score), and $1(S_{i(c)} \geq c_c)$ is an indicator equal to one if the applicant's score lies above the cohort-specific cutoff c_c. The coefficient of interest, τ, captures the local average treatment effect of eligibility at the cutoff. The function $f_p(\cdot)$ represents a pth-order local polynomial in the running variable, which we set to $p = 1$, and λ_c denotes cohort fixed effects.

The running variable and cutoff are defined at the application-cycle (cohort) level. Accordingly, the unit of analysis in the pooled RD design is an applicant–cohort observation. Although applicants could in principle apply in multiple cohorts, this does not occur in our data because each individual was surveyed only once. As a result, the analytic sample consists of unique individuals.

Following Calonico, Cattaneo and Titiunik (2014), we estimate this model using the `rdrobust` package in Stata, which implements bias-corrected local polynomial estimators with robust standard errors and confidence intervals. All specifications employ a triangular kernel, which gives greater weight to observations closer to the cutoff, and include cohort fixed effects as covariates to account for cohort-level differences in program administration or applicant composition.

As the primary specification, we set bandwidths to fixed symmetric windows of ±2, ±1, and ±0.5 standard deviations around the cutoff. We use a common set of bandwidths across outcomes to ensure a uniform sample definition that enhances comparability of estimates across outcome measures. Yet to check whether these fixed windows are empirically appropriate, we also compute mean squared error (MSE)–optimal bandwidths

following the procedure of Imbens and Kalyanaraman (2012),[43] and from our data it typically lies between 0.5 to 1.5 standard deviation around the cutoff.[44] While we report estimates for ±2, ±1, and ±0.5 SD mainlyfor comparability across outcomes, we treat the ±0.5 SD window as our preferred specification because it exhibits the strongest balance and the weakest evidence of differential survey compliance at the cutoff. Results from wider windows are interpreted as robustness checks and may be more sensitive to residual imbalance.

Regarding functional form, we adopt a local linear specification ($p = 1$) as the baseline model. This choice follows conventional RD practice, as higher-order global polynomials can introduce excessive curvature and spurious precision near the cutoff (Gelman and Imbens 2019). Local linear fits provide a stable approximation to the conditional expectation function around the threshold.

Although treatment take-up at the cutoff (i.e. "first stage") is not 100 percent due to non-take-up above the cutoff and waitlist offers below, the assignment rule is administratively sharp; that is, eligibility for the CSO scholarship is deterministically assigned by the cohort-specific cutoff. We therefore estimate a sharp RD design that identifies the reduced-form (intention-to-treat, ITT) effect of eligibility on each outcome. This parameter captures the causal impact of being eligible for the scholarship rather than the effect of scholarship receipt per se.

For completeness, we also report a fuzzy RD (2SLS) estimates in which actual scholarship receipt is instrumented by eligibility at the cutoff. They are reported in Appendix A. As expected, the fuzzy RD (treatment-on-treated, TOT) estimates mechanically scale up the ITT coefficients by the size of the first stage, approximately 30–60 percent depending on the outcome,[45] yielding proportionally larger but qualitatively similar effects.

[43]The MSE-optimal bandwidth minimizes the asymptotic mean squared error of the RD estimator by balancing the bias–variance trade-off (Imbens and Kalyanaraman 2012). We use the command `rdrobust` in Stata.

[44]For example, the MSE-optimal bandwidth for college enrollment is $h = 1.27$, while for holding any scholarship it is $h = 0.78$, both expressed in units of the standardized application score. These values were computed using a local linear specification and a triangular kernel, with automatic adjustment for mass points in the running variable.

[45]See Figure 4.2 and Table 4.4 for first stage results.

4.2 Baseline Summary Statistics

Table 4.1 presents descriptive statistics comparing the full sample of applicants below the scholarship cutoff with those above it. The two groups are broadly similar in their demographic characteristics, though important differences are visible. Students above the cutoff are slightly younger on average (20.7 years compared to 20.8) and more likely to be female, with nearly 69 percent women compared to 59 percent among those below the cutoff. Marriage rates are negligible in both groups. Family background characteristics also show variation: students above the cutoff report somewhat fewer siblings (3.0 compared to 3.3), and a higher share identify as Roman Catholic (75 percent versus 70 percent). Parental income at the time of application is substantially higher among students above the cutoff—about USD 9,810 compared to USD 7,413 below—although these averages conceal wide variation within both groups.

Academic preparation indicators diverge more sharply. Average high school GPA is 2.98 above the cutoff versus 2.55 below, and percentile rankings show a similar pattern (89 compared to 86). Consistent with this, 85 percent of students above the cutoff pursued an academic track in senior high school, compared to 77 percent below, while 21 percent of those below the cutoff had enrolled in a technical-vocational track compared to only 14 percent above. Patterns of applications and work experience also differ: 18 percent of below-cutoff applicants had applied for other scholarships, compared to only 5 percent of those above; similarly, work experience is more prevalent among below-cutoff students, with 42 percent reporting work before college and 38 percent since entering, compared to 24 and 20 percent among those above.

At the time of the survey, higher education outcomes reflect the impact of these differences. Enrollment rates are nearly universal among above-cutoff students (98 percent) but lower for those below (90 percent). Access to financial aid is also markedly higher: 92 percent of above-cutoff students reported receiving some college scholarship, compared to 58 percent below. Students above the cutoff are also more likely to pursue academic majors (88 percent versus 75 percent) and to have been on the Dean's List in the most recent semester (32 percent versus 21 percent). They are slightly more likely to attend

private colleges (59 percent versus 53 percent) and on average are in a higher year level (2.8 compared to 2.6).

Taken together, these descriptive statistics indicate that applicants above the cutoff are not only more advantaged in terms of family resources and prior academic preparation but also substantially more likely to be enrolled, supported through scholarships, and performing well in college. While these contrasts highlight differences between the two groups overall, the subsequent balance checks around the cutoff provide a more rigorous test of comparability for identifying causal effects.

Table 4.1. Summary Statistics, by treatment

	(1)	(2) Below Cutoff	(3)	(4)	(5) Above Cutoff	(6)
	Mean	SD	Obs	Mean	SD	Obs
Age	20.83	(1.60)	677	20.70	(1.69)	1,200
=1 if female	0.59		718	0.69		1,213
=1 if married	0.00		677	0.01		1,200
Number of siblings	3.26	(1.99)	650	2.95	(2.12)	1,157
=1 if Roman Catholic	0.70		718	0.75		1,213
Parent income (at application)	7,413.38	(4,719.17)	568	9,810.02	(10,060.24)	981
High school GPA	2.55	(0.73)	718	2.98	(0.69)	1,213
High school GPA (percentile)	86.28	(11.33)	717	89.06	(15.20)	1,212
=1 if Academic Track at SHS	0.77		677	0.85		1,200
=1 if Technical Vocation Track at SHS	0.21		677	0.14		1,200
=1 if applied to other scholarship than CSO	0.18		718	0.05		1,213
=1 if worked at all before college	0.42		677	0.24		1,200
=1 if worked at all since entering college	0.38		677	0.20		1,200
=1 if any college scholarship	0.58		677	0.92		1,200
=1 if currently enrolled in college	0.90		677	0.98		1,198
=1 if academic major in college	0.75		677	0.88		1,200
=1 if vocational/technical course	0.18		677	0.10		1,200
=1 if private college	0.53		677	0.59		1,200
Current year in college	2.58	(0.78)	608	2.79	(0.84)	1,178
=1 if Dean's list in last semester	0.21		677	0.32		1,200

Note: This table reports descriptive statistics for applicants below and above the scholarship cutoff. Means, standard deviations (in parentheses), and sample sizes are shown.

In Table 4.2, we assess comparability of baseline characteristics just above and below the eligibility threshold. Most discontinuities are small and statistically insignificant across bandwidth windows, supporting validity of the RD design. Age shows a modest difference only in the wider windows: at ±2 SD the discontinuity is about 0.48 years ($p < 0.01$), and at ±1 SD it remains positive at 0.39 years ($p < 0.10$), while at ±0.5 SD it is 0.00 and statistically insignificant. Gender is balanced at the cutoff in all windows (magnitudes

close to zero, and not significant).

Parental income at application is slightly higher above the cutoff in all windows but imprecisely estimated: +1,185 pesos at ±2 SD, +2,041 pesos at ±1 SD, and +2,110 pesos at ±0.5 SD, none of which are statistically significant. The number of siblings exhibits positive but small and only weakly significant differences: +0.39 ($p < 0.10$) at ±2 SD, +0.53 ($p < 0.10$) at ±1 SD, and +0.64 (n.s.) at ±0.5 SD. Religious affiliation (Catholic) and senior-high academic track are also smooth at the cutoff with no meaningful discontinuities.

Baseline characteristics are broadly balanced around the threshold. The modest differences in age and family size are small in magnitude and not robust to tighter bandwidths, supporting that students on either side of the cutoff are comparable on observables and that subsequent outcome differences can be attributed to eligibility for the scholarship rather than pre-existing traits.

Table 4.2. Balance at cutoff, survey data

	Age	Female	Parent income at application	Num of siblings	Catholic	Academic Track at SHS
Bandwidth of -2 SD to 2 SD						
Score Cutoff	0.48***	0.03	1185.27	0.39*	0.05	0.02
	(0.15)	(0.05)	(815.69)	(0.22)	(0.05)	(0.04)
Mean at cutoff (left)	20.28	0.64	7,662.54	2.86	0.71	0.80
Control mean	20.77	0.60	7,450.33	3.22	0.69	0.77
Observations	1,763	1,815	1,451	1,695	1,815	1,763
Bandwidth of -1 SD to 1 SD						
Score Cutoff	0.39*	0.01	2041.31	0.53*	0.03	0.05
	(0.23)	(0.07)	(1401.59)	(0.31)	(0.06)	(0.06)
Mean at cutoff (left)	20.43	0.66	7,082.11	3.05	0.70	0.76
Control mean	20.58	0.61	7,673.25	3.07	0.70	0.80
Observations	1,284	1,322	1,048	1,236	1,322	1,284
Bandwidth of -0.5 SD to 0.5 SD						
Score Cutoff	0.00	-0.07	2110.02	0.64	-0.05	0.01
	(0.44)	(0.11)	(2888.83)	(0.56)	(0.11)	(0.10)
Mean at cutoff (left)	20.50	0.72	7,095.91	3.41	0.72	0.77
Control mean	20.43	0.63	7,275.87	3.01	0.69	0.77
Observations	621	638	504	605	638	621

Note: This table reports regression discontinuity balance checks for key baseline characteristics. Coefficients represent discontinuities at the scholarship cutoff, with robust standard errors in parentheses. Estimates are shown for the full sample and for restricted bandwidths around the cutoff. *, **, *** indicate statistical significance at 1, 5, and 10 percentage levels, respectively.

4.3 Density Tests

A key identifying assumption of the regression discontinuity design is that applicants cannot precisely manipulate their position relative to the cutoff. In this context, it requires that the density of the running variable, the standardized application score, is continuous at the threshold. Any discontinuity would indicate that applicants or administrators could have influenced the assignment score to gain eligibility, undermining the design's validity.

We test for manipulation of the running variable using the local-polynomial density test of Cattaneo, Jansson and Ma (2020), implemented via `rddensity` in Stata.[46] Bandwidths are selected using the default `bwselect(comb)` procedure, which combines several mean-squared-error (MSE)–optimal rules from the companion `rdbwdensity` algorithm to minimize the integrated MSE of the estimated densities on both sides of the cutoff.

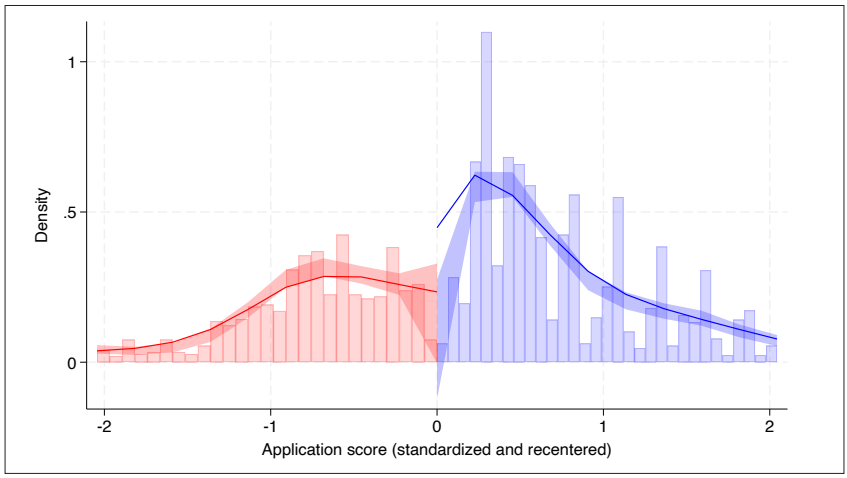
The figure, based on the survey sample,[47] shows no evidence of a density break at the cutoff: the robust manipulation test yields $T = -0.655$ and $p = 0.513$, using a data-driven bandwidth of $h = 0.681$ on each side. Ancillary binomial split tests reported by `rddensity` indicate a higher share of observations to the right of the cutoff in several window lengths, but the bias-corrected manipulation test is decisive for inference and does not reject continuity of the density at the threshold. The slight excess mass just above the cutoff in the survey density is consistent with differential survey response by eligibility status, which would mechanically alter the observed density among respondents even in the absence of score manipulation. This aligns with the survey compliance balance checks, which show modest eligibility-related response differences in wider windows but not in the narrow ± 0.5 SD window.

In summary, the survey data support the no-manipulation assumption required for the validity of the RD design. Because our main analysis relies primarily on the survey-based sample, which shows no evidence of manipulation, we consider this assumption to be reasonably satisfied.

[46] See also McCrary (2008) for the original density-test framework.

[47] While the no-manipulation assumption concerns the generation of the running variable, density patterns in the survey data could reflect both score manipulation and differential survey response around the cutoff.

Figure 4.1. Density of Standardized Application Scores Around the Cutoff



Note: This figure plots the estimated density of standardized and recentered application scores around the scholarship cutoff using local polynomial density estimation (Cattaneo, Jansson and Ma 2020). The plot uses a triangular kernel with data-driven bandwidths; for the survey data shown here, the selected bandwidth is $h = 0.681$ on each side of the cutoff. The robust manipulation test does not reject continuity of the density at the threshold ($T = -0.655$, $p = 0.513$). Shaded areas denote 95% confidence bands. Plots generated using `rddensity` in Stata.

4.4 Survey Attrition Balance

A key concern in any survey-based impact evaluation is whether treatment and control groups differ in their likelihood of responding to the survey. This is analogous to the problem of differential attrition in randomized controlled trials. Even if the identifying assumption of the regression discontinuity design holds, i.e. there are no systematic differences at the cutoff other than program assignment, estimates can still be biased if either side around the cutoff is disproportionately represented in the analysis. In other words, there should be no significant discontinuity in survey compliance (or attrition) at the cutoff.

Table 4.3 reports regression discontinuity estimates of survey compliance at the cutoff. The results show that overall response rates are similar across groups. In the ±2 SD window, the estimated discontinuity is about four percentage points higher above the cutoff and statistically significant. In the ±1 SD window, the discontinuity is about five percentage points, also statistically significant. However, in the tighter ±0.5 SD

window, the discontinuity is close to zero (about –1 percentage point) and not statistically significant.

The results indicate that survey compliance is fairly balanced. While minor deviations exist, they are small in magnitude and not robust to narrower windows. This suggests we can be less concerned about bias from selective survey participation.

Table 4.3. Survey Compliance Balance

	=1 if completed survey
Bandwidth of -2 SD to 2 SD	
Score Cutoff	0.04***
	(0.01)
Mean at cutoff (left)	0.14
Control mean	0.15
Observations	9,584
Bandwidth of -1 SD to 1 SD	
Score Cutoff	0.05**
	(0.02)
Mean at cutoff (left)	0.11
Control mean	0.15
Observations	7,563
Bandwidth of -0.5 SD to 0.5 SD	
Score Cutoff	-0.01
	(0.03)
Mean at cutoff (left)	0.11
Control mean	0.14
Observations	4,487

Note: Each column reports the estimated discontinuity in follow-up survey completion at the application score cutoff, using local linear regressions with cohort-specific standardized and recentered application scores. The outcome equals one if the respondent completed the survey. All specifications include cohort fixed effects, and robust standard errors are shown in parentheses. "Mean at cutoff (left)" reports the fitted value of the outcome just below the cutoff, and "Control mean" reports the average outcome for applicants below the cutoff. Each panel restricts the sample to applicants within the indicated range (±2, ±1, or ±0.5 standard deviations of the standardized score). *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

4.5 First Stage Results

In regression discontinuity designs, and in impact evaluations more broadly, the first stage refers to the relationship between the assignment rule (here, the application score relative to the cutoff) and actual program receipt. In our setting, this means testing whether students whose scores put them above the eligibility threshold were indeed much

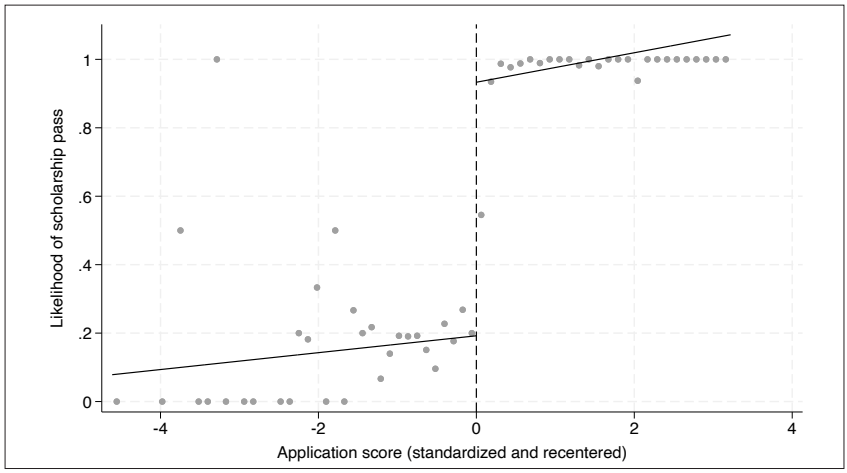
more likely to receive the CSO scholarship. Establishing a strong first stage is critical because the entire RDD strategy relies on the cutoff generating a sharp and meaningful change in treatment status. If crossing the threshold did not predict scholarship receipt, then any estimated "effects" would be difficult to interpret as causal impacts of the program.

A clear discontinuity in program receipt at the cutoff therefore serves as a validation step: it confirms that the score rule was enforced, that treatment assignment is exogenous, and that the scholarship program provides a credible source of variation for estimating causal effects on later outcomes. In this way, the first stage in an RDD plays a role similar to checking treatment take-up in a randomized controlled trial.

Figure 4.2 presents the first-stage relationship using the survey data. The figure plots the probability of scholarship receipt against the standardized and recentered application score. In each cohort, application scores were standardized using the cohort's mean and standard deviation, and the standardized cutoff was subtracted so that zero corresponds to the cohort-specific threshold. As shown clearly in the figure, there is a visually distinct discontinuity at the cutoff: scholarship receipt rises sharply from roughly 20 percent just below the threshold to nearly 100% percent immediately above it.[48] This provides visual evidence that the cutoff created a significant, discrete change in treatment status.

[48]Scholarship receipt is not zero immediately below the cutoff because the CSO also used a waitlist system. Each year, in addition to applicants who met the cohort-specific pass cutoff, about 500 applicants just below the cutoff were placed on a waitlist and were later offered scholarship slots (in order of score) as initially admitted applicants declined the offer.

Figure 4.2. First Stage, receiving CSO scholarship



Note: The figure plots the likelihood of scholarship approval, based on survey data, against the standardized and recentered application score. For each cohort, the application score was standardized using that cohort's mean and standard deviation, and the cutoff score was standardized using the same parameters. The standardized application score was then recentered by subtracting the standardized cutoff score, so that zero represents the cohort-specific cutoff. The fitted lines are local linear polynomials estimated separately on each side of the threshold, with bin numbers selected using integrated mean squared error (IMSE)–optimal criteria. The fitted lines use 6 and 22 IMSE-optimal bins to the left and right of the cutoff, respectively. The outcome variable indicates whether the respondent reported having received a pass status on their scholarship application. Because the CSO maintained a waitlist, some applicants scoring just below the pass cutoff were later offered scholarships as slots became available when above-cutoff admits declined; as a result, the probability of scholarship receipt is positive even slightly below zero.

In addition to visual evidence, we formally test the statistical significance and robustness of the discontinuities at the cutoff. Table 4.4 reports the estimated discontinuities in scholarship receipt from local linear regressions using the survey data. Each specification includes cohort fixed effects and uses cohort-specific standardized and recentered application scores as the assignment variable. Results are shown for bandwidths of ±2, ±1, and ±0.5 standard deviations around the cutoff.

We follow standard RDD practice by using multiple bandwidths. Data-driven bandwidth selectors implemented via `rdbwselect` indicate that the mean squared error (MSE)–optimal bandwidth is close to one standard deviation in our setting, depending on the outcome. Reporting estimates over a broader set of windows therefore provides reassurance that the results are not sensitive to the choice of bandwidth.

The estimated discontinuity remains large and statistically significant across all band-

widths but declines in magnitude as the window narrows. Using the survey data, crossing the threshold increases the probability of receiving the scholarship by 68 percentage points in the ±2 SD window, by 57%p in the ±1 SD window, and by 34%p in the ±0.5 SD window. The smaller point estimates in tighter bandwidths are consistent with reduced precision and greater sampling noise when estimation relies on fewer observations close to the cutoff. The stability of statistical significance across specifications nonetheless indicates that the discontinuity is consistent across bandwidth choices.

These estimates imply that crossing the eligibility cutoff raises scholarship receipt from roughly 21–25 percent just below the threshold to about 59-89 percent just above it, depending on the bandwidth. This represents a substantial discontinuity and is consistent with the program enforcing a sharp eligibility rule with minor deviations at the margin.

Table 4.4. First Stage, receiving CSO scholarship

	=1 if received scholarship
Bandwidth of -2 SD to 2 SD	
Score Cutoff	0.68***
	(0.04)
Mean at cutoff (left)	0.21
Control mean	0.17
Observations	1,793
Bandwidth of -1 SD to 1 SD	
Score Cutoff	0.57***
	(0.05)
Mean at cutoff (left)	0.23
Control mean	0.18
Observations	1,389
Bandwidth of -0.5 SD to 0.5 SD	
Score Cutoff	0.34***
	(0.09)
Mean at cutoff (left)	0.25
Control mean	0.19
Observations	782

Note: This table reports the estimated discontinuity in scholarship receipt at the application score cutoff, using local linear regressions with cohort- specific standardized and recentered application scores. The outcome equals one if the applicant received a scholarship, based on survey self-reports. Regressions control for cohort fixed effects. Robust standard errors in parentheses. "Mean at cutoff (left)" reports the fitted value of the outcome just below the cutoff, and Control mean reports the average outcome for applicants below the cutoff. Each panel restricts the sample to applicants within the indicated range (±2, ±1, or ±0.5 standard deviations of the standardized score). *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

4.6 Program Effects

In this section, we examine the program's impacts on our primary outcomes. The first stage results in the previous section show that the scholarship eligibility cutoff provides a credible source of variation in program receipt. By comparing outcomes for students just above and just below the cutoff, we can attribute observed differences to the causal effects of the program.

4.6.1 Impacts on Financing College Expenses

We first examine how the CSO scholarship affected students' financing of college expenses. Table 4.5 reports the estimated discontinuities at the eligibility cutoff for various indicators of scholarship receipt and financial sources. Consistent with the nature of the program, the likelihood of holding any college scholarship (including the CSO scholarship) increases by around 27 percentage points in both the ±2 SD and ±1 SD windows, with somewhat smaller and imprecise effects in the ±0.5 SD window. These gains are concentrated in government-based scholarships, which rise by 26–30 percentage points in the wider windows, while university-based and private institution–based scholarships show no systematic changes. This pattern suggests that the CSO award increased the probability of receiving a government-funded scholarship, but its influence on other scholarship sources appears limited.

The evidence on financial resources is generally weaker. In the ±2 SD window, we observe a USD 10 increase in monthly stipend income (significant at the 5 percent level) and a 13-percentage-point decline in the share of college fees paid out of pocket (significant at the 1 percent level). However, these effects become smaller and statistically insignificant in the narrower ±1 SD and ±0.5 SD windows. Similarly, reductions in work earnings are statistically significant only in the ±2 SD window and are imprecisely estimated in the preferred narrower samples. Estimates for family allowances are negative but not statistically significant across all windows. Overall, these results suggest possible easing of financial pressures for students above the cutoff, but the evidence is not consistently robust across bandwidths.

The results indicate that the CSO scholarship reliably increased access to government-based scholarships, which is expected given the program's design. The impacts on stipends, out-of-pocket payments, and labor earnings are more mixed and appear sensitive to bandwidth choice. Given that other diagnostic checks (e.g., survey compliance and balance tests) are more reliable in narrower windows, the financial outcomes should be interpreted with caution. While there are indications of reduced financial burden in the wider window, the overall evidence of improved financial conditions is relatively modest.

Table 4.5. Effects on financing college expenses

	=1 if college scholarship				Scholarship stipends (past month, USD)	Percentage of college fees covered by oneself	Family allowances (past month, USD)	Work pay (past month, USD)
	Any	Gov't-based	Univ-based	Priv inst-based				
Bandwidth of -2 SD to 2 SD								
Score Cutoff	0.27***	0.30***	-0.04	0.03	10.35**	-0.13***	-2.41	-7.68**
	(0.04)	(0.04)	(0.05)	(0.02)	(4.99)	(0.04)	(2.68)	(3.36)
Mean at cutoff (left)	0.68	0.66	0.31	0.04	25.46	0.39	24.76	16.13
Control mean	0.59	0.63	0.27	0.08	25.86	0.44	20.56	13.60
Observations	1,763	1,763	1,763	1,763	1,763	1,478	1,763	1,763
Bandwidth of -1 SD to 1 SD								
Score Cutoff	0.27***	0.26***	-0.03	0.05*	4.79	-0.07	-5.87	-4.39
	(0.05)	(0.05)	(0.07)	(0.03)	(6.78)	(0.06)	(3.64)	(4.28)
Mean at cutoff (left)	0.70	0.70	0.33	0.02	30.60	0.35	26.45	14.12
Control mean	0.61	0.63	0.28	0.07	23.92	0.44	21.39	14.36
Observations	1,284	1,284	1,284	1,284	1,284	1,083	1,284	1,284
Bandwidth of -0.5 SD to 0.5 SD								
Score Cutoff	0.13	0.12	-0.11	0.03	1.71	0.04	-7.58	5.52
	(0.09)	(0.09)	(0.12)	(0.05)	(11.27)	(0.10)	(6.25)	(6.58)
Mean at cutoff (left)	0.81	0.80	0.41	0.02	34.43	0.25	26.25	4.55
Control mean	0.66	0.67	0.28	0.05	27.02	0.41	23.87	14.49
Observations	621	621	621	621	621	538	621	621

Note: *, **, *** indicate statistical significance at 1, 5, and 10 percentage levels, respectively.

4.6.2 Impacts on College Enrollment and Academic Outcomes

We next examine the effects of the CSO scholarship on students' college enrollment, academic progression, and performance. Table 4.6 presents regression discontinuity estimates for key post-secondary outcomes, including enrollment status, current year level,

academic track, and academic performance.

The program is associated with modest increases in college enrollment, with estimated discontinuities of 7–10 percentage points across bandwidths. These effects are statistically significant in the two wider windows but less precisely estimated in the narrowest window. Given baseline enrollment rates of 88–92 percent, these differences should be interpreted as relatively small shifts at an already high level of enrollment, rather than transformative changes in access.

To probe potential general-equilibrium substitution in institution choice, we also examine enrollment in private (vs. public) universities. While the estimated discontinuities are not statistically significant, the point estimates are economically nontrivial—ranging from about 3 to 13 percentage points across bandwidths—suggesting that eligibility could plausibly affect institution choice at the margin, even though the data do not allow us to draw firm conclusions or capture broader system-wide general equilibrium responses.

The scholarship also appears to be associated with earlier academic progression, as students above the cutoff are estimated to be 0.41–0.55 years ahead in their college programs. These estimates are consistently statistically significant across bandwidths. While the mechanism cannot be directly observed, this pattern is consistent with the possibility that scholarship eligibility reduced delays or interruptions in study. However, because progression may reflect a variety of academic, financial, and institutional factors, these estimates should be interpreted cautiously.

For academic track choices, there is no statistically significant evidence of changes in the probability of enrolling in the academic track, the HUMSS strand, or the Technical-Vocational-Livelihood (TVL) track. Point estimates are small across all bandwidths, and none are statistically significant. We find no evidence that scholarship eligibility meaningfully shifted students' field-of-study decisions at entry into higher education.

For academic performance, the estimates show no detectable effects on GPA (either last-semester or cumulative) or on Dean's List status. Across bandwidths, the coefficients are small, imprecisely estimated, and statistically insignificant. Even though point estimates for GPA are slightly negative in the wider windows and slightly positive in the narrowest

Table 4.6. Effects on college outcomes

	=1 if enrolled	=1 if private univ.	Current college year	=1 if academic track[a]	=1 if HUMSS	=1 if TVL[b] track	GPA (5-pt scale, last semester)	GPA (5-pt scale, cumulative)	=1 if Dean's list (last semester)
Bandwidth of -2 SD to 2 SD									
Score Cutoff	0.07***	0.06	0.41***	0.04	0.06	-0.04	-0.09	-0.10	-0.06
	(0.03)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.06)	(0.06)	(0.05)
Mean at cutoff (left)	0.91	0.55	2.38	0.79	0.19	0.19	1.97	1.98	0.31
Control mean	0.90	0.53	2.57	0.78	0.22	0.19	2.02	1.99	0.23
Observations	1,761	1,763	1,679	1,683	1,683	1,683	1,315	1,194	1,683
Bandwidth of -1 SD to 1 SD									
Score Cutoff	0.08**	0.03	0.48***	0.01	0.04	-0.02	-0.09	-0.11	-0.07
	(0.04)	(0.07)	(0.07)	(0.06)	(0.06)	(0.06)	(0.07)	(0.09)	(0.07)
Mean at cutoff (left)	0.90	0.55	2.31	0.80	0.20	0.18	1.99	2.02	0.29
Control mean	0.91	0.53	2.53	0.79	0.21	0.18	2.00	1.97	0.24
Observations	1,283	1,284	1,220	1,223	1,223	1,223	962	865	1,223
Bandwidth of -0.5 SD to 0.5 SD									
Score Cutoff	0.10	0.13	0.55***	-0.05	0.13	-0.01	0.05	0.02	-0.07
	(0.06)	(0.12)	(0.10)	(0.10)	(0.11)	(0.09)	(0.12)	(0.15)	(0.11)
Mean at cutoff (left)	0.88	0.50	2.01	0.85	0.22	0.13	1.93	1.95	0.24
Control mean	0.92	0.56	2.42	0.78	0.20	0.20	2.01	2.00	0.28
Observations	620	621	597	598	598	598	480	425	598

Note: *, **, *** indicate statistical significance at 1, 5, and 10 percentage levels, respectively.
[a] Academic track includes strands Science, Technology, Engineering, and Mathematics (STEM); Accountancy, Business, and Management (ABM); Humanities and Social Sciences (HUMSS), and General Academic Strand (GAS).
[b] Technical Vocation and Livelihood (TVL) track.

window, the magnitudes are small relative to the 5-point GPA scale, where 1 is highest score and 5 is the lowest. These null results indicate that, within the precision allowed by the data, scholarship eligibility did not translate into short-term improvements in measured academic achievement. Although we collected GPA information, substantial variability across institutions and incomplete reporting limit the reliability of these measures, and this may partly account for the imprecise estimates.

The results suggest that while scholarship eligibility may have supported continued enrollment and timely academic progression, its impacts on academic track choice and short-run academic performance are limited or not statistically distinguishable from zero. The evidence should therefore be interpreted as showing modest improvements

in persistence and progression, but no strong impacts on academic specialization or performance within the period studied.

4.6.3 Impacts on Psychological Well-being

We next examine whether the CSO scholarship influenced students' psychological well-being. Table 4.7 reports estimates for three outcomes: happiness and life satisfaction (standardized), depressive symptoms measured by the PHQ-9 scale, and a composite index that combines these two.

Across bandwidths, the estimated effects on happiness and life satisfaction are small, positive, and generally statistically insignificant. The discontinuity ranges from 0.05 to 0.22 standard deviations, with only the estimate in the ± 2 SD window reaching significance at conventional levels. These results suggest modest evidence of improved self-reported life satisfaction, though the estimates are not consistent across bandwidths.

For depressive symptoms, the results are mixed and generally imprecise. In the two wider windows, the coefficients are small relative to the PHQ-9 scale (which ranges from 0 to 27) and statistically indistinguishable from zero. In the narrowest ± 0.5 SD window, however, the estimate rises to 2.77 points and is statistically significant at the 10 percent level. Given the noisiness of self-reported mental health measures and the relatively small sample in the narrowest window, this estimate should be interpreted cautiously. The broader pattern across windows does not indicate a consistent shift in depressive symptoms around the cutoff.

The composite psychological well-being index, which aggregates standardized measures of life satisfaction and depression, shows no statistically significant discontinuity in any window. Point estimates are close to zero in the two wider samples and become modestly negative in the narrowest window, but all are imprecisely estimated.

Table 4.7. Effects on psychological wellbeing

	Happiness & life satisfaction[a] (z-score)	Depression (PHQ-9)[b]	Psychological wellbeing index
Bandwidth of -2 SD to 2 SD			
Score Cutoff	0.22**	0.30	0.10
	(0.11)	(0.63)	(0.10)
Mean at cutoff (left)	-0.21	13.53	-0.15
Control mean	-0.02	13.40	-0.03
Observations	1,763	1,763	1,763
Bandwidth of -1 SD to 1 SD			
Score Cutoff	0.17	1.15	-0.01
	(0.15)	(0.88)	(0.14)
Mean at cutoff (left)	-0.23	13.34	-0.15
Control mean	-0.05	13.46	-0.05
Observations	1,284	1,284	1,284
Bandwidth of -0.5 SD to 0.5 SD			
Score Cutoff	0.05	2.77*	-0.22
	(0.26)	(1.55)	(0.25)
Mean at cutoff (left)	-0.30	13.33	-0.18
Control mean	-0.13	13.45	-0.09
Observations	621	621	621

Note: *, **, *** indicate statistical significance at 1, 5, and 10 percentage levels, respectively.
[a] Questions from the World Values Survey.
[b] 9-Question Patient Health Questionnaire (PHQ-9). 0-4: Minimal/No Depression; 5-9: Mild Depression; 10-14: Moderate Depression; 15-19: Moderately Severe Depression; 20-27: Severe Depression.

To further explore mental health, Table 4.8 disaggregates the PHQ-9 into its nine component symptoms. Several specific symptoms, including trouble sleeping, low energy, and appetite changes, show positive and statistically significant coefficients in some bandwidths, particularly the narrower ones. However, these patterns are not uniform across symptoms or bandwidths, and the magnitudes remain modest relative to the underlying 4-point item scales.

Table 4.8. Effects on PHQ−9 subcomponents

	Little interest	Feeling down	Trouble sleep	Little energy	Appetite	Feeling about oneself	Trouble concentrate	Moving/ speaking slow	Self-harming thoughts
Bandwidth of -2 SD to 2 SD									
Score Cutoff	0.02	0.01	0.18*	0.05	0.16	0.02	-0.15	-0.02	0.03
	(0.09)	(0.09)	(0.10)	(0.09)	(0.10)	(0.10)	(0.10)	(0.10)	(0.11)
Mean at cutoff (left)	1.49	1.56	1.60	1.86	1.43	1.73	1.54	1.27	1.05
Control mean	1.48	1.54	1.64	1.80	1.45	1.76	1.43	1.26	1.05
Observations	1,763	1,763	1,763	1,763	1,763	1,763	1,763	1,763	1,763
Bandwidth of -1 SD to 1 SD									
Score Cutoff	0.03	0.08	0.36***	0.30**	0.29**	0.14	-0.13	0.06	0.02
	(0.12)	(0.13)	(0.14)	(0.13)	(0.13)	(0.15)	(0.14)	(0.14)	(0.15)
Mean at cutoff (left)	1.50	1.57	1.52	1.75	1.34	1.70	1.59	1.27	1.09
Control mean	1.49	1.52	1.65	1.85	1.46	1.77	1.44	1.25	1.03
Observations	1,284	1,284	1,284	1,284	1,284	1,284	1,284	1,284	1,284
Bandwidth of -0.5 SD to 0.5 SD									
Score Cutoff	-0.04	0.37	0.76***	0.55**	0.51**	0.14	-0.04	0.32	0.19
	(0.22)	(0.23)	(0.23)	(0.23)	(0.22)	(0.26)	(0.25)	(0.24)	(0.27)
Mean at cutoff (left)	1.63	1.48	1.38	1.68	1.29	1.86	1.67	1.24	1.10
Control mean	1.46	1.57	1.64	1.81	1.42	1.72	1.51	1.25	1.07
Observations	621	621	621	621	621	621	621	621	621

Note: *, **, *** indicate statistical significance at 1, 5, and 10 percentage levels, respectively.

We do not find the CSO scholarship generated clear or consistent improvements in psychological well-being in the short run. While some estimates point toward modest increases in life satisfaction, others, especially in the narrowest window, indicate higher reported depressive symptoms. Given the inconsistency of these patterns across bandwidths and outcomes, and the inherent noisiness of subjective mental-health measures, the overall results should be interpreted with caution, and we refrain from drawing strong conclusions about the program's effects on psychological well-being.

4.6.4 Impacts on Other Outcomes

In addition to the primary outcomes examined above, the survey collected information on a range of secondary outcomes, including how students allocate their time during a typical week, their intended post-college career paths, and their civic engagement. These

variables provide suggestive evidence on potential mechanisms and broader behavioral responses to scholarship eligibility.

Table 4.9 reports RD estimates for weekly time use. Overall, there is little evidence that scholarship eligibility systematically alters how students allocate their time across commuting, attending classes, schoolwork, paid work, extracurricular activities, household chores, or leisure. The only statistically significant effect is an increase of about 2.9 hours per week on "other schoolwork" in the ±2 SD window, an estimate that becomes smaller and statistically insignificant in the narrower bandwidths. For paid work, point estimates are negative (suggesting fewer hours worked for pay), but the magnitudes are modest relative to the baseline of 7–9 hours per week and are not statistically significant.

Table 4.9. Effects on time use

	Number of hours spent on (past 7 days):						
	Commuting	Taking classes	Other schoolwork	Working for money	Extra-curricular	Household chores	Leisure
Bandwidth of -2 SD to 2 SD							
Score Cutoff	-1.38	2.70	2.86*	-2.80	0.83	-2.55	-1.76
	(2.06)	(2.46)	(1.55)	(1.73)	(1.17)	(2.80)	(2.69)
Mean at cutoff (left)	11.62	19.05	10.03	8.55	4.51	18.08	18.08
Control mean	13.68	19.92	11.27	8.67	4.43	14.94	14.31
Observations	1,722	1,741	1,752	1,752	1,755	1,757	1,757
Bandwidth of -1 SD to 1 SD							
Score Cutoff	-2.30	2.74	3.17	-2.17	-0.23	-2.17	-1.78
	(2.68)	(3.53)	(2.21)	(2.28)	(1.78)	(4.08)	(3.80)
Mean at cutoff (left)	10.80	19.15	9.69	7.30	5.36	18.79	17.88
Control mean	13.11	19.69	10.90	9.00	4.31	15.66	15.25
Observations	1,259	1,272	1,277	1,276	1,280	1,279	1,281
Bandwidth of -0.5 SD to 0.5 SD							
Score Cutoff	-3.75	1.59	0.72	-2.74	0.57	-6.24	-2.93
	(5.14)	(7.34)	(3.67)	(3.63)	(3.09)	(7.21)	(6.84)
Mean at cutoff (left)	9.72	20.79	10.73	5.18	5.40	20.42	18.99
Control mean	12.64	19.54	10.21	8.20	4.84	17.17	16.33
Observations	608	614	618	618	620	619	619

Note: *, **, *** indicate statistical significance at 1, 5, and 10 percentage levels, respectively.

Table 4.10 summarizes impacts on career plans and preferred work arrangements. Across bandwidths, the most consistent pattern is a higher probability of reporting

plans to review for professional or board examinations after program completion. The estimated discontinuity for this outcome ranges from about 12 to 21 percentage points and is statistically significant in all three bandwidths, relative to baseline rates of around 35–40 percent. In contrast, intentions to become immediately employed, start a business, or pursue further education show small and imprecise differences at the cutoff. In the narrowest window, there is a 20-percentage-point reduction in the probability of planning to be employed immediately after completion, but this estimate is only marginally significant and not mirrored in the wider windows. Preferences over work arrangements (public sector, private sector, multinational companies, own business, or freelance work) show no clear or robust differences. Overall, these results suggest that scholarship-eligible students are somewhat more likely to express an intention to pursue board-review preparation, but the evidence for broader shifts in career plans or sectoral preferences is limited.

Table 4.10. Effects on career aspects

	Plan after program completion:				Preferred work arrangement:				
	Review for board exams	Employed	Start business	Further education	Public sector	Private	MNC	Own business	Freelance
Bandwidth of -2 SD to 2 SD									
Score Cutoff	0.12**	-0.00	-0.05	-0.01	0.06	0.00	-0.02	0.03	0.01
	(0.05)	(0.05)	(0.03)	(0.03)	(0.05)	(0.03)	(0.03)	(0.03)	(0.02)
Mean at cutoff (left)	0.36	0.27	0.16	0.07	0.55	0.10	0.11	0.04	0.03
Control mean	0.42	0.24	0.16	0.07	0.56	0.09	0.08	0.09	0.04
Observations	1,763	1,763	1,763	1,763	1,763	1,763	1,763	1,763	1,763
Bandwidth of -1 SD to 1 SD									
Score Cutoff	0.14*	-0.07	0.01	-0.00	0.07	-0.00	-0.04	0.05	0.02
	(0.07)	(0.06)	(0.05)	(0.04)	(0.07)	(0.04)	(0.04)	(0.04)	(0.02)
Mean at cutoff (left)	0.37	0.28	0.13	0.06	0.57	0.08	0.11	0.04	0.03
Control mean	0.40	0.24	0.16	0.08	0.55	0.10	0.08	0.09	0.03
Observations	1,284	1,284	1,284	1,284	1,284	1,284	1,284	1,284	1,284
Bandwidth of -0.5 SD to 0.5 SD									
Score Cutoff	0.21*	-0.20*	0.12	-0.00	0.11	-0.02	-0.10	0.09	-0.02
	(0.12)	(0.11)	(0.08)	(0.06)	(0.12)	(0.07)	(0.08)	(0.06)	(0.03)
Mean at cutoff (left)	0.35	0.33	0.06	0.06	0.58	0.08	0.16	0.02	0.03
Control mean	0.39	0.25	0.17	0.07	0.55	0.10	0.09	0.07	0.03
Observations	621	621	621	621	621	621	621	621	621

Note: *, **, *** indicate statistical significance at 1, 5, and 10 percentage levels, respectively.

Table 4.11 examines civic participation, including voter registration, past voting behavior, intended future voting, and community service. Voter registration is nearly universal on both sides of the cutoff, and the RD estimates are close to zero and statistically insignificant. In the two wider bandwidths, scholarship eligibility is associated with a 13–15 percentage point higher probability of having voted in the 2022 national elections, although this difference is not precisely estimated in the narrowest window. The estimates for planning to vote in the 2025 midterm elections are essentially zero, reflecting the already very high baseline intention to vote (around 98–100 percent). For community engagement, the probability of participating in community service over the past year is not significantly different at the cutoff, but the number of years involved in community service is higher by about 0.6–0.8 years in the wider windows, with imprecise estimates in the narrowest window. These patterns are suggestive of somewhat greater past civic engagement among scholarship-eligible students, though the evidence is not uniform across specifications.

Table 4.11. Effects on civic participation

	=1 if registered voter	=1 if voted in 2022 national elections	=1 if plan to vote in 2025 midterms	Participated in community service or volunteer activities (past year)	Number of years in community services
Bandwidth of -2 SD to 2 SD					
Score Cutoff	0.01	0.13***	-0.00	0.06	0.58**
	(0.02)	(0.05)	(0.01)	(0.05)	(0.28)
Mean at cutoff (left)	0.95	0.56	0.98	0.57	2.43
Control mean	0.96	0.65	0.99	0.54	2.72
Observations	1,763	1,763	1,763	1,763	1,061
Bandwidth of -1 SD to 1 SD					
Score Cutoff	0.00	0.15**	-0.00	-0.02	0.81**
	(0.03)	(0.07)	(0.01)	(0.07)	(0.38)
Mean at cutoff (left)	0.95	0.58	0.99	0.64	2.33
Control mean	0.95	0.62	0.98	0.53	2.68
Observations	1,284	1,284	1,284	1,284	749
Bandwidth of -0.5 SD to 0.5 SD					
Score Cutoff	-0.03	0.18	0.01	0.04	0.74
	(0.05)	(0.12)	(0.01)	(0.12)	(0.66)
Mean at cutoff (left)	0.95	0.54	1.00	0.58	2.06
Control mean	0.95	0.58	0.99	0.60	2.64
Observations	621	621	621	621	369

Note: *, **, *** indicate statistical significance at 1, 5, and 10 percentage levels, respectively.

Chapter V.

Conclusion and Policy Implications for Development Cooperation

5.1 International Efforts to Expand Higher Education in the Philippines

Education is crucial to achieve sustainable development. It is also one of the Sustainable Development Goals (SDGs) – SDG 4: Quality Education. Although SDG 4 primarily emphasizes basic and secondary education, it also encompasses certain aspects of tertiary education, including higher education and professional vocational training. Consequently, the international community has sought to expand its support to higher education and professional vocational training in developing countries.

As the volume of Official Development Assistance (ODA) to developing countries has increased, the funding directed toward the education sector has also grown. International support for quality tertiary education has shown a slight upward trend since 2002, with most of the aid to tertiary education focusing on higher education (Galán-Muros *et al.* 2022).

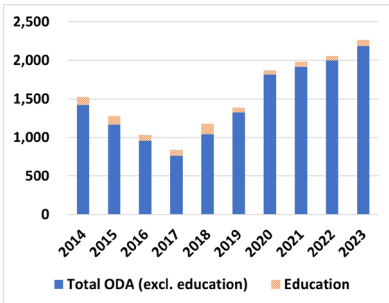
The Government of the Philippines highlights the importance of human capital development through education as a driver of economic growth, explicitly incorporating educational outcomes in its national development plan (Ancho 2023; Tomada and Galido 2024)). The Philippines aims to strengthen and expand its tertiary education foundations through policy instruments and legal reforms, following a trend seen in other middle-income countries (Galán-Muros *et al.* 2022; Tomada and Galido 2024).

While ODA flows to the Philippines have decreased during 2014-2017, ODA inflows in 2017 recorded the lowest among recent 10 years. The ODA inflow trends are reversed and the volume has been increased since 2018 due to expanded supports to economic infrastructure and services and general environment. ODA on education sector has not been changed a lot, even showed slightly downward trends. Since drastic drop from the highest records in 2018, the ODA on education has been fluctuated, while Total ODA rose after 2018 (Figure 5.1).

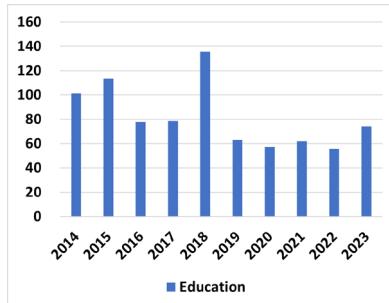
Figure 5.1. Total ODA and ODA on Education to Philippines (2014–2023)

Figure 5.1. Total ODA and ODA on Education to Philippines (2014-2023)

(a) Total ODA



(b) ODA on Education



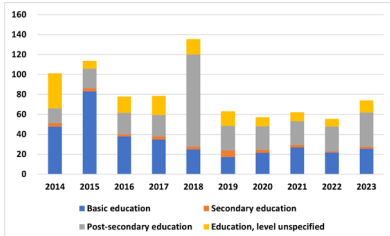
5.1.1 ODA Distribution on Education and Post-secondary Education by Sub-sectors

According to the OECD's Creditor Reporting System (CRS) codes for education, the sector is classified into four categories: (i) basic education, (ii) secondary education, (iii) post-secondary education, and (iv) education, level unspecified. Consequently, education-related Official Development Assistance (ODA) comprises financial flows supporting these four sub-sectors. From 2014 to 2017, the largest proportion of ODA in the education sector was allocated to basic education. In 2018, however, there was a marked increase in ODA directed toward post-secondary education; since then, the share of post-secondary education within total education ODA has risen. Nevertheless, as shown in Figure 5.2, the absolute amount of ODA for post-secondary education has remained relatively stable after 2019, despite the Philippine government's continued emphasis on strengthening tertiary education.

Figure 5.2. ODA for Education to Philippines by sub-sectors: Amount and Proportion

Figure 5.2. ODA for Education to Philippines by sub-sectors: Amount and Proportion

(a) Amount



(b) Proportion

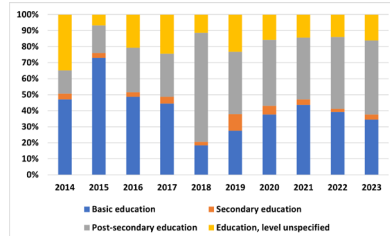


Table 5.1. OECD Creditor Reporting System (CRS) Codes on Post-secondary education

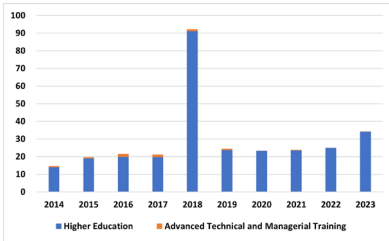
CRS Codes	Description	Clarifications
114	Post-secondary Education	
11420	Higher education	Degrees and diploma programmes at universities, colleges and polytechnics; scholarship
11430	Advanced technical and managerial training	Professional-level vocational training programmes and in-service training

Source: OECD (2025), DAC-CRS-Codes, https://webfs.oecd.org/oda/DataCollection/Resources/DAC-CRS-CODES.xlsx (accessed of 2025. 8. 20).

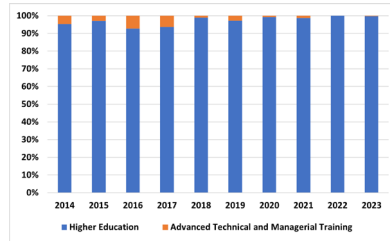
The main focus of this study is tertiary education, which corresponds to post-secondary education under OECD CRS codes. Post-secondary education includes (i) higher education and (ii) advanced technical and managerial training. From 2014 to 2023, ODA for higher education totaled USD 294.04 million, while ODA for advanced technical and managerial training amounted to just USD 6.47 million. Since 2014, most ODA for post-secondary education has been allocated to higher education. In 2018, a dramatic increase in funds was observed for higher education, chiefly due to the Saudi Arabian government's provision of substantial scholarships to Filipino students studying in Saudi Arabia. ODA for higher education is predominantly funded through grants, with only USD 30 thousand provided as loans.

Figure 5.3. ODA for Post-secondary Education by sub-sectors: Amount and Proportion

(a) Amount



(b) Proportion



Source: OECD (2025), CRS Statistics (accessed of 2025. 8. 19).

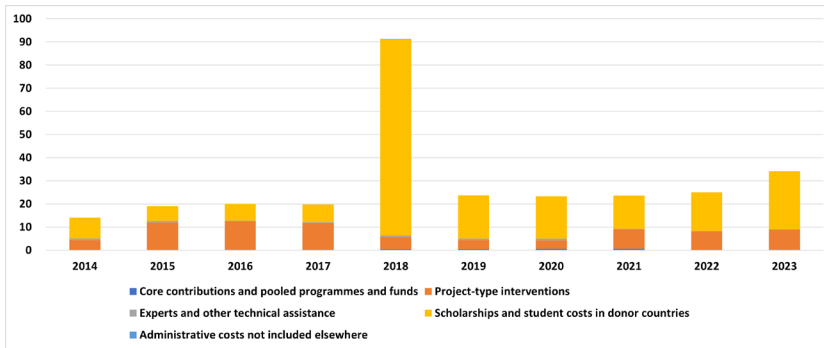
5.1.2 ODA Distribution on Higher Education by Modality and Channel

By Co-operation Modality

Regarding co-operation modality, most ODA for higher education is distributed as "scholarships and student costs in donor countries." Between 2014 and 2023, 70.8 % of higher education ODA was directed toward scholarships and student costs in donor countries. Project-type interventions accounted for 27 % of the total ODA for higher education. Excluding the exceptional increase in scholarship support in 2018, the share of project-type interventions rises to 36.5 %, while the share of scholarships in donor countries falls to 60.8 %. Considering that Galán-Muros, Chacón, and Escribens (2022) report that imputed student costs and scholarships or training provided in donor countries account for approximately 70 % of total tertiary education ODA by aid modality, the allocation of ODA for higher education in the Philippines closely reflects prevailing international patterns of support for this sector.

By donor type, DAC member countries primarily support higher education through scholarships and student costs incurred in donor countries (41.3 %), followed by project-type interventions (36.0 %). In contrast, nearly all support from non-DAC countries (99.8 %) is concentrated in scholarships and student costs in donor countries. Multilateral

Figure 5.4. Higher Education ODA Distribution by Modality



Source: OECD (2025), CRS Statistics (accessed 2025. 8. 19).

organizations support higher education in the Philippines exclusively through project-type interventions.

By Channel

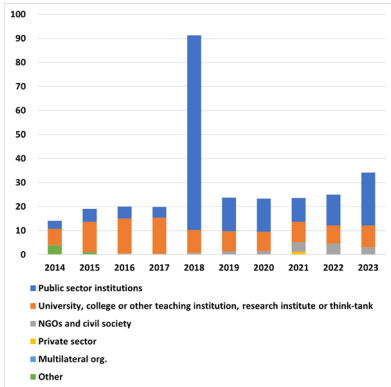
Higher education ODA is primarily channeled through public sector institutions - donor government agencies or the Philippine public sector institutions, followed by universities, colleges, and other teaching institutions, research institutes or think-tanks, and non-governmental organizations (NGOs) and civil society organizations. Private sector entities and multilateral organizations serve as less frequently utilized channels for higher education aid.

5.1.3 ODA Distribution on Higher Education by Donors

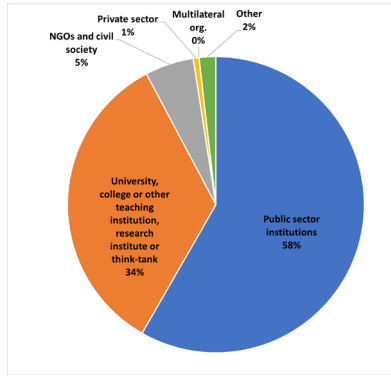
ODA inflows to higher education are primarily provided by DAC member countries, with the notable exception of 2018. From 2014 to 2023, DAC member countries accounted for 60.1 % of higher education ODA, while non-DAC countries contributed 39.2 %. Multilateral organizations, particularly the European Union, provided less than 1 % of financial inflows. As shown in Table 5.2, the top 10 donors of higher education ODA are dominated by Saudi Arabia, which provides the largest volume of ODA for higher

Figure 5.5. Higher Education ODA Distribution by Channel: Trends and Proportion

(a) Amount



(b) Proportion



Source: OECD (2025), CRS Statistics (accessed of 2025. 8. 19).

education in the Philippines, followed by the United States, Germany, Japan, and New Zealand. These top five donors collectively account for 81.7 % of total higher education ODA. Saudi Arabia has implemented a sustained scholarship program for Filipino students, with annual volumes fluctuating but consistently representing the largest contribution to the Philippines' higher education ODA. With the exception of the United States, which supported higher education primarily through project-based interventions, Germany, Japan, and New Zealand, like Saudi Arabia, mainly provided scholarships for higher education.

Table 5.2. Top Ten Donors of ODA on Higher Education

No.	Donor name	2014	2015	2016	2017	2018	2019	2020	2021	2023	2024	Total
1	Saudi Arabia					74.90	6.94	7.73	3.80	5.13	11.27	109.76
2	United States	3.96	9.90	11.03	10.87	3.51	3.76	3.45	7.18	6.38	4.16	64.19
3	Germany	2.22	2.35	2.28	2.53	3.19	3.53	3.16	2.91	3.29	3.92	29.37
4	Japan	4.68	2.22	3.12	1.66	2.22	1.69	0.86	0.61	1.13	6.35	24.54
5	New Zealand	1.14	1.21	1.59	1.76	1.83	1.59	1.77	0.85	0.15	0.40	12.30
6	United Kingdom	0.49	1.74		1.04	1.63	1.41	1.09	1.42	1.26		10.09
7	Korea	0.42	0.36	0.77	0.63	0.61	1.31	1.65	1.57	1.87	0.90	10.09
8	France	0.72	0.71	0.71	0.80	0.95	0.97	1.12	0.92	1.13	1.78	9.81
9	Austria	0.34	0.33	0.35	0.42	0.38	0.56	0.64	0.74	0.95	1.26	5.96
10	Hungary		0.01	0.02	0.02	0.16	0.30	0.40	0.60	1.05	0.66	3.22
	DAC Member Countries	14.06	19.06	20.01	19.83	16.23	15.99	15.24	19.01	18.65	20.78	178.85
	Non-DAC Countries		0.00			75.01	7.78	8.10	4.60	6.32	13.38	115.20
	Multilateral Org.		0.07			1.24			0.94			2.24
	Total	14.06	19.06	20.01	19.83	91.23	23.77	23.34	23.61	24.97	34.16	294.04

Source: OECD (2025), CRS Statistics (accessed of 2025. 8. 19).

5.1.4 Conclusion

The total volume of higher education ODA amounts to USD 294 million. The majority of support is concentrated on scholarships and imputed student costs incurred in donor countries rather than within the Philippines through public sector institutions. Given the recognized importance of tertiary education for sustainable development, the current level of international financial flows to higher education remains relatively modest. Consequently, the international community should consider expanding resource allocation to tertiary education, particularly as the Philippines requires increased investment in higher education to complement its rising income levels and development trajectory.

5.2 Policy Implications

The analysis of education development and scholarship programs in the Philippines reveals both achievements and structural limitations. While Korea's ODA has contributed to human resource development through scholarship programs, most of these initiatives are focused on supporting Filipino students studying in Korea. This approach, though valuable for individual capacity building, offers limited spillover effects for the Philippine higher education system and its domestic labor market.

To enhance the long-term effectiveness, Korea should consider expanding its support in locally embedded human capital development. Strengthening cooperation with local

universities and research institutions in the Philippines can create a more direct and sustainable channel for knowledge transfer and skill formation. Australia supports Papua New Guinean students to study both in Australia and within Papua New Guinea (PNG) through the Australia Awards Papua New Guinea Program. Aiming to address skill gaps in PNG's labor market, the program offers scholarships primarily in the fields of health and education. The priority areas for scholarship funding are jointly determined by the Australian and PNG governments, while training programs are implemented through selected partner institutions. The program also places particular emphasis on providing in-country scholarships to marginalized groups, such as women, persons with disabilities, and individuals from rural and remote areas. [49] Similarly, Germany supports local students through the In-Country/In-Region Scholarship Programme in regions such as Sub-Saharan Africa and Central America. Recognizing the importance of quality tertiary education, the program employs scholarships to students at the postgraduate level as a mechanism to cultivate university lecturers. The scholarship package typically covers tuition fees, a monthly stipend, study and research allowances, and a printing allowance for the final thesis. [50] Thus, establishing joint scholarship programs with local higher education institutions may allow Korea to help nurture advanced human resources who can contribute immediately to their home economy.

However, the findings in Chapter 4 underscore the importance of exercising caution when designing merit-based scholarship programs, particularly in the Philippine context. Although merit-based aid can encourage academic motivation and signal recognition of students' achievements, it may not fully address what shapes students' academic engagement, mental well-being, and long-term trajectories. The modest improvements in persistence, coupled with limited short-run effects on academic performance, specialization, and psychological well-being, suggest that merit-based programs alone may not be sufficient to generate sustained impacts. Further studies are needed to evaluate the short-run effects

[49] Lowy Institute Pacific Aid Map, Australia Awards Papua New Guinea, https://pacificaidmap.lowyinstitute.org/project/?id=AUS-Grant-PNG-39-26-430-43081; Australia Awards, Study in PNG, https://www.australiaawardspng.org/study-in-png/(accessed November 30, 2025).

[50] DAAD, In-Country/In-Region Programme in Developing Countries, https://www.daad.de/en/information-services-for-higher-education-institutions/further-information-on-daad-programmes/in-country in-region-programme-in-developing-countries/ (accessed November 30, 2025).

of the scholarship and whether strengthening need-sensitive components or providing complementary support—such as academic advising, mental-health services, or living-expense subsidies— changes the effectiveness of merit-based aid.

On the other hand, given the skill mismatch issues in the Philippine context, linking scholarship programs with industry needs—for example, connecting academic training with employment opportunities through academic–industry partnerships— should also be considered to enhance the employability and productivity of graduates. A useful benchmark can be found in private sector initiatives such as Samsung's Semiconductor Scholarship Program in Vietnam, which trains and recruits local talent to support industrial development and future investment expansion. Similar models could be applied in the Philippines to develop high-skilled local professionals in fields such as digital technology, engineering, and green industries.

Such an approach represents a win–win strategy: it supports the Philippines in strengthening its domestic human capital base and at the same time lays the groundwork for deeper economic and industrial cooperation with Korea. By developing and diversifying ODA programs focused on local capacity-building and labor-market integration, Korea can potentially ensure that its educational support not only enhances individual academic achievement but also contributes to the broader goals of inclusive growth and sustainable economic development in partner countries.

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Appendix

A.1 Main Results Using Fuzzy RD

A.2 Survey Questionnaire Summary

A.1 Main Results Using Fuzzy RD

Table A1. Effects on financing college expenses (fuzzy RD)

	=1 if college scholarship				Scholarship stipends (past month, USD)	Percentage of college fees covered by oneself	Family allowances (past month, USD)	Work pay (past month, USD)
	Any	Gov't-based	Univ-based	Priv inst-based				
Bandwidth of -2 SD to 2 SD								
Score Cutoff	0.49***	0.48***	-0.08	0.10	5.24	-0.12	-12.82	-8.24
	(0.12)	(0.11)	(0.14)	(0.07)	(14.62)	(0.13)	(8.01)	(9.08)
Mean at cutoff (left)	0.72	0.70	0.35	0.02	31.35	0.34	27.29	13.89
Control mean	0.59	0.63	0.27	0.08	25.86	0.44	20.56	13.60
Observations	1,763	1,763	1,763	1,763	1,763	1,478	1,763	1,763
Bandwidth of -1 SD to 1 SD								
Score Cutoff	0.71*	0.41	-0.23	0.25	-2.19	0.26	-41.51	21.39
	(0.40)	(0.35)	(0.45)	(0.22)	(44.99)	(0.54)	(28.16)	(29.01)
Mean at cutoff (left)	0.76	0.82	0.38	-0.00	34.98	0.28	28.26	3.60
Control mean	0.61	0.63	0.28	0.07	23.92	0.44	21.39	14.36
Observations	1,284	1,284	1,284	1,284	1,284	1,083	1,284	1,284
Bandwidth of -0.5 SD to 0.5 SD								
Score Cutoff	4.73	2.15	2.08	2.21	279.89	-1.57	161.35	-555.93
	(24.07)	(10.91)	(13.20)	(11.88)	(1496.31)	(1.81)	(966.09)	(2890.85)
Mean at cutoff (left)	1.09	1.00	0.36	0.07	43.30	0.06	24.46	-9.99
Control mean	0.66	0.67	0.28	0.05	27.02	0.41	23.87	14.49
Observations	621	621	621	621	621	538	621	621

Note: *, **, *** indicate statistical significance at 1, 5, and 10 percentage levels, respectively.

Table A2. Effects on college outcomes (fuzzy RD)

	=1 if enrolled	Current college year	=1 if academic track[a]	=1 if HUMSS	=1 if TVL[b] track	=1 if Dean's list (last semester)
Bandwidth of -2 SD to 2 SD						
Score Cutoff	0.18**	0.94***	0.03	0.08	-0.04	-0.16
	(0.08)	(0.17)	(0.13)	(0.14)	(0.12)	(0.14)
Mean at cutoff (left)	0.89	2.27	0.78	0.19	0.19	0.30
Control mean	0.90	2.57	0.78	0.22	0.19	0.23
Observations	1,761	1,679	1,683	1,683	1,683	1,683
Bandwidth of -1 SD to 1 SD						
Score Cutoff	0.38	1.87**	-0.14	0.49	-0.09	-0.44
	(0.26)	(0.82)	(0.40)	(0.49)	(0.37)	(0.48)
Mean at cutoff (left)	0.88	2.08	0.85	0.22	0.14	0.28
Control mean	0.91	2.53	0.79	0.21	0.18	0.24
Observations	1,283	1,220	1,223	1,223	1,223	1,223
Bandwidth of -0.5 SD to 0.5 SD						
Score Cutoff	-2.43	-9.33	1.40	-4.31	0.53	-0.78
	(14.08)	(22.85)	(4.80)	(13.44)	(3.14)	(3.83)
Mean at cutoff (left)	0.91	1.13	0.90	0.29	0.11	0.22
Control mean	0.92	2.42	0.78	0.20	0.20	0.28
Observations	620	597	598	598	598	598

Note: *, **, *** indicate statistical significance at 1, 5, and 10 percentage levels, respectively.
[a] Academic track includes strands Science, Technology, Engineering, and Mathematics (STEM); Accountancy, Business, and Management (ABM); Humanities and Social Sciences (HUMSS), and General Academic Strand (GAS).
[b] Technical Vocation and Livelihood (TVL) track.

Table A3. Effects on psychological wellbeing (fuzzy RD)

	Happiness & life satisfaction[a] (z-score)	Depression (PHQ-9)[b]	Psychological wellbeing index
Bandwidth of -2 SD to 2 SD			
Score Cutoff	0.34	2.74	-0.06
	(0.32)	(1.94)	(0.31)
Mean at cutoff (left)	-0.26	13.36	-0.17
Control mean	-0.02	13.40	-0.03
Observations	1,763	1,763	1,763
Bandwidth of -1 SD to 1 SD			
Score Cutoff	0.32	11.16	-0.85
	(1.00)	(7.61)	(1.09)
Mean at cutoff (left)	-0.31	13.38	-0.19
Control mean	-0.05	13.46	-0.05
Observations	1,284	1,284	1,284
Bandwidth of -0.5 SD to 0.5 SD			
Score Cutoff	8.20	-146.88	18.43
	(42.61)	(762.42)	(94.92)
Mean at cutoff (left)	-0.23	13.25	-0.14
Control mean	-0.13	13.45	-0.09
Observations	621	621	621

Note: *, **, *** indicate statistical significance at 1, 5, and 10 percentage levels, respectively.

[a] Questions from the World Values Survey.

[b] 9-Question Patient Health Questionnaire (PHQ-9). 0-4: Minimal/No Depres-sion; 5-9: Mild Depression; 10-14: Moderate Depression; 15-19: Moderately Severe Depression; 20-27: Severe Depression.

A.2 Survey Questionnaire Summary

This appendix reproduces the main structure and contents of the questionnaire used in the survey of 2021–2023 applicants to the Cagayan de Oro City Scholarship Program. The survey was administered online via Google Forms. The following lists all questions and corresponding response options.

Personal Information

- Full name, email, contact number, Facebook/Messenger link
- Year of application: 2021 / 2022 / 2023
- Application result: Passed / Did not pass
- If not passed, were you endorsed for a scholarship? (Yes/No/N.A.)
- Age (numeric)
- Sex: Male / Female / Other
- Marital status: Single / Married / Other
- Check if applicable: Pantawid Pamilyang Pilipino Program (4Ps) recipient / Indigenous People (IP) / Persons with Disabilities (PWD) / Solo Parent (SP) / N.A.

Educational Background

- Senior High Track: STEM / ABM / HUMSS / GAS / TVL / Other
- Tuition and fees last semester (PHP)
- Share paid by: Parents / Siblings / Self / Others
- Do you have a college scholarship? (Yes/No)
- Scholarship type(s): Commission on Higher Education (CHED) scholarship / Department of Science and Technology (DOST) scholarship / Overseas Workers Welfare Administration (OWWA) scholarship / Cagayan de Oro City Scholarships Office (CSO) scholarship / No government scholarship / Others
- University-based scholarship? (Yes/No/Other)
- Private institution-based scholarship? (Yes/No/Other)
- Allowance last month from: Family / Scholarship / Work (PHP)

Schooling Outcomes

- Last senior high GPA (percent scale)
- Currently enrolled in college? (Yes/No)
- If not enrolled: main reason (cannot afford / working / family responsibilities / not accepted / etc.)

- If not enrolled, plan to enroll in next 2 years? (Yes/No)
- College/university attended (dropdown list)
- Public/private institution? (Private / Public)
- Course or major (text)
- Year level: 1st / 2nd / 3rd / 4th / N.A.
- Units and subjects enrolled, current and last semester
- GPA last semester and cumulative GPA
- Dean's list last semester? (Yes/No)
- Grade system: 5-point / 4-point / Other

Labor Outcomes

- Ever worked before college? (Yes/No)
- Worked since entering college? (Yes/No)
- Current work type: Internship / Part-time / Full-time / Family business / Own business / Freelance
- Hours worked in past 7 days (numeric)
- Earnings in past 7 days (PHP)
- Main reason for working: help with school/living expenses, gain experience, save money, contribute to household, etc.
- Post-graduation plan: Work / Further study / Board exam / Self-employment / Undecided
- Preferred sector: Government / Multinational / Private / NGO / Family business / Start own business / Freelance / Not sure
- If not working: main reason (lack of opportunities, family care duties, etc.)

Education Aspirations and Beliefs

- Ideal education level if no constraints: Post-secondary / Bachelor's / Master's / Doctorate
- Two most important constraints to achieving ideal level: (e.g., financial limitations, distance to school, lack of motivation, family responsibilities)
- Agreement: "You need a college education to be successful." (Agree/Disagree)
- Minimum acceptable salary after high school (PHP)
- Minimum acceptable salary after college (PHP)
- Preferred work location: CdeO / Metro Manila / Other city / Rural / Abroad
- Main reason for location choice: job opportunities, cost of living, proximity to family, personal growth

Life Outcomes

- Registered voter? (Yes/No)
- Voted in 2022 elections? (Yes/No)
- Plan to vote in 2025 elections? (Yes/No)
- Participated in community service in past year? (Yes/No)
- Years volunteering (numeric)
- **PHQ-9 Depression Scale (0–3 Likert)**
  1. Little interest or pleasure in doing things
  2. Feeling down, depressed, or hopeless
  3. Trouble falling or staying asleep, or sleeping too much
  4. Feeling tired or having little energy
  5. Poor appetite or overeating
  6. Feeling bad about yourself or that you are a failure
  7. Trouble concentrating on things
  8. Moving or speaking slowly, or being fidgety/restless
  9. Thoughts that you would be better off dead, or hurting yourself

- Difficulty level: Not difficult / Somewhat / Very / Extremely
- Self-rated happiness: Very / Rather / Not very / Not at all happy
- Self-rated health: Very good / Good / Fair / Poor / Very poor
- Freedom of choice (1–10)
- Life satisfaction (1–10)
- Household financial satisfaction (1–10)
- Personal financial satisfaction (1–10)
- View on responsibility (1–10): Individuals vs. Government

Time Use (Past 7 Days)

- Hours spent on: Commuting / Attending classes / Studying / Working / Extracurriculars / Household chores / Leisure
- Worked during last summer break? (Yes/No)
- If yes, hours per week (numeric)

Address and Household

- Current address: Region / Province / City / Barangay
- Area: City Proper / Hinterland
- Accommodation: Boarding house / Dorm / Apartment / Family home
- Home vs. school proximity: On-campus / Off-campus

- Permanent home address details (same structure as above)
- Parents' education: No schooling / Elementary / High school / Post-secondary / Bachelor's / Master's / Doctorate
- Number of siblings; older siblings; siblings in college
- Satisfaction with City Scholarship Office support (1–5)
- Preferred mode of payment: GCash / Paymaya
- Contact number for incentive
- Consent to share contact info for payment: Yes / No

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Impact of Local Government-Led Higher Education Scholarships in Developing Countries: Insights from the Philippine Case and Policy Implications for Korea's Cooperation

Gee Young Oh, Sungwoo Hong, Yoon Jae Ro,
Yoonjung Kim, Aila Yoo and David Sungho Park

This report assesses the impact of a local university scholarship program run by the Cagayan de Oro City government in the Philippines, examining not only enrollment but also academic persistence, academic performance and specialization, intentions to pursue professional certification, civic engagement, and short-term psychological well-being. The findings indicate modest gains in student persistence, while short-run effects on academic outcomes, field choice, and most mental well-being measures are limited. By highlighting these patterns, the study underscores the importance of understanding the short-term mechanisms through which financial aid shapes human capital formation. The report also draws implications for Korea's development cooperation, arguing that scholarship support focused on study in Korea yields limited spillovers for the Philippine higher education system and labor market. Instead, it recommends expanding support for locally embedded, jointly designed scholarship and training programs aligned with national skill needs and industry partnerships, particularly in sectors such as digital technology, engineering, and green industries.

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