Importance of entrance exam scores for selecting grants-in-aid recipients

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In implementing income-based grants for tertiary education, there is a policy issue of whether a sorting mechanism should be employed in selecting grantees. The argument used against a sorting mechanism is that of democratizing access to tertiary education. This argument, however, is oblivious to the ultimate objective of the assistance, which is to allow poor grantees to complete their programs and reap the full benefits of completing tertiary education. This Policy Note uses the case of the Students Grants-in-Aid Program for Poverty Alleviation (SGP-PA), one of the few grants-in-aid (GIA) programs implemented on a bigger scale in the Philippines. At the initial stages of implementation, there was controversy on whether stringent admission requirements of the participating state universities and colleges (SUCs) should be applied to SGP-PA grantees. Data from the initial assessment of the program (Silfverberg and Orbeta, forthcoming) enable assessing the importance of the criteria used for the selection process. The results will also apply to all GIA-like programs.

The SGP-PA was implemented by the Commission on Higher Education and the Department of Social Welfare and Development. The SGP-PA is a form of affirmative action in tertiary education, providing full funding for economically marginalized sectors of the population. The program is one of the initiatives taken by the government to break the poverty cycle by providing support to students who would otherwise not be able to afford tertiary education. The objective of the program is to increase the number of higher education graduates among poor households and employ these graduates in high value-added
occupations. The recipients of the program grant were selected from the Pantawid Pamilyang Pilipino Program households, the Philippines’ conditional cash transfer program.

The SGP-PA was piloted in the academic year (AY) 2012–2013 with 4,041 beneficiaries and was rolled out in the AY 2014–2015 (renamed Expanded SGP-PA or ESGP-PA) with an additional 36,412 beneficiaries. The financial benefits of an E/SGP-PA grantee include:

- PHP 10,000 per semester for tuition and other school fees,
- PHP 2,500 per semester for textbooks and other learning materials, and
- PHP 3,500 per month for 10 school months as stipend.

The total grant amounts to PHP 60,000 per academic year per student, computed at the time to be the cost of tertiary education. The program intends for the student to not incur any out-of-pocket expenses.

**Background on program assessment**

To assess the SGP-PA and ESGP-PA programs, the Philippine Institute for Development Studies collaborated with select SUCs to obtain data on the grantees and their peers. Four SGP-PA SUCs and five ESGP-PA SUCs were included in the quantitative analysis and in the documentation of experiences and implementation issues. The select SUCs submitted data on profiles and entrance exam scores of the grantees and their peers, and semestral grades for AY 2012–2013 and AY 2013–2014 for SGP-PA and AY 2014–2015 for ESGP-PA.

For the quantitative analysis, test on means was performed to ascertain statistical significance between the two groups in terms of characteristics, entrance exam scores, and academic performance. Ordinary least squares regression was employed to assess the importance of entrance exam scores in determining the academic performance of the students.

While this Policy Note focuses on the relationship between entrance exam scores and academic performance, the full report (Silfverberg and Orbeta, forthcoming) assesses other objectives including measuring progress toward achievement of program objective, identification of bottlenecks in program implementation, and identifying interventions to enhance program design and implementation. Corresponding recommendations are also made in the full report.

**Importance of the selection process**

There are numerous implications to noncompletion of a university degree to both the institution of higher learning and to the student. The college or university loses income in unrealized tuition and other fees (DeBerard et al. 2004). Students who drop out of school are also at an economic disadvantage as they are expected to earn much less than if they completed the degree. The returns on tertiary education increases considerably once a degree is obtained,
often referred to as the “diploma effect” (Oreopoulos and Petronijevic 2013). The additional income they might get for the additional time in college or university may not be enough to compensate for the opportunity costs of staying at university. Most students who drop out do so within the first two years of the program (Tinto 1987). Noncompletion or prolonged time to completion has associated real costs. Aside from the losses from both perspectives, there is a third perspective for a government-funded program. GIA can be seen as a form of investment by the government and is expected to yield societal gains once the grantees complete their degrees. When a grantee drops out, the investment is lost to a great extent. Furthermore, the opportunity to fund a more qualified grantee would have been forfeited.

The economic and potential societal losses highlight the importance of the selection process in efficiently allocating the financial assistance to the targeted population. The thrust of the program should aid those who are financially constrained but should also focus on those who have the least ability constraints. Furthermore, an examination-based system for selection also promotes transparency...

average, entrance exam scores, social support mechanisms, noncognitive factors such as motivation and persistence, and service provision from the side of the university (Häkkinen 2004; Friedlander et al. 2007; Wintre and Bowers 2007; Fike and Fike 2008).

Some of these predictors, such as the noncognitive characteristics of students, are difficult to measure and, therefore, harder to screen for. The selection process is tantamount to achieving the objective of the program, which is to increase the number of higher education graduates among poor households. It is important to stress that the objective entails that the grantees complete the program, and not simply be given the opportunity to enter a higher education institute.

Entrance exam scores as a predictor for academic performance

Academic performance is indicative of the likelihood of students to complete their program, barring any exogenous adverse events. Data collected from SUCs contain information on term grades for three subject categories—English, math, and science—and...
entrance exam scores of the students. Other demographic and socioeconomic characteristics were also collected. Using this dataset, the relationship between entrance exam scores and academic performance is assessed.

The relationship between entrance exam scores and the semestral grades of students is positive for all subjects and statistically significant for most models. For math, the relationship is consistently strong and statistically significant for both years, with a larger effect for second-year grades. For science, the effect is only significant for the second year; for English, the effect is significant for the first year. Impact is highest for science with up to a 0.37-percentage point increase for every percentage point increase of entrance exam score (Figure 1).

Administering admission exams is the easiest way of gauging a student’s ability and likelihood to complete a degree. For some fields of study, for instance, entrance exams have been found to predict both graduation and number of study credits taken (Häkkinen 2004). Kuncel and Hezlett (2007) found that standardized tests were better predictors of student success for different disciplines as well as better predictors than college grade point averages for success in graduate studies. Similar results have been found for medical and pharmacy school (Allen and Bond 2001; Salvatori 2001; Julian 2005). Not only is standardized admission exams found to be highly correlated with program completion, it is also correlated with timely completion of the program (Bettinger et al. 2013).

The relationship between entrance exam scores and academic performance has been established in the literature and from the SGP-PA and the ESGP-PA data. Given the thrust of the programs, it is important that the grantees that are selected have a relatively high likelihood of completing their degrees. Enforcing admission exams is one way of achieving this objective. Conducting the admission exams will also serve as a good baseline for the grantees, when monitoring their progress over time. The regression analysis using local data shows a strong correlation between entrance exam scores and

![Figure 1. Percentage point increase in semestral grades for every percentage point increase in entrance exam score](image)

Note: Bars are statistically significant at the 5-percent and 1-percent levels. Absence of bars indicates no statistically significant effect.
Source: Author’s compilation from SUC data
academic performance in core subjects, which underscores the importance of entrance exam scores in future performance in the program.

The best available tool for gauging the ability of students to complete the program would be admission exams. This reiterates the need to administer and enforce the admission processes of the universities, particularly the entrance exams requirements.

References


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