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ディスカッションペーパーシリーズ

Inequality of Opportunities for
Access to Universities among
the Japanese Young People
: Focused on the Scholarship Loan Program

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Abstract

This paper discusses the contribution of Japanese loan scholarship programs to the reduction of inequality in access to university education in Japan. Owing to the popularity of university education, the tuition fees have gradually increased, although the average household income has not. This could pose a serious problem for those who cannot afford to pay for an expensive university education. Under such conditions, a scholarship program plays a very important role because such a program is expected to reduce inequality in university education. However, most scholarship programs in Japan are actually student loans; we rarely find a full scholarship or direct grant offered to students with low household income. Nevertheless, about 40% of university students avail of a scholarship program, for example, the loan program of the Japan Student Services Organization (JASSO), which is well-known and used by many Japanese students. Although there exist certain standards for grades and household incomes in determining who uses JASSO's scholarship program, it is not difficult to meet these standards. In addition, the pressure of repaying the loan in the future may prevent many students who cannot afford to pay the tuition fees from using this program. Therefore, it is doubtful whether such scholarship programs have really contributed to reducing inequality in university education. If these scholarship programs were provided to the students who might give up university education owing to a lack of funds, there will be a negative correlation between students who receive scholarships and other university students on the basis of their socioeconomic backgrounds. A bivariate probit model is estimated in order to determine this relationship. However, the result demonstrates that the decision to pursue a university education and availing of a scholarship are independent of each other. Although the scholarship programs provided more benefits to respondents belonging to the manual and farming classes as compared to those from the nonmanual class, the Japanese scholarship programs encouraged those who could not afford the university tuition fees to pursue a university education.

1. INTRODUCTION

The aim of this paper is to evaluate the contribution of Japanese loan scholarship programs toward the reduction of inequalities in students' access to universities. In recent times, the Japanese mass media have started focusing on the issue of expansion of income differentials; this topic has caught the attention of many Japanese people as well. According to Ishida (2007), although the proportion of progression to universities has increased since the 1990s, the effects of social background on advancement to universities have increased. The Ministry of Education, Culture, Sports, Science and Technology (MEXT) and the Japan Student Services Organization (JASSO), as of 2004, conducted a large survey among students affiliated with institutions of higher education, focusing on their actual conditions of life every two years. In 2006, the average tuition fee of daytime courses in public four-year universities was about ¥660,000, and that of their counterpart, that is private universities, was about ¥1,320,000. If a student starts living in lodging, the total annual cost of living would exceed ¥1,000,000. Compared to the data of 1998, the tuition fee of the national universities increased by ¥60,000~¥100,000, and that of the private universities increased by ¥90,000. However, the cost of living decreased by over ¥100,000.

Figure 1 shows the distribution of the annual household income of the university students who are affiliated with daytime courses. Although the mode of the household income group had been the stratum between ten and eleven million yen, it moved the stratum between eight and nine million yen in 2006. Generally, the proportion of high-income groups whose annual incomes are over ten million yen decreased. Since the rate of advancement to universities has gradually increased since the 1990s, we may attribute the decrease of the average household income to popularization. This implies that the people who would not have progressed to universities before the 1980s tend to choose the advancement to universities due to the expansion of universities and the mitigation of competition for entrance examinations. However, this also implies that the pressure to gain admission into universities may become universal, and it may become a serious problem for people who cannot afford to pay expensive tuition fees.

According to a survey conducted by JASSO in 2004, eighty-six thousand students used the scholarship program offered by JASSO, which was reorganized by the Japan Scholarship Foundation in 2004; twenty-seven thousand students used other scholarship programs. In 1999, the former figure was fifty-nine thousand, while the latter figure was twenty-four thousand. With regard to university students, over four-fifth students on a scholarship used the program offered by JASSO. Note that most of the scholarship programs in Japan, including that of the JASSO, are based on student

loans. Compared to other OECD countries, we can barely find real “scholarships” or direct grants offered to households in Japan. Nevertheless, about 40% of university students use any scholarship program including JASSO’s loan. Although there are standards of grades and household incomes, which play a decisive role in using JASSO’s scholarship loan program, it is not difficult to pass these standards. Figure 2 shows the distribution of the annual household income of the university students in this program affiliated with daytime courses. Certainly, the mode seems to move to the left as compared to Figure 1. However, over 10% of households exceed nine million yen annually, which implies that they are relatively wealthy people. Since this program only provides student loans, the pressure of repayment in the future may prevent many students, who cannot afford to pay tuition fees, from using this program.

2. JLPS

Since it is difficult to find and obtain micro-data of the household income, the use of scholarships and student loan programs, and the cost of education, the studies on the relationship among economic inequality and educational opportunity and the scholarship programs are inactive. Therefore, I investigated the effects of economic inequality on the use of any type of scholarship program by analyzing the Japanese Life-Course Panel Survey (JLPS) conducted by the Institute of Social Science, University of Tokyo. The questionnaire of the wave 2 survey, conducted in 2008, included detailed information on the respondents’ educational histories. I prepared a new dummy variable indicating whether the respondents used any type of scholarship program including JASSO’s education loan when they were university students.

Our main interest lies in the fact that the scholarship program contributed to the progression to university for people who could not afford to pay tuition fees. It is easy to estimate the effects on the use of scholarship programs among the university attendees. Some socioeconomic backgrounds and grades will have significant effects on the use of scholarship programs. However, we have to remember that scholarship programs could be used by only university attendees. Since the estimation among the university attendees excluded people who did not attend university education due to the lack of solvency of tuition fee, the estimation may be contaminated. In other words, there might be an unobservable correlation between the choice of using scholarship programs and of advancement to universities. Therefore, in this article, a bivariate probit model is estimated and compared with the coefficients of a single probit model. The dependent variable of the bivariate probit model is that whether the respondents progressed to university education (selection equation) and whether they used the

scholarship programs (outcome equation). If ρ , which refers to the correlation of these probit equations' error terms, is negative, the people who used the scholarship programs must have the opposite tendency toward the people who were more likely to progress to universities, after controlling for measured characteristics. In other words, the university attendees were not a subsample of the high school attendees. University attendees were more likely to have high socioeconomic backgrounds than non-university attendees (Dubin and Rivers 1989/90).

In this analysis, I used gender, parents' education, fathers' occupation, property owned when the respondents were 15 years old, and the grade obtained when they were seniors at high school, as independent variables. Gender is a dummy variable that is indicative of males. Parents' education is classified into three groups: compulsory education, post-secondary education (reference category), and higher education. Fathers' occupation is divided into service class (professionals and managerial workers), clerical workers (reference category), sales workers, manual workers, and farmers. The wave 1 questionnaire contains twenty questions on whether their family owned one object when the respondents were 15 years old. I regarded the proportion of the respondents who did not have each object as the scores and summed up them. The score increases if people owned many precious things. I considered this score as a proxy of the household economic conditions that prevailed when they were growing up, because we could not obtain the accurate household income in those days and therefore called it a property variable. Finally, grade is divided into five stages, and a larger score implies high achievement compared to other classmates. According to the Stata manual, for the model to be well identified, the selection equation should have at least one variable that is not in the outcome equation when we estimate the bivariate probit models. Therefore, I included the high school course dummy variable, which is indicative of non-academic courses in the selection equation.

3. RESULTS

The result of my analysis is shown in Table 1. The left column shows the single probit coefficients, which determined whether the respondents used any scholarship programs in a sample of university attendees. The column on the bottom right shows the coefficients of the selection equation, which determined whether the respondents progressed to university in the entire sample, and the column of the top right shows the coefficients of the outcome equation, which determined whether they used any scholarship programs among the university attendees. When we compare both the coefficients of the outcome equation, we can see that the results seem similar, except

that the grade increases the predicting power, and property and fathers' occupation decreases it at the bivariate probit estimation. The result of selection equation shows that socioeconomic variables still have a strong predicting power for expecting advancement to universities, and it is coherent to preceding research. Among the university attendees, people whose fathers engaged in manual work or agricultural work tended to use the scholarship programs as compared to the people whose fathers engaged in clerical work. However, ρ , which implies the correlation of error terms between outcome and selection equation, was not statistically significant. The result demonstrates that the decision to progress to university and the decision to use any scholarship programs are independent of each other.

In sum, the result reveals that we were unable to prove that Japanese scholarship programs have contributed to providing more opportunities of attending university to people who could not attend without these scholarships. Obviously, the benefits of scholarship programs were provided to respondents belonging to the manual and farming class as compared to those from the nonmanual class. However, since these two decisions were unrelated, it is doubtful whether the Japanese scholarship programs encouraged people, who could not afford to attend university without these programs, to progress to universities. Ito and Suzuki (2002) demonstrated that the scholarships from the Japan Scholarship Foundation were not used effectively, which implies the scholarship loans were not used for studies or books but for food, telephone bills, and travel abroad. They concluded that since the standards of scholarship programs were unclear, scholarships were not used effectively. As I mentioned above, most Japanese scholarship programs imply education loans, and the proportion of private payment for higher education is very high. We should notice that while there are many people who do not use scholarship programs in spite of a low-income household, there are many people who use the scholarship programs in spite of a high-income household. It is possible that people fear the heavy repayment of these loans in the future. When the scholarship loan is small, the effects may also be small. On the other hand, when the scholarship loan is large, people do not want to use this program due to the future repayment factor. Scholarship programs, which are based solely on grades regardless of the household economic conditions, may exist; however, they seem to be a rarity in Japan. If high educational credentials are important in Japanese society, the benefit of university education is more likely to be provided to people who can originally pay expensive tuition fees. In other words, the recent expansion of university education does not improve the inequality prevalent in student's access to universities, and the economic differentials may become clearer through this higher education system.

Considering the low public expenditure for higher education, it is necessary for the government to undertake certain measures to resolve these problems.

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Table 1 Probit Estimates of Receiving Scholarships and Advancement to Universities

	Outcome Equation (Scholarship)				
	Independent Probit		Bivariate Probit		
	Coef.	S.E.	Coef.	S.E.	
Male	-.134	.088	-.027	.129	
Property	-.095	.037	-.084	.038	*
Grade	.116	.037	.134	.039	**
Father: Compulsory Education	.003	.158	-.025	.158	
Father: Higher Education	.020	.107	.074	.115	
Mother: Compulsory Education	.156	.164	.088	.174	
Mother: Higher Education	.030	.110	.071	.114	
Father: Service Class	-.005	.126	.005	.125	
Father: Sales Workers	.264	.140	.229	.142	+
Father: Manual Workers	.344	.126	.301	.132	*
Father: Farmers	.622	.274	.544	.282	+
Constant	-1.026	.204	-1.362	.348	***
			Selection (University)		
			Coef.	S.E.	
Male			.748	.056	***
Property			.064	.024	**
Grade			.192	.025	***
Father: Compulsory Education			-.086	.087	
Father: Higher Education			.370	.070	***
Mother: Compulsory Education			-.426	.089	***
Mother: Higher Education			.415	.077	***
Father: Service Class			.129	.087	
Father: Sales Workers			-.195	.090	*
Father: Manual Workers			-.215	.079	**
Father: Farmers			-.457	.156	**
High School Vocational Track			-1.130	.080	***
Constant			-1.172	.128	***
ρ			.249	.229	
Uncensored Observations	1153		1153		
Censored Observations			1559		

-2 Log Likelihood	1143.086	4293.050	
+<.10	*<.05	**<.01	***<.001

Figure 1 The Distribution of the Annual Household Income
 (Daytime Course, All University Students)
 Source: JASSO & MEXT

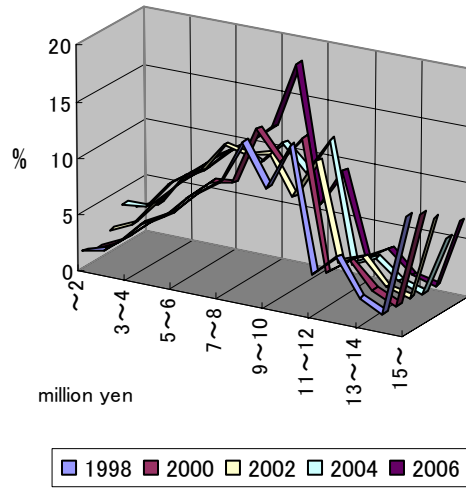
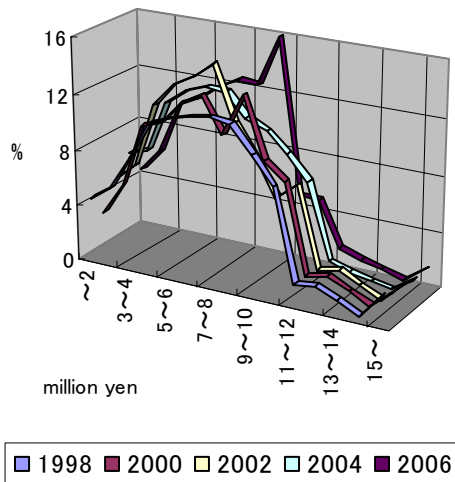


Figure 2 The Distribution of the Annual Household Income
 (Daytime Course, University Students on a Scholarship)
 Source: JASSO & MEXT



東京大学社会科学研究所パネル調査プロジェクトについて

労働市場の構造変動、急激な少子高齢化、グローバル化の進展などにともない、日本社会における就業、結婚、家族、教育、意識、ライフスタイルのあり方は大きく変化を遂げようとしている。これからの日本社会がどのような方向に進むのかを考える上で、現在生じている変化がどのような原因によるものなのか、あるいはどこが変化してどこが変化していないのかを明確にすることはきわめて重要である。

本プロジェクトは、こうした問題をパネル調査の手法を用いることによって、実証的に解明することを研究課題とするものである。このため社会科学研究所では、若年パネル調査、壮年パネル調査、高卒パネル調査の3つのパネル調査を実施している。

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東京大学社会科学研究所パネル調査プロジェクトディスカッションペーパーシリーズは、東京大学社会科学研究所におけるパネル調査プロジェクト関連の研究成果を、速報性を重視し暫定的にまとめたものである。

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