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Financing higher education in Japan and the need for reform

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Keywords

Higher education financing; Japan; income-contingent loan scheme

JEL Classification

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Financing higher education in Japan and the need for reform

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Abstract

The Japanese higher education sector has seen increases in tuition with stagnant household incomes in a society where family support for university students has been the norm. Student loans from government have grown rapidly to sustain the gradual increase in university enrolments. These time-based loans have created financial hardship for increasing numbers of loan recipients and their families through high interest rates for late repayments. There is some evidence that prospective students from low-income households are forgoing a university education to avoid student loan debt. The Japanese government has introduced some measures attempting to overcome these problems. These measures include grants for students and an income-contingent loan scheme that is available to 12 per cent of loan applicants. The income-contingent loan scheme, introduced in 2017, is a positive development, but it requires further reform and broader coverage if it is to adequately address the challenges facing higher education financing in Japan and alleviate repayment and default problems for loan recipients.

Background

The higher education sector in Japan is facing financing and access challenges. The country's shrinking and ageing population means that student cohort sizes are falling over time, even while the number of private universities continues to increase. The government's fiscal position, running primary deficits with a debt-to-GDP ratio of 245 per cent, makes subsidizing the sector more difficult. And stagnant wages and household incomes, coupled with rising tuition fees, are making access to university a bigger issue for society.

As of 2016 there were 86 national universities, 92 public (or municipal) universities and 603 private universities and colleges competing for students. University enrolments have been rising at an average rate of 1.4 per cent per year over the last three decades, which peaked at about 2.9 million students in 2011 and gradually decreasing to 2.6 million in 2016. Students in specialized training colleges (*senmongakko*) have been increasing rapidly from about 10 thousand in 1977 to about 657 thousand in 2016. Students in technical colleges (*kotosenmongakko*) have been stable from the mid-1980s with about sixty thousand. Students in junior colleges peaked in 1995 at about 500 thousand and this number fell to around 130 thousand in 2016.¹

There are many challenges facing universities in Japan, such as their drive to internationalize and maintaining their international competitiveness. For many private universities, financial viability is a growing challenge. This paper, however, focuses on reviewing the affordability, financing instruments and proposed reforms for university tuition. Our study is limited to the university sector.

The next section surveys the current higher education financing situation in Japan. Then the case for reform is presented, followed by an assessment of the immediate reform options.

The higher education financing situation

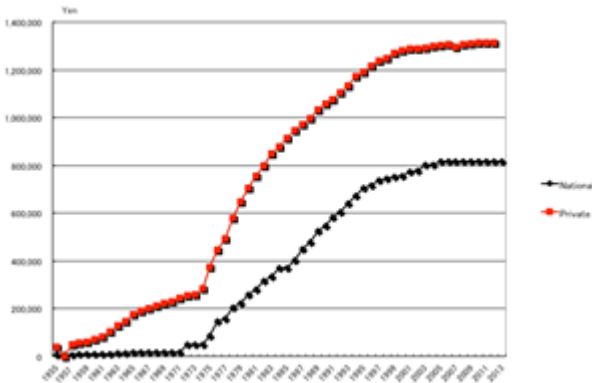
Rising tuition

University tuition fees for both national and private universities rose dramatically between the late 1970s and early 2000s. Since then, national university tuition fees have plateaued, and those for private universities have grown much more slowly (Figure 1). The slowdown in the growth of tuition coincides with the stagnation of wage growth and the onset of deflation in the late 1990s following the slowdown of the Japanese economy after the asset bubble burst at the beginning of that decade. The tuition fees charged by national universities in 2016 are more than 40 times higher than in 1972 in current prices (or today's yen value)². The increase in expenditure and limited capacity for government subsidization has led most universities and colleges to raise their fees.

¹ Source: Ministry of Education, Culture, Sports, Science and Technology (MEXT).

² All values are reported in current values unless otherwise specified. The consumer price index has been at or slightly below zero since the late 1990s until the mid 2010s.

Figure 1 Changes in average tuition fees (Current money)

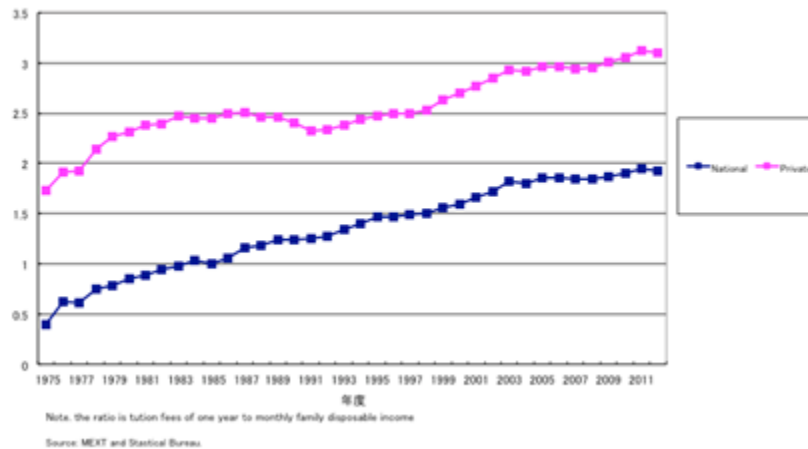


Source: MEXT.

Government subsidies to national universities have been falling by 1 per cent per year since 2004. The amount was about 12.4 billion yen in 2004 and has declined to about 10.9 billion yen in 2016. Given the Japanese government’s fiscal position, there is little capacity for further funding. The trend of reduced subsidies is likely to continue. Government subsidies to private universities and colleges have been stable over that 12-year period, but the ratio of subsidies to current expenditure has decreased to less than 10 per cent. Almost three out of four students attend private universities in Japan.

Although the increase in tuition fees has been modest in recent years, families’ disposable income has been decreasing. This has led to the gradual increase in the ratio of tuition fees to family disposable income (Figure 2). In Japan and other East Asian countries, parents have traditionally been seen as responsible for financing the education of their children. The burden of tuition on families has been increasing, especially for low income families.

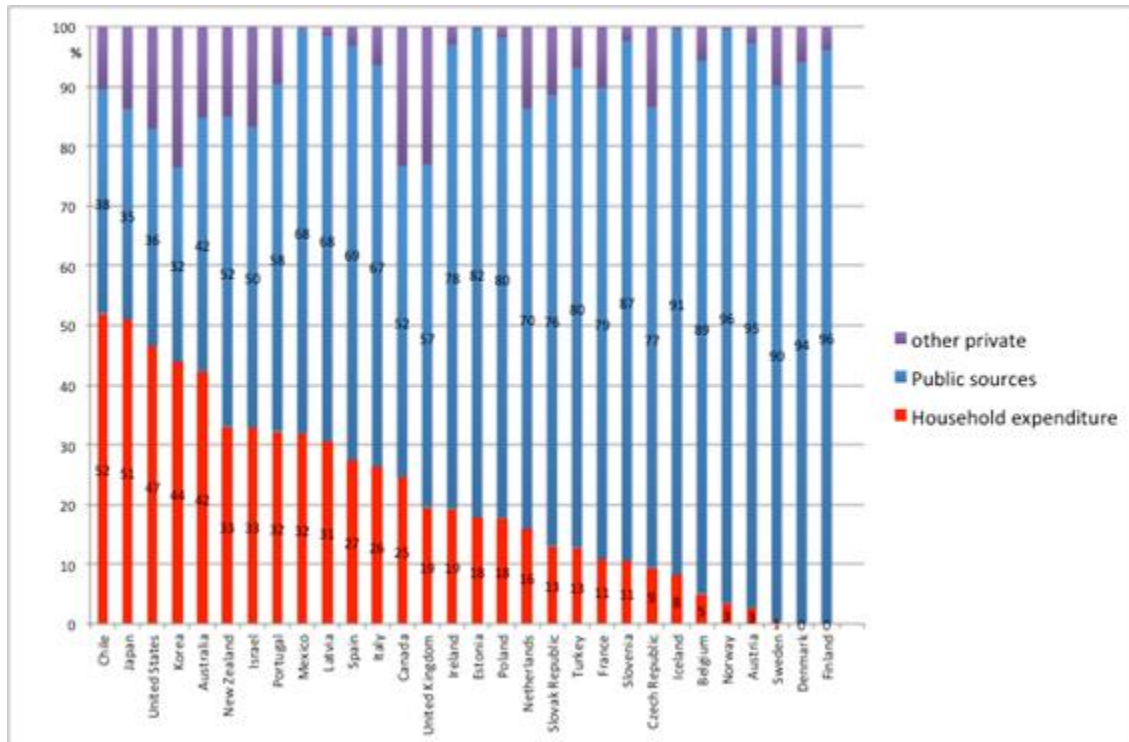
Figure 2 The ratio of tuition fees to family disposable income



Source: MEXT and Statistical Bureau “Household Survey.”

The household share of higher education expenditure is more than half of total expenditure of higher education in Japan, and among the most expensive in the world (Figure 3). Public expenditure in tertiary education is among the lowest for OECD countries. Households in Japan already bear a significant burden of higher education costs, but the cost sharing trend in Japan, as elsewhere, is moving away from public towards private sources.

Figure 3 Public and household expenditure for tertiary education



Source: OECD, *Education at a Glance 2015*.

Is this trend, and current financing model, sustainable? According to a survey conducted in 2017, more than 80 per cent of parents of high school leavers thought that parents or guardians should pay the higher education costs of their children. Among the highest income class of families, the response rate was 92 per cent. Even among the lowest income class families, the response rate was 73 per cent.³ This issue is taken up further in the next section below.

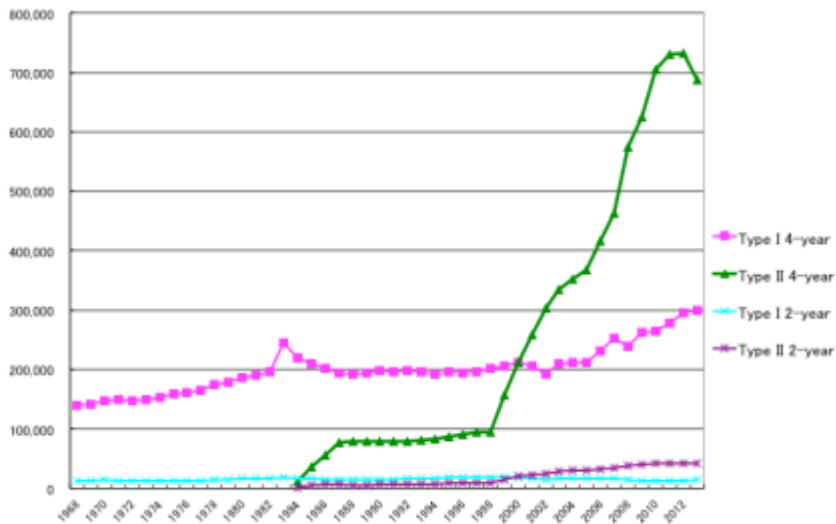
Even with tuition fees of Japanese universities and colleges becoming less affordable, there are limited public grants and scholarships for undergraduate students both in the public sector and the private sector. The exception is with tuition waivers which are equivalent to student grants. The budget for tuition waivers of university students increased from 21.5 billion yen in 2004 to 43.4 billion yen in 2017. Each university has discretionary power to decide how to allocate the tuition waivers.

³ This survey was done by our research team on a MEXT grant from December 2016 to January 2017. The sample size is 2,145, and done by the internet monitoring system, NTT Com Online.

Student loans

The growth in university enrolments has been sustained by the increase in student loans provided by the government, in particular, the student loans from the Japan Student Services Organization (JASSO). JASSO is a quasi-governmental agency and is the largest provider of student loans in Japan. JASSO provides two types of time-based loan, which require repayment at certain times in fixed intervals, similar to typical mortgage-style loans. Of the two types of loan, Type 2 (low-interest) loans, introduced in 1984, have been increasing rapidly in numbers of recipients, both for four-year and two-year undergraduate students. The growth of Type 1 (interest-free) loans has been modest (Figure 4). The dramatic growth of Type 2 loans is due to a substantial relaxation in eligibility criteria in 1999. In 2015, 38.5 per cent of undergraduate students had taken up a JASSO student loan (Table 1).

Figure 4 Changes in student numbers who have received JASSO student loans



Source: JASSO.

Table 1 The current status of JASSO Student Loans

● Scholarship loan situation (based on FY2015 results)

	Number of loan recipients (A)	Total number of students (B)	Ratio (A/B × 100) (%)	One in every X students
Universities	981,980	2,552,022	38.5	2.6
Junior colleges	57,714	131,341	43.9	2.3
Graduate schools	72,464	198,571	36.5	2.7
Master's courses	62,825	149,574	41.9	2.4
Doctoral courses	9,839	48,997	20.1	5.0
Colleges of technology	5,431	54,354	10.0	10.0
Specialized training colleges (post-secondary courses)	218,750	543,460	40.3	2.5
Total	1,336,339	3,479,748	38.4	2.6

Source: JASSO.

The Type 1 loan is awarded based on both merit and need. These loans are interest free and not indexed to inflation. The Type 2 loan is interest-free during university years, with a maximum interest rate of 3 per cent after graduation, and is awarded based on economic need, though the eligible criteria is widening to include those from middle income families. The interest rate charged on the Type 2 loan is negligible at 0.23 per cent for the fixed interest rate option and 0.01 per cent for the variable interest rate that is altered every five years (as of May 2017). Neither loan type is associated with fees.

These interest rates are very low given that Japan's official cash rate or risk-free interest rate has been essentially zero since 2011, while real interest rates have been negative in recent years (-0.9 per cent in 2015).⁴

The total budget of both types of loans was 1.09 trillion yen in fiscal year 2016 (one year up to the end of March 2017), having fallen from a peak of 1.2 trillion yen in fiscal year 2013.⁵ The 1.09 trillion yen of loans covers around 480,000 students on Type 1 loans and 844,000 students on Type 2 loans, or 1.32 million recipients in total. Both Type 1 and Type 2 borrowers account for about 40 percent of all university students. The rate of collection as reported by the administering agency, JASSO, was 96.4 per cent in fiscal year 2014.

⁴ Real interest rate, World Bank data.

⁵ JASSO annual report 2016. Figures are in 2016 yen.

The size of each loan varies according to the type of loan, whether the student is attending a private or national/public university, and whether they live at or away from home. Loan amounts for Type 1 loans vary from 45,000 yen per month for four years for students living at home attending a national or public university, to 64,000 yen a month for four years for a student attending a private university away from home (Table 2). The time-based repayments require monthly instalments for periods of 14 years to 18 years depending on the loan amount.

Table 2 JASSO Student Loan amounts, years to maturity and repayment schedules

●Scholarship loan amount and example of repayment plan (as of FY2016)

Category 1 Loans (interest-free loans) - In the case of loans starting from April									
Classification			Monthly amount (¥)	Loan period (months)	Total repayment (¥)	Monthly repayment (¥)	Number of installments	Years for repayment	
Universities (undergraduate)	National and local public	At home	45,000	48	2,160,000	12,857	168	14	
		Away from home	51,000		2,448,000	13,600	180	15	
	Private	At home	54,000		2,592,000	14,400	180	15	
		Away from home	64,000		3,072,000	14,222	216	18	
			30,000		1,440,000	9,230	156	13	
Junior colleges and Specialized training colleges (post-secondary courses)	National and local public	At home	45,000	24	1,080,000	7,500	144	12	
		Away from home	51,000		1,224,000	8,500	144	12	
	Private	At home	53,000		1,272,000	8,833	144	12	
		Away from home	60,000		1,440,000	9,230	156	13	
			30,000		720,000	6,666	108	9	
Graduate schools	Master's courses		50,000	24	1,200,000	8,333	144	12	
			88,000		2,112,000	12,571	168	14	
	Doctoral courses		80,000	36	2,880,000	15,000	192	16	
			122,000		4,392,000	18,300	240	20	

Category 2 Loans (low-interest loans) - In the case of loans starting from April									
Classification	Monthly amount (¥)	Loan period (months)	Total amount lent (¥)	Estimated repayment amount (¥)				Number of installments	Years for repayment
				In the case of actual interest rate (0.16%)		In the case of the maximum interest rate (3.0%)			
				Total repayment amount (principal + interest)	Monthly repayment	Total repayment amount (principal + interest)	Monthly repayment		
Universities (undergraduate)	30,000	48	1,440,000	1,456,176	9,334	1,761,917	11,293	156	13
	50,000		2,400,000	2,430,870	13,504	3,018,568	16,769	180	15
	80,000		3,840,000	3,904,917	16,270	5,167,586	21,531	240	20
	100,000		4,800,000	4,881,176	20,338	6,459,510	26,914	240	20
	120,000		5,760,000	5,857,437	24,405	7,751,445	32,297	240	20

Source: JASSO.

For the more common Type 2 loans, the monthly loan amount ranges from 30,000 to 120,000 yen per month, with monthly repayment starting 7 months after graduation for 13 to 20 years, depending on the loan amount. The monthly and total repayment amounts, as well as the number of instalments, are shown in Table 2.

Students apply for the loans and are selected through the school from which they graduate prior to university or through the Higher Education Institutes they attend. Students taking on a JASSO loan must have a parent, as well as a relative, agree to act as a guarantor on the loan, or to have

the Japan Educational Exchanges and Services (JEES) act as an institutional guarantor. Overdue repayments are charged interest at the rate of 5 per cent per year. This rate is a reduction from the 10 per cent per year charged until end of March 2014. If the loan recipient is unable to repay the loan, legal action is taken against the guarantor. In the case of the institutional guarantor, JEES is likely to take legal action against the loan recipient.

In the case of financial hardship and difficulty in repaying the student loan, there is a provision for the repayment amount to be reduced by half for up to 10 years. There is also a provision for postponement of repayment and under special circumstances (death or physical or mental disability), exemption from repayment. Thirty per cent of Type 1 students who undertake graduate degrees can have their loans partially or wholly exempted if they have an ‘outstanding’ academic record.

The need for reform

Japan faces reduced capacity for public financial support for higher education. The burden of student loans on families are increasing, either due to stagnant household disposable incomes or through exposure to repayment hardship and default. Should Japan continue to shift the cost burden of higher education from the public to private sources, as is the general trend internationally? And what role, if any, is there for government policy to manage the trend of shifting the financing burden from parents to the student?

Worsening equality of access to higher education

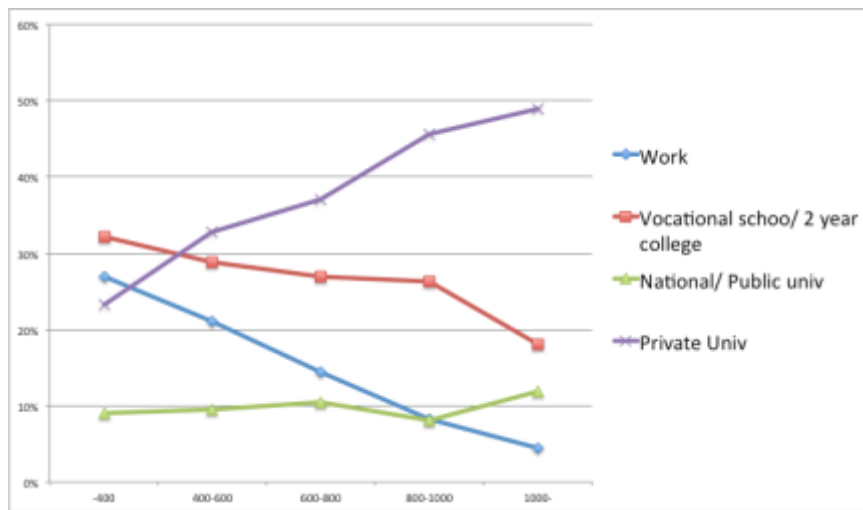
The increase in tuition fees and the subsequent increase in the loan burden have affected prospective university students’ and their families’ decisions to apply to university. This is borne out by a 2006 nationwide survey of 4,000 groups of students and parents that provides strong evidence of inequality in higher education access because of differences in family incomes. The survey report has been published in Japanese by the Center for Research University Management and Policy at the University of Tokyo (Kobayashi 2008, Kobayashi and Liu 2013).⁶

⁶ This was a large nationwide random sampling survey of high school students and their parents in Japan led by Professor Motohisa Kaneko. 4,000 pairs of parents and their high school children were randomly chosen from 400 areas all over Japan. The first survey, interviewing parents and their children, was done in autumn 2005. The follow-

Only 35 per cent of high school leavers in the lowest income class enrolled in university, compared to 61 per cent in the highest income class in 2006 (Figure 5). Enrolment in private universities was highly correlated with income — with double the enrolment rate for the highest income group compared to the lowest in this survey. This was not the case, however, at national and public universities. National and public universities contributed to opening up higher education opportunities to all income groups, offering relatively inexpensive tuition fees compared to private universities, as is their mission.⁷

This inequality has had a strong influence on government policy, and there has been wide discussion on ways to ameliorate the situation.

Figure 5 Destinations of high school leavers by income group, 2006



Source: CRUMP, High School Student Survey, 2006 (Kobayashi and Liu 2013).

The situation has changed for the parents of high school leavers in 2016. As shown in Figure 6, the enrolment rate in private universities and colleges is highly correlated with income, like in the 2006 survey. However, the enrolment rate at national and public universities and colleges is now *also* correlated to income, which was not seen in the 2006 survey. The private university enrolment rate of the lowest income group is about 28.8 per cent, while that of the highest

up survey for the children was done in the spring of 2006. Kobayashi, one of the authors of this paper, was a member of this survey.

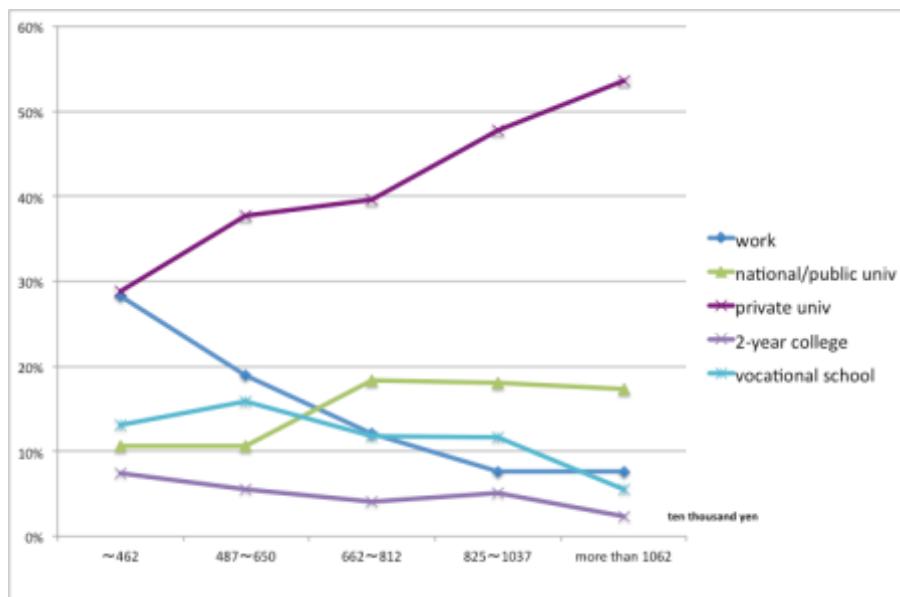
⁷ Most national and public universities and colleges are highly selective, but their missions are to offer the opportunity of higher education to all people.

income group is around 53.6 per cent in the Parent Survey of High School Leavers 2016 (Figure 6). The disparity in enrolment rates between the lowest and highest income groups is again almost double.

The enrolment rates at national and public universities were 10.7 per cent in the lowest income group and 17.4 per cent in the highest income group. Inequality of access has increased over the decade for public and national universities. The financing burden on the student and household has adversely affected participation in higher education, especially for private four-year universities and colleges.

This widening inequality in national and public universities is consistent with surveys conducted in 2012 and 2013 that confirm the trend. The growth in student loans from the government, administered through JASSO, has not succeeded in reducing the inequality of access to higher education(Kobayashi (ed.) 2014).

Figure 6 Destinations of high School leavers by income group, 2016



Source: Parents of High School Leavers Survey 2016 (Kobayashi, (ed.) 2017).

The inequality of access to higher education is masked somewhat by the willingness of parents to pay for their children’s tuition in Japan. Inequality of access would be a much larger social issue in Japan without the cultural norm and expectation of support from parents. But the ability of

parents to finance their children's higher education is becoming more constrained as household disposable incomes do not keep pace with tuition growth (Figure 1).

There does not appear to be an inequality of access issue for students with high academic ability. The enrolment rate of the highest achieving students within the lowest income family group was 65 per cent in 2006, while that of the highest income family group was 71 per cent. It may be the case that the families in the lowest income group paid their children's tuition fees despite the financial constraints, or that those students were able to enrol in national universities that have lower tuition costs.

This pattern of enrolment for the highest achieving students from families in the lowest income group changed somewhat in the 2016 Survey. The enrolment rate of the highest achievers of the lowest income group fell to 62 per cent, while students in families of the highest income group rose to 76 per cent. Enrolling in higher education for high achieving students from families in the lowest income group has become more difficult.

The information gap is another cause of the increasing inequality of opportunity in higher education and has been the focus of research in various countries (Bettinger et al. 2012, Gerge-Jackson, Casey and Gast, Melanie Jones 2015, Perna et al. 2008). Low income families have relatively less information on the costs and benefits of higher education. Many are not familiar with financial options such as student loans, for example, or that they might be eligible for student loans. Prospective students and their families have relatively fewer resources to obtain information about financial options and may not have family members who have had experience with higher education (this is the called the "first generation problem").

The information gap is observed in the *Parents of High School Leavers Survey 2016*. The proportion of families in the lowest income group that answered "do not know JASSO student loans well" as the reason not to apply for a loan was 15 per cent (Figure 7). Only 5.9 per cent of families in the highest income group did not apply for a student loan because of lack of information. The high-income family group also had the large proportion of 42.4 per cent respond that their family income was too high to qualify for a student loan, so the lack of demand could help explain the low result.

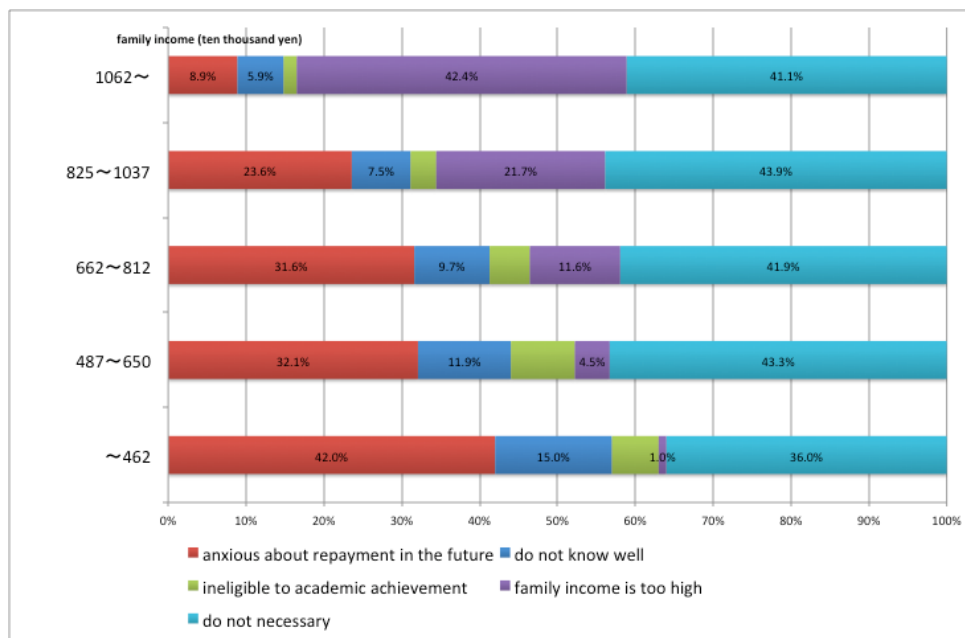
Some governments have attempted to improve this situation. For example, in the Widening Participation program in the UK, the government and Student Loans Company disseminate information on the costs of higher education. In the United States, the “School Score Card” and “Shopping Sheet” initiatives attempted to reduce the information gap among students.

Student loan repayment burdens and debt problems

With the increase in tuition over time, the burden on families to pay the cost of higher education has risen, and more students (with family guarantors) have taken out student loans. But the size of the loans and the anticipated repayment burden after graduation have dissuaded some students from university altogether. This debt aversion or loan aversion is becoming a larger issue in Japan. This phenomenon is not unique to Japan and is seen in other countries.

The *Parents of High School Leavers Survey 2016* found that 42 per cent of families in the lowest income group responded that they or their child did not take out a JASSO student loan because they were “anxious about the repayment in the future”. That was the highest proportion among all family income groups, while only 8.9 per cent of families in the highest income group gave the same reason (Figure 7).

Figure 7 Reasons not to take out a student loan



Source: Parents of High School Leavers Survey 2016 (Kobayashi, (ed.) 2017)..

The purpose of student loans is to reduce the financial burden on students and their families and to improve access to higher education. But it would appear that in Japan that the repayment burden is still high and is limiting access to higher education for those from lower income families.

Up until the late 1980s in Japan the graduate labour market was quite stable and most graduates found good jobs but after the asset bubble burst in 1991 the conditions in the graduate labour market worsened as the economy stagnated. The Japanese economy has experienced two ‘lost decades’ of growth since then with growth averaging below 1 per cent, and is half way through a third lost decade in the 2010s. One feature of the Japanese labour market is the ‘lifetime employment’ system where once a graduate gets a full time job in a company or civil service, he or she works there until the mandatory retirement age. The system guarantees stable employment and was a positive feature of the labour market during periods of rapid economic growth because firms could invest heavily in the human capital of employees without fear of losing them to competing firms. With a stagnant economy, some argues that system is now understood to be a drag on the economy given that it inhibits labour mobility (Yashiro, 2011).

Labour market flexibility has been introduced by the private sector with non-regular employment that does not feature long contracts, significant job security or high pay. This has led to a bifurcation of the labor market (Miyamoto, 2016). Roughly 40 per cent of the labour market is now comprised of non-regular workers and this has meant that many graduates who do not find stable employment may have difficulty with loan repayments between jobs, or if they cannot find full time employment (Nagase, 2017). The increased labour market flexibility has meant that one in three graduates changes jobs within three years after they leave college (Ministry of Health, Labour and Welfare, 2016). These developments in the labour market contribute to loan aversion.

Another problem with the student loans are the steadily rising rates of overdue repayment. More than 325,000 borrowers had overdue repayments on their loans in 2015, up from about 262,000

in 2005. In 2012 JASSO had to sue 6,193 former students for outstanding debts, up from only 58 in 2004.⁸

JASSO measures the default rate as the number of loan recipients who have repayments that are at least three months overdue, divided by the total number of borrowers. In 2015, this was 4.2 per cent or approximately 165,000 borrowers in total⁹.

Assessing recent reforms

In response to the rising inequality of access to higher education and increasing repayment burdens, the Japanese government introduced two reforms in 2017. The first is student grant aid and the second is a partial income contingent loan (ICL).

Grants for undergraduate students

Japan has not had any public grants for undergraduate students until 2017. Traditionally parents were thought to be responsible for financing their children's education, including higher education. Such an approach that relies on parent income can entrench disadvantage and restrict access to higher education across generations.

Many in Japan have argued for public grants for undergraduate students from low-income families but the Ministry of Finance has been opposed to such a program because of the government's massive debt and continued primary deficits. The financial authority has argued that the public finance situation does not allow for grants, and the public has not given priority to public subsidies for higher education. One survey reported that only about 30 per cent of citizens support increased public subsidies to higher education (Yano et al. 2016). But the widening disparities in access to the opportunity for higher education between income classes has brought political and policy attention to the issue. Most political parties began to advocate for the introduction of some form of grant aid for undergraduate students in 2016.

⁸ <http://www.japantimes.co.jp/life/2015/04/25/lifestyle/college-campuses-studying-borrowed-time/#.WSqTTmR96X1>

⁹ The recovery rate of JASSO student loans are about 65 percent in Type 1 and 85 percent, which is as high various countries. For example it is 74.3 percent in Australia, 87.8 percent in England and Wales, and 73 to 83 percent in the USA (Shen Hua and Zidderman 2009).

The Ministry of Education established the project team for introducing grants for undergraduate students in April 2016, which published a report in December 2016. The JASSO Act was amended in March 2017 to allow grants for undergraduate students. Japanese students for the first time have access to grants for undergraduate study. The grants are targeted to facilitate access to higher education for students from low-income families and so students from families with no taxable income are eligible.

Roughly three in four students from families with zero taxable income are selected by academic achievement. And the other roughly one in four students from families with no taxable income are selected based on their high school teachers' recommendation. The selection of the latter is decided by each high school based on JASSO guidelines of eligibility. This selection method is expected to contribute to increasing equality of access.

The number of eligible students is roughly 60,000 under the current criteria, but the target number of students eligible is restricted to 20,000 due to the financial constraints. The grants range from 20,000 yen per month (or US\$180) for undergraduate commute students in national and public universities living with parents to 40,000 yen per month (US\$360) for undergraduates in private universities, technical colleges, and specialized training colleges not living with parents.

The introduction of an income contingent loan system

One potential solution to reduce the loan repayment burden and the loan aversion issue is to introduce an income contingent loan (ICL) repayment scheme. Borrowers would make repayments based on their income and if a borrower does not earn above a certain income in a given period, they do not make a repayment. That condition applies to borrowers who are also out of the workforce. An ICL can solve problems of high repayment burdens and loan aversion and could act as a kind of insurance for graduates. Australia, the United Kingdom, New Zealand, the Netherlands and Hungary among other countries have adopted ICL schemes for higher education tuition fees and in some cases for living expenses as well. ICLs help to smooth consumption without heavy credit constraints (Barr 2001, Chapman 2006, 2014). They are also effective and equitable at reducing the risk of borrowing and the need to mitigate the sometimes large burden of loan repayments, especially for borrowers with low incomes.

ICL-based higher education financing reform has been gaining momentum in a diverse range of high- and middle-income countries. Salmi, (2013) makes the case for introducing an ICL system in Chile and Colombia to mitigate repayment hardship for students.

ICLs are one of three funding options put forward in Ireland's recent "Cassels report" to facilitate an increase in public investment in higher education (GoI, 2016). Examining the Irish case, Chapman and Doris (2016) simulate a government-backed bank loan scheme and four alternative ICL schemes. They find that, under the former scheme, most students experience 'hardship' — repayments of more than 18 per cent of gross income — in contrast to ICLs, which cap repayment burdens by design.

Barr et al (2017) simulate costs and distributional effects of an ICL-based scheme for the United States which currently has a mortgage-style student loan system. They conclude that a well-designed ICL would significantly limit the repayment hardship and provide a form of insurance against default.

The repayment plan of JASSO student loans have been time-based (instead of income-based) mortgage type loans, where the monthly repayment amount was fixed. In 2012 JASSO introduced a so called "income contingent repayment plan" that applied to interest-free JASSO student loans. While this loan plan is called income-contingent, it only allows for deferment of repayment if the borrower's income is less than 3 million yen annually, though the deferment period is indefinite.

Furthermore, the income contingent repayment plan is only available to students whose family income is less than 3 million yen a year at the time of application, and it is therefore available only to students from low income families. Unlike other ICL programs internationally, the repayment amount is not contingent on the borrower's income. The Ministry of Education, MEXT, understood this drawback and embarked on an effort to reform this partial ICL program by convening the Ad Hoc Committee on the reform of Income Contingent Student Aid Program, started in September 2015, and submitted a final report in August 2016 after much debate.

In any ICL there are several parameters or variable that need to be determined: the threshold under which the repayment is deferred; the definition of income (that is, gross income, taxable

income or another definition); the repayment rate and whether those differ by income; the period of repayment or whether the debt becomes written-off after a period of time; interest subsidies; the amount of loans, and so on. These variables can change the nature of the scheme significantly, and determine how much government subsidy is embedded in them and how progressive the scheme may be for income groups, for example.

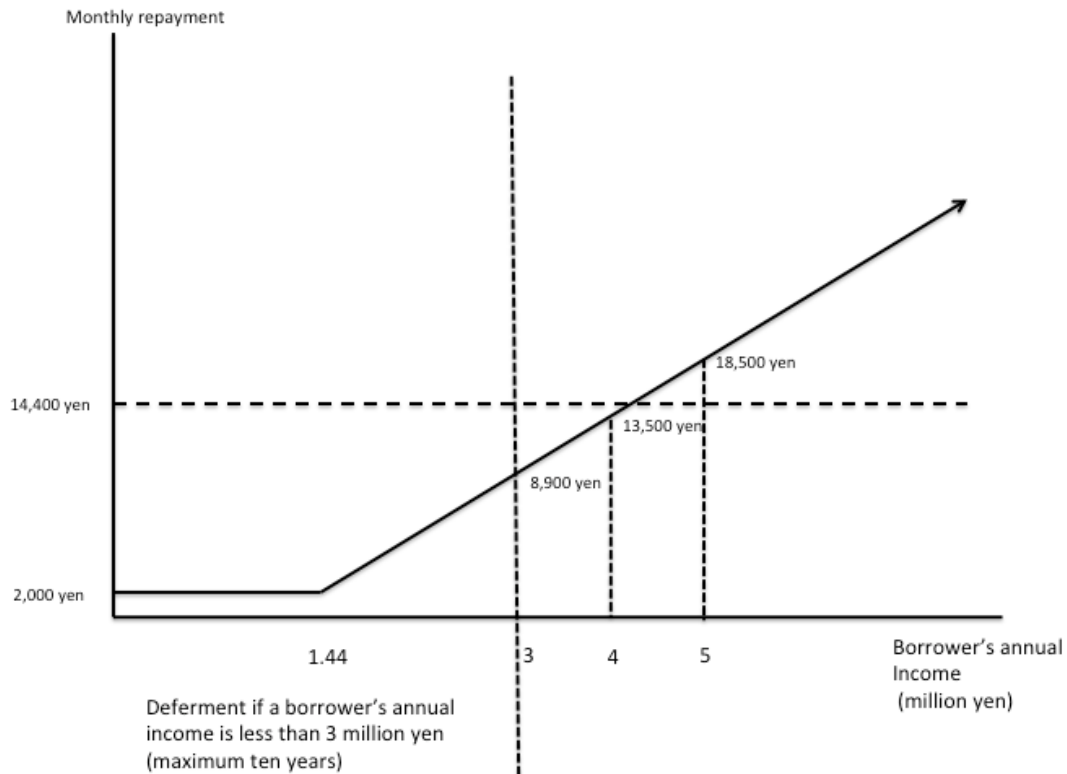
The Ad Hoc Committee settled on a repayment period of 35 years after numerous trial simulations. About 86 thousand age-earning profiles were used and varied by sex, regions, and jobs to estimate default rates and other outcomes. These age-earning profiles were calculated using the Wage Census and the Basic Survey of Working Structures. The existing mortgage type loans were used for a baseline comparison and the recovery rates compared between the two repayment plans. Under ICL schemes in other countries, borrowers cannot default on their debt.

A new ICL scheme was adopted in April 2017. Repayment rates are contingent on income under the new scheme. The repayment rate is 9 per cent of the borrower's taxable income —compared to other schemes internationally with repayment rates ranging from 4 per cent to 8 per cent in Australia, for example, or 10 per cent in the United Kingdom and 20 per cent in South Korea — with a maximum deferment of ten years when a borrower's income is less than 3 million yen a year. A borrower can choose between a mortgage type loan with fixed monthly repayments or the new ICL plan before graduation. Only Type I interest-free student loan borrowers, limited to around 12 per cent of borrowers, can access this new ICL plan. The ICL option is not available for those borrowers taking out the more common Type II low-interest student loans as of 2017. The interest rate has been very low in the period up to the introduction of the ICL but without broader reform to the entire JASSO loan scheme the borrowers would be exposed to rising student debts if interest rates were to rise, increasing the repayment periods.

The income threshold for repayment is shown in Figure 8. The minimum repayment is 2,000 yen per month for those borrowers with annual incomes between zero and 1.44 million yen a year. The 2,000 yen per month minimum repayment is an attempt to balance the interest of recovering the ICL debts in an environment with high government debt and fiscal pressure (so a greater than zero minimum repayment) and avoiding having students default (a very low monthly amount).

Similar to the Australian scheme, the debt is written off if the borrower becomes disabled, permanently ill or in the event of death.

Figure 8 The new income contingent repayment plan of JASSO interest-free student loan



Source: Authors' depiction based on the report of the Ad Hoc Committee on the reform of Income Contingent Student Aid Program, MEXT

Shortcomings of the current income-contingent scheme

The current ICL scheme introduced in 2017 falls short of the scope and coverage of other established ICL schemes internationally. As Armstrong, Chapman and Dearden (2017) explain, the design of the scheme differs in important ways from ICL policies working well in other countries. They highlight three main issues. First, the repayment obligation of the borrower is determined by income measured in the previous financial year, even though employment and pay for borrowers can change significantly from year to year. The previous year's income is often not a suitable indication of contemporary capacity to repay. In other countries that have well-functioning ICL schemes, the repayment of loans are based on contemporary income.

Second, ICL schemes in other countries remove the possibility of defaulting on the loans for borrowers, but the 2017 ICL scheme for Japan requires an institutional guarantor to ensure repayment obligations are met. An institutional guarantor would not be necessary if the loan repayments occurred based on contemporary employment and wage circumstances instead of those of the previous year. The repayment is collected through the borrowers' bank account, not through employer withholding as the income tax is.

JASSO loan collection is by withdrawal from bank account and not through tax system like Australia and the UK. Having repayments made through employer withholding — as is the case with income tax in Japan and many other countries — based on contemporary income will resolve the first two issues. With such an arrangement, repayments are made automatically from debtors' salaries or wages depending on incomes (Armstrong, Chapman and Dearden, 2017). That would make the loan repayment process automatic and significantly reduce transactions costs.

As Stiglitz (2014) argues, these transactional efficiencies are among the distinct advantages of governments over individuals when it comes to borrowing to finance higher education. Lower transaction costs, stemming from the 'joint product of income reporting for the purposes of income tax', mean lower borrowing costs (34). Dynarski (2016) proposes an employer withholding system for the United States, where an income-contingent repayment option exists but administrative barriers to loan access are high. With an income-contingent system that is based on previous-year income, Dynarski observes, repayments cannot adjust quickly to shocks that can affect young borrowers' earnings.

Finally, the ICL is not a universal scheme and is limited to Type 1 JASSO loan borrowers, accounting for around 12 per cent of borrowers. The choice of both a mortgage type-loan and an ICL raises the issue of adverse selection. Those borrowers who expect to do relatively poorly in the labour market are more likely to choose the ICL, thus increasing the likelihood that the amount the ICL debt that the government can collect over time would be lower. Most other countries with ICL schemes for student loans have universal coverage, where any student entering higher education can access an ICL.

South Korea is the only country the authors are aware of where the ICL is only available to students from lower income families. The Korean ICL-based scheme, introduced in 2010, is available to students in the lower eight income deciles. A time-based loan, known as the “general student loan” or GSL in English, is available to students in the top two deciles.

Han (2016) finds that students with ICLs tend to outperform those with GSLs academically and are less likely to drop out. On these grounds, he advocates the gradual expansion of Korea’s ICL scheme to all income groups, including the upper two deciles, and suggests an option for delinquent borrowers to transfer to the ICL scheme.

Extending the scheme to be available to all students, not just JASSO loan recipients, would resolve the third issue of adverse selection with respect to borrowers choosing not to repay on the basis of their self-interest.

Interest rates on income-contingent loans

The ICL reform introduced in 2017 is only available, as an option, to Type 1 loan recipients where the debt does not incur interest. While the interest-baring Type 2 loans have rapidly expanded, and the interest rate is trivial in 2017, the Japanese government has advocated increasing interest-free loans and reducing those that attract the low interest rate.

The Australian ICL scheme, the Higher Education Contribution Scheme (HECS) for undergraduates and Higher Education Loan Program (HELP) for graduate students, is interest-free but is indexed to the inflation rate so that the debt is subject to a real interest rate of zero. Schemes in other countries, like the United Kingdom, have ICL debts that accumulate interest. The ICL debt will accumulate for low-income earners and prolong the repayment period. In the case of the United Kingdom, that debt is cancelled after 30 years to limit this issue for low-income earners.

The subsidy from the government of an interest-free ICL is not expensive, especially in a low-interest environment like Japan, even when the interest rate is higher as it has been in Australia (Barr, 2016: 22). The interest subsidy from government mainly benefits the middle class.

Another option that makes ICL schemes more progressive for lower income earners is one that has an initial lump-sum surcharge with no interest rate applied to the debt, making the net present value of the interest free loan relatively larger for high income earners that make repayments faster. For low income earners, the lump-sum portion of the debt is discounted over a longer time-horizon at zero real interest (Dearden 20xx).

There is also the question of whether ICLs for higher education should cover living costs in addition to tuition. Fiscal pressure as well as the increasing repayment burden in Japan have meant the amount each student can borrow has been subject to downward pressure. But with an ICL a larger loan amount would not be associated with a higher repayment burden — the monthly repayment will be a fixed proportion of income — or default, but only a longer repayment period.

Conclusion

The increases in higher education tuition combined with stagnant household incomes in Japan has led to a rapid increase in the number of student loans that sustains a gradual increase in university enrolments despite a shrinking cohort. These loans are time-based loans and have been causing increasing numbers of loan recipients and their families financial hardship with high interest rates for late repayments and eventual default. Survey data suggests that prospective students from low-income households are forgoing a university education in order to avoid the student loan debt, while the family burden of the cost of higher education has grown.

In 2017 the Japanese government introduced grants for students and an income-contingent loan scheme that is available to 12 per cent of current loan applicants. The income-contingent loan scheme introduced is a positive development but requires reform and broader coverage if it is to further address the challenges in higher education financing in Japan and alleviate the repayment and overdue payment problems for loan recipients.

The current Japanese ICL collects repayments based on the borrower's previous year's income but should be based on contemporary, or current-period, income given that employment and wage circumstances change. The current arrangement requires an institutional guarantor and has a minimum repayment of 2,000 yen a month even if income is zero. Possible further reforms

include resolving those issues as well as making the ICL universal so that all new enrollees can access the loan. Further reforms to the ICL scheme would resolve some of the access and affordability issues that are becoming more serious in Japan.

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