

Comparative Study on Sino-US Student Loan Repayment Policy*

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Abstract Student loan has become an important financial aid program to help students from lower-income families to complete higher education around the world, and student loan debt burden and loan repayment are common problems in many countries. In 2015, the student loan policy in China has gone through a major reform, whose primary goal is to ease the debt burden for students. Since the student loan policy implementation in the USA, it has been highly efficient. We determine that a comparative study on student loan repayment policies in the USA and China has the vital significance. By comparing the student loan repayment policy, graduate loan debt burden, and the loan forgiveness mechanism of China and the USA, we find the level of institution, the type of university, discipline and employment units will lead to the debt burden differences. Then from the perspective of decreasing the Chinese student debt burden, we put forward the corresponding policy suggestions.

Key words Student loans, Payment policy, Loan debt burden, Loans forgiveness, Sino-US comparison

1 Introduction

In the process of development of higher education, universities in many countries of the world are facing the plight of the government fiscal austerity and education funds inadequacy, and providing a plan for reasonable higher education cost sharing has become a consensus to solve this difficult problem. With the expansion of higher education institutions, students from the different social strata have more opportunity to participate in higher education. In order to solve the economic hardship of students from the needy families, governments set up the higher education student financial aids policy. More and more governments began to introduce student loan programs .

In 1999 Government Subsidize Student Loans (GSSL) piloted in China, and the Local Credit Student Loans (LCSL) has been implemented since 2007. “By 2014, The student loans accumulated to RMB 120 billion, and have been disbursed to more than 11 million students”^[1]. Student loan has become an important aid pattern to poor students, meanwhile easing student loan debt burden is one of the most significant ways to achieve higher education equity. In July 2015, the Prime Minister Li Keqiang stressed “decisively increasing the aid of student loan, and creating fair environment for the poor students” in the state council executive meeting. The Chinese student loan policy went through a series of major reforms, with the priority objective being “to reduce the economic burden of student borrowers”^[2]. There are four measures to be put forward: The extension of the loan repayment periods which is up to 20 years, extension of subsidized interest periods, extension of the grace period to three years and the increase the forgiveness mechanism, particularly for graduate students with loan repayment difficulty. Now we want to compare the repayment policy of China and the United States, especially the debt burden of graduates, and study the implementation of the new student loan policy in China.

Facing low graduates employment rate and low new entrants salary, borrowers from low income families are confronted with more serious payments problem. Research on graduate loan debt burden was a concern of many scholars. British Professor Maureen Woodhall found that 10% of indebtedness is more reasonable^[3]. Canadian scholar Alex Usher analyzed the student debt repayment burden of eight countries in the European Union, and he found that the loan interest rate, repayment period and total debt would affect graduates debt burden^[4]. American researchers found that as tuition increased at a faster rate than inflation, a large number of students needed a loan to finish their college education. From the loan management department, financial institutions and academic theory, graduates can accept monthly debt burden from 8 to12 percent^[5]. The Canadian scholar tracked the bachelor degree

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graduates for two years, and found 22.9% of borrowers paid off all the loans for two years, and the debt burden rate was less than 13 percent for all borrowers. The vast majority debt ratio was lower than 10 percent^[6]. The latest research for Thai Students Loan fund (SLF) indicated that graduates debt burden just maintained 3% and 4% respectively for men and women^[7]. Adopting age-income quantile model some scholars revealed that in German student loan debt burden was not high, and there was the possibility to increase tuition fees if the income-contingent repayment was implemented^[8].

Since the 1999 implementation of Government Subsidize student loan in China, Chinese scholars have been concerned about the GSSL debt burden. From the first 4 years of repayment period, we found that the national student loan debt burden was very high, and the extension of graduates reimbursement periods in order to reduce the debt burden was an urgent matter^{[9][10][11]}. In 2004, student loan “new mechanism”, which repayment periods were extended to 6 years, was introduced, and the student loan repayment burden has slightly decreased and is still higher than the world average level^[12].

Since the lack of graduate real income data, firstly, the early Chinese scholar research was more a rough estimate or forecast the debt burden, less a measurement the real burden of debt repayment. Secondly, Chinese student loans research has focused on GSSL on campus, therefore few conclusions on the LCSL of student loan debt burden and the latest policy in 2015 has been done. On the other hand, more American student loans policy studies have been conducted, but there is no research on student loan debt burden comparison between China and USA. This article includes the Sino-US student loan plans, the difference of loan debt and loan relief mechanism research, especially the new policy in 2015. Finally, in order to reduce graduate debt burden, we put forward policy suggestions for China's student loan system.

2 Comparing Sino-US student loan repayment policies

2.1 The student loan repayment policy reform in China

In 1999 the “Government Subsidize Student Loan Management Regulations (trial)” was published. It marked the launch of student loan program in China. The policy initially piloted in eight provinces, then expanded nationwide in 2000, with the agency bank expanded to the four commercial banks from only the Industrial and Commercial Bank of China. In 2004 student loan policy implemented the comprehensive reform, and in 2007, the LCSL introduced new measures, which greatly expanded the scale of Chinese student loan. By 2010, the borrowers and the amount of loans broke through 1 million and RMB 10 billion respectively, which is the record and presents a breakthrough. In 2014, more than RMB 16 billion loans was disbursed, which was more than one-third of total amount of student aids, and the government subsidized up to 2.8 million needy students which was 10 percent of the all students.

Student loan collection in China has been the traditional mortgage repayment type, which is the most widely used way of payment allover the world. It is the commercial loans installment payment applied in student loans. The borrowers should pay back all loan principal and interest in accordance with the fixed time interval in loan period and every reimbursement amount is the same.

Table 1 Chinese student loan repayment policy

Student loan Policy	1999 GSSL	2002 GSSL	2004 GSSL	2007 GSSL	2011 GSSL	2007 LCSL	2011 LCSL	2015
Highest amount(RMB)	8000	6000	6000	6000	6000	6000	6000	8000
Interest rate in school (%)	3.105	2.88	0	0	0	0	0	0
Interest rate after school (%)	3.105	2.88	6.12	7.83	7.05	7.83	7.05	5.40
Grace periods (Month)	0	0	0-24	0-24	0-24	0-24	0-24	0-36
Repayment periods (Year)	4	4	6	6	6	10	10	13

In China the student loan policy reform focuses mainly on preferential interest rate and repayment periods. In 1999 the maximum loan amount was RMB 8000 per person each year, and repayment rate was 50 percent of commercial interest rate by fiscal interest subsidized. However, the longest loan repayment period did not exceed four years after graduation. In 2004 the student loan policy carried

out a series of reforms including risk compensation, interest rate subsidized and loan bidding, etc. Repayment period was extended to six years, and grace period was extended to 2 years. During the period of study all loan interest is paid by the fiscal subsidy, and borrowers just pay interest after graduation. In 2007, five provinces such as Jiangsu, Hubei, Chongqing, Shaanxi and Gansu piloted the Local Credit Student Loan, which has carried out the institutional innovation in China. In addition to enjoy preferential interest policies of GSSL, the repayment period was extended to 10 years. In 2015 the repayment period is unified to up to 20 years and grace period to 3 years.

During the sixteen years student loan policy has been reformed to extend the repayment periods in order to ease the debt burden in China. GSSL repayment amount per year descended from RMB 9,281 in 1999 to RMB 5,997 in 2004, which decreased RMB 3,284. In 2007 LCSL payment fell to RMB 3,915, and due to the latest new policy introduced in 2015, the reimbursement amount is just RMB 3,133, which the highest loan amount is up to RMB 8,000.

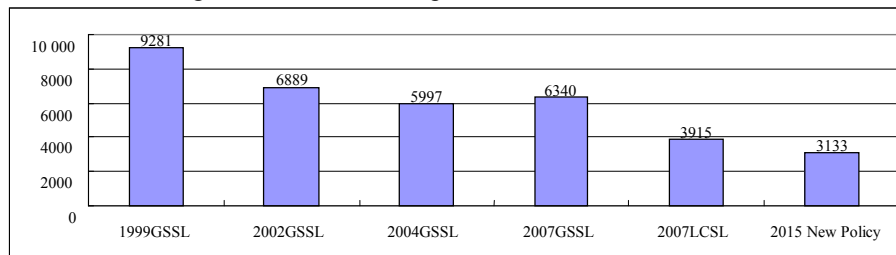


Figure 1 Chinese student loan repayment amount (RMB)

From the policy reform, we can tell that the government has been committed to reduce the debt burden of graduates, especially in the interest rate, grace periods, and repayment periods.

2.2 The diversification of American student loan repayment policy

The student loan policy in USA has been highly efficient to implement, which is seen as the example by many countries. After 2010, the US Federal Student Loan program mainly contains the Perkins Loan and Ford Federal Direct Loans, which includes three types of Direct Ford Loan (with the type of subsidized and non-subsidized) Loan, Direct PLUS, and Direct Consolidation Loan^[13].

Student loan repayment in USA has the characteristics of being flexible and diverse. Direct Federal loan program has six kinds of reimbursement means for students to choose. They are: (1) **Standard Repayment**. Students should pay a fixed amount each month until their loans are paid in full. Their monthly payments will be at least \$50, and they'll have up to 10 years to repay loans; (2) **Extended Repayment**. To be eligible for the extended plan, borrowers must have more than \$30,000 in Direct Loan debt. Under the extended plan graduates have 25 years for repayment and two payment options: fixed or graduated. Fixed payments are the same amount each month, as with the standard plan, while graduated payments start low and increase every two years, as with the graduated plan below; (3) **Graduated Repayment**. With this plan students' payments start out low and increase every two years. The length of the repayment period will be up to ten years. The monthly payment will never be less than the amount of interest that accrues between payments; (4) **Income Contingent Repayment (ICR)**. Each year, the monthly payments will be calculated on the basis of borrowers' adjusted gross income (AGI), family size, and the total amount of their Direct Loans. The maximum repayment period is 25 years; (5) **Income-based Repayment**. Under this plan the required monthly payment will be based on the borrower income during any period when they have a partial financial hardship. The maximum repayment period under this plan may exceed 10 years. (6) **Pay As You Earn Repayment**. This plan usually has the lowest monthly payment of the repayment plans that are based on graduates' income. Their payment amount may increase or decrease each year based on their income and family size^[14].

Comparing student loan repayment policies in the USA and in China, we can conclude that the repayment model in China is relatively limited, the only differences are in loan repayment year and grace periods. Graduates have only the choice of the length of the grace period, and reimbursement deadline is fixed. However, in the United States, borrowers are provided with a variety of choices. In

addition to the standard repayment patterns, there are three different modes depending on the income. These three kinds of repayment patterns have become more and more popular among students.

3 Student loan repayment efficiency comparison between China and the USA

The debt burden of students is an important index to measure the efficiency of the student loan policy.

3.1 Graduates debt burden measurement formula

Measurement of student loan debt burden has a lot of methods. Some measure the total amount of loan. When the students overall debt amount is larger, it indicates that the borrowers' debt burden is higher. Some measure the fixed payment per year. However, these numbers cannot accurately measure true debt level. Mostly scholars adopted repayment burden ratio, which is, namely in the same unit time, the ratio of students need to repay the loan account for the amount of the graduates in the same period income^[15].

In the traditional mortgage payment type, an equal repayment amount is the same every time. Due to graduate starting salary being generally lower, the first time repayment debt burden ratio is higher, and the proportion is the sensible indicator of student debt burden.

This study of Chinese graduates salary data derived from "The Chinese college students employment report" of Mycos Company^{[16][17]}. Graduates revenue of the United States comes from NACE survey of university graduates income^[18].

3.2 Graduate repayment debt burden ratio in China and the United States

For comparing the graduate debt burden, we assumed that the American and Chinese students loan borrowing for the amount of \$6000 and RMB 6000 a year. In the 2010-2011, graduate of average annual income was \$50,462 in USA, and in China 2010 graduate's average monthly salary was RMB 2,815, which means that the average annual income was RMB 33,780.

The Perkins loans and Direct Federal loan repayment period are 10 years, and there is six-month grace period. The Perkins loan project is based on the campus, using the fixed interest rate of 5 percent. The Direct Federal loan interest rate changes in the different years, and the current loan interest rate is 6.8 percent. The higher interest rate resulted in that the Direct Federal loan borrower debt burden is 0.55 percent more than that of the Perkins loan program borrowers.

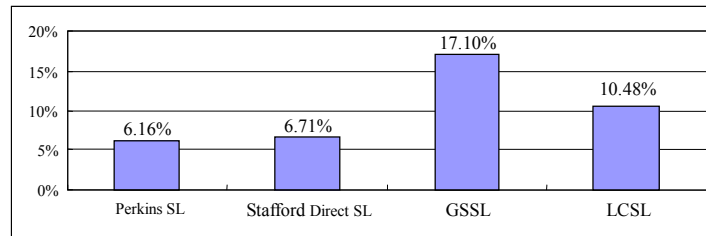


Figure 2 Comparing on Sino-US graduate debt burden ratio

In China the GSSL on campus debt burden ratio exceeded 17 percent. The LCSL ratio is nearly 7 percent lower than the GSSL, but was still above 10 percent and 4% higher than that of both loan programs in the United States. The main reason is that the current Chinese student loan interest rate is 7.08 percent, which was 25 point percent higher than of the Federal loan programs, and the GSSL repayment period was only 6 years. It is clear that Chinese interest-free policy for the four-year study period has played an important role for reducing the debt burden. However, the overall high lending rates directly lead to the higher debt burden ratio.

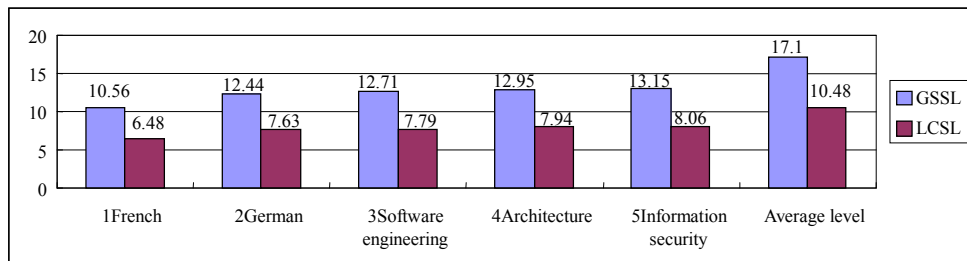
3.3 The debt burden comparison of majors of the top 5 incomes

Now we compared the student loan debt burden of the top five income majors in China and in the United States

Table 2 The debt burden of annual income in the top five salary in USA

Undergraduate majors	Average incomes	Perkins loan	Direct Federal loan
1 Chemical engineering	\$66,886	4.65%	5.06%
2 Computer science	\$63,017	4.93%	5.37%
3 Mechanical engineering	\$60,739	5.12%	5.57%
4 Electrical & communication engineering	\$60,646	5.13%	5.58%
5 Computer engineering	\$60,112	5.17%	5.63%
Average level	\$50,462	6.16%	6.71%

The top graduate salary major is the chemical engineering in the United States, and their income is higher than the national average of \$16,424, their indebtedness is the lowest. Their Perkins student loan debt burden ratio was 1.51 percent lower than the national level and the Direct Federal loans was 1.65 percent lower than the national level. Overall, the top five major debt burden ratios are less than six percent.

**Figure 3 the debt burden of Chinese graduates income in the top five majors**

In China, top of graduate salaries major is French, with the graduate salary average of RMB 54,672, which is higher than the national average salary of RMB 20,892. So their debt burdens were the lowest. Their GSSL and LCSL student loan ratios were 10.56 percent and 6.84 percent respectively. Their burden ratios were lower than the national average, respectively, 6.54 percent and 4 percent lower. The GSSL burden ratios of top five income majors were higher than 10 percent, and the LCSL was higher than 6 percent.

On one hand, the income gap of different majors is relatively small in USA, so their loan debt burden ratio difference are still less. On the other hand, the income gap in China between different majors is bigger than that in United States, and the Chinese debt burden differences lead to larger difference. From the perspective of the specialty of high income, engineering disciplines are high income in the United States, and in China the top two incomes were language majors. In both countries, computer science is generally a higher income major.

4 The Sino-US student loan repayment forgiveness mechanism comparison

The student loan waiver or compensatory mechanism is the most direct and effective way to reduce the pressure of repayment burden. The purpose of the student loan waiver or compensatory mechanism is mainly to attract graduates engaged in educational or health care jobs which are the urgent national needs in designated areas. It helps to lighten the burden of student loan debt, and can solve the problem of graduate employment and the national human resources shortage.

4.1 The Chinese student loan waiver or compensatory mechanism

4.4.1 Central government student loans forgiveness schemes

In 2006 “the government student loans compensatory aids for graduates of higher education institutions interim procedure” was issued, and it marked the beginning of Chinese student loans compensatory mechanism. The graduates will work at the grass-roots units in remote areas or the western region which they service for more than 3 years (including 3 years), and their principal and interest of student loan will be paid by the state.

In 2009 Chinese government further improved the student tuition and loan forgiveness policy, and

designated specific provinces and grass-roots units, and implemented the graduate loans forgiveness for compulsory military service. In 2011, the Minister of Education launched student loans compensatory scheme for compulsory military service in higher education institutions.

4.1.2 Student loan relief scheme in provincial areas

Before the Ministry of Education issued compensatory mechanism of student loans, local governments have launched the student loan forgiveness schemes. Relieving student loans could attract graduates to the grass-roots employment units. In Hubei, for example, provincial government launched “the rural teachers funding action plan” in 2004. They chose suitable graduates to teach in villages and towns schools for three years, who will be rewarded RMB 5000 per year which is designated to repay student loan. By 2011, more than 20,000 college graduates were selected from 291 universities, who taught in primary and secondary schools in 1900 villages and towns of 84 counties.

Table 3 Student loan waiver mechanism comparison of China and the United States

Forgiveness Terms	Chinese student loan	Direct Federal student loan in USA
1 Object	the gross-root units in the Midwest and remote areas	permanent disability, civil servants, full-time teachers of primary and secondary schools, etc
2 Area	12 provinces in the western region, 10 provinces in central	unlimited
3 Time	three consecutive years	five consecutive years
4 Amount	Up to RMB 6000 per year	\$ 5000 or a full compensation

4.2 The variety of student loan reliefs in the United States

American student loans have many types of forgiveness mechanism. For example, the Federal student loan has a series of delay or forgiveness repayment terms by the Federal government. And the local governments have their own unique loan waiver schemes.

4.2.1 The federal government loan waiver

The Perkins student loan program detailed the 22 loan waivers terms. The graduates should mainly engage in teaching, public service, medical and military service work in a specific region or industry, such as full-time teachers serving for low-income children in primary and secondary schools, full-time professionals to serve early treatment of the disabled, working for public or nonprofit service organizations, full-time nurses or medical technicians, “volunteer service” to the nation or international peacekeeping, military service personnel, etc.

“The Teacher Loan Forgiveness Program” is one of the earliest repayment reduction projects of the Federal government, which is to encourage individuals to participate in the continuous education. Those who completed their studies and work full-time for 5 years in a row for low-income children in primary and secondary schools could get this kind of compensatory fund. The maximum reduction of loan principal and interest is \$17,500.

4.2.2 State government relief student loan schemes

State governments set up their own loan forgiveness programs in order to meet the needs of the local economic and social development. In 2001-2002, there are 43 states that have carried out 161 “workforce financial aid” projects, which funded more than 26,000 persons, most were teachers, nursing, and medical personnel. The students are citizens of the state and in the specific fields ^[19].

“The teach for Texas Loan Repayment Assistance“ regulated that teaching in shortage fields such as bilingual education, Spanish language, mathematics, science, and special education, would lead to student loan forgiveness for borrowers. Some foundations also have loan relief projects, such as bachelor of nursing loan waiver program by the California Health Vocational Education Fund. In the regions in California where the health infrastructures are in poor conditions, graduates who work win direct patient care for 2-4 years can get a \$19000 reward.

The loan waiver programs by state governments attract students to particular subject or majors. However, the disadvantages is that low waiver amount is difficult to repay tuition. From the time students obtaining financial assistance to graduation is an interval of 2 to 4 years, and the graduates can not always find the right jobs to forgive their loans. The state should pay for student loans and

management costs first. Conversely, loan repayment projects make it less likely for state governments to attract local citizens to participate in specific professions. On the other hand, its advantage lies in that students do not need to pay tuition fees, and after graduation they can choose jobs according to their interests. Meanwhile, state governments do not have to pay loan principal in advance, and can adjust the plan from time to time according to the demand of the labor market.

5 Policy suggestions to control the Chinese student loan debt burden

Reasonable debt burden is the key to guarantee sustainable development of the student loan program, and the following policy suggestions are put forward based on what we have learned from the American student loan policy.

First of all, we should design a flexible loan repayment policy. The diversity of American student loan repayment scheme is a match to its varied loan projects. In China students can only apply for one type of student loan, which the repayment pattern is relatively limited. Along with the development of Chinese economy, the income differences among different regions and industries will be intensified. Therefore, a flexible student loan repayment scheme can effectively control the loan debt burden, and avoid loan delinquencies and defaults.

Secondly, we should establish scientific and reasonable repayment burden. From the student loan policy evolution in China, student loan debt burden has a tendency of continued decline. Specially, borrowers faced a high debt burden before 2004, and after 2015 the latest repayment periods were extended to 13 years. Since the student repayment amount will decrease, we could adopt American “extended repayment plan”, which extends repayment period from 4 years to 25 years. In addition, lower-income graduates can take the “graduated repayment”, which is the lower initial repayment amount and increase a certain quota every two years. It makes the graduates loan repayment amount increasing follow the increase of their income.

Finally, we should broaden the practical support for loan forgiveness. Both student loans forgiveness plans in China and in the United States are to solve specific areas of labor shortage. The U.S. loan waivers include more areas and fields, however, the Chinese loan waivers focus more on grass-root units in poor areas and military service. We could put more emphasis on certain professions and jobs in carrying out the loan compensatory policy, especially for teachers in basic education. We could match with “national free normal education policy”, give more choices to students in normal education.

Sixteen years have passed since Chinese student loan started. If we start to implement the diversity of the repayment proposal, the reasonable debt burden, and the perfect loan compensatory mechanism, we can effectively prevent repayment default and ensure a smooth recovery.

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