Research on Over-indebtedness Problems of College Students

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Abstract. Based on the theory of over-indebtedness, the status quo of undergraduate students and graduate students' debt is studied. This paper mainly uses the debt data collected in Yunnan University of Finance and Economics located in south-west China. It examines the debt data of college students, quantifies and analyses the causes leading to over-indebtedness. Meanwhile, the Logit model is used to study the liability factors affecting college students. Descriptive statistics show that the debt of college students are related with grade or age, the consideration of their solvency positively. The own income, the parental income and family wealth do not affect the debt of college students.

Introduction

Over-indebtedness has always been a hot issue worldwide in recent research especially in microfinance. But Chinese scholars have rarely studied this topic due to the uncompetitive financial markets. This has led to less research on the theory of household over-indebtedness in China. With the impact of foreign culture and the continuous improvement of the domestic welfare system, the consumption level has been continuously improved, and debt has become normal. Over-indebtedness problem arises. As a growing consumer group, college students have also experienced over-indebtedness problems in recent years.

With the development of China's economy, college students have gradually upgraded consumption. However, as a college student who has just entered the society, they have some particularity. They have not achieved independent economic status but have been separated from their family. They have their own ideas, and their own consumption behavior. After 2012, along with the rapid rise of the online lending platform, online lending companies have seized the needs of college students with financial services such as entrepreneurship and consumption, and expanded their business to colleges students. "Campus loans" came into being and gradually changed the college students' consumption patterns. "IOUs" has become one of the popular consumption loans. However, the expansion of "campus loan" is too fast. The relevant policies and regulations are still not sound, and the development is extremely irregular. Some college students who lack rational consumption concept, often fall into excessive consumption and cannot repay the debt. The situation has even led to a series of tragic events. In June 2017, the China Banking Regulatory Commission, the Ministry of Education, and the Ministry of Human Resources and Social Security jointly issued the Notice on Further Strengthening the Management of Campus Loan Standards, requiring campus lending companies to suspend new business, and formulate clear rectifications based on their current business conditions. But the reality is that "campus loans" are still operating on college campus.

Literature Review

Debt. According to the theory of consumption function proposed by the British economist John Maynard Keynes (June 5, 1883 - April 21, 1946), the expenditure relies on the current income. Based on Keynesian research, American economist Milton Friedman proposed a long-term income hypothesis that consumers' current consumption is not determined by current income, but by his permanent income. The theory of life cycle consumption was then proposed by the Italian-American economist Franco Modigliani. People will smooth their expenses over a long period of

time to achieve the biggest utility throughout the life cycle. People work and consume in the first stage, consume without work in the second stage. The savings in the first stage is used to make up for the consumption of the second stage. Thus, the marginal propensity to consume depends on the age of the consumer. It also emphasizes the importance of debt in smoothing the consumption of one's life cycle to maximize utility.

The definition of over-indebtedness refers to the fact that the debt is too heavy to pay off including the principal and the interest, and the lack of liquidity cannot guarantee the continuity of the debt chain. Research on over-indebtedness is mainly in the corporation finance. There are fewer researches on college students especially in China.

In foreign countries, different countries have different definitions of over-indebtedness. In the UK, over-indebtedness is defined as "a family or individual with a structural arrears or a serious risk of arrears on a structural basis" (OXERA, 2004) [1]. In Germany, over-indebtedness is defined as "despite the decline in living standards, it is not sufficient to meet all of its payment obligations in the long term" (Haas, 2006) [2]. The European Union has conducted a special study to develop a set of criteria for assessing over-indebtedness (European Commission, 2008) [3].

- The unit of measurement should be the family.
- Indicators should cover all property of the family
- Over-indebtedness is not a very short-lived state, it should be a long-term state of continuity.
- It is impossible to solve the debt problem by borrowing more money.
- In order to fulfill the promise, it is necessary to reduce expenses or find ways to increase income.

Over-indebtedness of College Students. To study the over-indebtedness problems of college students, due to the particularity of this group, some modifications to this standard should be made:

- The units of measurement are individual college students. Chinese college students are highly dependent on their parents. They have family support when their debts cannot be repaid. Therefore, it should separate college students from their families and study them separately.
- Indicators should cover all property of college students and graduate students.
- Over-indebtedness is a long-term continuous state.
- It is difficult to solve the debt problem by their ability.
- In order to fulfill the promise, it is necessary to reduce expenses or find ways to increase income.

Quantitative Indicators and Hypothesis

Quantitative Indicators. Despite various definitions, Keese (2009) and BIS (2010) have a high degree of recognition in over-indebtedness indicators. Their definition methods are also used to assess the over-indebtedness and the current life pressure of the college students.

Table 1   Indicators of over-indebtedness of college students

Indicator	Interpretation
Debt service cost	Students spending more than 20% of their gross monthly income on total borrowing repayments
Number of loans	Students with 4 or more credit commitments
Arrears	Students more than 2 months in arrears on a credit commitment
Subjective perception of burden	Students declaring that their borrowing repayments are a "heavy burden"

The cost of debt service measures the debt burden. With a limit on total income repayment, exceeding this limit means that the debt becomes a heavy burden. Oxera (2004) [1] believes that 50% of income is the standard to identify over-indebtedness. Exceeding this ratio, debt repayment becomes the main burden. When considering unsecured loans, this ratio is reduced to 25%, because

college students' debts are basically unsecured. 98% of college students pay for living expenses by their parents, and this is the main source of their income. 25% of college students have part-time income, while 17% of them have scholarship income. 4% of college students have asset income. Therefore, the income source of college students is very limited, mainly relying on parents. To college students, the largest proportion of expenditure is usually spent on food. Other expenses are less, so we set the cost of debt service ratio to 20%.

The number of loans measures how many loans that they have borrowed, and the DTI Task Force on Over-Liabilities (Kempson, 2002) [4] has determined that debt repayment difficulties and debt defaults were inextricably linked. As for the college students, the number of loans are reduced to two or more.

The above indicators are all quantitative indicators, and it is difficult to ensure absolute correctness when collecting data. Therefore, the most effective method is to directly ask the college students whether they think they are having difficulty in repaying their debts. At the same time, this is also the preferred method for Betti et al. (2007) [5] to study the over-indebtedness of EU countries.

Four indicators are chosen to reflect the over-indebtedness of the college students. However, college students are not independent of their family. When they are faced with debt repayment difficulties and survival pressure, they will seek the help of their parents. This situation here isn't considered.

Research Hypothesis. According to the relevant theory of over-indebtedness, combined with the living conditions of college students, the following hypotheses are listed below.

As their grade increase, the college students are closer to the society. They are more independent and they will spend more. But their incomes aren't increased too much. Therefore, *hypothesis I* is: *the higher the grade, the greater the debt pressure on college student*s.

College students are relatively independent individuals. Although their economic sources are limited, their income is stable and has impacts on debt paying ability. Therefore, *hypothesis II* is: *the lower the income of college students, the more likely they are to experience debt* pressure.

Although the college students are relatively independent, they are still dependent on their parents. Therefore, it is believed that when they borrow money, they will consider their family wealth and their parents' income. *Hypothesis III* is: *the higher the family wealth and parental* income*, the more likely the college students are to experience debt pressure.*

As to the behavior of borrowing, the degree of understanding of the borrowing process and their self-repayment ability will have impacts on their borrowing behavior. Therefore, the *Hypothesis IV* is: *the higher the level of understanding of self-repayment ability, the less the debt pressure of the college students.*

Descriptive Statistical Analysis of Sample Data

Data Sources. The data are mainly collected from Yunnan University of Finance and Economics in south-west of China, mainly the undergraduate and graduate students. The survey collected the information about gender, grade, personal income, family assets, parental income, personal debt, knowledge of debt, and other relevant information of 473 students.

Statistical Analysis. According to the above assessment criteria, the current status of college students' debt is shown in Table 2.

A is the proportion of the students' monthly debt repayments to income. A10 means that the proportion of consumers' monthly debt repayments to income is 10%.

B is the number of loans. B2 means that the students have two loans at the same time.

C is the times that the students fail to repay the debt in time. C2 means that the students fail to repay the debt two months.

D is the subjective feeling of the students' pressure to repay their debts.

Table 2   Proportions of different indicators

Indicator	Proportion of the total students	Proportion of the debtors
A10	22.3%	88.3%
A20	19.1%	66.7%
A30	16.6%	65.8%
B1	25.2%	100.0%
B2	5.9%	23.4%
B3	0.7%	3.0%
C1	2.7%	10.8%
C2	1.6%	6.3%
D	8.4%	33.3%

It can be seen from the A indicator in Table 2 that as the proportion increases, the over-indebtedness ratio of the college students has decreased slightly, but the overall change is not large. The proportion of the over-indebtedness to the debtors is very large, indicating that the debt repayment of the college students generally exceeds their own repayment ability as the results of blind consumption.

As to the B indicator in Table 2, most of the college students have only one loan, indicating that the funds they need are small, and a lending company can meet their needs. From the C indicator, it can be seen that college students generally have a good reputation, and there are few long-term overdue situations.

Overall, the over-indebtedness ratio of college students is far greater than that they perceived. According to the A20 indicator, their over-indebtedness ratio is 19.1%. According to their own subjective feelings, the over-indebtedness ratio is 8.4%. It shows that the college students lack understanding of finance. Consumption often exceeds their ability. On the other hand, some parents lack attention to their kids. When the college students encounter difficulties, they only give money to help, but they don't pay attention to why.
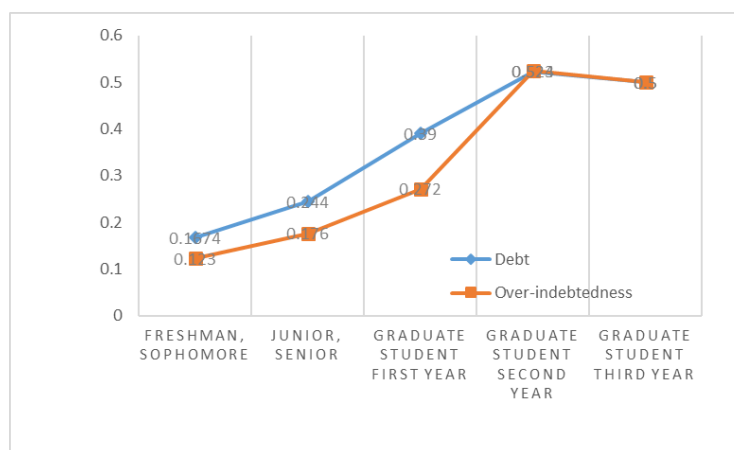

Figure. 1 Debt ratio of different grade

Based on the survey, it can be seen from Figure 1 that the debt ratio of college students is increasing along their grades. This is in line with the living conditions of college students. As the grades and ages increase, the daily expenses are also increasing. The debt and the over-indebtedness ratio both incline to a high proportion. In Figure 2, debt and are completely coincident, and students who have considered their ability to repay aren't different from those who do not consider their ability to repay. It shows that college students consider their own repayment ability when borrowing money, but their understanding of themselves is completely wrong. They have a wrong view of consumption.
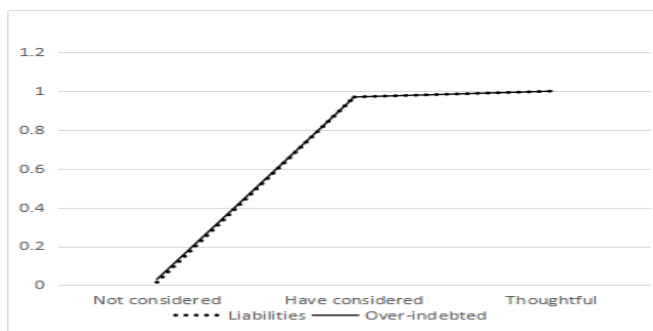
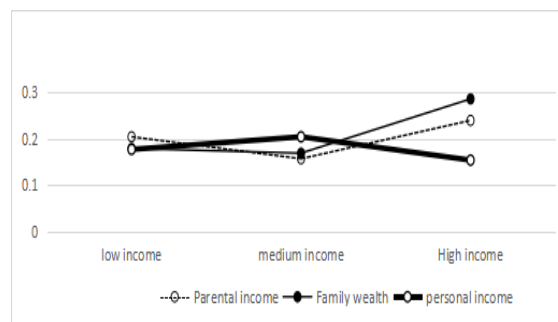Figure. 2 Debt ratio with consideration of ability

Figure. 3 Debt ratio at different wealth levels

From Figure 3, the debt ratio of college students at low and middle income levels is close to 20%, while the debt ratio of high-income college students has declined, but the decline is very limited. This is in line with the hypothesis II. When their incomes are high, their consumption also gets higher. If their family wealth and parental income are low, the debt ratio will increase. It shows that college students still rely heavily on their parents.

Empirical Analysis

Variable Selection. The main purpose of this paper is to study the debt status and factors of college students. Therefore, the variables involved include grade, monthly income, parental income, family wealth, and consideration of their own solvency. The explanatory variables selected for the study of the debt stress of college students can be divided into the following categories:

- Grades are dummy variables: 1 = first grade of undergraduate, 2 = second grade of undergraduate, 3 = third grade of undergraduate, 4 = fourth grade of undergraduate, 5 = first grade of graduate, 6 = second grade of graduate, 7 = third grade of graduate student.
- Monthly income. Since the specific data of income is difficult to measure, we select the approximate scope and set the dummy variables to evaluate the income of college students: 1 = low income, 2 = low and medium income, 3 = middle income, 4 = medium and high income, 5 = high income.
- Parental income. It is also difficult to measure their parental income specifically and also uses dummy variables. 1 = low income, 2 = low and medium income, 3 = middle income, 4 = medium and high income, 5 = high income.
- Household wealth. Household wealth is difficult to measure the value and also uses dummy variables. 1 = poor family, 2 = average family, 3 = wealthy family.
- Consideration of borrowing. The consideration of borrowing reflects the students' evaluation of their own repayment abilities. 1 = not considered at all, 2 = have been considered, 3 = deliberateness.

Logit Model. According to the research, this paper chooses the logit model to analyze the influencing factors of the debt behavior of college students. In Table 3, different model uses different criterion to judge whether the student is over-indebted or not. The criterion of Model 1 is whether the monthly repayment debt of college students exceeds 20% of their income (A20, A30). The criterion of Model 2 is whether the number of loans of college students exceeds two or more (B2, B3). The criterion of Model 3 is the subjective feelings of their debt burden (D). The criterion of Model 4 is to satisfy any one of the four criteria (A20, A30; B2, B3; C2; D).

Table 3　Logit results

Variable	Model 1	Model 2	Model 3	Model 4
Grade	0.2646** （0.7757）	0.2142 （0.1473）	0.1645 （0.128）	0.2227* （0.1186）
Monthly income	-0.2197 （0.3285）	0.4902 （0.3709）	-0.6080* （0.3583）	-0.1718 （0.3531）
Parental income	0.2713 （0.2931）	-0.0942 （0.3546）	0.4220 （0.3134）	0.1060 （0.3083）
Household wealth	-0.0687 （0.2128）	0.0204 （0.2678）	-0.0803 （0.2457）	0.1076 （0.2208）
Consideration of borrowing	2.5513*** （0.2401）	1.4757*** （0.2586）	1.7056*** （0.2322）	2.8750*** （0.2721）

Note: * is 10% confidence ** is 5% confidence *** is 1% confidence

In Table 3, model 1 and 4 shows the impact of grades on debt pressure which is consistent with hypothesis I i.e. the higher the grades, the greater the possibility of over-indebtedness. It is conceivable that as the grades rise, the demand of the college students becomes increasingly diverse, including life, study, and emotional needs. Their daily expenses increase, but their income sources are very limited; resulting in the increase in spending often exceeds the growth rate of income. So their possibility of over-indebtedness increases as the grades rise.

College students have limited sources of monthly income. The most important source is from their parents. So it is a relatively stable source of income. From Table 3, model 1, 2, 4 don't meet Hypothesis II. The results show that the monthly income of college students does not affect over-indebtedness. From this point, it explains that when the college students consume, they don't weigh their income and expense. Most consumption is impulsive.

Parental income and family wealth are important factors influencing the college students' income. However, from the model1-4 in Table 3, it is inconsistent with Hypothesis III i.e. parents' income and family wealth will not affect over-indebtedness of the college students. It means that the college students do not consider their parents' income and family wealth when they borrow. One of the possible reasons is that college students' debts are microfinances. Compared with parents' income and family wealth, they are generally small. Therefore, college students will not consider this issue when borrowing money. The other reason is that the college students are lack of understanding of finance. Some of them are overconfident in their own repayment ability.

Generally speaking, when people borrow, they will consider their repayment ability, so as to avoid over-indebtedness. However, from Table 3, when college students think about borrowing, the probability of over-indebtedness is higher. This is completely contrary to Hypothesis IV. It can be concluded that the consumption concept and understanding of their solvency are completely wrong. They are unaware that their debts are too high. It also reflects the problem of some loan companies. They often do not consider and evaluate the repayment ability of college students. This has led to various problems of over-indebtedness and even evolved into social problems. Meanwhile, the lack of social supervision institutions is another problem.

Suggestions

The blind borrowing of college students and graduate students from the online loan platform, the debt cannot be repaid, triggered a series of tragedies. It has aroused widespread concern from the society and the government. How to avoid the recurrence of the tragedies? How to solve the over-indebtedness problems? It needs to integrate the government, universities, and families to solve these problems.

Government. The lack of laws and regulations in the online lending industry has always been the biggest problem in this industry. The online lending platform has sprung up in 2012. According to statistics, to the end of October 2017, there were 5,360 online lending companies, of which only 1,779 operate normally. There are 3,527 problematic platforms accounting for 66.47% of this industry. How to supervise this industry and put this industry on the right track has become an urgent problem to be solved.

In 2009, the over-indebtedness occurred in Xavier Reille [6] of Morocco [2]. During the period of rapid growth of the credit market, many lending platforms have violated their lending policies in order to seize market share and made competitiveness increasing. More and more consumers have suffered over-indebtedness. Therefore, it is necessary to standardize the online lending platform, formulate a healthy competition system, and avoid the unreasonable expansion of the industry, and prevent the over-indebtedness crisis.

College. Colleges are places where college students acquire knowledge and skills, including financial knowledge. They should guide students to establish a correct view of consumption while imparting knowledge. Setting up a general course on finance will be helpful in guiding the college students to establish a correct view of consumption, creating a rational consumption environment, reducing the comparison behavior, and increasing anti-fraud awareness. Colleges should teach students how to distinguish between usury and how to protect their own interests. When the college students need to borrow money for business, academics, etc., they should seek a bank or a formal online lending platform. The general courses on finance are not only helpful, but also beneficial to their whole life.

The colleges should strengthen communication with students, conduct regular surveys of students' situations, understand students' life and learning, and help students solve difficulties through a rescue mechanism.

Acknowledgments

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