

Intercollegiate Difference of the National Student Loans

——Proofs from Some Universities of Shanghai

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Part 1 : Introduction

- Background of higher education reform :
 - Economic Transition: Centrally-planned economic system → dynamic market-oriented economy
- Planned economy period:
 - China imitated 'Free tuition plus allowance' policy in higher education from former Soviet Union.

Dual track system in higher education: From 1985 to 1997

- Dual track system:
 - Reforming financial aid system in 1986
 - Implementing tuition policy in 1989
 - Reforming recruitment policy
 - Resulted in enlarged tuition fee gap between
 - Gongfei Student (inside the original system) and
 - Zifei Student (outside the original system)
- The government eliminated dual track system in 1997.

College Tuition Reform and its Change

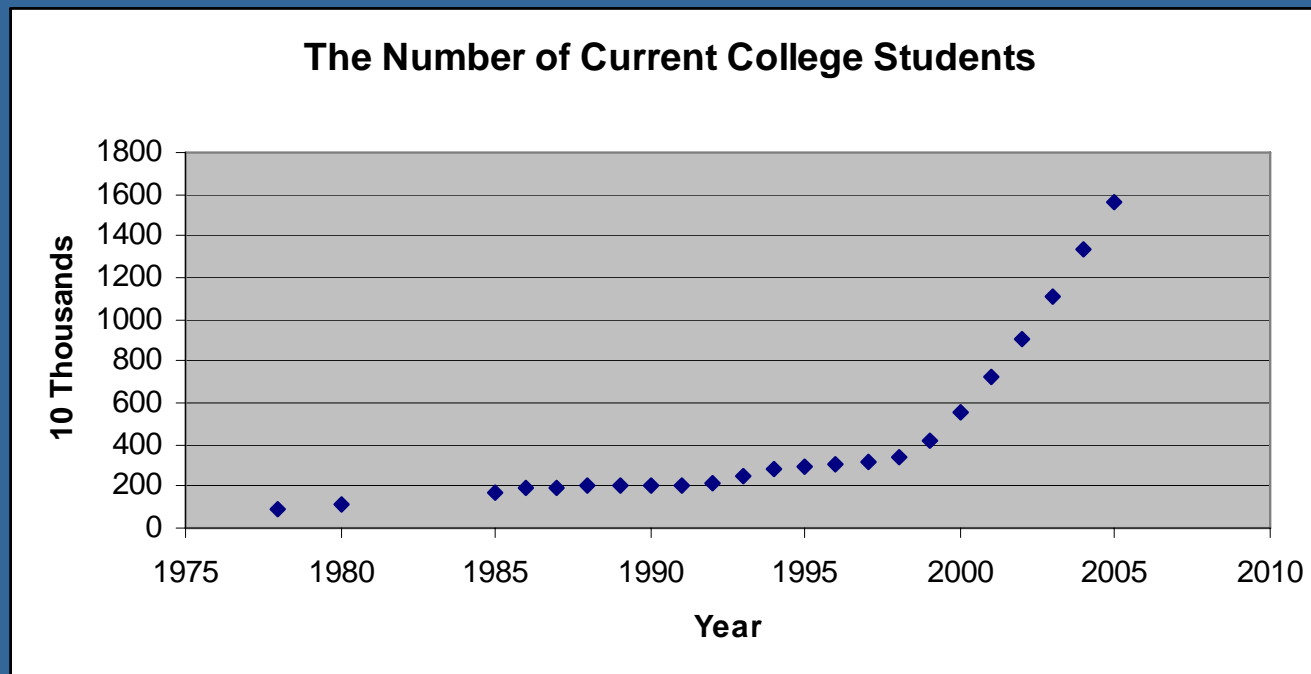
- The policy of “identical tuition charge under the same recruitment exam line” was adopted by the government in 1997.
- Tuition charge was much higher than Gongfei student but lower than Zifei student.

Year	1990	1995	2000
Tuition (RMB)	87.8	1124	3550

Tuition vs. Per capita income in 2000

- Tuition: 3550 RMB
- Urban residents: 6280 RMB
- Rural residents: 2253.4 RMB
- Tuition had taken account of 158% rural residents' per capita income
- Most important social setting:
 - Almost 2/3 population in rural China(0.6 billion) was under its per capita income(2253.4 RMB)

Total undergraduate in different year



National Student Loan Plan (NSLP)

- Implemented in 1999
- NSLP is a need based scheme.
- Government provide interest subsidization while the student borrower is in college.

Changes of the NSLP

- Unsteadiness of the NSLP:
 - 1999: it should be guaranteed by parents or relatives
 - 2001: it could be credited to applicants
 - 2003: high default rates appeared in some area and universities

Questions:

- Whether the National Student Loan (NSL) has really been lent to the needy student since 1999?
- Are there any different results in the National Student Loan between universities?

Part 2 Theoretical hypothesis

2.1 Factors that affect NSL

- **Family income**
- **Policy factor: embodied in graduation year**
- **Human capital signal: university, GPA, gender, character, party member**
- **Social background: Hukou, parents' education level**

2.2 Table 1: Definition of Variables

loan	Dummy variable. Respondents who had borrowed student loan upon graduation are coded as '1'; otherwise, individuals are coded as '0'
university	Dummy variable. Fudan=1; USST=0
eduy	Year of Graduation, respectively in year 2001, 2002, 2003 and 2004
gender	Dummy variable. Female=1; Male=0
hukou	Dummy variable. Urban resident=1; rural resident=0
party	Dummy variable. CCP member=1; others are coded as '0'
char	Introversion=1, extroversion=3; others between introversion and extroversion are coded as '2'
GPA	Continuous variable. The higher point, the better performance
faedu	Continuous variable. Father's education level
maedu	Continuous variable. Mother's education level
faminc	Continuous variable. Monthly parents' income of the family



2.3 Hypothesis

- NSL will be in inverse proportion to family income
- With the propagation of NSLP, NSL will be in direct proportion to the graduation year.
- Human capital view:
 - NSL will be in direct proportion to university reputation, GPA, character and party member
 - NSL will be inversely proportional to gender
- Social background view:
 - NSL will be in inverse proportion to Hukou and parents' education level

Part 3 : Data, Model and results

● 3.1 Sample data

1、 Objective of investigation:

- College graduates of Fudan University from 2001 to 2004;
- College graduates of University of Shanghai for Science and Technology (USST) from 2001 to 2004

2、 Method:

- Random sample according to the student identification number.
- Survey was taken from January to June in 2004 through email or paper questionnaire.
- We have sent out to 1,300 graduates and drawn back 1182 questionnaires.

3.2 Probit Model

- We establish an econometric model according to theoretical hypothesis.
- Loan is response/explained variable.
 - If loan=1 → graduate had obtained NSL;
 - If loan=0 → graduate had not obtained NSL.

Probit Model Explanatory Variables

- Explanatory variables:
 - family income,
 - year of graduation
 - Human capital view: university, GPA, character, party member, gender
 - Social background view: hukou, parents' education level
 - See [table 1](#).

3.3 Table 2: Probit Model Results

explained variable: loan			
explanatory variable	Overall Equation	Fudan Equation 2	USST Equation 3
probit			
university	0.914 (0.123) ***		
eduy	-0.099(0.056)*	-0.256(0.070) ***	0.223(0.125)*
female	-0.326(0.107)***	-0.309(0.127) **	-0.190(0.232)
hukou	-0.446(0.139) ***	-0.430(0.179)**	-0.241(0.274)
party	0.122(0.123)	-0.083(0.153)	0.589(0.241) **
char	0.088(0.084)	0.320(0.101) ***	-0.515(0.196) ***
gpa	-0.009(0.439)	-0.009(0.056)	-0.099(0.092)
faedu	-0.022(0.015)	-0.018(0.017)	-.021(0.041)
maedu	-0.070(0.021) ***	-0.051(0.025) **	-0.120(0.049) **
faminc	-3.52e-07 (3.99e-06)	-0.0001136(0.0000291) ***	0.0000111(4.70e-06) **
constant	197.793(112.999)*	512.033(139.302)***	-446.224 (250.385)*
Log likelihood	-391.43802	-278.17511	-86.21963
Pseudo R-square	0.1459	0.1689	0.1638
Sample 2	1022	634	388

explanation: 1、 parentheses inside denote standard error (se);

2、 * denotes 10% significance level; ** denotes 5%; *** denotes 1%

2 Stata automatically deletes those untire datum because there are datum loss in the total 1182 sample.



3.4 Findings

- 3.4.1 overall equation test:
- 1. Whether college students obtain NSL is not related to family income.
- 2. University reputation is the most important factor to affect NSL.
- 3. Gender, hukou and mother education are significant and consistent with hypothesis. The graduation year is significant but not consistent with hypothesis.
- 4. GPA, party member, character and father education are not significant.

3.4.2 Fudan equation 2 & USST equation 3

- We find there exists a large intercollegiate difference in the National Student Loans. In order to find something more, we establish two separate equations. Please see [table 2](#).
- **Our findings are poles asunder: needy students in Fudan had really obtained the NSL, but those in USST had not.**

3.4.3 Findings from Fudan's equation

- (1) Needy person is much easy to get the NSL.
- (2) The graduation year is not consistent with hypothesis, but It is consistent with policy variability.
- (3) Gender, character, hukou and mother's education are statistically significant and consistent with our hypothesis.
- (4) GPA, party member and father's education are not significant. (Table 2)

3.4.4 Findings from USST equation

- (1) NSL is positively significant with family income.
- (2) NSL is direct proportion with the graduation year.
- (3) Party member is more statistically significant in the equation.
- (4) Character factor is negatively significant but it is not consistent with our hypothesis.

Mother's education is statistically significant and consistent with our hypothesis.

- (5) Some factors (e.g. GPA, gender, hukou, father's education) are not statistically significant. (Table 2)

Part 4 : Analysis on the intercollegiate difference of the NSL

- **First**, The main factors that affect lending behavior of commercial banks are different human capital signals among different universities' students.
- Commercial banks begin to chase after ...
 - Those needy students from good reputation university who have good ability to repay.
 - Those party member students in ordinary universities who might have willingness to repay.

The second reason that might result in intercollegiate difference of the NSL

- **Second, there might be different borrowing behavior among different universities' students.**
 - In Fudan, needy students have obtained loan because they have good income expectation.
 - In USST, needy students have not obtained loan because they might have no intention to borrow money, and/or they worry about repayment, and/or they might have no useful policy information.

Part 5 : Conclusion and implication

- Intercollegiate difference might be resulted from the interactions between
 - Lenders' behaviors (commercial banks) and
 - Borrowers' behaviors (different college students).
- Policy implication:
 - Propagandizing NSL policy in high schools.
 - Exploring effective repayment mechanism.
- Problem that exists in the paper might be the small sample size.

Celebration and Memory

- To celebrate the centennial anniversary of USST on Oct. 28, 2006
- In memory of Dr. Liu Zhen-en (1896-1938), an alumnus of Columbia University, the first Chinese president of Hu Jiang University.