Incentives in Student Loan Payment Policies

Word Count: 3003

Table of Contents

Literature Review

Introduction

Due to today's competitive global market more students are trying to go to college. Between 2007 and 2010 the total postsecondary enrollment, college enrollment, increased by 15 percent. While that may sound like a beneficial thing at first, a problem arises when it comes to paying for college tuition. Many students use student loans as a mean to pay for their collegiate education. These students are more likely to default if their financial benefit from defaulting is higher than making a payment toward their loans **(**Yannelis, 2017). A default is a failure to make an on-time payment for 270 days (Yannelis, 2017). This can be seen in the fact that the current outstanding education debt is $1.3 trillion, surpassing all other consumer debts (Federal Bank of New York, 2016). Thus, if the current borrowing practices continue the education debt will continue to grow (Baum, 2017). According to experts, large amounts of student debt can cause the country to fall into a financial crisis and recession similar to the one in 2007 (Akers and Chingos, 2016). In addition, student loan debt leads to less consumer spending, because individuals who have to make student loan payments have less to spend on the economy (Akers and Chingos, 2016). Therefore, it is essential that the current education debt be lowered. A potential solution to lower the current education debt is to incentivize students, so they do not default on their loan payments. However, no research has shown what incentive is most effective in motivating students to continue to make on-time payments toward their loans. Therefore, it is necessary to find which incentive motivates students and adopt them to allow for students to make easier loan payments more accessible.

This literature review will introduce federal loans and show why a majority of students choose to use them, proving how vital it is to adapt current policies. It will also emphasize that federal loan policies fail to incentivize students to make payments towards their student loans, causing them to default. In addition, it will depict how incentives boost a student's behavior, proving it is necessary to incentivize students, in order to encourage them to enroll into payment plans that provide them with a greater ease of repayment.

Why Federal Loans are Popular

Put simply, federal loans are student loans that are funded by the federal government. A majority of students use federal loans to pay for their loans than any other from of financial aid. Federal loans are very popular because of their fixed interest rates, a interest rate on a loan regardless of the current market (Federal Student Aid). This allows for a greater stability for students because they know exactly how much they will have to pay in loans. From 2011-2012, 52% of full-time students used federal loans in order to pay for their collegiate education ("The College Board", 2017). Thus, experts consider federal loans to be the most effective way to borrow for a collegiate education (Belfield, 2013).

Another advantage federal loans provide is that students do not have begin repaying their loans until they graduate school, which allows them to be economically stable before starting to pay their loans. Furthermore, federal loans allow students to have greater success because the students are not restricted by massive amounts of debt before they begin their professional career. This means federal loans enable students to avoid the burden of the up-front payments, and allow them to wait until have higher pay due to their university graduation (Shen and

Ziderman, 2009). Thus, both of these sources come together to emphasize how federal loans ease the burden on students at the time of learning, while providing an increased chance of economic success after college. Therefore, studies prove federal loans are the most effective way to borrow for college because they allow for students to have a greater chance of success (Belfield, 2013 & "Federal Student Aid", 2017 & Shen and Ziderman, 2009).

Federal loans give students distinct advantages in their collegiate and professional careers, as mentioned above. This makes them a prime candidate for students, proving why a majority of students use federal loans to pay for their collegiate education. However, if current practices continue, the education debt will grow, due to the increasing amount of students using federal loans as a method to pay for their education (Baum, 2017).

Current Policies

The federal government has a vast number of payment plans available to students, in order to make their payments easier and more flexible. However, all students get put into the same plan in the beginning, regardless of their ability to pay their loans. This plan is a fixed monthly payment plan that spans 10 years (Baum, 2017). The fixed plan tends to have the highest number of defaults, due to its rigid guidelines, and no room to adapt to the student's economic situation (Dymarski, 2014).

Currently, the United States government has repayment policies in place, in order to ease the burden of large amounts of debt on students and ensure that they continue to pay off their debts. One of the policies that is put into place is income driven repayment (Yannelis, 2017 & Baum, 2017). Income driven repayment (IDR) allows for a percentage of a student's earnings to

be garnished by the federal government to collect on defaulted student loans. This policy changed the way many students paid their loans and introduced a new type of insurance on student loans (Yannelis, 2017). The Obama administration added new plans that made payments easier on students. The monthly payments were lowered to 10% of discretionary income and the outlying balance was forgiven in 20 years (Yannelis, 2017 & Baum, 2017 & Dynarski, 2014). Therefore, by the age of 38 students can be debt free, while not having completely paid off their entire loan. There are many versions of the IDR, that students can use to their benefit. These policies not only help students, but also help the government collect money more efficiently (Yannelis, 2017).

Another incentive that is a major factor in student loan policy is bankruptcy protection. Bankruptcy protection allows for students to discharge their student loan debt by filing for bankruptcy. Prior to 1998 student loans were able to be discharged in bankruptcy after seven years of continuous payment. This provided borrowers with an option to discharge their debts to provide security (Ionescu, 2011). Bankruptcy protection increases an individual's incentive to work and prevents any drops in consumption (Dobbie and Song, 2015). However, high default rates in the 1980's led to a new policy that made student loans nondischargeable (Ionescu, 2011 & Yannelis, 2017). This increases the economic burden on students because they are not able to discharge large portions of debt that economically handicap them. Therefore, the policy provided many advantages for borrowers, however its abuse led to its demise.

Why Current Policies are Ineffective

Current policies have not taken into consideration very crucial information. These policies do not recognize the timings of cost and when benefits of education normally begin to impact students (Dynarski, 2014). In other words, federal loan policies began payments soon as one graduates college. On the other hand, research shows that a student's default rate drops sharply with age (Institute for Higher Education Policy, 2011). Therefore, by the time borrowers are 45 their default rate is 12%; while borrowers under 21 have a default rate of 28%. This is due to the age profile of earnings. A person's earnings are lowest when they come out of college and generally grow as they get older. Therefore, if current policies waited longer to begin collecting on debts they would be able to collect a greater amount of the loans in the 20 year span (Dynarski, 2014).

In addition, the countless number of policies that students have available to them cause them to be unsure as to which repayment plan to choose. In other words, it is difficult for borrowers to navigate through all the repayment options available to them to select the best one for them (Dynarski, 2014 & Baum, 2017). The number of borrower in more flexible payment plans are much lower than those that default represents the problem with the current system (Dynarski, 2014). In order to become enrolled inflexible payment plans, borrowers must document their income and renew that documentation annually (Baum, 2017).

Conclusion of Literature Review

These complications exemplify the need to adapt current policies in order to increase the amount of borrowers in more flexible payment plans. By doing so, borrowers have access to flexible policies that give them options to ensure their economic security. This leads to the

question: How can students be further incentivized to enroll into more lenient payment plans, thus lowering the amount of defaults?

Methodology

Introduction

In order to find an effective response to the research question a meta-analysis approach was determined to be most effective. A meta-analysis is designed to deal with large amounts of empirical studies, that often have different results. When isolating a specific variable, a meta-analysis reviews the impact a given variable has on a specific group through the combination of different studies. In this case, a meta-analysis was used to find the incentive that has the greatest impact on students and can be applied to student loan policies. Since, the research focuses on looking at the effectiveness of a specific type of incentive on the repayment of student loans, a meta-analysis approach allows for the isolation of certain incentives from various studies.

First, 10 studies were selected from databases such as EBSCO and JSTOR. Then, the following criteria was used to narrow down the studies and find the optimal experiments to include into the meta-analysis.

Criteria

When conducting a meta-analysis it is essential that the studies included in the meta-analysis have similar experiments. The studies were selected based on the following criteria:

I. The study must conduct an experiment thats primary goal is to evaluate whether an incentive is effective on a group of students, or research which incentives prove more useful than others.

II. The control group of these studies must be a group of non incentivized students.

III. The study must have an independent variable that is an incentive.

IV. For research purposes, the data must include a mean for the controls and the independent variable, as well as the standard deviation for both. This allows for an accesibile input into the meta-analysis software.

After the following criteria was applied to the a group of studies, only 4 studies experiments were included into the meta-analysis (see Appendix II).

Research

The variable isolated in the meta-analysis is the independent variable in the experiments. In other words, the meta-analysis will evaluate which incentives have the greatest impact in motivating students by comparing different experiments, which use different incentives. The studies will then be inserted into a meta-analysis software that will state their heterogeneity, or similarity among the studies. The software will also state the scientific accuracy (p-value) of the meta-analysis, proving whether the data concluded is accurate. The mean and standard deviation of the independent variables were placed into section A; the control groups' data was placed into section B (see Appendix III). The results were reported in "maximum likelihood" because they can prove a relationship among the studies, and further validate the results of the meta-analysis.

Results and Analysis

The meta-analysis studied the impact of incentives on a population. Four studies, selected due to their homogenous methods and data, were investigated to see the impact monetary incentives have on different populations. The meta-analysis reported that monetary incentives were the most effective in increasing student's motivation. As previously stated, the meta-analysis software reports the homogeneity between the studies, proving that a common theme exists.

The results were reported through a forest plot. A forest plot is often used to depict the similarities among studies and provides the best method of synthesis. In a forest plot the horizontal line is known as the line of null effect, or the point where there is no statistical significance of the results. As seen in figure 1, none of the studies crossed the line of null effect, proving that the studies themselves are effective in conducting their own study and further authenticating the results. The p value of the homogeneity between the studies was 0.001<, meaning that the studies extremely similar in their experimental components, such as their control group and independent variable. This increases the validity of the research because the studies included into the meta-analysis were statistically proven similar.

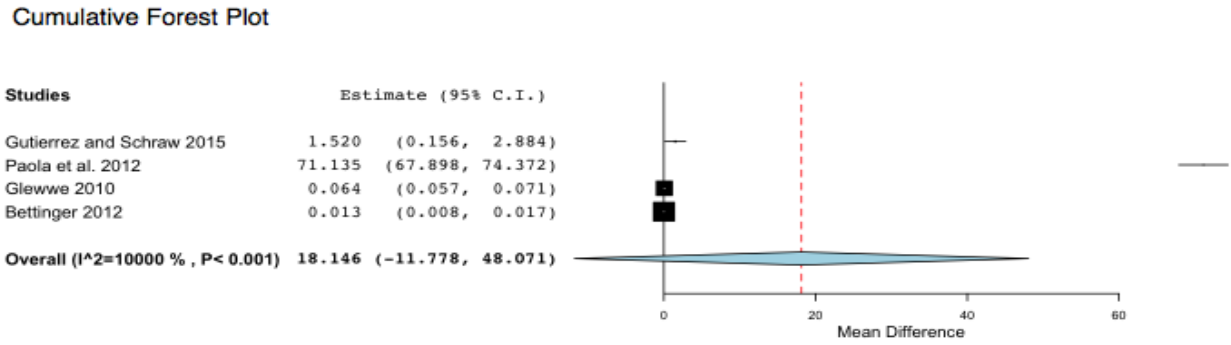
The left side of the line of null effect means that the studies favor the independent variable, in this case the incentive. A majority of the studies favor the independent variable. To be specific, 3 out of the 4 studies have a common theme: monetary incentives increase performance and spur motivation. This is quite significant because the study with the largest population favors the independent variable, thus proving the positive impact incentives have on a

performance. In addition, the horizontal lines of either three of the studies do not cross the line of null effect, emphasizing how the studies support the use of incentives.

The right side of the line of null hypothesis favors the control. One study (Paola et al.) favored the control group, proving that monetary incentives have no impact on students. Due to its large influence on the result, it swayed the average outcome, to become insignificant. In other words, the results of this study favored the control so heavily, that it swayed the entirety of the research to becoming inconclusive. However, as seen in figure 1, the study uses a small study sample, seen through the small scale of the box, which mitigates its results.

One of the most important parts of a forest plot is the diamond at the bottom of the graph. The diamond represents the estimates of all the studies combined and averaged. Similar to the studies themselves, if the horizontal tips of the diamond cross the line of null effect, the combined result is not statistically significant. In this case, the diamond passes the line of null effect, lowering the statistical significance of the meta-analysis. This means that, contrary to my results, there is no difference between those who are incentivized and those who are not. A likely reason for this is due to Paola et al. whose results are dramatically different than the others, by heavily supporting the control group.

Figure 1



Although the results of the meta-analysis are inconclusive there are many results that can be drawn. Through the meta-analysis there is a common theme, albeit inconclusively. When students are exposed to monetary incentives their performances increase, stimulating growth. Therefore, the meta-analysis concluded that monetary incentives are the most stimulating to students, in the sense that they motivate students to take action.

Limitations

This research, unfortunatly, faced certain limitations. Due to the shortened timeline of this research, there were not enough studies included into the meta-analysis. Therefore, each study had a large weight into the final outcome. However, if more studies were included then each study would make up a smaller portion of the combined result, and the studies with drastically different results would not sway the results as much. This likely contributed to the combined result crossing the line of null hypothesis, making the result statistically insignificant.

Furthermore, the studies in the meta-analysis had to use similar experimentation in order to be included into the research. Due to this, studies that measured the impact of incentives, but did not adhere to the criteria could not be included into the research even though they could have increased the sample size. Thus, the incentives that are a result are based off of the studies included in the experiment and therefore, cannot represent a total population.

Conclusion

As stated earlier, the results of the meta-analysis research reveal, albeit inconclusively, incentives have a impact on students. In other words, monetary incentives spur students' behavior. Therefore, monetary incentives are a method to increase the amount of students into lenient plans, which help the students. Monetary incentives impact on subjects have been tested in the research and there are overlapping findings that depict the power of these incentives.

After having conducted a meta-analysis and a statistical analysis on the data presented, it possible to answer the question "how can incentives impact a students behavior regarding their payment plans." As seen through 3 of the 4 studies, monetary incentives increased the performances and motivation of the subjects, regardless of what they were measuring. Therefore, the use of monetary incentives can prompt students to begin researching new payment plans. By utilizing monetary incentives the government can potentially motivate students to consider other payment plans than the regular payment plan. This can in turn lead to students being able to enroll into payment plans with greater flexibility, which allow the government to collect money more efficiently.

These findings are only valid for the studies selected in the meta-analysis and cannot be used to prove larger trends. The research presented was not completely conclusive, due to the fact that the combined analysis did not prove there was a difference between those incentivized to those not. There are a number of explanations for this contradiction. One explanation is that there is no difference between those exposed to incentives

Further Discussion and Significance

These findings lead to future directions of research that allow for experts to further investigate the impact of incentives on student loan policies. The fact that the findings of this research are not statistically significant means that future researchers have to keep certain ideas in mind. For instance, when furthuring this research it is essential that it is able to apply to the general population. To do this, researchers should include a greater number of studies in their research allowing them to increase the sample size. A larger sample size would help understand if incentives can boost student motivation into lenient payment plans. If these incentives are implemented, then the enrolment of students into flexible payment plans can increase, can in turn lowering the $1.3 trillion outstanding education debt.

Appendix I: References

Akers, B., & Chingos, M. M. (2018). *GAME OF LOANS: The rhetoric and reality of student debt*. S.l.: Princeton University Press.

Average Aid per Student over Time. (n.d.). Retrieved April 04, 2018, from https://trends.collegeboard.org/college-pricing/figures-tables/average-aid-student-over-time

Baum, S., & Chingos, M. (2017). Reforming Federal Student Loan Repayment: A Single, Automatic, Income-Driven System. Urban Institute.

Belfield, Clive R. "Student Loans and Repayment Rates: The Role of For-Profit Colleges." Research in Higher Education, vol. 54, no. 1, 2013, pp. 1–29. JSTOR, JSTOR, www.jstor.org/stable/23355357.

Dobbie, W., & Song, J. (2015). Debt Relief and Debtor Outcomes: Measuring the Effects of Consumer Bankruptcy Protection. *The American Economic Review, 105*(3), 1272-1311. Retrieved from http://www.jstor.org/stable/43495417

Dynarski, S. (September 2014). An Economist's Perspective on Student Loans in the United States. ES Working Paper Series.

Federal Student Loan Default Rates by Sector over Time. (n.d.). Retrieved April 04, 2018, from https://trends.collegeboard.org/student-aid/figures-tables/federal-student-loan-default-rates-sector-over-time

Ionescu, Felicia. "Risky Human Capital and Alternative Bankruptcy Regimes for Student Loans." *Journal of Human Capital*, vol. 5, no. 2, 2011, pp. 153–206. *JSTOR*, JSTOR, www.jstor.org/stable/10.1086/661744.

The Institute for College Access and Success. (2017, December 22). Retrieved April 04, 2018, from https://ticas.org/special-topics

Institute for Higher Education Policy (2011). Delinquency: the Untold Story of Student Loan Borrowing.

Looney, Adam and Constantine Yannelis. "A Crisis in Student Loans? How Changes in the Characteristics of Borrowers and in the Institutions They Attended Contributed to Rising Loan Defaults." *Brookings Papers on Economic Activity*, 2015, pp. 1–68. *JSTOR*, JSTOR, www.jstor.org/stable/43752167.

Miles Barbara, and Dennis Zimmerman. "REDUCING COSTS AND IMPROVING EFFICIENCY IN THE STUDENT LOAN PROGRAM." National Tax Journal, vol. 50, no. 3, 1997, pp. 541–556. JSTOR, JSTOR, www.jstor.org/stable/41789280.

Shen, Hua, and Adrian Ziderman. "Student Loans Repayment and Recovery: International Comparisons." Higher Education, vol. 57, no. 3, 2009, pp. 315–333. JSTOR, JSTOR, www.jstor.org/stable/40269125.

Appendix II: Studies Included in Meta-analysis

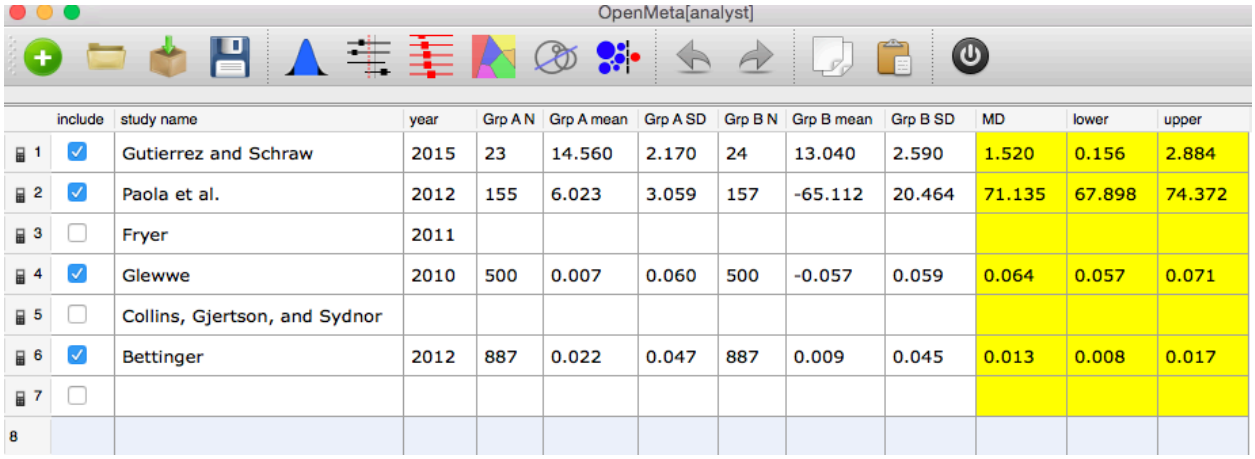
Bettinger, E. (2012). PAYING TO LEARN: THE EFFECT OF FINANCIAL INCENTIVES ON ELEMENTARY SCHOOL TEST SCORES. *The Review of Economics and Statistics, 94*(3), 686-698. Retrieved from http://www.jstor.org/stable/23261472

De Paola, Maria, et al. "Monetary Incentives and Student Achievement in a Depressed Labor Market: Results from a Randomized Experiment." Journal of Human Capital, vol. 6, no. 1, 2012, pp. 56–85. JSTOR, JSTOR, www.jstor.org/stable/10.1086/664795.

Glewwe, P., Ilias, N., & Kremer, M. (2010). Teacher Incentives. *American Economic Journal: Applied Economics, 2*(3), 205-227. Retrieved from http://www.jstor.org/stable/25760225

Gutierrez, Antonio, and Gregory Schraw. "Effects of Strategy Training and Incentives on Students' Performances, Confidence, and Calibration." *Journal of Experimental Education*, vol. 83, no. 3, 2015, pp. 386–404. *EBSCO*, Academic Search Complete.

Appendix III: Meta-Analysis Software



	include	study name	year	Grp A N	Grp A mean	Grp A SD	Grp B N	Grp B mean	Grp B SD	MD	lower	upper
1	☑	Gutierrez and Schraw	2015	23	14.560	2.170	24	13.040	2.590	1.520	0.156	2.884
2	☑	Paola et al.	2012	155	6.023	3.059	157	-65.112	20.464	71.135	67.898	74.372
3	☐	Fryer	2011									
4	☑	Glewwe	2010	500	0.007	0.060	500	-0.057	0.059	0.064	0.057	0.071
5	☐	Collins, Gjertson, and Sydnor										
6	☑	Bettinger	2012	887	0.022	0.047	887	0.009	0.045	0.013	0.008	0.017
7	☐											
8												

http://www.cebm.brown.edu/openmeta/doc/openMA_help.html#self*

*This site contains the meta-analysis software

Appendix IV: Graphs

Figure 1