

## **James McAndrews: Student debt and higher education financing – a public finance perspective**

Remarks by Mr James McAndrews, Executive Vice President and Director of Research of the Federal Reserve Bank of New York, at the National Association of College and University Business Officers, at the Waldorf Astoria, New York City, 5 February 2015.

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*Accompanying slides can be found at the end of the speech.*

Good afternoon. I'm happy to be here and to have the opportunity to share with you some thoughts on the subject of financing higher education in the United States. The remarks I make reflect my own views, and not those of the Federal Reserve Bank of New York or of the Federal Reserve System.

Some of you may be wondering why the research director of a central bank is particularly interested in the way we as a nation pay for college. The answer, of course, is that we are gaining an increasing understanding that how we finance post-secondary education has important effects on a variety of critical economic outcomes, including economic growth and inequality. It's this realization, combined with the fact that the outstanding student debt balance has now surpassed \$1 trillion, which has brought increased attention and discussion to the question of education finance.

First, I'd like to acknowledge the work and research of Meta Brown, Rajashri Chakrabarti, Andrew Haughwout, Donghoon Lee, Joelle Scally, and Wilbert Van der Klaauw in preparing these remarks.

I'm an economist, so I'd like to start by discussing the economics of higher education finance as I see them.

The first thing to make clear is that the evidence strongly supports the view that a college degree, while expensive, is a worthwhile investment not only for the individual receiving the education but also for society as a whole.

For individuals, the expected benefit-cost ratio of a college degree is well over 1.0 and growing. Indeed, while more people are attending college over the last thirty years, college graduates on average earn 80 percent more than those without a college degree, and are far less likely to be unemployed, regardless of the phase of the business cycle. Of course both effort and what we might call academic acumen are likely to play a role in a prospective student attending a better college, and whether the student completes a degree, and so this figure may overstate the value of college itself to any particular prospective student. But careful work in economics has demonstrated that even after we control for talent, college is worth it for most, but not necessarily all, students.

Part of the reason for the increasing importance of college is a result of what economists call skill-biased technological change. The idea is that the kinds of technologies that are increasingly influencing the workplace tend to favor people with more education. The personal computer, for example, is a great tool that enhances the productivity of people with lots of education, while it may actually be a substitute for unskilled labor. In addition to its effect on earnings, higher education improves one's quality of life by improving other outcomes, like health.

Even when the large net benefit of college attendance is accurately perceived, there are significant financial constraints on many families' ability to finance a college education. After all, the costs of college are concentrated in a few years at the very beginning of a career, while the benefits are spread out over a long period that comes later. Borrowing is a natural solution to problems like these, but there is limited enforceability of uncollateralized debt

contracts and the private sector may be willing to provide less than the optimal amount to support good educational outcomes.

In this environment, even optimal private debt contracts will not account for the second important part of the benefit of higher education: that which accrues to society as whole. Better-educated workers are higher paid and so pay more taxes, and they have a lower incidence of dependency on programs like unemployment compensation and welfare. There are positive spillovers from educated workers to others, raising aggregate productivity. Better-educated workers produce more innovation and are more civically engaged. In a democracy we are all better off when our fellow citizens understand the issues facing the country.

Overall, a more skilled workforce is beneficial to us all. In addition, higher education is an important export industry in which the US holds a significant comparative advantage. This produces a better understanding among foreigners of the US and vice versa.

All of these social benefits mean that there is an appropriate role for the public sector in helping to finance higher education. The best policy would align the social and private benefits of attending college, and would find a way to relieve the liquidity and credit constraints that families face. Finally, the best policy would direct scarce educational resources toward those matches between student and institution that are likely to yield the best educational outcomes. The best matches avoid regrettable dropouts or degrees granted with little to show in the way of educational attainment or career prospects, or similar bad outcomes.

In considering what the proper public role should be, it's useful to think about an extreme case. In Europe, higher education has traditionally been essentially 100 percent publicly funded. This results in big subsidies for people – mostly wealthy people – who would have gladly paid for college if they had to. Making college free also means that there will likely be excess demand for the fixed number of seats at high quality institutions. Either this demand has to be rationed, or quality will have to fall. Neither choice is particularly attractive. In fact, excess demand and growing costs have put severe pressure on the European model for financing higher education, and European countries are now gradually moving away from the old system, introducing income-based tuition fees and loans to help restrain rising costs and expand access to higher education to more social groups.

In the US, we've used a more complicated system that has several major elements. First, we have public universities whose tuitions are less than the full cost of providing the education, with the difference made up by state taxpayers. This can align the public and private benefits in the long run, but won't by itself mitigate the liquidity constraints that families face. Also, as I will discuss in more detail later, it puts public universities at the mercy of the business cycle.

Second, we offer Pell grants to families with limited means to pay for college. We also use the income tax system to reduce the cost of attending up to four years of college for people with incomes below a certain threshold. These subsidies, which operate like vouchers since they can be used at lots of different colleges and universities, serve to align private and social returns and relieve liquidity constraints. Because they are related to income, they also potentially have the additional important benefit of reducing inequality.

The final major element of our system is loans. These relieve the liquidity constraint, but they don't necessarily contribute to aligning the private and social returns to higher education.

Since student loans are currently receiving a huge amount of attention, and since the New York Fed has been a leader in providing information about the sector, I'd like to spend the rest of my time discussing what I see as the main issues with student debt and what to do about them.

## Issues with student debt

Student loans seem like a good part of the solution, but over the past decade our reliance on loans for funding higher education has increased and we are learning that they have many problems and implications we had not sufficiently understood or considered. As shown in **Chart 1**, between 2004 and 2014, the total student debt in the US tripled from \$364 billion in 2004 to \$1.16 trillion in 2014. Expressed in annual terms, this means student debt increased by an average of 13 percent per year. As shown in the chart, among the various types of household debt, student debt is unique. While balances on all forms of household debt – including mortgages, credit cards, auto loans, and home equity lines of credit – declined during and after the Great Recession, student debt has steadily risen. In 2010, student debt surpassed credit cards to become the second largest form of household debt after mortgages whereas prior to 2008, student debt was the smallest form of household debt.

Our research indicates that this increase in aggregate debt was due to increases in both the number of borrowers as well as increases in the average balance per borrower. Between 2004 and 2014, the number of borrowers increased by 92 percent from 23 million borrowers to 43 million. In the same period, average debt per borrower increased by 74 percent, from about \$15,000 to \$27,000. With respect to the rise in the number of borrowers, we find that a steadily increasing share of young people are taking out student loans: in 2004, only about 27 percent of 25 year olds had student debt while 9 years later, in 2013, the proportion of 25 years olds with student debt had increased to about 45 percent.

There are several explanations for these increases. First, more people are attending college<sup>1</sup>. Second, students are staying in college longer and attending graduate school in greater numbers, and loans to finance graduate study have become more readily available. Third, competing non-education sources of credit such as home equity loans and credit card debt have imposed tighter underwriting standards, and generally have become less available since 2008. A fourth reason is the slow repayment rate on these loans, which I will discuss in more detail a little later. But another important reason for the increase in overall student debt, which I will discuss first, is the significant growth in the cost of a college education during the period<sup>2</sup>.

Federal and State funding of subsidized higher education is heavily reliant on tax revenues and competes with other forms of public spending, and within education budgets competes with pre-school, elementary and secondary education spending. During the recession we saw severe revenue declines at the federal and state levels. Being highly credit constrained, with university subsidies being part of operating budgets which must be funded with current tax revenues, many states cut planned education funding while allowing public universities to increase tuition levels. This in turn contributed to a significant shift of education cost to students and parents.

In research conducted at the New York Fed, we found that since 2007 those states with the largest funding cuts also had the highest tuition increases, with an average annual tuition growth rate of 3.4 percent. As shown in **Chart 2**, this compares to an annual average tuition growth rate of 1.7 percent during the 2007–2010 period for all other states combined. That is, we observe an economically meaningful relationship between public funding and public institution tuition changes since 2007.

Higher tuition has forced many students to take on larger student loans. Student debt and tuition increases were not limited to public institutions. Research conducted at the NYFed found that over the same period there was even larger tuition and student loan growth at for-profit institutions. [**Chart 3**] Despite larger average support through Pell grants, with tuition

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<sup>1</sup> National Center for Educational Statistics, 2012. “Digest of Education Statistics”.

<sup>2</sup> College Board, 2013. Trends in College Pricing, last accessed February 5, 2015.

levels more than double those at public institutions, average net tuition and average loan sizes were considerably higher at for-profit educational institutions. In addition, a much larger proportion of students at for-profits took out subsidized direct loans. [**Chart 4**]

Returning now to the surge in aggregate student debt, an increase in borrowing for college is not by itself a concern, given the high average lifetime payoff to college. In fact, in part the increase in debt reflects an arguably sensible increase in educational investment during a period of weak labor market opportunities. However, the growth in debt has important implications for the overall economy, and there are several worrisome aspects of the increase in student debt. Many of these problems have to do with the high rates of delinquency and default on student debt, and the generally low repayment rates on these loans.

Over the past eight years there has been a considerable increase in payment difficulties for student loan borrowers. The most common measure of inability to meet the debt obligation is the proportion of borrowers 90 days or more past due on their payments. We refer to this as the “measured delinquency rate.” As of the fourth quarter of 2014, about 17 percent, or 7.3 million borrowers, were 90 days or more delinquent on their student loan payments; see the left panel of **Chart 5**. There was a strongly increasing trend in delinquency between 2004 and 2014, with measured delinquency rising from an overall rate of less than 10 percent in 2004 to 17 percent in 2014.

The measured delinquency rate on student debt is currently the highest of any consumer debt product, although for most of the last decade credit card delinquency was even higher. Nonetheless, the measured delinquency rate is somewhat misleading, and the effective delinquency rate as we define below, on student debt is even higher. As noted above, in 2014 the measured delinquency rate among the 43 million borrowers was 17 percent. But many of the remaining 83 percent in fact were not paying down their loan balances. While 37 percent did reduce their balance from the previous quarter by at least one dollar, 13 percent of borrowers had the same balance as the previous quarter. A full 33 percent of borrowers actually saw an increase in their balance. In other words, 46 percent of borrowers were neither delinquent nor paying down their loans.

Those borrowers whose balances did not decline are likely not yet in the repayment cycle, meaning that they were either still in school, in deferral, or in a forbearance period delaying their regular payments. This group may also include some borrowers who participate in income-based repayment plans and make only small payments, which are often insufficient to cover the accumulated interest. In order to have a more accurate picture of the delinquency rate, we calculate the “effective delinquency rate” by excluding this 46 percent of borrowers not in repayment; the result is shown in the right-hand panel of **Chart 5**. This effective delinquency rate is nearly double the measured delinquency rate, with almost one-third of borrowers in repayment being delinquent on their debt.

It is important to note that because of the unique character of student debt, an increasing delinquency rate defined either way does not necessarily imply that a greater percentage of new borrowers are falling behind on repayment. Borrowers who became delinquent in the past and remain so are included in the delinquency rate. Some may also default, which is defined as being more than 270 days past due in the case of federal loans. Because student debt is not generally dischargeable, even in bankruptcy, the delinquency rate may continue to increase even when the percentage of borrowers becoming newly delinquent remains constant.

We therefore also computed the proportion of borrowers in repayment who became newly delinquent on a quarterly basis. As shown in **Chart 6** in 2005 about 6 percent of nondelinquent borrowers in repayment transitioned into delinquency each quarter, on average. By 2012, that rate had increased to almost 9 percent. This confirms that indeed there was an increasing trend of borrowers becoming newly delinquent over time.

Our delinquency numbers may seem higher than those reported elsewhere. One reason for this is that our data allow a more comprehensive description of student debt delinquency and repayment rates than was previously possible. Our data come from consumer credit reports

for a 5 percent random sample of the population – that is for 12 million individuals aged 18 and older. Instead, existing knowledge of student federal loan defaults is based mainly on the three-year cohort default rates computed and released by the Department of Education each year. An institution's cohort default rate is calculated as the percentage of borrowers in a cohort who default before the end of the second fiscal years following the fiscal year in which the borrowers entered repayment.

In research that will be released later this month in a series of blog postings on our Liberty Street Economics blog, we use our data and a slightly different definition to compute comparable 3-year cohort default rates. Importantly, we find that three years out, we haven't seen the full picture of borrowers who will default. Our calculations indicate that the 3-year default rate for the 2009 cohort rises by more than a third by year 5. This is also true of earlier cohorts. The 2005 cohort had a 3-year default rate at 13 percent – but this is only half of the defaults that we see nine years out. Taken together, these findings indicate that the student loan delinquency problem is much worse than currently understood.

Another way to look at borrower difficulty in loan repayment is to consider the state of repayment by the end of 2014 for all student loan borrowers we observe finishing their new loan accumulation, between 2005 and 2010. High rates of delinquency and default, and the high prevalence of participation in repayment-delaying programs such as deferments, forbearances and income based repayment, lead to a lower rate of balance reduction in the years after student loan borrowers leave school. In order to understand the magnitude of this delay, we investigate the extent of student loan repayment that recent school-leaving cohorts have achieved by 2014.

For the blog series, we calculated the outstanding balance of each of the 2005–2010 school-leaving cohorts as of the second quarter of the school-leaving year. For each cohort, we then recorded the share of the original student loan balance that remained as of the end of 2014. For example, for the 2010 cohort 91 percent of the original balance remained unpaid four and a half years later, at year-end 2014. This is typical of all the cohorts we examine, from 2005 forward.

So what accounts for the high default rates and low repayment rates of recent cohorts? Undoubtedly the weak labor market conditions for entering college graduates played an important role in explaining defaults and low loan repayment rates. As the youth unemployment rate continues to improve, we would expect repayment rates to gradually improve.

However, while the available data limits deeper analysis of this issue, it seems reasonable to suspect that high college dropout rates contributed to loan repayment problems. As is well known, approximately 40 percent of college students drop out of college before finishing their degree. Among low-income students two-thirds don't complete their degree, with rates also varying across institutions and majors. While the average wage returns to college remain high, for the substantial share of student loan borrowers who drop out of college, the net returns are likely to be small or negative.

Returns are also likely to be small for those who attended a set of for-profit institutions. Enrollment at those institutions surged during the recession. While our data don't allow us to investigate the returns for these groups of students, their especially low loan repayment rates (as reported elsewhere) are consistent with low post-college employment and earnings, suggesting that eventual returns to these educational investments may be low.

The increase in defaults and decline in repayment may also reflect a change in the composition of college entrants during the recession, where even those with relatively low, or even negative returns to college, enrolled in order to qualify for grants and loans as a source of income.

The individual and macroeconomic implications of growing student debt go well beyond the high default rates and may not have been sufficiently anticipated and understood. Our research suggests that the sharp buildup of student debt has contributed to large behavioral

changes among the Millennial generation. First, among those with student debt, a growing share continues to live with their parents. For example, we see that states that have experienced sharper climbs in average student debt per graduate since the recession have also shown steeper growth in the rate at which 25 year olds live with their parents. Similarly, our research suggests that student debt has contributed to a decline in home and car purchasing. As shown in the next chart [**Chart 7**], the proportion of 30 year olds with a home mortgage and the share of 25 year olds with a car loan have dropped much faster among those with SL debt.

More serious econometric research indicates that the relationships between increased student debt and both higher coresidence with parents and lower home buying at age 30 are in fact causal and exist whether or not one controls for educational attainment. Holding other factors constant we find that in states with larger increases in student debt per graduate there was a greater decline in home buying by young individuals. Overall, the high level of existing debt and the apparent new norm for college financing, have important long-term implications for the housing market. With new cohorts continuing to leave college with high debt levels and entering the housing market at older ages, we can anticipate an overall persistently lower home ownership rate than in the pre-recession period.

So what is causing the withdrawal from home and car purchase markets? It is likely that rising student debt and an uncertain economic outlook have depressed demand. But most likely, declines in credit supply play an important role as well. Our analysis shows that average credit scores have fallen for student debt holders relative to those with no student debt. Clearly for the substantial and growing group of student loan borrowers who are delinquent or have defaulted on their debt, access to credit is reduced through potentially long-lasting negative effects on credit scores. Better data is required to evaluate the extent to which the decline in car and home loan originations is concentrated among those delinquent on their student loans and those who dropped out of college, or whether it is more widespread among all those with student loans.

The fast growth of student debt and delinquencies, and the associated withdrawal of student loan borrowers from mortgage and other credit markets have led to a renewed policy debate about the viability and optimality of our higher education funding model. Some call for increased federal and state support for higher education to reverse the recent trend towards shifting the cost of higher education to students and parents. Others talk about a new debt bubble of uncollateralized loans provided to ill-prepared students who are unlikely to see any real returns to their investments, calling for better oversight and underwriting of loans. Yet others point to the persistent high returns to a college education and argue that the current situation represents primarily a repayment crisis rather than a debt crisis.

In my view, all these policy ideas deserve serious consideration. Some scholars argue that the current system turns reasonable levels of debt into crippling payment burdens that can prevent young workers from attaining financial independence and stability.<sup>3</sup> They propose a single, simpler, income-based repayment system. Such a program would undoubtedly benefit many borrowers, allowing them to better smooth consumption. However, the very low cohort repayment rates we see, even ten years after entering repayment, suggest that realized labor market returns to these higher education investments appear to be lower than one would expect. While these returns may gradually increase as the labor market improves, for some the returns may in fact stay low, especially among college dropouts and those who attended some for-profit institutions.

Even if the average returns to a college education remain large, or even grow, students generally have a larger amount of debt to pay off. As mentioned earlier, in response to

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<sup>3</sup> Dynarski, Susan and Daniel Kreisman, 2013. "Loans for Educational Opportunity: Making Borrowing Work for Today's Students," Hamilton Project Working Paper, October.

reduced state and federal subsidies, educational institutions raised tuition, leaving students and their parents paying a greater share of the cost of higher education, thereby leaving students less of the surplus and a lower *net* return on their investment.

There are therefore reasons to be concerned about the viability of the current system (with various income-based repayment programs) as well as an alternative income-based repayment system. The high delinquency rate and very low repayment rates among recent cohorts have implications for the sustainability of higher education financing more generally. While there is considerable uncertainty about the ultimate amount, it appears likely that a significant portion of the outstanding federal student loans in income-based repayment-type programs will ultimately be charged off after 20 or 25 years.

Another potential threat to the sustainability of the current system, especially visible in the current low interest rate environment, represents the entry of private lenders engaged in cream skimming, providing loans that slightly undercut the administratively set interest rate on federal loans for those enrolled in high-return and low-risk programs towards business, medical and law degrees at top ranked institutions. There is a risk given the rapid growth of this industry that this could have a considerable impact on the average quality of loans held by the federal government.

A primary policy challenge in higher education financing is to increase access to higher education to more people through grants and loans but in such a way that the private and social net returns remain positive. This requires a combination of financial support but with sufficient likelihood of success/ability to repay/for positive return.

The low returns to some students' experience with higher education, evidenced by high dropout and default rates, point to significant heterogeneity in outcomes for college students. An individual making the joint decision of whether to enter college and which college to enter faces a high degree of uncertainty regarding the future outcome of the educational experience. Tuition subsidies funded by state taxes and Pell grants funded by federal taxes work to distribute this risk over a wide pool of people. However, individuals with good college outcomes enjoy the private benefits that accrue to their higher-earning power. As a result, it is likely that the best type of financing arrangement would require at least some tuition payments from students.

To overcome the liquidity constraint faced by families whose members are entering college, it makes sense to have a loan program. Importantly, the financial system, whether private or public, should direct scarce resources to highly-valued investments. Given the wide heterogeneity of educational outcomes by type of student and type of institution, any loan program should take careful account of the expected quality of the match between the prospective student and the educational institution. This is a type of underwriting that could be employed much more extensively in the federal student loan program, to the benefit of both borrower and lender. In addition, by restricting the availability of loans to those matches that are likely to succeed, the social benefits will be achieved at lower cost.

While there is currently little underwriting of student loans in terms of individual or family wealth – which is as it should be – better underwriting of loans may result in higher preparedness standards for students. Just as importantly, it will require evidence, provided by the institution, of sufficient success in graduating students of a specific preparedness level and placing them into viable jobs with sufficient income to permit repayment of the loans.

This unfortunately contrasts with the current student loan system. We see evidence of problems associated with the lack of careful underwriting standards for educational matches that are supported by student debt. For example, current performance for some degree programs and some universities are problematically weak, in terms of degree completion rates and loan repayment rates. There have been reports of some schools in cities with large minority populations and low-income residents who tried to build enrollment by encouraging academically under-qualified students to apply for loans that they would be unlikely to be able to repay, especially if they received a substandard education. These practices

undermine our commitment to financing effective higher education matches, and it is important that they be addressed.

## Conclusion

Nothing in the analyses I discussed with you undermines the strong case for completing a college degree for prospective students who match well with a particular college. Rather we see our evidence as suggesting that the way we as society finance those degrees – with an increasing reliance on debt held by the students – has costs to both borrowers and lenders that are only now becoming clear. Given the social benefits of an educated population, we see a strong case for some public role in financing college. Nonetheless, there are many private benefits, including higher lifetime earnings to be had by the successful college graduate. Therefore it is likely that the best system of finance also includes a tuition payment by the student.

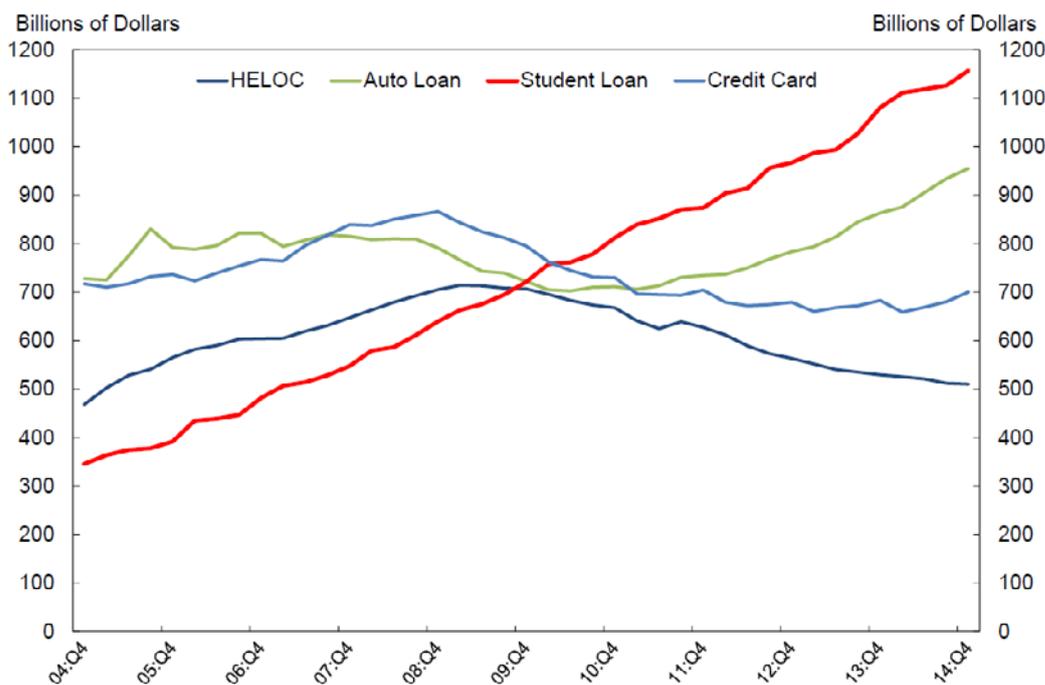
Because many prospective students are credit and liquidity constrained, and because of the limited enforceability of debt, we outlined the case for a government-supported student loan program to support the payment of tuition. However, we see a case for stronger underwriting standards that would assess the likely quality and outcome of the education match between a prospective student and the educational institution, which would better deliver resources to high potential educational matches, and avoid encouraging poor ones.

We've learned a lot over the past several years about how student loans are affecting individual borrowers, the taxpayers and the aggregate economy. We've by no means answered all the relevant questions, and with over a trillion dollars in outstanding debt and the future of our workforce at stake, I consider these issues to be of first-order importance to the nation.

We at the New York Fed will continue to search for new facts to put on the table and push the debate forward.

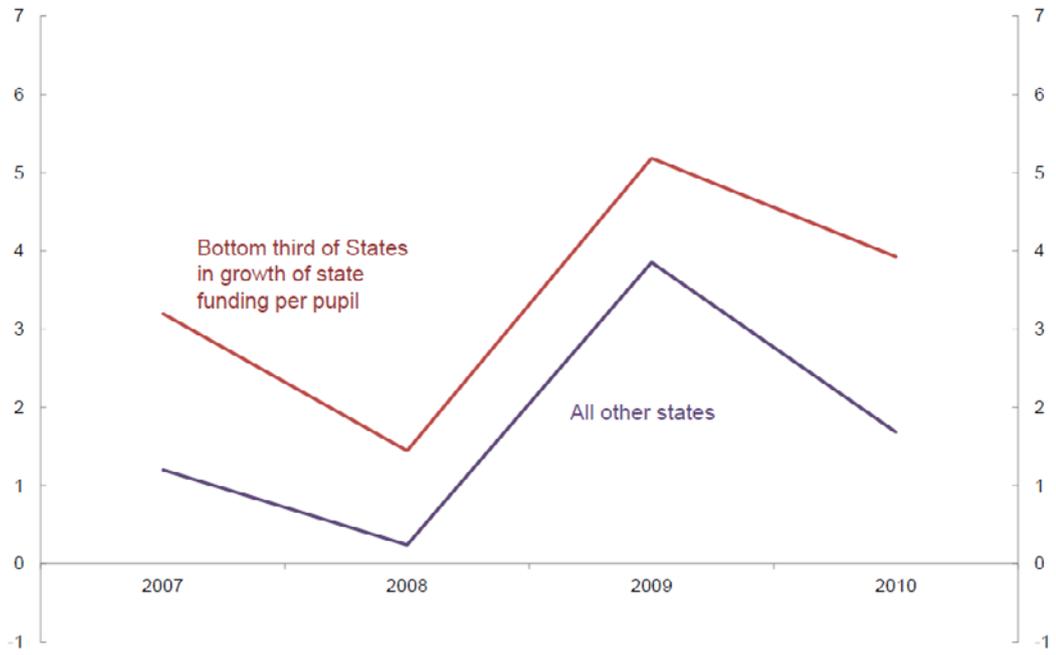
## Charts

**Chart 1: Non-mortgage balances**



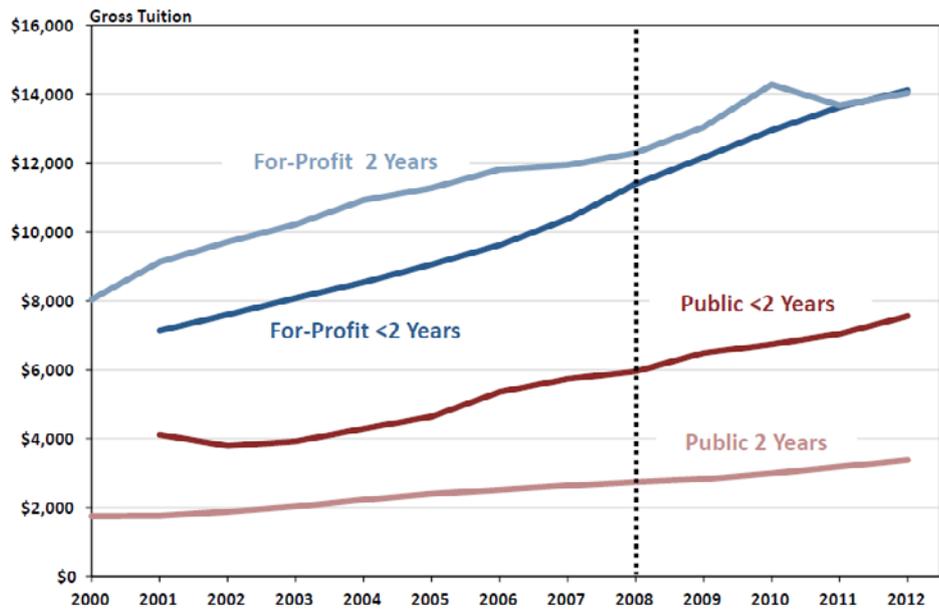
Source: New York Fed Consumer Credit Panel / Equifax

**Chart 2: Percent Change in Public Institution Net Tuition per Pupil**



Source: State Higher Education Officers

**Chart 3: Average Tuition at For-Profits Is Higher Than at Comparable Publics**

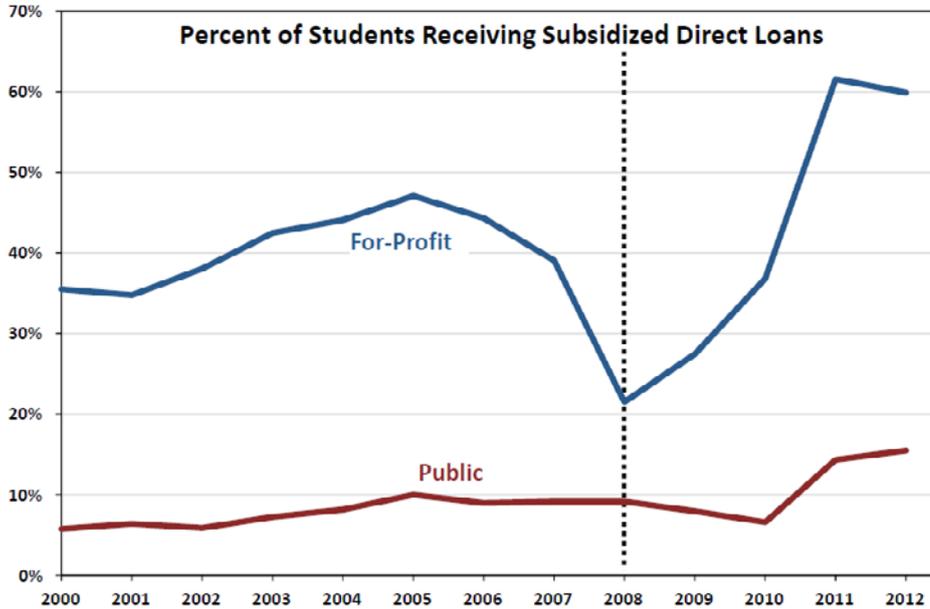


Source: Integrated Postsecondary Education Data System (IPEDS).

Note: Chart depicts average tuition and fees of largest program for <2 year institutions, and average in-state tuition for 2-year institutions.



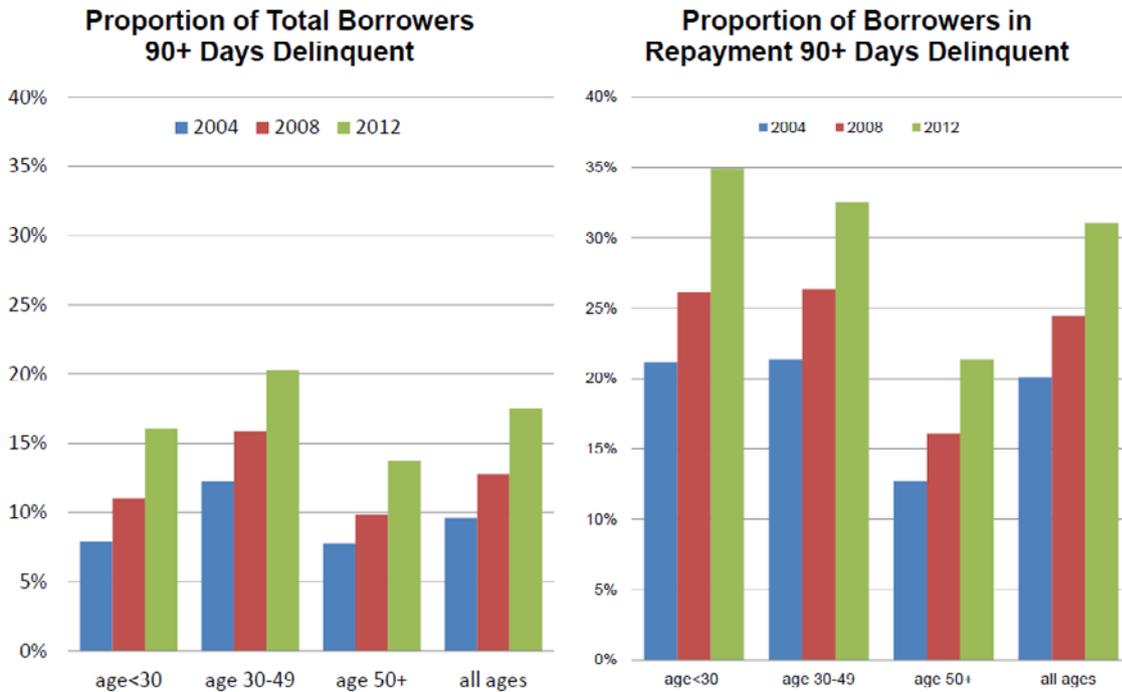
**Chart 4: For-Profit Enrollees More Likely to Take Out Student Loans to Finance Education**



Source: National Student Loan Data System (NSLDS).

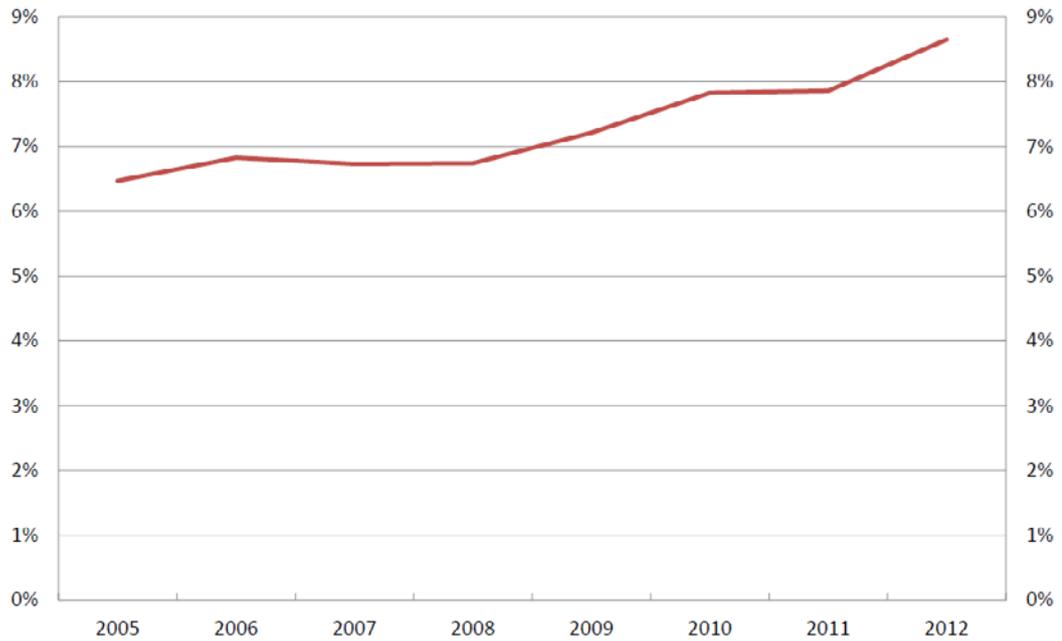


**Chart 5: 90+ Day Delinquency Rates**



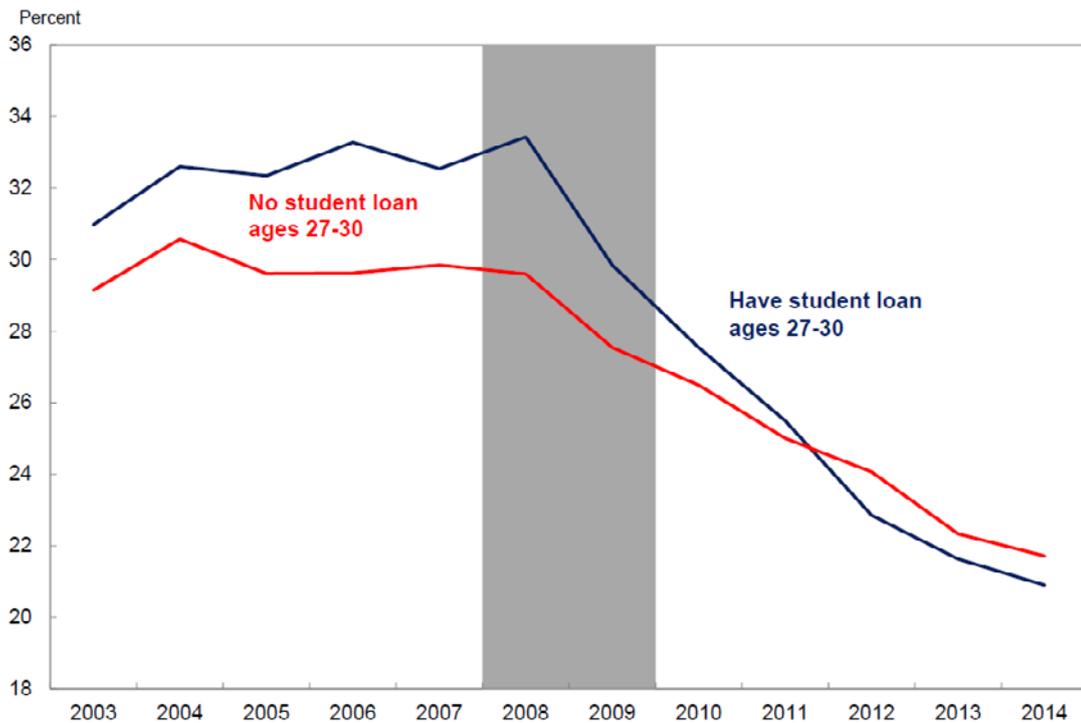
Source: New York Fed Consumer Credit Panel / Equifax

**Chart 6: Quarterly transition rate of borrowers in repayment from current to delinquent**



Source: New York Fed Consumer Credit Panel / Equifax

**Chart 7: Proportion with Home-Secured Debt at Age 30**



Source: FRBNY Consumer Credit Panel/Equifax