AEI

American Enterprise Institute for Public Policy Research

The Fiscal and Social Costs of Consolidating Student Loans at Fixed Interest Rates

Kevin A. Hassett
American Enterprise Institute

Robert J. Shapiro
Sonecon, LLC

Executive Summary

By virtually any measure, the federal government's student loan programs have been extraordinarily successful.[1] Over the last generation, the share of high school graduates pursuing higher education jumped from 44 percent in 1971 to 62 percent in 1995, and federal financial assistance has been a significant factor. Two-thirds of all students or their families now rely on higher-education loans provided or subsidized by the federal government. This year alone, more than 6.6 million students and more than 650,000 parents will borrow more than $52 billion through these programs, accounting for 43 percent of all student aid.

These programs work by giving students strong incentives to assume the substantial debt required to finance higher education, while limiting the potential taxpayer cost of providing these incentives. To provide the incentive, students can borrow substantial funds from the government or private lenders at interest rates close to those at which the government itself borrows. To limit the public cost, the interest rates charged for the loans, the associated subsidies provided to student borrowers and the payments to private lenders are adjusted annually, based on prevailing interest rates. These annual adjustments ensure that the price of the funds to the borrowers (students) bears a generally stable relationship to the cost of the funds to the lender (the government directly or private lenders who receive payments from the government to lend to students).

The one major exception to these prudent arrangements is a program allowing student borrowers, usually once they leave school, to consolidate their previous loans into a single loan at a subsidized interest rate, one that remains fixed for up to 30 years. The shift from an annually-adjusted variable interest rate to a fixed rate produces both significant inequities among students and large long-term costs for taxpayers. The inequities derive from the fact that the long-term cost of a student's loans, once those loans are consolidated, depends on the year in which he or she happens to consolidate them.

- A borrower who consolidated her loans in 2000 pays annual interest of 8.25 percent, compared to another borrower consolidating today at 3.5 percent.

- A borrower consolidating $22,000 in student loans (the average amount consolidated, according to the General Accounting Office) will pay a total of $30,622 over 20 years, including $8,622 in interest, if he consolidated in 2003; if he had consolidated the same loans three years earlier, he will have to pay $44,991, including $22,991 in interest.

- From 1992 to 2003, the interest costs owed by borrowers consolidating $22,000 in student loans ranged from $8,622 to $25,505, depending only on the year in which the student left school and consolidated the loans.

The enormous costs to taxpayers associated with this program come from the annual payments which the government provides the private lenders who consolidate the loans, in order to subsidize the interest rate paid by the borrowers. These payments grow very large *whenever* interest rates rise. The payments are based on the difference between the current "commercial paper" rate and the fixed rates paid by those

3

consolidating their old student loans. This difference grows large when interest rates have been low and millions of borrowers have consolidated their loans, and then the commercial paper rate rises sharply.

The current interest rate cycle will drastically expand the cost of the current loan consolidation program. Focusing on the loans provided under the Federal Family Education Loan (FFEL) program, the principal student loan program:

- Interest rates fell sharply from 2000 to 2003: The Treasury bill rate fell from 5.9 percent to 1.1 percent, the commercial paper rate fell from 6.3 percent to 1.1 percent, and the average rate on consolidated student loans fell from 8.25 percent to 3.5 percent.

- The volume of fixed-rate consolidation soared as interest rates fell, increasing from $6.6 billion in 2000 to $34.9 billion in 2003.

The Congressional Budget Office (CBO) latest forecast shows the commercial paper rate reaching about 5.12 percent in 2007 and thereafter. At that rate, taxpayers will pay private lenders more than $1.26 billion a year to subsidize the fixed interest rate on student loans consolidated in FY 2003 under just the largest loan program, the Federal Family Education Loan program (FFEL), and a comparable amount for FFEL loans consolidated in 2004.

- The FFEL loans consolidated in FY 2003 will cost taxpayers $6.3 billion in interest-rate subsidies over the lifetime of the loans, with a comparable cost required for loans consolidated in FY 2004.

We also developed a simulation procedure to better forecast the likely path of future interest rates, the likelihood of significant deviation from these paths, and the cost

to taxpayers of subsidizing the existing stock of consolidated FFEL student loans. We found,

- The commercial paper rate will rise most likely to at least 5.2 percent by 2008 and range from 5.6 percent to 5.9 percent from 2010 to 2024, with almost all possible outcomes lying within 3 percentage points of those levels.

- The current stock of consolidated FFEL loans is more than $100 billion, with an expected average lifetime of nearly 21 years.

- The average fixed interest rate on this stock of consolidated debt is 5.52 percent.

Based on these calculations, the simulation found:

- The current stock of consolidated FFEL student debt will cost taxpayers a minimum of $14 billion in interest-rate subsidy payments over the lifetime of those debts.

- If interest rates follow the path forecast by CBO, the current stock of consolidated FFEL student debt will cost taxpayers $12 billion.

The simulation also estimates the taxpayer cost if interest rates, consistent with the historical record, were to stay low for a longer period than the base case and subsequently rose higher and stayed high for a longer time than the base case. If that occurs, the simulation shows:

- American taxpayers will have to pay $48 billion in subsidy payments to maintain the current stock of consolidated student debt.

Recent history also tells us that events occasionally will produce substantially higher interest rates than is most likely, as happened in the 1970s and 1980s. It is

especially important to assess this risk since the government will be at risk for the largest of these loans (that have the lowest interest rates) for 30 years.

- If that comes about, taxpayers will have to spend more than $81 billion to service the current stock of consolidated student loans.

Looking to the future, taxpayer liabilities will remain substantial. The model finds that if interest rates rise and the volume of consolidation falls, as OMB currently predicts, we will still see substantial costs associated with subsidizing future consolidation loans:

- Taxpayer subsidy payments for loans consolidated in 2005 will exceed $6.9 billion.

- Taxpayer payments for all the loans likely to be consolidated over the next seven years, plus payments for the current stock of loans, come to $36 billion.

Those prospective costs would be reduced sharply, if the basic terms on which student loans are consolidated were reformed to follow the terms on which the loans were originally provided. Providing an annual adjustment in the interest rate on consolidation loans would convert much of the projected budget costs to budget savings, reduce the stark inequities among students based on when they happen to consolidate their loans, and reduce the enormous risk exposure of the current program.

I.   *Introduction*

One of the more difficult yet common challenges facing policy makers is how to advance competing goals, especially when they involve elements or variables subject to change. The difficulties are evident in the provisions of the current federal student-loan program which allow students once they leave school or graduate and their parents to consolidate various adjustable-rate, direct or guaranteed loans into a single, fixed-rate loan, subsidized through payments to the private lenders who provide most of them. This program is intended to reduce loan defaults by reducing the burden on recent graduates, thereby cutting costs for both government and students. These arrangements also provide a dependable income stream for private lenders. It is evident, however, that when interest rates fall sharply and then rise again in subsequent years, these provisions also produce large unanticipated costs for taxpayers and gross inequities among student-borrowers. Unless addressed promptly, these problems with the student-loan consolidation program will likely limit future public support for young Americans pursuing higher education.

The Department of Education operates two major loan programs for students and their parents. Loans to students, known as Stafford Loans, are provided through the Federal Family Education Loan (FFEL) program and the William D. Ford Federal Direct Loan program. Loans to parents are provided through the PLUS program. Funds for the Direct Loan program come from the federal government, while funds for FFEL loans come from private lenders, with government providing subsidies tied to the borrower's interest costs and guarantees to the lenders in cases of default.

The terms on which these loans are provided have significant social and economic effects, because the majority of young Americans who pursue higher education depend

on the programs. This year, the government expects to provide or guarantee almost 13.9 million higher-education loans, totaling more than $52 billion for 6.6 million students and 659,000 parents.[2] By 2008, more than 8 million students and 852,000 parents are expected to take out 15.5 million loans totaling almost $68 billion.[3] Some 65 percent of all post-secondary school students have federal student loans or a family member who has or has had such loans, including 77 percent of those attending private colleges or universities and 73 percent of those attending four-year institutions.[4]

For students and parents, the critical factors affecting their ultimate financial obligation are the amount they can borrow and the terms for repayment. These factors are determined by statute, and each has a clear and reasonable rationale. For example, a student dependent on her parents can borrow $2,625 to $5,500 a year, the amount rising as she completes her first and second years of study; while a student independent of her parents or whose parents cannot secure a PLUS loan can borrow more -- $6,625 to $10,500 a year, the amount again rising as she completes her first and second years of study. The law also guarantees that student-borrowers do not have to begin paying off their loans or the interest until six months after leaving or finishing school; and for students with financial need, the government actually pays the interest while the student attends school plus a six-month "grace period." Following this grace period, student and PLUS loans have to be repaid over 10 years, at subsidized interest rates that are adjusted once a year.

---

[2] U.S. Department of Education, *Student Loan Volume Tables – FY 2005 President's Budget Loan Volumes,* "Net Commitments by Fiscal Year, Total Student Loans."
[3] *Ibid.*
[4] American Council of Education, KRC Research, September 2003.

Complicated formulas determine the interest rates on these loans, but the intent is simple and clear: Provide student borrowers with much lower interest rates than those available to others with relatively little collateral, current income or salary history. The interest rates on FFEL and Direct loans disbursed since July 1, 1998, accounting for the vast majority of federal student loans, are set at the 91-day Treasury bill (T-bill) rate plus 1.7 percent while a student attends school and during the following six-month grace period, and the T-bill rate plus 2.3 percent while the borrower repays the loan.[5] The rate on PLUS loans disbursed since July 1, 1998 is higher: The T-bill rate plus 3.1 percent. (There are other formulas for smaller college or graduate school assistance programs, such as Perkins Loans.) At current Treasury rates, these formulas produce an interest charge this year of 2.82 percent for most current FFEL and Direct loans in school or during the grace period, 3.42 percent for FFEL and Direct loans being repaid after leaving school, and 4.22 percent for PLUS loans – roughly one-fourth to one-third the current 12.1 percent interest rate on personal loans from private banks.[6] (Students also may pay a one-time fee of up to 4 percent of their federal student loans)

The other critical factor affecting the long-term cost of these loans to both students and government is that the interest rate on these loans is adjusted annually on July 1st of each year, based on changes in the T-bill rate. Adjusting the interest rate every year ensures basic equity: A borrower's subsequent burden of repayment is not based on when he happened to attend college; rather, it is generally comparable to others in the program. (To ensure that the burden on students and recent graduates remains

---

[5] Loans disbursed from July 1, 1995 through June 30, 1998 carry higher interest rates: The 91-day T-bill rate plus 2.5 percent for those consolidating their loans while still in school or in the post-school grace period, and the 91-day T-bill rate plus 3.1 percent for those consolidating after leaving school. .
[6] Federal Reserve Board, Release G.19, May 2003, www.federalreserve.gov/releases/g19/20030708.

manageable even if Treasury rates become very high, the interest rate on almost all current student loans is capped at 8.25 percent, and 9 percent for PLUS loans.) Adjusting the interest rate that borrowers pay also ensures that the burden on taxpayers and private lenders remains manageable, since the government provides taxpayer payments to private providers of FFEL loans based on other market interest rates to offset the subsidized rate that their student borrowers receive: Every quarter, the government pays private lenders the difference between the rates paid to them by their clients (the borrowers), and the interest rate on 90-day commercial paper plus 2.34 percent.[7] If the interest rate paid by borrowers were not adjusted annually, based on market rates, the return to the lenders would bear no relation to the actual cost of loaning funds, when interest rates moved up or down.

Although lenders receive government payments when the interest rate paid by their borrowers is less than the commercial paper rate plus 2.34 percent, those government payments to lenders only stop when the rate paid by their borrowers already exceeds the commercial paper rate plus 2.34 percent. At the same time, the government generally guarantees 98 percent of the value of the loans, so lenders get back almost all of their money when student default on these loans. Without such a guarantee, students (or taxpayers, through subsidies) would have to pay much higher interest rates in order to offset the lenders' risk in loaning money to people with the scant salary history or collateral of most students.

By most measures, these arrangements for helping young Americans finance their higher education have been a success. With roughly two-thirds of all students or their

---

[7] Lenders are paid CP plus 2.64% on PLUS loans, but only when the borrower rate exceeds 9%. Lenders receive CP plus 2.64% on consolidation loans, which is offset by an annual fee of 1.05%.

families receiving assistance, the percentage of high school graduates completing some college rose from 44 percent in 1971 to 62 percent in 1995, and the percentage of 25 to 29 year-olds who completed college increased from 22 percent to 28 percent.[8] These advances have rested on a delicate balance of incentives and costs: Government subsidies provide strong incentives for students to assume the substantial debt required to finance their education and for private lenders to lend students those funds, while the adjustable interest rate has limited the ultimate cost to taxpayers of providing these subsidies.

However, this balance does not exist in the one part of these lending programs: The provisions which allow students who graduate, leave school or drop below half-time enrollment, and parents with PLUS loans that have been fully disbursed, to consolidate their various annual FFEL, Direct, PLUS or other loans into a single debt *at a fixed interest rate*. Students still attending schools can also get a Direct Consolidation Loan from the government. The goals behind consolidation are sound. It reduces the administrative burdens on students, private lenders and the government. It also lowers the burden of monthly payments for borrowers, which reduces the burden of defaults for taxpayers, by increasing the usual term of the loans from 10 years (typical of adjustable-rate FFEL, Direct and PLUS loans) to up to 30 years.[9] This also lengthens the stream of income for lenders. The interest rate on consolidated loans is usually slightly higher than the rate on the separate loans at the time of consolidation, since the consolidated rate is based on a weighted average of the current interest rates on underlying loans, *rounded up* to the nearest one-eighth of a percent. Students who consolidate during the six-month grace period before normal repayment begins receive a permanent interest rate bonus of

---

[8] Department of Health and Human Services, www.aspe.hhs.gov/hsp/97trends/ea1-6.htm.

more than one-half percentage point. In addition, as with most of the underlying student loans, the maximum interest rate on consolidation loans is capped at 8.25 percent.[10]

The critical difference between consolidated loans and all other student loans is that the interest rate on consolidation loans is *not* adjusted annually, but rather is fixed for its entire term. This difference produces significant inequities among students and very large, potential long-term costs for American taxpayers.

II.   *Equity and Fixed-Rate Consolidation Loans*

A fundamental inequity has been built into the loan consolidation program, derived from the fact that the interest rate charged for consolidating student loans changes each year, based on the 91-day Treasury bill rate, but remains fixed for the life of the loan of each individual borrower. As a result, the long-term cost of a consolidated loan to a student depends on precisely when he or she happens to consolidate. For example, most students consolidating their loans in the period from July 1, 2003 to June 30, 2004 – students with FFEL or Direct loans disbursed since July 1, 1998 – will pay an interest rate of 3.5 percent a year for up to the 30-year term of their loan (2.875 percent for those consolidating loans during their six-month grace period). But a student who consolidated her loans before that period began, on June 30, 2003, will pay 4.125 percent for the life of her new loan (3.5 percent if consolidating in their grace period).

---

[10] The interest rate cap on PLUS loans is 9 percent, but the cap on consolidated PLUS loans is 8.25 percent.

Table 1. Interest Rates on Treasury Bills, Student Loans and Consolidation Loans[11]

	91-Day T-Bill Rate	**Student Loan Rate**	**Consolidated Loan Rate**
1992-93	3.84%	7.00%	9.00%
1993-94	3.12%	6.22%	9.00%
1994-95	4.33%	7.43%	8.00%
1995-96	5.82%	8.25%	9.00%
1996-97	5.16%	8.35%	9.00%
1997-98	5.16%	8.25%	8.25%
1998-99	5.16%	7.46%	7.50%
1999-00	4.62%	6.92%	7.00%
2000-01	5.89%	8.19%	8.25%
2001-02	3.69%	5.99%	6.00%
2002-03	1.76%	4.06%	4.125%
2003-04	1.12%	3.42%	3.500%

The average student debt consolidated from 1997 to 2002 was $22,000[12], and the term of debt at that level is 20 years.[13] A borrower consolidating that level of student loans on June 30, 2003 will pay $10,345 in interest, 20 percent more than the $8,622 in interest costs due from students consolidating the same debt one day later, on July 1, 2003.

---

[11] The student loan rate reflects the formula for new loans during that year; the consolidation loan rate reflects the rate for new Stafford loans consolidating under the consolidation formula in place during that year. For example, until July 1, 1994, borrowers who consolidated paid a minimum statutory rate of 9%, even if the underlying Stafford loan rates were less. Until 1997, the consolidation rate rounded up to the nearest whole percent.

[12] United States General Accounting Office (GAO), "Student Loan Programs: As Federal Costs of Loan Consolidation Rise, Other Options Should Be Examined," Report GAO-04-101, October 2003. More recent data indicate that the average debt being consolidated has risen significantly in recent years. According to the Department of Education, the average balance of loans consolidated in FY 2002 was $29,000 and in FY 2003 was $27,000..

[13] Consolidated loans for $40,000-$60,000 have a 25-year term; those for $60,000 or more have a 30-year term. Consolidation loans between $10,000 and $20,000 have a 15-year term; consolidation loans below $10,000 have terms of 10 to 12 years.

Table 2. Interest Rates and Interest Costs for 20-Year, $22,000 Consolidation Loans

	Consolidated Loan Rate	Borrower's Monthly Payment	Total Interest Paid by Borrower
1992-93	9.00%	$197.94	$25,505
1993-94	9.00%	$197.94	$25,505
1994-95	8.00%	$184.02	$22,163
1995-96	9.00%	$197.94	$25,505
1996-97	9.00%	$197.94	$25,505
1997-98	8.25%	$187.45	$22,991
1998-99	7.50%	$177.23	$20,935
1999-00	7.00%	$170.57	$18,935
2000-01	8.25%	$187.45	$22,991
2001-02	6.00%	$157.61	$15,829
2002-03	4.125%	$134.77	$10,345
2003-04	3.500%	$127.59	$8,622

As the interest rate on T-bills moves up and down, the fixed rate for consolidation loans follows, producing very large disparities in the interest costs of borrowers in different years. For example, $22,000 in student loans consolidated in 1992 and 1993, or 1995 and 1996, will cost a borrower $25,505 in interest over the debt's 20-year term, about *three times* the interest costs on the same debt consolidated this year. Similarly, the payments due on a $22,000, 20-year consolidation loan ranges from $198 per month for those consolidating their student loans in 1992, 1993, 1995 and 1996, to less than $128 per month for those fortunate enough to consolidate their debt this year.

Most of these differences and inequities would disappear if the interest rate on consolidation loans, like other federally-subsidized loans for higher education, were adjusted annually.

It is also notable that while consolidation reduces a borrower's monthly payment by extending the term of the loan from 10 to up to 30 years, that extension increases the overall cost of the loan to both the borrower and the government. A former student with

$22,000 of FFEL loans in 1992 who consolidated those loans in that year has to pay $25,505 in interest over 20 years. If the same former student had paid off those loans over the usual 10-year term without consolidating them, he would have paid only $9,475 in interest charges -- even as the interest rate on the loans was adjusted upward in many years of the repayment period (see Table 1, above). Furthermore, since a 20-year repayment period produces a much slower path for paying down the principal of the loan, extending the term of the loan also increases the subsidy costs for the government.

The rationale cited most often for the loan consolidation program is the goal of reducing defaults. It is reasonable that borrowers who consolidate during periods of unusually low interest rates, and so lock in a low rate, will default less often than those who do not consolidate or who do so when interest rates are relatively high. Moreover, this positive effect is amplified, because the incidence of loan consolidation rises when interest rates fall. Together, these two dynamics should reduce overall default rates, and the data suggest that they do. However, the data also suggest that factors other than interest rates, such as the type of school attended, whether the borrower completed his program of study, and prior default history, also drive default rates. While many studies of student loans have found default rates of more than 20 percent over the life of consolidation loans, a recent analysis of defaults on consolidated loans in a group of Texas institutions found two distinct classes of students with very different default rates: Students who had never defaulted on a student loan before they consolidated their loans had default rates of less than 10 percent on their consolidation loans; but 50 percent of students who had defaulted on a student loan prior to consolidating also defaulted on their

consolidation loans.[14]   It is unclear from the study, however, what factors affect the likelihood of a person defaulting on an underlying student loan.

III.   The Economic Effects of Loans at Adjustable, versus Fixed, Interest Rates

As a general proposition, economists usually favor adjustable-interest-rate debt instruments over fixed-interest-rate instruments, because they can make the economy more efficient. In a market-based economy like ours, economic efficiency depends on a pricing system which accurately reflects the relative supply and demand for all of the goods and services available for sale. Interest rates are part of this pricing system as the price of borrowing money, and ideally those prices should rise and fall with the supply of funds available for lending and the demand to borrow them. To be sure, the real world does not always follow these principles in an exact way. Strictly speaking, the supply of funds available for student loans is determined to a significant degree by government, not markets. However, since both the government and private lenders turn to the market for the funds which they lend to students, it is appropriate and economically efficient for government to use a market interest rate as the base for determining the rate which students pay to re-borrow these funds.[15]

As noted above, the interest rate charged on (unconsolidated) student loans is strictly variable: The rate is set based on the 91-day Treasury bill rate and adjusted every year on July 1st to reflect changes in that T-bill rate. This makes economic sense: The

---

[14] Texas Guaranteed, "An Industry Dialogue with Student Loan Servicers and the Council for the Management of Education, www.tgslc.org/publications/reports/servicer/servicer_default.cfm.

[15] More generally, the Federal Reserve expands or contracts the supply of money for various reasons, such as stimulating growth or cooling off inflation. But at any moment, the supply of funds available for borrowing is fixed, and market interest rates reflect the convergence of this supply and the demand for it at the same moment.

annual adjustment ensures that the price of the funds to the borrower (the student) bears a generally stable relationship to the cost of the funds to the lender (the government or private lenders).

Economists generally prefer adjustable rate debt not only on theoretical efficiency grounds, but also for practical reasons: The real value of a loan at a fixed interest rate is highly sensitive to inflation, which makes fixed-rate loans very risky contracts for both borrowers and lenders.[16] For example, a lender providing funds for an extended period at a 5 percent interest rate when inflation is expected to run an average of 2 percent a year for the course of the loan has assumed a 3 percent real return; but if inflation unexpectedly rises to an average of 4 percent while the interest rate remains fixed, the lender's real return falls to 1 percent. Accordingly, the possibility of unanticipated inflation always places at risk the value of a fixed-interest-rate loan to the lender. Moreover, a lender of funds at a fixed interest rate bears risks in addition to unanticipated inflation, since a sharp decline in the overall demand for funds also can push down the real interest rate, at least for a while.

Borrowers with fixed-rate loans also bear an economic risk, from unanticipated *dis*inflation: In our example, if inflation unexpectedly falls from 2 percent to an average of 1 percent, the real interest rate paid by the borrower would rise from 3 percent to 4 percent. In practice, many students who consolidated their loans in the 1990s at fixed rates of 7 to 9 percent now find themselves paying a much higher real interest rate, since inflation has fallen from 4 percent or so a year to the range of about 2 percent a year.

---

[16] John Y. Campbell and Joao F. Cocco, "Household Risk Management and Optimal Mortgage Choice," *Discussion Paper Number 1946*, Harvard Institute of Economic Research, February 2002.

To be sure, there are also risks associated with adjustable interest rates. Borrowers with adjustable-rate loans bear what economists call an "income risk," when the interest rate on their loan rises faster than their income. For various reasons, however, this risk is particularly small in the case of student loans. First, the interest rate is heavily subsidized, providing a borrower at any time the lowest-cost funds in the economy. Second, the interest rate on student loans is capped at 8.25 percent, limiting the income risk. Finally and most important, people's incomes typically rise most rapidly in the years following higher education, cushioning the burden of potentially higher rate payments.

Under the current program, the risks built into fixed-rate consolidations are shared by former students and taxpayers. Former students who have already consolidated their loans bear the cost when interest rates subsequently fall, as they are not permitted to refinance a consolidated loan and so may be stuck with an interest rate higher than the rate available to others who have not yet consolidated, and perhaps a rate higher than market rates for other loans. For example, someone consolidating her student loans in 2000 pays a fixed rate of 8.25 percent, compared to the current 3.5 percent consolidation rate[17] The government and taxpayers bear the risk when interest rates subsequently rise, because the Treasury is forced to both pay higher payments to loan consolidators on low, fixed-rate consolidation loans and, so long as we run budget deficits, a rising market rate to borrow the funds used to provide those payments. Should the economy boom and interest rates return to the levels of 1995-2000, for example, taxpayers will have to pay consolidators the difference between loans consolidated at a 3.5 fixed rate (or 2.875 percent for those consolidating during their grace period), and the sum of the commercial

paper rate (say, 5.5 percent) plus the 2.64 percent subsidy, less the consolidator's 1.05 percent annual fee.[18] Furthermore, the Treasury may have to borrow short-term funds at more than 5 percent to finance these payments. The greater the difference between the 91-day Treasury bill rate when the loan is consolidated and the commercial paper rate in subsequent years, the greater the cost to taxpayers.

A similar financial risk is associated with the Direct Loan consolidation program, in which the government consolidates the loans directly. In this case, the risk to taxpayers can be conceived as the cost to government of borrowing long-term funds to finance loans where the interest rate is determined by the T-bill rate. Under current conditions, the government would pay 5.13 percent interest to borrow 20-year funds, in order to finance 20-year student loans paying 3.5 percent.[19]

In principle, the risk to former students could be reduced by allowing them to refinance their old consolidation loans when interest rates fall. The result, however, would greatly compound the risk to taxpayers.

The only parties that bear no real risk in these transactions are the private lenders that consolidate most student loans. When market interest rates rise, their payments from the government go up because the government guarantees them a return based on market interest rates, less the fixed rate paid to them by student borrowers. When market rates fall, the lenders' own cost of borrowing falls while the fixed-rate payments they receive from their student-clients remain high.

---

[17] Federal Reserve Board, Release G.20, January 2004, www.federalreserve.gov/releases/g20/Current.
[18] For all consolidation loans disbursed after October 1, 1993, the consolidating lender pays an annual fee to the Treasury of 1.05% of outstanding principal and accrued unpaid interest.
[19] The average Treasury rate on 20-year funds from July 1, 2003 to February 15, 2004 is 5.13 percent: Board of Governor of the Federal Reserve System, http://www.federalreserve.gov/releases/h15/update/, Release H.15, "Selected Interest Rates."

IV. *The Costs of Consolidation*

These risks translate into substantial costs for taxpayers and students when interest rates move up and down in the real world. A typical student borrower pays a private consolidator interest at a rate which is essentially determined by the 91-day Treasury bill rate at the time he consolidates his loans, plus 2.3 percent (1.7 percent if he consolidates during his "grace period").[20] Taxpayers pay the private consolidator the difference between the payments from the student borrower and what the consolidator would be paid if the interest rate were based on the *current* interest charge on 90-day commercial paper, plus 2.64 percent, less an annual fee of 1.05 percent (and less the annual share of a one-time 0.5 percent origination fee, which is roughly 0.017 percent a year over 30 years).

Student Rate = Original T-bill rate + 2.3% (1.7% grace period)

Lenders' Rate = Current CP rate + 2.64% - 1.05% fee – 0.017 fee
= Current CP rate + 1.573%

The direct subsidy cost to the government and taxpayers, therefore, depends most generally on the difference between the Treasury bill rate and the commercial paper rate. This is a sound arrangement when both the student's rate and the lender's rate adjust to market rates, but it can be a very costly one when the lender's rate rises with the market

---

[20] More precisely, the rate is a weighted-average rate of loans being consolidated, based on the interest-rate formulas for each kind of student loan, rounded up to the nearest $1/8^{th}$ percent with a cap of 8.25 percent. The rate, therefore, depends on the formulas for the underlying loans, which depend not only on the kind of loan but also when the loans were disbursed. In addition, the borrower's rate for consolidation loans

but the student's rate does not. Consider the annual interest rates for short-term T-bills, commercial paper and consolidated loans over the last 12 years:

Table 3.   Interest Rates on Treasury Bills, a Typical Consolidated Loan and Commercial Paper, 1992-2004 [21]

	Treasury Bill Rate	Consolidated Loan Rate	Commercial Paper Rate
1992-93	3.84%	9.00%	3.40%
1993-94	3.12%	9.00%	3.70%
1994-95	4.33%	8.00%	5.89%
1995-96	5.82%	9.00%	5.72%
1996-97	5.16%	9.00%	5.69%
1997-98	5.16%	8.25%	5.69%
1998-99	5.16%	7.50%	5.20%
1999-00	4.62%	7.00%	6.06%
2000-01	5.89%	8.25%	5.71%
2001-02	3.69%	6.00%	2.28%
2002-03	1.76%	4.125%	1.42%
2003-04[22]	1.12%	3.50%	1.07%

Since the interest rate paid by a consolidated student-borrower is fixed while the rate which determines the government's payments to the lending consolidators is not, the differences can be significant. From 1992 to 1997, although the rates on commercial paper generally rose, taxpayer payments were minimal because the interest rate for consolidation loans rounded up to the nearest *whole* percent (in 1992 and 1993, the minimum rate was 9 percent). In 1998 and after, the formula rounded the borrower rate up to the nearest eighth, increasing the likelihood of taxpayer payments. Under this

applied for between November 11, 1997 and September 30, 1998, was variable, set annually at the bond-equivalent of the 91-day T-bill rate plus 3.1 percent.

[21] Treasury bill rate is the bond equivalent rate of the last auction of May of the 91-day Treasury rate derived from the 91-day Treasury bill rate reported by U.S. Treasury, Bureau of the Public Debt, www.publicdebt.treas.gov/of/ofaucrt.htm. Commercial paper rate is also the bond equivalent rates for the 90-day Commercial Paper rate, derived from Federal Reserve Board, www.federalreserve.gov/releases/h15/data/a/hcp3m.txt. Consolidation loan rates from Table 1.

formula, rising interest rates will increase taxpayer payments to private lenders receiving payments from former-student borrowers at rates determined by previous and lower Treasury bill rates. The opposite occurs when interest rates decline; and since 2001, all interest rates have fallen sharply, reducing taxpayer payments to private lenders. Under these conditions, the costs are borne by former students who already have consolidated their loans. Graduates or those leaving school almost anytime in the 1990s are paying private consolidators, or the government, 7 to 9 percent interest now, and will continue to do so for the next one or two decades, compared to the 3 to 4 percent paid by students consolidating in 2003 or 2004. (Technically, payments to lenders for loans consolidated before January 1, 2000 were based on the average bond equivalent of the 91-day Treasury bill, plus 3.1 percent; payments for loans consolidated after January 1, 2000 were based on the bond equivalent of the 90-day commercial paper rate. This change does not affect the fact that taxpayer payments to consolidators rise and fall with interest rates).

The greatest costs for taxpayers occur when market interest rates have fallen sharply, as they did over the last three years, and then rise again. Unless the economy should enter a sustained period of economic stagnation, it is unavoidable that over the next three, five or seven years, commercial paper rates will return to the levels of the 1990s (or worse, the 1980s, if serious inflation recurs). When that happens, those who consolidated their loans in 2002 or 2003 will still pay interest based on the low Treasury-bill rates of 2002 and 2003, and those who lent them the funds will receive payments from the government based on commercial paper rates of 5 percent or higher.

---

[22] These calculations cover the period through February 13, 2004.

In March 2003, CBO issued its most recent forecast for commercial paper rates, estimating that the 90-day commercial paper rate will be 5.47 percent in 2006 and thereafter.[23] Since then, CBO has reduced its out-year forecast for Treasury bill interest rates by more than 0.3 percentage-points, and it is likely that the next CBO forecast of commercial rates will also be comparably lower. Assuming a long-term commercial paper rate of 5.2 percent, under the current statutory requirements of the student loan consolidation program, the government will be responsible for paying lenders 3.273 percent of their holdings of loans consolidated in AY 2003-2004 (July 1, 2003 to June 30, 2004):

Gross Payment to Lenders: Commercial Paper Rate (5.2 percent) + Guaranteed Return (2.64 percent) – Annual Consolidation Fee (1.05 percent) – Amortized share of One-Time 0.05 percent fee (0.017 percent) = 6.773 percent.

Less the interest rate paid by students to private consolidators: Original Treasury Bill Rate (1.12 percent this year) + Statutory 2.3 percent = 3.42 percent, rounded up to the nearest $1/8^{th}$ =3.5 percent.

Net Taxpayer Payment to Lenders:
6.773 percent – 3.5 percent = 3.273 percent.

Another way to assess the budgetary costs of the current consolidation program is to compare the time value of the stream of payments associated with unconsolidated loans to the time value associated with the consolidated debt. This approach also suggests that the current system is quite costly. For example, the approximately $35 billion of loans consolidated in FY 2003 transformed debt with a maturity of less than 10 years and

---

[23] Congressional Budget Office, March 2004 Baseline Forecast,

a variable interest rate, into debt with a maturity of 20 years and a fixed rate. Both debt instruments – a 10-year variable rate instrument and a 20-year fixed rate instrument -- define cash streams that can be priced from observable market indicators. Since the variable rate debt carries an interest rate that adjusts annually, its value is fairly well approximated by its outstanding stock. The market value of the longer-term, fixed rate debt, however, is much lower than the market value of the short-term adjustable debt. The difference between these two values provides a current-value estimate of the cost to taxpayers, one which should be incorporated into the budget score for the program.

The average interest rate for loans consolidated in FY 2003 was 4.14 percent. To assess the costs to taxpayers, we assume that the $35 billion in loans consolidated in FY 2003 are equivalent to a bond with a fixed rate of 4.14 percent. This fixed rate is 17 percent lower than the current interest rate on a 20-year U.S. Treasury bond, which recently has hovered around 5 percent. Accounting for the return of principle in 20 years, if the $35 billion in consolidated debt were converted to a 20-year bond at current rates, it would be priced at $31 billion. This suggests a taxpayer subsidy of $4 billion for the student loans consolidated in FY 2003 alone.

Under the current terms of loan consolidation, private consolidators are generally insulated from the liabilities and risks borne by students and taxpayers. Under certain conditions, the government does receive net payments from consolidators, instead of the other way around. For example, in 2003, the government "payment" to consolidators on loans consolidated in 2002 was negative: The sum of the commercial paper rate, plus the guaranteed 2.64 percent was less the rate paid by the consolidating borrowers of 4.06

percent.[24] That left a zero government payment to consolidators – on top of which they paid the government the normal, annual 1.05 percent fee. Under these circumstances, the government appears to "make money" on loan consolidation during this anomalous period. However, over the long run under historical interest rate patterns, the taxpayer pays, covering the interest rate risk for both the borrower and the consolidator.

In the next section, we simulate a range of interest rate paths based on historical experience and find that there is significant possibility that the costs will be much greater.

The financing dynamics of the consolidation program are based not on any one year's consolidation loans, but on a continuing program that produces portfolios of loans provided at high and low interest rates over many years. When interest rates fall, government payments to consolidators will decline, since they are based on current interest rates. But the consolidators' portfolios will still be comprised mainly of loans provided when interest rates were higher; as a result, borrowers' payments to consolidators remain high and, relative to the current cost of funds, actually rise. When interest rates rise, the consolidators' current cost of funds, plus his fee to the government, may exceed the payments from students who consolidated at much lower rates. Yet the taxpayer payments to consolidators rise just as sharply, and the consolidator locks in high rates on current loans for the following 20 or 30 years.

Moreover, over any extended period, loan consolidation activity is not distributed evenly across time and the interest-rate cycle. As expected, consolidations rise sharply when interest rates are especially low, and decline when interest rates are relatively high. For example, from 1994 to 2001, an average of about 211,000 students a year

---

[24] The consolidation rate of 4.06 percent, reported in the President's budget, was lower than 4.125 percent, because rates dropped further in the last quarter of the fiscal year.

consolidated FFEL loans; in 2002 and 2003, with low interest rates, the average jumped nearly four-fold to 963,800 a year. Moreover, from 1995 to 2001, when the interest rate for a typical consolidation loan averaged 7.9 percent, total consolidations averaged $5.085 billion a year; as the interest rate fell to 4.125 percent in 2002 and 3.5 percent in 2003, the total loans consolidated jumped to $22.9 billion and $34.9 billion respectively.[25] When interest rise again, that increase will produce large taxpayer payments to consolidators with these large portfolios of low-fixed rate loans.

Future taxpayers are not the only ones who will bear the long-term costs of loans consolidated at the low fixed rates of this period. As government payments to lenders rise sharply, as they will with higher interest rates, some of those costs will probably come out of college access for future students: Unless the public commitment to support access to higher education *increases,* the rising costs in future years of subsidizing past loan consolidations could cut into the funds available for college loans in the future. At a minimum, reforming the loan consolidation program so that the interest rates on these loans adjust annually, as they are with all other student loans, will save taxpayers billions of dollars that would be available for future college students.

V. *Calculating the Long-Term Costs of Fixed-Rate Loan Consolidation*

The long-term costs of the loan-consolidation program have not been a contentious public issue of late because, as already noted, falling interest rates can produce a positive net cash flow for the program; and from 1995 to 2002, interest rates fell in five out of seven years. In addition, the impact of low interest rates on the costs of

---

[25] U.S. Department of Education, *Student Loan Volume Tables – FY 2005 President's Budget Loan Volumes,* "Net Commitments by Fiscal Year, Federal Family Education Loans."

the program has often been underestimated. Advocates of the current fixed-rate arrangements, especially some large private consolidators, have claimed recently that the consolidation program will generate a positive cash flow for government for the rest of this decade, citing one aspect of one recent study.[26] In fact, that study concluded that FFEL loans consolidated in FY 2003 and 2004 will cost the government, on a net basis, $3.5 billion over FY 2005-2010.

It is clear even from that study that the cost will be much greater than that. To begin, the study's $3.5 billion estimate relied on outdated assumptions from 2002, including a forecast of $17 billion in FFEL loan consolidation in FY 2003. The current federal budget (FY 2005) estimates FY 2003 FFEL consolidation at more than twice that level, $34.9 billion. Based on historical patterns, the final tally for FY 2004 could be even higher. The study further understates the long-term costs of fixed-rate consolidation by using outdated interest-rate assumptions. The analysis forecast that the rate for 91-day Treasury bills would reach 3.5 percent this year and 4.8 percent in FY 2005; so far this year, the T-bill rate has barely exceeded 1.1 percent, CBO expects the rate to go no higher than 1.7 percent in FY 2004, and the Office of Management and Budget expects the FY 2005 rate to be 2.8 percent. The lower the actual rate in this period, the higher the long-term costs for taxpayers when rates rise in the future.

To explore these issues systematically, we have applied a simulation procedure to generate the likely paths of future interest rates based on historical experience. From these simulations, we constructed estimates of the probabilities of particular deviations from those paths, and estimates of the stock of consolidated debt subject to government

---

[26] The August 2003 study, "The Net Incremental Cash Flow and Budget Effects of the FFEL Consolidation Loan Program, FY 2005-FY 2010," was conducted by Ernst & Young for the Collegiate Funding Services

payments. From these results we calculated the cost of the program going forward at the mean expected interest rate and elsewhere in the distribution of future rates as well.

To begin, we gathered historical quarterly data on the 3-month commercial paper rate and estimated a time series model using four lags.[27] This model found that the most probable outcome over the next 18 months is interest rates close to those of the present, consistent with recent forecasts that project relatively low rates this year and next year. The model also estimated the probabilities of interest rates at various levels above or below those considered most likely. (See Appendix, Table A, for the estimated equation.)

We used this equation to generate a simulation of future interest rates, starting from recent history. While interest rates usually change fairly gradually, rapid changes can occur as well. Going forward, we simulated the possible future path of interest rates by drawing shocks to interest rates from a normal distribution with a standard error consistent with our time-series estimates. We repeated this process 1,000 times in order to construct the entire distribution of projected future interest rate paths that would be consistent with historical data. Table 3 records the estimates for the annual average interest rate on 3-month commercial paper (the basis for government payments to loan consolidators) and its standard deviation. If the standard deviation is small, then it means that there is a great deal of certainty concerning the likely value of future interest rates. If the standard deviation is large, then there is uncertainty about the likely level of future rates. It also shows for comparison the CBO's March 2004 forecast for commercial paper. We also run our forecast out well beyond the CBO forecast.

Corporation, a large student-loan consolidation company.
[27] Federal Reserve Statistical Releases & Bloomberg

Table 4. Projected Future Interest Rates on 90-Day Commercial Paper

Year	Commercial Paper Rate (Avg Annual)	Standard Deviation (Avg Annual)	CBO CP Rate Estimate[28]
2004	1.7161%	0.9614	3.39%
2005	3.1789	2.0723	4.47
2006	4.1371	2.4488	5.10
2007	4.8029	2.7340	5.12
2008	5.2321	2.8148	5.12
2009	5.4241	2.7966	5.12
2010	5.6054	2.8908	5.12
2011	5.6782	2.8879	5.12
2012	5.7185	2.9594	5.12
2013	5.6941	2.8788	5.12
2014	5.7547	2.9897	5.12
2015	5.7892	2.9812	5.12
2016	5.7957	3.0588	5.12
2017	5.8127	3.0175	5.12
2018	5.8305	2.9343	5.12
2019	5.8954	2.9149	5.12
2020	5.8908	2.8907	5.12
2021	5.8333	2.9796	5.12
2022	5.8304	2.9025	5.12
2023	5.8791	2.9314	5.12
2024	5.8160	2.9429	5.12

These projections show that in the most likely case, the mean interest rate on commercial paper rate will increase to more than 5 percent over the next four years and range from 5.6 percent to 5.9 percent from 2010 to 2024. The model also suggests that the probability of observing interest rates higher than about 8 percentage points (above the mean by one standard deviation) is quite low (only about 16 percent). It is noteworthy that this approach produced a path for interest rates which is highly consistent with the long-term forecast of the Congressional Budget Office. This consistency suggests that that our analysis of potential deviations from the mean baseline interest-rate

forecast is also generally consistent with the basic reasoning and modeling used by CBO and other government forecasting experts.

In order to assess the budgetary costs associated with this interest rate forecast, we obtained data on the existing stock of consolidated student-loan debt, the mean expected lifetime of that stock of debt, and the mean interest rate for that stock. As the fiscal year 2004 is well underway, we incorporated OMB estimates for FY 2004 into this analysis. We found that the current stock of outstanding debt for FFEL loans to be more than $100 billion, the expected average lifetime of that debt is nearly 21 years (20.89 years), and the average fixed interest rate on the loans comprising that debt is 5.52 percent. Using these data, we estimated a repayment schedule for the stock of debt, assuming that all principal is repaid by the last year and that the pattern of repayment follows that of other standard, fixed-rate debt. Using these assumptions and estimates, we calculated the size of the stock of outstanding consolidated student-loan debt for each year, until the current stock of debt would be fully retired. The level of outstanding debt remaining from the current stock in each year is shown in Table 4. (We turn to estimating the budget impact of future debt in a moment.)

---

[28] *CBO,* March 2004 Baseline Forecast, Table 10.

Table 5. Projected Stock of Today's Outstanding Consolidated Debt[29]

2004	$104,621,896,306
2005	$101,863,865,150
2006	$98,932,080,624
2007	$95,815,596,430
2008	$92,502,776,662
2009	$88,981,252,363
2010	$85,237,875,346
2011	$81,258,669,096
2012	$77,028,776,594
2013	$72,532,404,842
2014	$67,752,765,898
2015	$62,672,014,194
2016	$57,271,179,911
2017	$51,530,098,146
2018	$45,427,333,628
2019	$38,940,100,685
2020	$32,044,178,166
2021	$24,713,819,013
2022	$16,921,654,125
2023	$8,638,590,177
2024	$0

Using our projections for interest rates and the stock of outstanding debt, we then calculated the federal costs associated with the current stock of consolidated student loans. Given the projected future path of commercial paper rates and the current fixed-rate terms of the consolidation program, the results are striking. Table 5 shows the annual taxpayer costs for the baseline case, as well as the costs if interest rates are one standard deviation or two standard deviations higher than the baseline forecast.

---

[29] We assumed that the current stock was one loan at the average interest rate and paid down the debt using the Sallie Mae Loan Consolidation Calculator which is available at http://www.salliemae.com/tools/calculators/consolidation/repay1.html.

Table 6. Federal Costs for the Current Stock of Consolidated Student Loans

	Baseline Interest Rates	CBO Interest Rates	One Standard Deviation	Two Standard Deviations
2004	($979,713,963)	($979,713,963)	($979,713,963)	($979,713,963)
2005	($964,999,867)	$532,748,015	$1,328,521,415	$3,439,425,614
2006	$188,104,833	$1,140,686,890	$2,610,774,350	$5,033,443,866
2007	$820,120,830	$1,123,916,946	$3,439,680,886	$6,059,240,943
2008	$1,188,745,690	$1,085,057,570	$3,792,553,485	$6,396,361,280
2009	$1,314,303,350	$1,043,750,090	$3,802,758,859	$6,291,214,369
2010	$1,413,579,661	$999,840,278	$3,877,610,590	$6,341,641,520
2011	$1,406,761,090	$953,164,188	$3,753,467,960	$6,100,174,830
2012	$1,364,576,775	$903,547,549	$3,644,193,600	$5,923,810,424
2013	$1,267,190,398	$850,805,109	$3,355,247,920	$5,443,305,441
2014	$1,224,755,316	$794,739,944	$3,250,364,805	$5,275,974,295
2015	$1,154,552,150	$735,142,726	$3,022,908,019	$4,891,263,889
2016	$1,058,763,841	$671,790,940	$2,810,573,432	$4,562,383,023
2017	$961,410,426	$604,448,051	$2,516,312,999	$4,071,215,572
2018	$855,624,022	$532,862,623	$2,188,610,413	$3,521,596,804
2019	$758,694,757	$456,767,381	$1,893,771,580	$3,028,848,403
2020	$622,867,894	$375,878,210	$1,549,158,425	$2,475,448,957
2021	$466,168,637	$289,893,097	$1,202,541,137	$1,938,913,638
2022	$318,699,917	$198,491,003	$809,856,783	$1,301,013,648
2023	$166,903,814	$101,330,663	$420,132,860	$673,361,905
2024	$0	$0	$0	$0
TOTAL	**$14,607,109,572**	**$12,415,147,312**	**$48,289,325,557**	**$81,788,924,459**

If interest rates move in the likely way, taxpayers will pay private consolidators almost $14 billion to subsidize the interest on the current stock of consolidated student loans over the lifetime of those loans. Moreover, there is a reasonable likelihood that the costs will be much higher: Over the lifetime of these loans, if interest rates are one standard deviation from their average -- which amounts to only a small upward swing in rates – taxpayers will pay private consolidators more than $48 billion to service the current stock of loans. If interest rates are a bit higher than the average path for only part of the time, then taxpayers will pay out somewhere between $14 billion and $48 billion. Moreover, our assumptions assume that there will be no additional costs because of

defaults, and also assume that there are no early debt retirements. The latter assumption, in particular, likely biases our estimates sharply downward. Debt consolidated recently has a much lower interest rate than debt that was consolidated farther back in history, which accounts for the relatively high average interest rate on consolidated debt. Borrowers paying the high rates will likely retire their debt, making the effective interest rate on future debt much lower than 5.52 percent.

These projections do not exhaust the reasonable possibilities. Hedge funds and other financial firms often use two standard deviation negative movements to define the level of risk of their investments. In the less likely, but still quite conceivable, case that interest rates are two standard deviations higher than the average forecast – for example, if we experienced an extended bout of higher inflation from a series of oil shocks – taxpayers will have to pay private consolidators more than $81 billion to service the current stock of fixed rate loans. The current arrangements appear to be financially imprudent, at the very least: With a stock of about $104 billion in outstanding FFEL loans, the current consolidation program has an enormous value at risk, relative to its capital. [30]

Up to this point, our analysis has been retrospective, covering only student loans which already have been consolidated. Assuming that the current program continues without change, we can also estimate the additional taxpayer costs going forward. These costs will be substantial in the baseline interest-rate forecast, since rates are projected to increase gradually over time. Applying the same model to estimates of future loan

---

[30] It is worth noting that the budget costs associated with very high interest rates are accurate, but that the counter-factual comparison to adjustable rate debt is complicated by a cap on borrower interest rates of 8.25 percent. That adjustable rate cap would also be quite costly should interest rates rise by two standard deviations.

consolidation starting in 2004, Table 6 gives the year-to-year cost for new cumulative debt starting in 2004. To evaluate these costs, we assumed that the consolidation interest rate would increase sharply in future years, climbing to 7 percent by the end of the decade. Even with this very generous assumption about the path of future interest rates, the cost to taxpayers of this program is enormous.[31] We should note that the very high costs associated with the current stock of consolidated debt occurred because interest rates sank after rising sharply. It will undoubtedly be the case that such an occurrence will repeat itself, and at that point in the future, the large budget costs currently seen will reoccur.

Table 7. Taxpayer Cost for New Consolidated Loans
Over the Lifetime of the Loans

2004	*$14,607,109,573*
2005	$6,936,393,029
2006	$4,353,966,690
2007	$3,103,929,969
2008	$2,641,552,582
2009	$1,880,431,206
2010	$1,500,897,791
2011	$974,480,286
Total	**$35,998,761,126**

Taxpayers already have acquired a substantial future liability for the existing stock of consolidated debt, along with considerable risk of much greater liabilities. However, policy changes could reduce much of the costs estimated in Table 6, since the loan consolidations assumed there have not yet occurred. In principle, if the terms of loan consolidation were the same as the underlying loans – variable rate loans adjusted

---

[31] The rates on new loans change in 2006 to 6.8% for Stafford loans and 7.9% for PLUS. These numbers assume that the future consolidation volume will be consistent with the OMB and Department of Education

annually -- the budgetary costs estimated above could in part become budgetary savings. A perfectly designed adjustable rate program could in theory recoup almost all of the costs estimated in this paper. Such a reform would reduce costs in expectation and, just as important, reduce the enormous risk exposure that the current program has incurred.

Finally, we should note that this program does provide heavy subsidies to borrowers. However, it is likely the taxpayer cost on these loans will go disproportionately to loans with balances over $20,000, which can stretch out payments for 20 years or greater. The longer the term of the loan, the longer the exposure to the government and the greater the taxpayer cost. In FY 2003, the average consolidated loan balance was about $27,000[32]. That exceeds the maximum amount a dependent undergraduate may borrow, so much of the taxpayer subsidies are going to subsidize loans to borrowers with graduate or professional degrees. Since the possible future costs of this program are enormous and may threaten the entire student loan program in the future, it is fair to conclude that heavy subsidies to relatively high lifetime income borrowers threaten loans to relatively low lifetime income students that are a primary target of government loan programs.

Appendix

Table A.
Regression output from simulation procedure
to provide forecasts of future interest rates

Variable	Coefficient	Std. Error	T-Stat	2-Tail Sig.
C	0.3879	0.2303	1.6846	0.0946
CPRATE(-1)	1.2396	0.0879	14.1005	0.0000
CPRATE(-2)	-0.5672	0.1349	-4.2038	0.0001
CPRATE(-3)	0.5029	0.1344	3.7415	0.0003
CPRATE(-4)	-0.2334	0.0887	-2.6326	0.0096
R-squared	0.9052	**Mean of dependent var**		6.9399
Adjusted R-squared	0.9021	**S.D. of dependent var**		3.2070
S.E. of regression	1.0033	**Sum of squared resid**		122.8056
Log likelihood	-178.0726	**F-statistic**		291.3437
Durbin-Watson stat	1.9991	**Prob (F-statistic)**		0.0000

Number of Observations: 127

Kevin A. Hassett is Director of Economic Policy Studies and Resident Scholar at the American Enterprise Institute. Before joining AEI, Dr. Hassett was a senior economist at the Board of Governors of the Federal Reserve System and an associate professor of economics and finance at the Graduate School of Business of Columbia University. He was the chief economic advisor to John McCain during the 2000 primaries. He has also served as a policy consultant to the U.S. Department of the Treasury during both the former Bush and Clinton administrations. He holds a B.A. from Swarthmore College and a Ph.D. from the University of Pennsylvania. Dr. Hassett is a member of the Joint Committee on Taxation's Dynamic Scoring Advisory Panel. He is the author, coauthor or editor of six books on economics and economic policy. He has published scholarly articles in the *American Economic Review*, the *Economic Journal*, the *Quarterly Journal of Economics*, the *Review of Economics and Statistics,* the *Journal of Public Economics*, and many other professional journals. His popular writings have been published in the *Wall Street Journal*, *the Atlantic Monthly*, *USA Today,* the *Washington Post*, and numerous other outlets. His economic commentaries are regularly aired on radio and television including recent appearances on the Today Show, the CBS Morning Show, Newshour with Jim Lehrer, Hardball, Moneyline and Power Lunch.

Dr. Robert J. Shapiro is chairman of Sonecon, LLC, a private economic advisory firm, and a non-resident Senior Fellow of the Brookings Institution and the Progressive Policy Institute. From 1997 to 2001, Dr. Shapiro was Under Secretary of Commerce for Economic Affairs. In that position, he oversaw economic policy for the Commerce Department and directed the Nation's major statistical agencies, including the Census Bureau as it conducted the 2000 decennial Census. Prior to that, he was co-founder and Vice President of the Progressive Policy Institute, and principal economic advisor to William Clinton in his 1991-1992 presidential campaign. He also has been Legislative Director for Senator Daniel P. Moynihan and Associate Editor of *U.S. News & World Report.* Dr. Shapiro has been a Fellow of Harvard University and Fellow of the National Bureau of Economic Research. He holds a Ph.D. and M.A. from Harvard University, an M.Sc. from the London School of Economics and Political Science, and an A.B. from the University of Chicago.