Congressional Research Service

MEMORANDUM May 15, 2013

To: The Honorable George Miller
U.S. House of Representatives
Attention: Mark Zuckerman

From: David P. Smole, Specialist in Education Policy

Subject: **Student Loan Interest Rate Analysis: Comparison of Cost to Borrowers Under Current Law, H.R. 1911, and a Permanent Extension of Current Interest Rates**

This memorandum is prepared in response to your request for analysis of the potential effects on borrowers of a proposal to amend the formulas used to set the interest rates charged to borrowers of federal student loans made through the William D. Ford Federal Direct Loan (DL) program.[1] You asked for a comparison of the total interest that future borrowers of DL program loans might pay on loans made according to three interest rate scenarios: (1) loans made with fixed interest rates as specified under current law, (2) loans made with variable interest rates as proposed under H.R. 1911, the Smarter Solutions for Students Act, and (3) loans made with the fixed interest rates currently in effect permanently extended.[2] You also asked for this analysis to be prepared for several cases of student and parent borrowers that you identified.

Interest Rate Scenarios

The three interest rate scenarios examined are briefly described below.

I. Current Law

Under current law, for loans first disbursed on or after July 1, 2013, Subsidized Stafford Loans and Unsubsidized Stafford Loans will be made with a fixed interest rate of 6.8%; and PLUS Loans will be made with a fixed rate of 7.9%. These interest rates will remain in effect from the time the loan is disbursed until it is paid in full.

[1] For additional information on federal student loans made through the DL program, see CRS Report R40122, *Federal Student Loans Made Under the Federal Family Education Loan Program and the William D. Ford Federal Direct Loan Program: Terms and Conditions for Borrowers*, by David P. Smole.

[2] An examination of the budgetary cost of permanently extending the interest rates currently in effect is beyond the scope of this memorandum.

II. H.R. 1911, the Smarter Solutions for Students Act

Under the Smarter Solutions for Students Act, beginning July 1, 2013, DL program loans would be variable rate loans on which the interest rate would adjust once per year on July 1. The interest rate would be indexed to the interest rate on the 10-year U.S. Treasury Note as of the last auction held prior to June 1. The rate on Subsidized Stafford Loans and Unsubsidized Stafford Loans would be the 10-year T-Note rate, plus 2.5%, with a cap of 8.5%; and the rate on PLUS Loans would be the 10-year T-Note rate, plus 4.5%, with a cap of 10.5%. CBO projections of 10-year U.S. Treasury Note interest rates are used in these student loan interest rate projections. These projected rates are presented below in **Table 1**.

Table 1. Projected Interest Rates on 10-Year U.S. Treasury Notes

(2013-2023)

Year	Interest Rate (projection)
2013Q2	2.02
2014Q2	2.57
2015Q2	3.35
2016Q2	4.24
2017Q2	4.95
2018Q2	5.20
2019Q2	5.20
2020Q2	5.20
2021Q2	5.20
2022Q2	5.20
2023Q2	5.20

Source: CBO, *The Budget and Economic Outlook: Fiscal Years 2013 to 2023*, Economic Baseline Projections, Feb. 2013.

Notes: Projections for the 2nd quarter of each year are shown.

III. Permanently Extend Interest Rates Currently in Effect

Under this policy option, the interest rates currently in effect for the 2012-2013 award year (AY) would be permanently extended for all loans made in future years. During award year AY 2012-2013, the interest rate on Subsidized Stafford Loans is a fixed rate of 3.4%, the rate on Unsubsidized Stafford Loans is a fixed rate of 6.8%, and the rate on PLUS Loans is a fixed rate of 7.9%.

Borrower Cases

As requested, six cases of student and parent borrowers were used as examples in this analysis. These cases are summarized below.

(A) Undergraduate dependent students who borrow Subsidized Stafford Loans up to the maximum annual loan amount for each of four years of undergraduate study. ($3,500 the 1st year, $4,500 the 2nd year, and $5,500 the 3rd & 4th years.) This would be a cumulative total of $19,000 in Subsidized Stafford Loans.

(B) Undergraduate dependent students who borrow Subsidized Stafford Loans up to the maximum annual loan amount, and who borrow Unsubsidized Stafford Loans up to the maximum total annual loan amount for each of four years of undergraduate study. (The same amounts as above in Subsidized Stafford Loans; and $2,000 per year in Unsubsidized Stafford Loans.) This would be a cumulative total of $19,000 in Subsidized Stafford Loans and $8,000 in Unsubsidized Stafford Loans.

(C) Parent borrowers who borrow $10,000 in PLUS Loans for each of four years of their child's undergraduate study. This would be a cumulative total of $40,000 in PLUS Loans.

(D) Undergraduate dependent students who borrow Subsidized Stafford Loans up to the maximum annual loan amount for each of five years of undergraduate study. ($3,500 the 1st year, $4,500 the 2nd year, $5,500 the 3rd & 4th years, and $4,000 the 5th year.) This would be a cumulative total of $23,000 in Subsidized Stafford Loans.

(E) Undergraduate dependent students who borrow Subsidized Stafford Loans up to the maximum annual loan amount, and who borrow Unsubsidized Stafford Loans up to the maximum total annual loan amount for each of five years of undergraduate study. (The same amounts as above in Subsidized Stafford Loans; and $2,000 per year in Unsubsidized Stafford Loans for years 1 through 4.) This would be a cumulative total of $23,000 in Subsidized Stafford Loans and $8,000 in Unsubsidized Stafford Loans.

(F) Parent borrowers who borrow $10,000 in PLUS Loans for each of five years of their child's undergraduate study. This would be a cumulative total of $50,000 in PLUS Loans.

Summary of Analysis

Estimates of the interest that borrowers would pay on student loans made to the six cases of borrowers according to the three interest rate scenarios described above are presented below in **Table 2**. For each borrower case and interest rate scenario, the following information is presented:

- Cumulative borrowed, by loan type.
- Interest that accrues while in school.
- Interest that accrues during the grace period.
- Loan balance at the start of repayment.
- Total interest paid (including interest that accrued while in school and the grace period, and interest accrued and paid during the repayment period).
- Total principal and interest paid.
- Monthly payment

Differences in total interest paid and the monthly payment are also shown between H.R. 1911 and current law, and between a permanent extension of current rates and current law.

Summary of Assumptions Used in Analysis

The following assumptions were made while preparing these interest rate calculations.

- All calculations are for loans made over a consecutive four or five year period beginning with AY2013-2014.

- Amounts borrowed per year are current law annual loan limits for Subsidized Stafford Loans to undergraduate students; and the maximum amount above the Subsidized Stafford Loan limit ($2,000) for Unsubsidized Stafford Loans.
- Loans are disbursed in two equal disbursements. The first disbursement occurs on September 1 and the second occurs on January 1. Interest starts to accrue on Unsubsidized Stafford Loans and PLUS Loans once a disbursement is made.
- Interest accrues during the grace period on all Subsidized Stafford Loans disbursed between July 1, 2012 and June 30, 2014; and on all Unsubsidized Stafford Loans and PLUS Loans.
- Borrowers defer payment of the interest that accrues while in school and during the grace period. This interest is capitalized at the beginning of repayment.
- Borrowers enter repayment on December 1.
- Loans are repaid according a standard 10-year repayment plan.
- Interest rates on Variable Rate Stafford Loans are calculated using CBO projections of 10-year U.S. Treasury Note interest rates (2nd quarter). CBO's projections do not extend past 2023. Projected rates for 2023 are used for future years.
- The interest rate on Variable Rate Stafford Loans adjusts July 1 of each year and remains in effect for the remainder of the year.

Description of Results

Results of the requested interest rate calculations are presented in **Table 2**. Below, please find a brief summary of the calculations for two of the cases.

Borrower of Both Subsidized and Unsubsidized Stafford Loans, 4 years of borrowing

Under current law, Borrower (B) would have borrowed $19,000 in Subsidized Stafford Loans and $8,000 in Unsubsidized Stafford Loans, for a total of $27,000. These loans would have a fixed interest rate of 6.8%. Borrower (B) would pay a total of $10,867 in interest, and the monthly payment would be $328.

If Borrower (B) borrowed the same amount, but under the terms proposed in H.R. 1911, he or she would pay an estimated total of $12,374 in interest, and the monthly payment would range from $337 to $340. Under H.R. 1911, Borrower (B) would pay $1,508 (13.9%) more in interest over a 10-year repayment period, and the monthly payment would be up to $12 (3.7%) more per month.

If Borrower (B) borrowed the same amount, but with current interest rates permanently extended, he or she would pay an estimated total of $7,033 in interest, and the monthly payment would be $296. With a permanent extension of current interest rates, Borrower (B) would pay $3,834 (35.3%) less in interest over a 10-year repayment period, and the monthly payment would be $32 (9.8%) less per month.

Parent Borrower, 4 years of borrowing

Under current law, Borrower (C) would have borrowed $10,000 in PLUS Loans per year for a total of $40,000. These loans would have a fixed interest rate of 7.9%. Borrower (C) would pay a total of $21,654 in interest, and the monthly payment would be $582.

If Borrower (C) borrowed the same amount, but under the terms proposed in H.R. 1911, he or she would pay an estimated total of $27,680 in interest, and the monthly payment would range from $626 to 633. Under H.R. 1911, Borrower (C) would pay $6,026 (27.8%) more in interest over a 10-year repayment period, and the monthly payment would be up to $51 (8.7%) more per month.

If Borrower (C) borrowed the same amount, but with current interest rates permanently extended, he or she would pay an estimated total of $21,654 in interest, and the monthly payment would be $582. This would be the same amount as projected under current law.

Table 2. Analysis of alternative student loan interest rate options for six borrower cases

Current law, H.R. 1911, and a permanent extension of rates currently in effect

	Borrower cases with four years of borrowing			Borrower cases with five years of borrowing[a]		
	(A)	**(B)**	**(C)**	**(D)**	**(E)**	**(F)**
Current Law						
Total cumulative borrowed	$ 19,000	$ 27,000	$ 40,000	$ 23,000	$ 31,000	$ 50,000
Subsidized: 6.8%	$ 19,000	$ 19,000		$ 23,000	$ 23,000	
Unsubsidized: 6.8%		$ 8,000			$ 8,000	
PLUS: 7.9%			$ 40,000			$ 50,000
Interest accrued in school	$ -	$ 1,133	$ 6,583	$ -	$ 1,677	$ 10,204
Interest accrued in grace	$ 119	$ 391	$ 1,580	$ 119	$ 391	$ 1,975
Balance at start of repayment	$ 19,119	$ 28,524	$ 48,163	$ 23,119	$ 33,068	$ 62,179
Total interest paid	$ 7,284	$ 10,867	$ 21,654	$ 8,808	$ 12,598	$ 27,956
Total principal and interest paid	$ 26,403	$ 39,391	$ 69,817	$ 31,927	$ 45,666	$ 90,135
Monthly payment	$ 220	$ 328	$ 582	$ 266	$ 381	$ 751
H.R. 1911						
Total cumulative borrowed	$ 19,000	$ 27,000	$ 40,000	$ 23,000	$ 31,000	$ 50,000
Subsidized: 10-year T-note, plus 2.5%	$ 19,000	$ 19,000		$ 23,000	$ 23,000	
Unsubsidized: 10-year T-note, plus 2.5%		$ 8,000			$ 8,000	
PLUS: 10-year T-note, plus 4.5%			$ 40,000			$ 50,000
Interest accrued in school	$ -	$ 991	$ 6,620	$ -	$ 1,582	$ 10,927
Interest accrued in grace	$ 128	$ 422	$ 1,866	$ 134	$ 440	$ 2,415
Balance at start of repayment	$ 19,128	$ 28,412	$ 48,486	$ 23,134	$ 33,022	$ 63,342
Total interest paid	$ 8,331	$ 12,374	$ 27,680	$ 10,109	$ 14,430	$ 35,848
Total principal and interest paid	$ 27,459	$ 40,787	$ 76,166	$ 33,243	$ 47,452	$ 99,190
Monthly payment[b]						

	Borrower cases with four years of borrowing			Borrower cases with five years of borrowing[a]		
	(A)	(B)	(C)	(D)	(E)	(F)
Minimum	$ 227	$ 337	$ 626	$ 277	$ 395	$ 827
Maximum	$ 229	$ 340	$ 633	$ 277	$ 395	$ 827
Difference from current law						
Difference in total interest[c]	$ 1,047	$ 1,508	$ 6,026	$ 1,302	$ 1,832	$ 7,892
Percent difference	14.4%	13.9%	27.8%	14.8%	14.5%	28.2%
Difference in monthly payment	$ 9	$ 12	$ 51	$ 11	$ 15	$ 75
Percent difference	4.1%	3.7%	8.7%	4.1%	3.9%	10.0%
Extend rates currently in effect						
Total cumulative borrowed	$ 19,000	$ 27,000	$ 40,000	$ 23,000	$ 31,000	$ 50,000
Subsidized: 3.4%	$ 19,000	$ 19,000		$ 23,000	$ 23,000	
Unsubsidized: 6.8%		$ 8,000			$ 8,000	
PLUS: 7.9%			$ 40,000			$ 50,000
Interest accrued in school	$ -	$ 1,133	$ 6,583	$ -	$ 1,677	$ 10,204
Interest accrued in grace	$ 60	$ 332	$ 1,580	$ 60	$ 332	$ 1,975
Balance at start of repayment	$ 19,060	$ 28,465	$ 48,163	$ 23,060	$ 33,009	$ 62,179
Total interest paid	$ 3,450	$ 7,033	$ 21,654	$ 4,174	$ 7,965	$ 27,956
Total principal and interest paid	$ 22,510	$ 35,498	$ 69,817	$ 27,234	$ 40,973	$ 90,135
Monthly payment	$ 188	$ 296	$ 582	$ 227	$ 341	$ 751
Difference from current law						
Difference in total interest[c]	$ (3,834)	$ (3,834)	$ -	$ (4,633)	$ (4,633)	$ -
Percent difference	-52.6%	-35.3%	0.0%	-52.6%	-36.8%	0.0%
Difference in monthly payment	$ (32)	$ (32)	$ -	$ (39)	$ (39)	$ -
Percent difference	-14.7%	-9.8%	0.0%	-14.7%	-10.3%	0.0%

Source: CRS analysis.

Notes:

All calculations are for loans made over a consecutive four or five year period beginning with AY2013-2014.

Amounts borrowed per year are current law annual loan limits for Subsidized Stafford Loans to undergraduate students; and the maximum amount above the Subsidized Stafford Loan limit ($2,000) for Unsubsidized Stafford Loans.

Loans are disbursed in two equal disbursements. The first disbursement occurs on Sept. 1 and the second occurs on Jan. 1. Interest starts to accrue on Unsubsidized Stafford Loans and PLUS Loans once a disbursement is made.

Interest accrues during the grace period on all Subsidized Stafford Loans disbursed between July 1, 2012 and June 30, 2014; and on all Unsubsidized Stafford Loans and PLUS Loans.

Borrowers defer payment of the interest that accrues while in school and during the grace period. This interest is capitalized at the beginning of repayment.

Loans are repaid according a standard 10-year repayment plan.

Interest rates on Variable Rate Stafford Loans are calculated using CBO projections of 10-year U.S. Treasury Note interest rates (2nd quarter). CBO's projections do not extend past 2023. Projected rates for 2023 are used for future years.

The interest rate on Variable Rate Stafford Loans adjusts July 1 of each year and remains in effect for the remainder of the year.

a. Fifth year borrowing is limited to $4,000 by the Subsidized Stafford Loan cumulative loan limit of $23,000 for undergraduate students who borrow up to the annual loan limits in prior years.

b. Variable rate loan. Monthly payment may increase or decrease with changes in the interest rate.

c. Total interest includes interest that accrues while in school and during the grace period, which is capitalized at the beginning of repayment; and interest that accrues and is paid during repayment according to the standard repayment plan.