

Congressional Budget Office
Washington, D.C.

**Estimated Loan Forgiveness for Selected Groups of
Borrowers: Supplemental Material for
*Income-Driven Repayment Plans for Student Loans***

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In this document, the Congressional Budget Office provides estimates of student loan forgiveness that supplement those provided in Nadia Karamcheva, Jeffrey Perry, and Constantine Yannelis, *Income-Driven Repayment Plans for Student Loans*, Working Paper 2020-02 (Congressional Budget Office, April 2020), www.cbo.gov/publication/56337. In that working paper, estimates of loan forgiveness were presented for all borrowers in income-driven repayment plans regardless of the type of plan, and earnings quintiles were based on borrowers' individual earnings. In this document, estimates of loan forgiveness are provided separately for borrowers in the Pay as You Earn plan (or the updated income-based repayment plan, which has very similar terms), and earnings quintiles are additionally defined on the basis of borrowers' household earnings.

Table 1: Projected Forgiveness for All Borrowers, by Loan Disbursement and Projected Individual Earnings

Undergraduate Borrowers					
Projected Earnings Quintiles					
Loan Disbursement Quintiles	Lowest	Second	Middle	Fourth	Highest
Lowest	1.3	0.3	0.1	0.0	0.0
Second	3.8	1.1	0.3	0.1	0.0
Middle	6.9	2.8	0.6	0.1	0.0
Fourth	11.6	5.9	1.5	0.4	0.0
Highest	17.2	12.4	6.8	2.2	0.3

Graduate Borrowers					
Projected Earnings Quintiles					
Loan Disbursement Quintiles	Lowest	Second	Middle	Fourth	Highest
Lowest	2.5	0.2	0.2	0.0	0.0
Second	7.8	3.4	0.6	0.3	0.0
Middle	16.8	7.3	2.0	0.6	0.1
Fourth	21.8	15.2	7.2	2.2	0.3
Highest	36.3	28.7	23.2	12.1	5.4

Source: Authors' calculations using data from the National Student Loan Data System and model projections.

The table shows projected forgiveness of loans as a percentage of the originally disbursed amount for all borrowers who entered repayment between 2010 and 2017, including those not in income-driven repayment plans. Forgiven amounts are discounted to their present value in the year of the loans' disbursement, using interest rates on Treasury securities.

Earnings are calculated as projected average annual individual earnings within the first 20 years after borrowers began repaying their loans. Quintiles of individual earnings and loan disbursements are defined within borrowers with the same level of education, regardless of their repayment plan; maximum values for quintiles are rounded to the nearest \$100. Individual earnings for undergraduate borrowers, in 2016 dollars, are \$0 to \$18,800 in the lowest quintile, \$18,801 to \$28,200 in the second quintile, \$28,201 to \$40,000 in the middle quintile, \$40,001 to \$59,000 in the fourth quintile, and \$59,001 or more in the highest quintile; individual earnings for graduate borrowers are \$0 to \$33,700 in the lowest quintile, \$33,701 to \$49,000 in the second quintile, \$49,001 to \$68,200 in the middle quintile, \$68,201 to \$98,000 in the fourth quintile, and \$98,001 or more in the highest quintile. Loan disbursements for undergraduate borrowers, in 2016 dollars, are \$0 to \$5,600 in the lowest quintile, \$5,601 to \$10,700 in the second quintile, \$10,701 to \$19,000 in the middle quintile, \$19,001 to \$29,300 in the fourth quintile, and \$29,301 or more in the highest quintile; loan disbursements for graduate borrowers are \$0 to \$30,900 in the lowest quintile, \$30,901 to \$49,000 in the second quintile, \$49,001 to \$70,200 in the middle quintile, \$70,201 to \$108,400 in the fourth quintile, and \$108,401 or more in the highest quintile.

Table 2: Projected Forgiveness for Borrowers in Income-Driven Repayment Plans, by Loan Disbursement and Projected Individual Earnings

Undergraduate Borrowers					
Projected Earnings Quintiles					
Loan Disbursement Quintiles	Lowest	Second	Middle	Fourth	Highest
Lowest	17.1	5.6	1.1	0.8	0.0
Second	19.8	7.7	2.2	1.0	0.0
Middle	23.3	12.4	3.5	1.0	0.1
Fourth	26.7	17.7	5.7	2.1	0.2
Highest	28.4	22.9	14.8	5.5	1.0

Graduate Borrowers					
Projected Earnings Quintiles					
Loan Disbursement Quintiles	Lowest	Second	Middle	Fourth	Highest
Lowest	11.6	1.5	1.7	0.5	0.1
Second	17.6	9.4	2.5	1.3	0.0
Middle	25.8	14.5	5.1	1.9	0.4
Fourth	30.7	23.8	12.5	5.2	1.1
Highest	43.2	40.2	34.0	21.1	11.6

Source: Authors' calculations using data from the National Student Loan Data System and model projections.

The table shows projected forgiveness of loans as a percentage of the originally disbursed amount for all borrowers who entered repayment between 2010 and 2017 and were enrolled in an income-driven repayment plan in 2017. Forgiven amounts are discounted to their present value in the year of the loans' disbursement, using interest rates on Treasury securities.

Earnings are calculated as projected average annual individual earnings within the first 20 years after borrowers began repaying their loans. Quintiles of individual earnings and loan disbursements are defined within borrowers with the same level of education, regardless of their repayment plan; maximum values for quintiles are rounded to the nearest \$100. Individual earnings for undergraduate borrowers, in 2016 dollars, are \$0 to \$18,800 in the lowest quintile, \$18,801 to \$28,200 in the second quintile, \$28,201 to \$40,000 in the middle quintile, \$40,001 to \$59,000 in the fourth quintile, and \$59,001 or more in the highest quintile; individual earnings for graduate borrowers are \$0 to \$33,700 in the lowest quintile, \$33,701 to \$49,000 in the second quintile, \$49,001 to \$68,200 in the middle quintile, \$68,201 to \$98,000 in the fourth quintile, and \$98,001 or more in the highest quintile. Loan disbursements for undergraduate borrowers, in 2016 dollars, are \$0 to \$5,600 in the lowest quintile, \$5,601 to \$10,700 in the second quintile, \$10,701 to \$19,000 in the middle quintile, \$19,001 to \$29,300 in the fourth quintile, and \$29,301 or more in the highest quintile; loan disbursements for graduate borrowers are \$0 to \$30,900 in the lowest quintile, \$30,901 to \$49,000 in the second quintile, \$49,001 to \$70,200 in the middle quintile, \$70,201 to \$108,400 in the fourth quintile, and \$108,401 or more in the highest quintile.

Table 3: Projected Forgiveness for Borrowers in the PAYE Plan, by Loan Disbursement and Projected Individual Earnings

Undergraduate Borrowers					
Projected Earnings Quintiles					
Loan Disbursement Quintiles	Lowest	Second	Middle	Fourth	Highest
Lowest	35.5	12.4	2.2	1.9	0.0
Second	31.9	16.3	2.4	2.4	0.2
Middle	36.7	22.3	8.0	1.8	0.3
Fourth	40.3	28.6	11.6	5.0	1.1
Highest	43.5	37.1	28.8	9.4	2.2

Graduate Borrowers					
Projected Earnings Quintiles					
Loan Disbursement Quintiles	Lowest	Second	Middle	Fourth	Highest
Lowest	22.2	5.3	1.8	1.1	0.2
Second	33.9	19.4	8.1	4.5	0.0
Middle	44.5	29.5	15.1	7.7	2.2
Fourth	50.0	50.1	33.7	16.9	5.3
Highest	77.1	79.3	60.3	52.4	34.4

Source: Authors' calculations using data from the National Student Loan Data System and model projections.

The table shows projected forgiveness of loans as a percentage of the originally disbursed amount for all borrowers who entered repayment between 2010 and 2017 and were enrolled in the Pay as You Earn plan (or the updated income-based repayment plan, which covers borrowers who first took out loans on or after July 1, 2014, and has very similar terms) in 2017. Forgiven amounts are discounted to their present value in the year of the loans' disbursement, using interest rates on Treasury securities.

Earnings are calculated as projected average annual individual earnings within the first 20 years after borrowers began repaying their loans. Quintiles of individual earnings and loan disbursements are defined within borrowers with the same level of education, regardless of their repayment plan; maximum values for quintiles are rounded to the nearest \$100. Individual earnings for undergraduate borrowers, in 2016 dollars, are \$0 to \$18,800 in the lowest quintile, \$18,801 to \$28,200 in the second quintile, \$28,201 to \$40,000 in the middle quintile, \$40,001 to \$59,000 in the fourth quintile, and \$59,001 or more in the highest quintile; individual earnings for graduate borrowers are \$0 to \$33,700 in the lowest quintile, \$33,701 to \$49,000 in the second quintile, \$49,001 to \$68,200 in the middle quintile, \$68,201 to \$98,000 in the fourth quintile, and \$98,001 or more in the highest quintile. Loan disbursements for undergraduate borrowers, in 2016 dollars, are \$0 to \$5,600 in the lowest quintile, \$5,601 to \$10,700 in the second quintile, \$10,701 to \$19,000 in the middle quintile, \$19,001 to \$29,300 in the fourth quintile, and \$29,301 or more in the highest quintile; loan disbursements for graduate borrowers are \$0 to \$30,900 in the lowest quintile, \$30,901 to \$49,000 in the second quintile, \$49,001 to \$70,200 in the middle quintile, \$70,201 to \$108,400 in the fourth quintile, and \$108,401 or more in the highest quintile.

PAYE = Pay as You Earn.

Table 4: Projected Forgiveness for all Borrowers, by Loan Disbursement and Projected Household Earnings

Undergraduate Borrowers					
Projected Earnings Quintiles					
Loan Disbursement Quintiles	Lowest	Second	Middle	Fourth	Highest
Lowest	1.3	0.2	0.1	0.0	0.0
Second	3.9	0.9	0.3	0.1	0.1
Middle	8.1	1.7	0.5	0.2	0.1
Fourth	14.6	4.1	1.0	0.3	0.1
Highest	24.9	12.8	4.8	1.4	0.3

Graduate Borrowers					
Projected Earnings Quintiles					
Loan Disbursement Quintiles	Lowest	Second	Middle	Fourth	Highest
Lowest	2.2	0.4	0.1	0.1	0.0
Second	10.1	1.6	0.6	0.2	0.1
Middle	20.1	4.3	1.9	0.6	0.1
Fourth	28.5	12.4	4.1	1.5	0.3
Highest	42.0	30.6	17.8	9.2	3.2

Source: Authors' calculations using data from the National Student Loan Data System and model projections.

The table shows projected forgiveness of loans as a percentage of the originally disbursed amount for all borrowers who entered repayment between 2010 and 2017, including those not in income-driven repayment plans. Forgiven amounts are discounted to their present value in the year of the loans' disbursement, using interest rates on Treasury securities.

Earnings are calculated as projected average annual household earnings within the first 20 years after borrowers began repaying their loans. Quintiles of household earnings and loan disbursements are defined within borrowers with the same level of education; maximum values for quintiles are rounded to the nearest \$100. Household earnings for undergraduate borrowers, in 2016 dollars, are \$0 to \$27,500 in the lowest quintile, \$27,501 to \$40,400 in the second quintile, \$40,401 to \$55,800 in the middle quintile, \$55,801 to \$81,300 in the fourth quintile, and \$81,301 or more in the highest quintile; household earnings for graduate borrowers are \$0 to \$50,440 in the lowest quintile, \$50,441 to \$73,900 in the second quintile, \$73,901 to \$101,100 in the middle quintile, \$101,101 to \$142,900 in the fourth quintile, and \$142,901 or more in the highest quintile. Loan disbursements for undergraduate borrowers, in 2016 dollars, are approximately \$0 to \$5,600 in the lowest quintile, \$5,601 to \$10,700 in the second quintile, \$10,701 to \$19,000 in the middle quintile, \$19,001 to \$29,300 in the fourth quintile, and \$29,301 or more in the highest quintile; loan disbursements for graduate borrowers are \$0 to \$30,900 in the lowest quintile, \$30,901 to \$49,000 in the second quintile, \$49,001 to \$70,200 in the middle quintile, \$70,201 to \$108,400 in the fourth quintile, and \$108,401 or more in the highest quintile.

Table 5: Projected Forgiveness for Borrowers in Income-Driven Repayment Plans, by Loan Disbursement and Projected Household Earnings

Undergraduate Borrowers					
Projected Earnings Quintiles					
Loan Disbursement Quintiles	Lowest	Second	Middle	Fourth	Highest
Lowest	19.8	2.9	1.2	0.6	0.3
Second	22.8	6.5	2.4	1.5	0.7
Middle	30.1	8.2	2.8	1.1	0.5
Fourth	36.9	13.0	3.9	1.6	0.6
Highest	41.7	24.8	10.6	3.4	0.8

Graduate Borrowers					
Projected Earnings Quintiles					
Loan Disbursement Quintiles	Lowest	Second	Middle	Fourth	Highest
Lowest	13.9	3.1	0.5	0.9	0.1
Second	22.6	5.3	2.2	1.0	0.7
Middle	32.6	9.2	4.7	2.0	0.3
Fourth	41.2	20.4	7.4	3.1	0.8
Highest	53.2	41.6	27.4	15.5	6.6

Source: Authors' calculations using data from the National Student Loan Data System and model projections.

The table shows projected forgiveness of loans as a percentage of the originally disbursed amount for all borrowers who entered repayment between 2010 and 2017 and were in income-driven repayment plans in 2017. Forgiven amounts are discounted to their present value in the year of the loans' disbursement, using interest rates on Treasury securities.

Earnings are calculated as projected average annual household earnings within the first 20 years after borrowers began repaying their loans. Quintiles of household earnings and loan disbursements are defined within borrowers with the same level of education; maximum values for quintiles are rounded to the nearest \$100. Household earnings for undergraduate borrowers, in 2016 dollars, are \$0 to \$27,500 in the lowest quintile, \$27,501 to \$40,400 in the second quintile, \$40,401 to \$55,800 in the middle quintile, \$55,801 to \$81,300 in the fourth quintile, and \$81,301 or more in the highest quintile; household earnings for graduate borrowers are \$0 to \$50,440 in the lowest quintile, \$50,441 to \$73,900 in the second quintile, \$73,901 to \$101,100 in the middle quintile, \$101,101 to \$142,900 in the fourth quintile, and \$142,901 or more in the highest quintile. Loan disbursements for undergraduate borrowers, in 2016 dollars, are approximately \$0 to \$5,600 in the lowest quintile, \$5,601 to \$10,700 in the second quintile, \$10,701 to \$19,000 in the middle quintile, \$19,001 to \$29,300 in the fourth quintile, and \$29,301 or more in the highest quintile; loan disbursements for graduate borrowers are \$0 to \$30,900 in the lowest quintile, \$30,901 to \$49,000 in the second quintile, \$49,001 to \$70,200 in the middle quintile, \$70,201 to \$108,400 in the fourth quintile, and \$108,401 or more in the highest quintile.

Table 6: Projected Forgiveness for Borrowers in the PAYE Plan, by Loan Disbursement and Projected Household Earnings

Undergraduate Borrowers					
Projected Earnings Quintiles					
Loan Disbursement Quintiles	Lowest	Second	Middle	Fourth	Highest
Lowest	38.4	6.0	4.4	3.2	0.9
Second	37.7	11.6	4.1	2.4	2.7
Middle	44.5	16.6	6.5	2.2	0.8
Fourth	52.4	23.9	9.4	1.8	1.5
Highest	54.5	42.1	19.0	7.0	1.8

Graduate Borrowers					
Projected Earnings Quintiles					
Loan Disbursement Quintiles	Lowest	Second	Middle	Fourth	Highest
Lowest	30.7	5.6	1.5	2.1	0.2
Second	42.3	12.3	8.2	3.4	2.4
Middle	57.2	24.2	15.2	5.7	1.5
Fourth	64.0	48.2	21.2	9.9	4.5
Highest	89.8	73.1	55.6	43.6	25.2

Source: Authors' calculations using data from the National Student Loan Data System and model projections.

The table shows projected forgiveness of loans as a percentage of the originally disbursed amount for all borrowers who entered repayment between 2010 and 2017 and were in the Pay as You Earn plan (or the updated income-based repayment plan, which covers borrowers who first took out loans on or after July 1, 2014, and has very similar terms) in 2017. Forgiven amounts are discounted to their present value in the year of the loans' disbursement, using interest rates on Treasury securities.

Earnings are calculated as projected average annual household earnings within the first 20 years after borrowers began repaying their loans. Quintiles of household earnings and loan disbursements are defined within borrowers with the same level of education; maximum values for quintiles are rounded to the nearest \$100. Household earnings for undergraduate borrowers, in 2016 dollars, are \$0 to \$27,500 in the lowest quintile, \$27,501 to \$40,400 in the second quintile, \$40,401 to \$55,800 in the middle quintile, \$55,801 to \$81,300 in the fourth quintile, and \$81,301 or more in the highest quintile; household earnings for graduate borrowers are \$0 to \$50,440 in the lowest quintile, \$50,441 to \$73,900 in the second quintile, \$73,901 to \$101,100 in the middle quintile, \$101,101 to \$142,900 in the fourth quintile, and \$142,901 or more in the highest quintile. Loan disbursements for undergraduate borrowers, in 2016 dollars, are approximately \$0 to \$5,600 in the lowest quintile, \$5,601 to \$10,700 in the second quintile, \$10,701 to \$19,000 in the middle quintile, \$19,001 to \$29,300 in the fourth quintile, and \$29,301 or more in the highest quintile; loan disbursements for graduate borrowers are \$0 to \$30,900 in the lowest quintile, \$30,901 to \$49,000 in the second quintile, \$49,001 to \$70,200 in the middle quintile, \$70,201 to \$108,400 in the fourth quintile, and \$108,401 or more in the highest quintile..

PAYE = Pay as You Earn.