The PROSPER Act Changes the Math for Student Loan Borrowers

Methodology

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December 2017

I make several assumptions to project student loan repayment under the PAYE (Pay as You Earn), REPAYE (Revised Pay as You Earn), and PROSPER plans: I use a discount rate of 3 percent, I assume the borrower is employed every year and that her annual adjusted gross income increases 4 percent each year, I use the 2017 definition of the federal household poverty level for a single individual and inflate it 2 percent each year, and I use a 4.45 percent interest rate for all estimates, which is the current rate for direct subsidized and unsubsidized loans.

Federal student loan interest is compounded daily. I employ a daily compound interest formula to determine the standard 10-year monthly payment for the PAYE estimate and to calculate the full repayment of the loan under the PROSPER plan. But to simplify my calculations for plan outcomes at each income level, I use annual compounding interest. My PAYE and REPAYE estimates are typically within $1,000 of estimates generated by the US Department of Education repayment estimator, and these estimates are more sensitive to changes in my other assumptions (e.g., income increases) than in the compounding period for interest.

I also make assumptions when analyzing the PROSPER plan. For example, I assume the borrower does not reduce her monthly payments to $5 in times of financial hardship. I assume that the mandatory payment minimum of $25 dollars does not increase and that the total amount due on the loan under a 10-year repayment plan does not adjust for inflation.

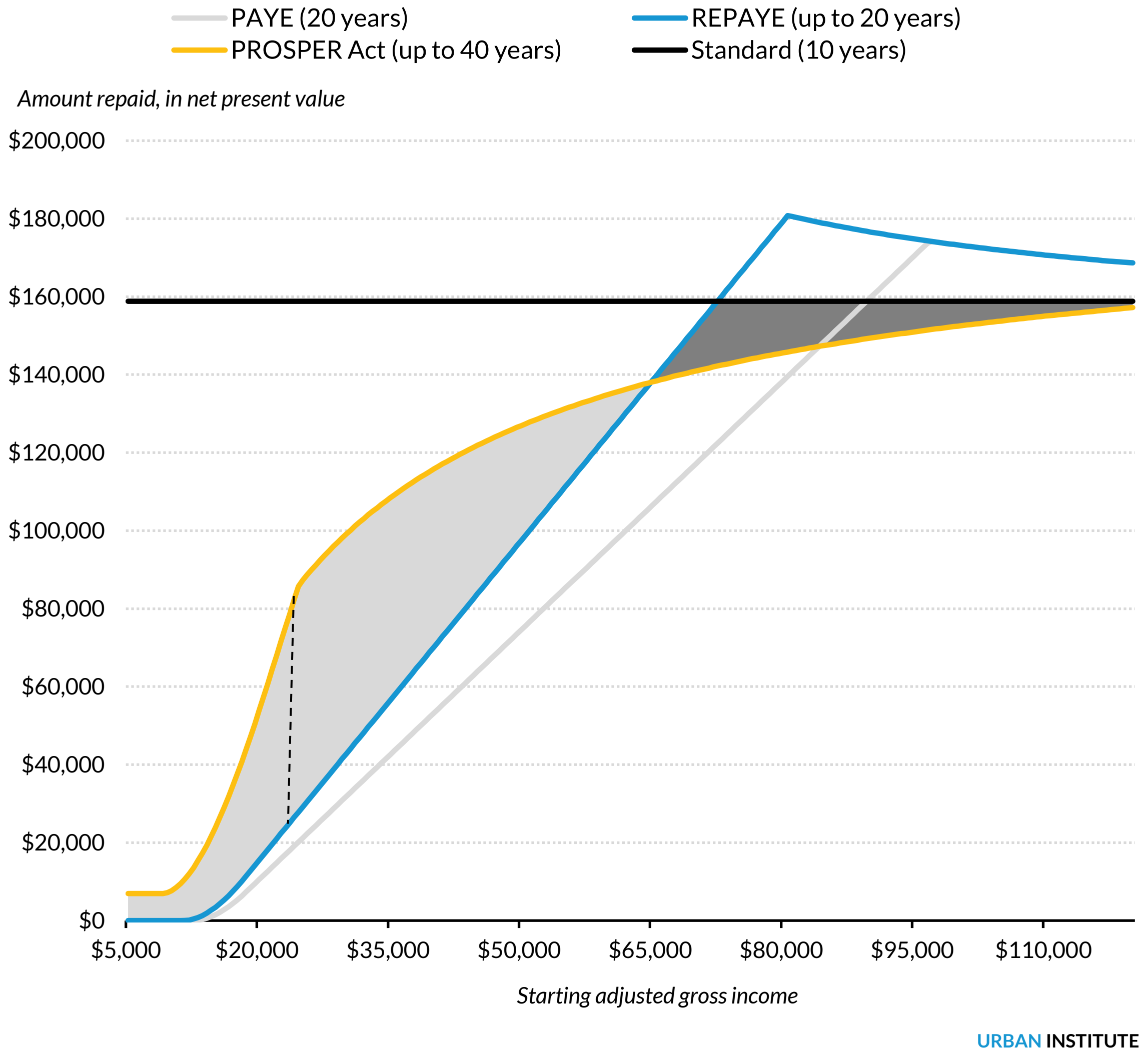
Below, I present the results of an additional analysis, where I show the payments made on a $150,000 loan under the PAYE, REPAYE, and the PROSPER plans (figure 1). I allow the 25-year window required under REPAYE for those with graduate debt, and I extend the starting adjusted gross income to $120,000. I also implement the PAYE cap on monthly payments, which limits payments to the amount that would be paid under a standard 10-year plan.

This analysis shows that most high-debt borrowers pay more (in present-value terms) under PROSPER than under the more generous of the current options (PAYE), but the difference is largest for middle-income borrowers. Because they pay down their loans faster, high-income borrowers may pay less under PROSPER than under PAYE and REPAYE.

FIGURE 1

Estimated Repayment on a $150,000 Student Loan

By starting adjusted gross income, for up to 40 years



Source: Urban Institute analysis of proposed income-based repayment plan in the PROSPER Act.

Notes: PAYE = Pay as You Earn; REPAYE = Revised Pay as You Earn. Loan is estimated using a 4.45 percent interest rate with no fees.

About the Author

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