



Student Loan Market Demand Study and Cost Analysis

SL Capital Strategies

June 25, 2019

To: County Council

From: Blaise DeFazio, Senior Legislative Analyst
Office of Legislative Oversight

Subject: **Student Loan Market Demand Study and Cost Analysis**

In 2016 the Maryland State legislature passed enabling legislation allowing Montgomery County to establish a Student Loan Financing Authority. To do so, the bill states that the County must conduct a study that meets certain conditions including: performing a feasibility and demand study; assessing the potential benefit of recruitment and retention of County school system employees; and studying the operation and costs of similar programs in other jurisdictions.

In June 2017, the Office of Legislative Oversight (OLO) completed OLO Report 2017-8, Student Loan Refinancing Authority, it found that it would be feasible to establish a student loan refinancing authority in Montgomery County and recommended the County engage a consultant to conduct a professional, detailed market demand study. The consultant would help the County determine the student loan market, competition, viable loan products, marketing strategies, and steps for a rollout plan. Through subsequent Council committee meetings, it was also recommended that a cost analysis occur.

In the fall of 2018, OLO chose SL Capital Strategies to complete the student loan market demand study and cost analysis, which follows this cover memo. The objectives of the market demand study and the cost analysis are below.

Market Demand Study

- Define proposed feasible lending products (includes product eligibility, rates, and terms).
- Describe the market and industry positioning the Montgomery County Student Loan Revenue Authority (SLRA) would compete with (the value proposition to the target market; how the proposed product aligns with competition; competitive position vis-à-vis state refinancing programs currently open to Montgomery County residents) for select markets.
- Depict market sizing and opportunities (estimation of opportunity for volume within the target population; opportunities and cost details for product marketing).
- Provide potential loan product growth (from implementation through five years).
- Recommend next steps and a rollout plan for a SLRA.

Cost Analysis

- Develop a sensitivity analysis of the demand/cost of the program, utilizing private and federal student loan data, and credit bureau data that will create a decision model for application criteria.
- Provide insights regarding the extent to which key variables – such as credit score mix or requiring a completed two- or four-year degree – will affect market demand and program cost.
- Review sources of initial start-up funding for the refinancing program, including grants or loans from the County's General Fund, and the possible mix of taxable and tax-exempt debt, based on the target market.

Student Loan Market Demand Study and Cost Analysis

- Review reserve fund amounts and other factors that would affect bond ratings for debt issued to fund the program.
- Determine when the program could break-even, based upon assumptions regarding: spread between cost of borrowing and charged interest rates and fees; default reserve fund, start-up costs and ongoing operational support; and other cash support reasonably necessary to support the program.
- Determine when any loans from the County to cover start-up costs could be repaid, based on the same assumptions identified in the previous bullet.

Report Summary

SL Capital Strategies' Executive Summary is on pages 2-6. SL Capital Strategies confirmed OLO's 2017 report findings that there is demand in Montgomery County and Maryland overall for private and refinanced student loans. Maryland's \$39.2 thousand average student loan debt balance is the highest for all 50 states (the District of Columbia is higher, with a \$51.7 thousand average student loan debt balance). Furthermore, SL recommended that the County should consider administering a program for refinanced and private, in-school loans. Private in-school loans include student and parent loans, which help cover the difference between an institution's total cost of attendance and all available aid a student receives (i.e., state, federal, scholarship, or institutional).

SL recommended adding private student loans because: 1) there is a larger interest margin compared to refinanced loans, creating a lower risk and higher probability that the entire loan program will continue long-term; 2) it is the standard for state-based or non-profit private loan programs to have at least a private loan program to ensure sustainability; and 3) they can use tax-exempt bonds, unlike refinanced loans,¹ diversifying the program portfolio and hedging against smaller margins for error with refinanced loans.

The table below lists the recommended program attributes, based on SL's professional experience. SL focused on providing competitive rates that will ensure a self-sustaining financial model for the County.

Recommended Student Loan Program Attributes

Residency	Open to all Maryland residents and out-of-state residents attending Maryland schools. The broad geographic distribution and product mix achieves volume quickly. Too small of a program just for Montgomery County residents drastically reduces margins and can be ignored or orphaned in the market.
Business Model	A contractor would provide the servicing, administration, origination, and marketing. It is efficient to start a brand-new program with a contractor/professional who has experience. SL also recommends that the County hire one full-time employee to manage the program.
Interest Rates	The lowest possible rates, while earning enough profit to maintain the program. For private loans, they would range from 5.40% to 6.65%. For refinanced loans, they would range from 4.95% to 6.70%.
Originations	Once the program is fully mature in the fifth year, it will provide \$30.0 million in loans per year. This will serve approximately 1,300 borrowers.

¹ Current tax regulations do not allow for refinanced loans to be financed with tax-exempt bonds. Congress members and the Education Finance Council have reached out several times to the Treasury Department and the Internal Revenue Service to use tax-exempt bonds for refinanced student loans. The state student loan organizations are hopeful to receive favorable guidance from the Federal government.

Student Loan Market Demand Study and Cost Analysis

Repayment Terms	10 to 15 years for private loans and 5 to 15 years for refinanced loans.
Credit Scores	Minimum FICO scores of 670-680, but with emphasis on higher FICO scores creating a portfolio with an average exceeding 740.
Initial Program Funding	Recommended using existing County funds (\$28.7 million) for the first two years of the program until the scale of the program is achieved and received well in the market. Approximately 80% of the funding is returned once bonds are issued (\$22.9 million). To continue issuing bonds, the County would need to retain a balance of \$5.8 million. The \$5.8 million would be returned in 20 years. If desired, limiting loan volumes would result in less required County funding.
Return on Capital Retained	Modest return of 1.0% to offer the lowest rates to residents and keep the program running.

The following table illustrates other programming and residency options, the funding needed, originations, the rate of return on capital, and advantages/disadvantages. These options would still use a contractor for professional services and have similar interest rates, repayment terms, and required credit scores.

Other Program Options

Loan Type	Private	Refinanced	Private & Refinanced	Private or Refinanced	Private & Refinanced*
Residency	Statewide or Attending MD Schools	Statewide or Attending MD Schools	Montgomery County	Montgomery County	Statewide or Attending MD Schools
Initial Two-Year Funding	\$30.0 million	\$24.4 million	\$18.3 million	N/A	\$12.7 million
Yearly Originations	\$15.0 million	\$15.0 million	\$10.0 million	N/A	\$13.5 million
Rate of Return	5.90%	-0.20%	Net Loan Yield	N/A	-2.30%
Advantages & Disadvantages	Higher yield, but not serving professionals looking to refinance student loans.	Borrower volume declines due to limiting the program. Not a sustainable rate of return.	Would rely on County funding; too small for a bond issue; poor rate of return.	Would rely on County funding; too small for a bond issue; smaller demand; not sustainable.	Lower interest rates up to 0.75% for refinanced loans, but volume is limited by state allocation; fewer borrowers served; poor rate of return that can be modified by increasing interest rates.

*Hypothetical, if non-taxable bonds are allowed for refinanced loans.

Student Loan Market Demand Study and Cost Analysis

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Market Demand, Feasibility and Cost Analysis for a Private Student Loan Refinancing Authority

Montgomery County, Maryland

Office of Legislative Oversight



June 25, 2019

SL CAPITAL STRATEGIES

Table of Contents

Executive Summary	3
Student Loan Market Overview	7
Private Loan Demand	10
County SLRA Objectives	15
County SLRA Business Model	16
County SLRA Summary Economics	17
Proposed Private Loan Program Structure	19
Program Financing	24
Appendix A: Credit Metrics/Considerations	33
Appendix B: Alternative Program Structures	38
Appendix C: Selected For-Profit Loan Offerings	47
Appendix D: Selected Non-Profit Loan Offerings	51
Appendix E: Cash Flow Assumptions	55
Appendix F: SLCS Summary	57

Executive Summary

In 2016, the Maryland State legislature passed enabling legislation to allow Montgomery County (the “County”) to establish a Student Loan Refinancing Authority (“SLRA”). The County, through its’ Office of Legislative Oversight (“OLO”), has hired S L Capital Strategies LLC (“SLCS”) to assist the County with determining the demand, feasibility and cost analysis for a new alternative/private (non-federal) loan program to serve students and families residing in Montgomery County, Maryland and perhaps in any Maryland county (a “Private Loan Program” or “Program”).

SLCS is an independent strategic and financial advisor providing professional services to participants in the student loan sector. A brief summary of SLCS is set forth at Appendix E. In preparing this report and setting forth recommendations and observations herein, we have applied our knowledge of the market for Private Loan Programs and have had discussions with and reviewed materials provided by the OLO and additional County administrators and officials. In our opinion, based on our professional experience and the analyses set forth herein, a Private Loan Program with the terms and conditions set forth herein reflects current market conditions and thus should be attractive to County and/or Maryland residents. Further, it is our opinion that the assumptions utilized for the economic and financial feasibility modeling of the Private Loan Program set forth herein are reasonable based on our professional experience with other private student loan programs and based on current market conditions. SLCS’s opinions are based on our professional experience, though we note the Private Loan Program’s actual results, originations, losses and overall financial projections - will of course differ from the projections set forth herein.

Based on our professional experience and discussions with OLO and other County officials, set forth below are certain high-level recommendations:

- **Program Scope:** The Private Loan Program should be comprised of a Student Loan and a Parent Loan (both defined below) in addition to a Refinancing Loan (defined below) in order to offer a complete suite of loan products. All of the existing state-based or non-profit private loan programs offer a student and/or parent loan, with many also offering a refinance loan product. In addition to serving a broader base of constituents, offering a complete suite of products will result in additional loan origination volumes coupled with significant program cost efficiencies. In addition, Student Loans and Parent Loans made to County (and Maryland) residents or students attending local schools are eligible to be financed with tax-exempt bond proceeds and thus generally more interest margin is available from these loans compared to Refinance Loans. Current tax regulations do not allow for Refinance Loans to be financed with tax-exempt bond proceeds, though the industry is hopeful favorable guidance from the U.S. Treasury will be forthcoming. Further, as the market for Refinance Loans is somewhat dependent on interest rates staying at low levels, origination volume from Student Loans and Parent Loans provides a hedge for against rates rising.

Executive Summary

- **Program Geography:** While subject to confirmation from legal counsel, we believe it likely that the County SLRA could finance Student Loans and Parent Loans made to residents of Maryland and persons from other states attending an educational institution in Maryland with the proceeds from tax-exempt bonds. Offering these products to a constituent base broader than the County creates additional opportunities to assist Maryland residents and universities while also adding Program volume and efficiencies. Issuing tax-exempt student loan bonds will require an allocation of Maryland's private activity bond cap.
- **Outsourced Business Model:** Student lending is a complex, highly specialized, niche business involving loan program development, consumer finance law, loan originations, servicing, bond financing, marketing and program administration, amongst many other functions. To commence a new Program it is vastly more efficient to outsource the majority of the functions set forth above. In our modeling we have assumed the County will have one full time employee who manages, coordinates and oversees the Program and that key functions such as loan origination and servicing are outsourced to companies who specialize in the private loan business.
- **Program Objectives:** The Private Loan Program's objectives will include: (1) offer loans at a competitive cost for parents and graduate students as compared with the rates and fees they can now obtain under the federal Grad PLUS and PLUS programs; (2) offer a competitive, attractive loan product to students and families who must borrow to fill the "gap" between an institution's total cost of attendance and all available state, federal, scholarship and institutional aid; (3) offer a competitive refinancing loan product to County (or Maryland) residents to refinance their outstanding federal and private student loans; and (4) design its Private Loan Program with credit underwriting standards, loan terms, servicing guidelines and collection procedures that will ensure a self-sustaining financial model that meets the economic development and financial goals of the County.
- **Private Loan Program Products:** Based on our experience and on our understanding of the County's objectives, we would expect the County's Program to comprise three distinct products: (1) a refinance loan to individuals who have graduated or left school and who desire to refinance their existing student loans into one more convenient, lower cost product (a "Refinance Loan"); (2) an in-school loan to students to finance a portion of their cost of attendance, with both a fully deferred and an immediate repayment option (a "Student Loan"); and (3) an in-school loan to parents to finance a portion of the eligible cost of attendance for a benefitting student (a "Parent Loan"). Repayment terms would range from 10 to 15 years for in school products and from 5 to 15 years for the refinance product. All

Executive Summary

loan interest rates would be better than or competitive with the current federal PLUS loan rate. We would expect initial loan volume to be modest, building over time with increased marketing efforts, growing brand familiarity and prudent product alterations in response to school and borrower feedback.

- **Credit Underwriting and Breadth of Program:** Private student loans are a credit underwritten loan product. State-based non-profit private loan programs typically have an average FICO scores in the 740 to 770 range. The County will need to assess its goals for the Program in terms of how broad of a range of constituents will be eligible for the loan products against the required capital to serve differing credit score ranges. In order to minimize its capital commitments to the Program, we would further expect the County to extend loans to borrowers (and co-signers, where applicable) with minimum FICO scores of 670-680 but with emphasis on higher FICO score borrowers creating a portfolio with a weighted average FICO in excess of 740. This baseline credit-worthy metric might be lowered slightly in order to increase access and volume, though with higher capital commitment requirements (as discussed further below). We anticipate that the majority of Student Loans would be co-signed, with fewer cosigners for Refinance Loans, and that the in-school loans would only be offered via a school originations channel (with financial aid office certification) for attendance at non-profit and state schools.
- **Program Plan of Finance:** In order to finance its new Private Loan Program, the County may initially utilize one of its existing revenue funds to provide a self-financed warehousing facility. Once a sufficient loan portfolio balance has been accumulated in the revenue fund, the County could then execute a capital markets strategy to permanently finance the accumulated loans. As noted, based on current tax law, Student and Parent Loans could be financed with tax-exempt municipal bonds, and Refinance Loans could be financed with taxable municipal bonds. It is typical for state-based non-profit alternative/private loan programs to finance their loan portfolio by issuing bonds with a structured finance rating backed solely by the student loan collateral backing the bonds. The County, however, should also evaluate issuing bonds backed by the general obligation rating of the County, which likely would result in more favorable overall program economics which in turn may enable the County to serve additional student loan borrowers.

Executive Summary

- Program Summary Economics/Returns:** The tables below show a high-level summary of the loan program we envision the County creating initially, along with a summary of the County's cash flows for a cohort of originations. Both the program terms and financial results reflect current market terms and conditions. Changes from the base case model will ripple through long term results. Further detail is provided herein.

Summary Loan Program Terms				
Loan Type	Term	Coupon	Coupon Type	Repayment Type
In School	180 Months	6.65%	Fixed	Deferred
In School/Parent	120 Months	5.40%	Fixed	Immediate
Refinancing	180 Months	6.70%	Fixed	Immediate
Refinancing	120 Months	5.95%	Fixed	Immediate
Refinancing	60 Months	4.95%	Fixed	Immediate

The County might decide to roll out one loan product at a time, for this analysis we have assumed simultaneous roll out of all products. The table below summarizes economic results for one vintage of loans under the recommended loan program design for its life. The summary does not depict the first lending year but instead shows results for the mature loan program when origination volume across all products reaches \$30 million.

	Year 1: On Bal. Sheet	Bond Issuance	Years 2-20 Bond Issue
Originations	30,000,000	0	0
Cash Flow to County	1,260,815	0	6,657,484
Bonds Issued	0	24,310,000	0
Proceeds Back to County	0	22,980,700	0
County Operating Results	(28,739,185)	22,980,700	6,657,484
Cumulative County Cash Flow	(28,739,185)	(5,758,485)	898,998
			IRR: 1.0%
Administration Fees	110,000		4,000,000
Servicing Fees	65,767		1,036,674
Origination/Marketing Fees	216,667		0

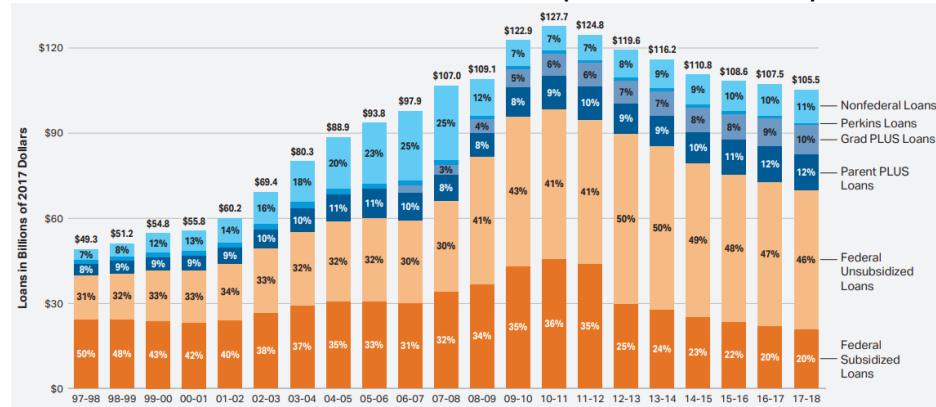
Based on our analysis and experience we recommend that the County pursue a Private Loan Program similar to that discussed in the following pages.

Student Loan Market Overview

There are currently two broad categories of student and parent loan programs—federal loans funded by the US Department of Education, and non-federal alternative or private loans, originated with private capital. We estimate that there is approximately \$1.6 trillion of currently outstanding student loan debt in the United States, of which \$1.4 trillion (89%) are federal loans, and approximately \$175 billion (11%) are non-federal private/ alternative student, parent and refinance loans. The U.S. Department of Education directly originates and holds federal loans through its Federal Direct Loan Program. Prior to July 1, 2010 the federal government also offered the Federal Family Education Loan Program, or “FFELP” program, pursuant to which it provided default guaranty insurance on qualifying loans made by the private sector. The FFELP program was eliminated as part of the Affordable Care Act. For the 2017-18 academic year, we estimate that new student loan originations totaled approximately \$94 billion for Federal Direct Loans, \$12 billion for non-federal private/alternative in-school student and parent loans, and \$15 - 20 billion in private/alternative refinance loans.

Alternative/private loan programs have no connection to the federal government and, as illustrated above, comprise a much smaller market share of overall student loans originated and outstanding. These loans are originated by banks, finance companies, state agencies, and not-for-profits, based on credit-driven underwriting with criteria similar to that used by banks to underwrite other consumer products like auto and personal loans. The volume of in-school alternative/private loans rose dramatically in the years preceding the financial crisis, peaking at \$25 billion in academic year 2007-2008 before plunging to \$8 billion in academic year 2010-11. The number of lenders engaged in the alternative/private loan market has contracted dramatically since the financial crisis. Many large banks—JP Morgan Chase, Bank of America, and US Bank to name just three—have exited the alternative/private student lending market. Additionally, with securitization markets basically frozen during the 2008 to 2010 timeframe for alternative/private loans, lending volumes at most major remaining lenders—Sallie Mae to name the largest lender at the time—fell by over 50%. However, as the economy, the nation’s lending sector and the capital markets have recovered in the years following the end of the financial crisis, so too did private/alternative student lending volumes for all types of loans, particularly refinance loans.

Total Federal and Non-Federal Loans: (AY 1997-98 – 2017-18)



Source: The College Board, Trends in Student Aid 2018

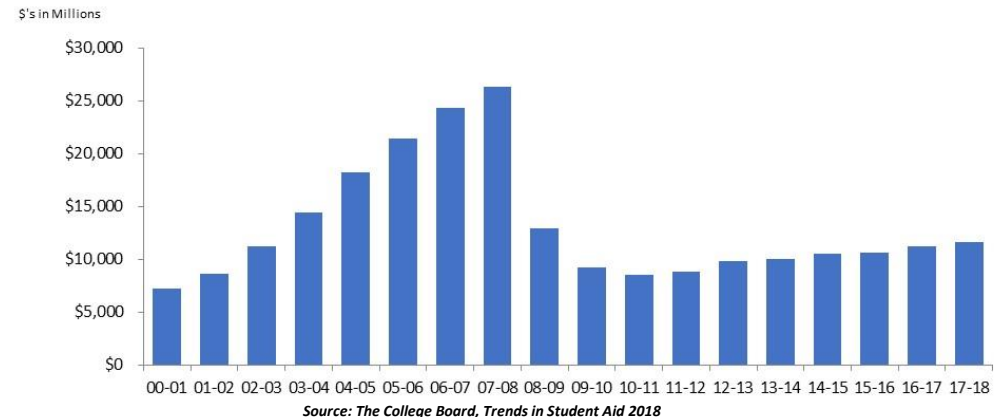
Student Loan Market Overview

Today, there are primarily three categories of alternative/private student lenders: banks and credit unions, marketplace lenders (sometimes called “fin-techs”) and state agencies/non-profits. The leading large bank participants in this sector include Sallie Mae, Wells Fargo, Discover, PNC Bank, and Citizens Bank. Together, these five large banks originated an estimated \$10 billion last year in alternative/private student, parent and refinancing loans. In addition, credit unions and community banks created new, nationwide joint marketing and lending arrangements (e.g. the LendKey platform) that today originate around \$1 billion per year in alternative/private student, parent and refinancing loans.

New, online and app-based lending platforms—sometimes called “marketplace” or “fin-tech” lenders”—like SoFi, Common Bond and CollegeAve—have successfully targeted the most credit worthy segments of the market to offer them alternative/private loan refinancing products. CollegeAve also offers in-school student and parent loans, and SoFi also offers in-school parent loans. Some of these marketplace lenders have even recently expanded their product offerings to personal loans and mortgage loans. Perhaps the best known of these lending platforms, SoFi, has originated over \$18 billion in alternative/private refinancing loans in a few short years, almost all of them to recent professional graduates with high credit scores and incomes.

In recent years, low interest rates have facilitated a boom in the refinancing loan market with tens of billions in loans made to generally very high credit quality borrowers. This market is highly competitive, given the attractiveness of the customer. To date, loan prepayments have been high and loan losses have been exceptionally low. Where losses end up is the subject of speculation with the general consensus being that charge offs will be low due to the borrower’s credit quality but they will not be as low as recent history would indicate. An expected uptick in losses relates to the fact that this product has not yet seen a recession. Further, there is significant rate shopping and refinancing existing refinancing loans happening and there is a view that all of this activity is pushing losses out in time and the true test of performance will be when a recession arrives and prepayment speeds slow, meaning borrowers are forced to amortize loan balances. The emergence of the fin-techs in turn caused many existing market participants to offer a Refinance loan product in part to defend losing existing loan portfolios to the fin-tech entrants.

In-School Alternative Loan Originations: AY 2000-01 to 2017-18



Student Loan Market Overview

Within the last year, there has been a slowing of refinance loan volumes coupled with a pullback in resources committed by the fin-tech's to the refinance space, including staff reductions.

State agency and state-based not-for-profit lenders have always filled an important segment of the alternative/private loan origination market. For the 2017-18 academic year, there were 15 state-based agency or non-profit entities that offered alternative/private student, parent and refinance loan products to the students and families in their respective states. We estimate that these organizations originated over \$1 billion in alternative/private student, parent and refinance loans last year. In the past two years alone, Arkansas and North Carolina have introduced new alternative/private loan programs. In 2018, Pennsylvania announced a new private loan program, to be launched in early Spring 2019. In addition to the County there are two additional states that are considering starting new alternative/private student loan programs (Washington and one other). Many of the existing state-based and not-for-profit lenders offer a Refinance loan product, in addition to traditional student and parent loans.

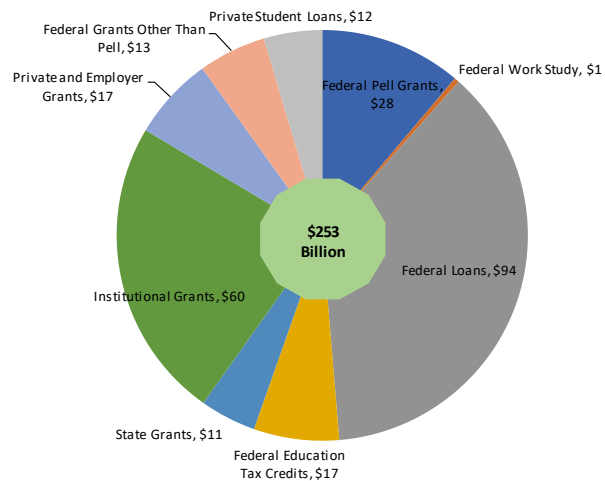
Appendix A to this Report, we have summarized a sampling of bank, marketplace lender and state-based agency and non-profit alternative/private loan offerings.

Alternative/private loans being made by market participants today are generally very solidly underwritten. There is a strong and growing demand for alternative/private loans, as the cost of higher education exceeds the amounts that can be borrowed under the federal loan programs. As shown in the following section, the difference between the cost of education and the maximum amount of permitted federal loans continues to widen. In short, while college costs have increased faster than the inflation rate, loan limits for the federal government's undergraduate loan and grant programs—as well as financial assistance from all other sources— have remained largely flat. As a result, many students and families continue to indicate a need for more alternative/private student loans to “fill the gap” between schools' overall costs of attendance and all other available federal, state and institutional aid. While the Federal PLUS and Grad PLUS loan programs allow parents and graduate students to borrow up to the college's cost of attendance (thus theoretically filling the “gap” between all federal, state and institutional aid and the school's cost), these PLUS programs often carry origination fees and higher interest rates than can be offered by alternative/private lenders from all segments. Nonetheless, the PLUS programs have proven quite popular in recent years, representing \$23.1 billion in loan volume (according to the most recently available US Department of Education data) during the 2017-18 academic year.

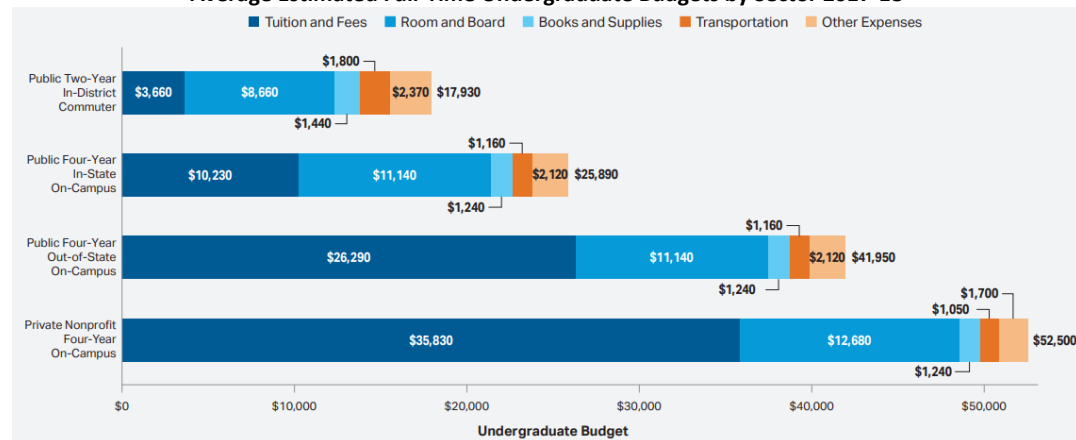
Private Loan Demand – Cost of Education

The charts below from the College Board's most recent annual survey summarize the current student lending landscape. Students utilized slightly over a quarter of a trillion dollars in student aid in the 2017-18 academic year, 42% of which was in the form of federal and alternative/private in-school student loans. Since a dip following the onset of the financial crisis, alternative/private in-school student loan volume has shown steady growth, in part because other sources of federal, state and institutional aid have remained relatively flat compared to continually rising costs of attendance.

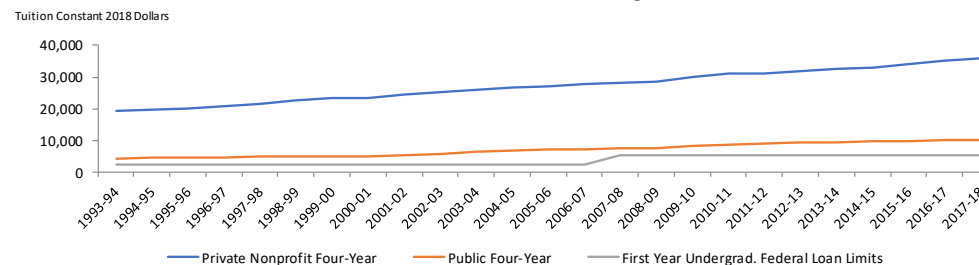
All Financial Aid 2017-2018 Academic Year



Average Estimated Full-Time Undergraduate Budgets by Sector 2017-18



Tuition, Room & Board vs. Year 1 Undergrad Loan Limit

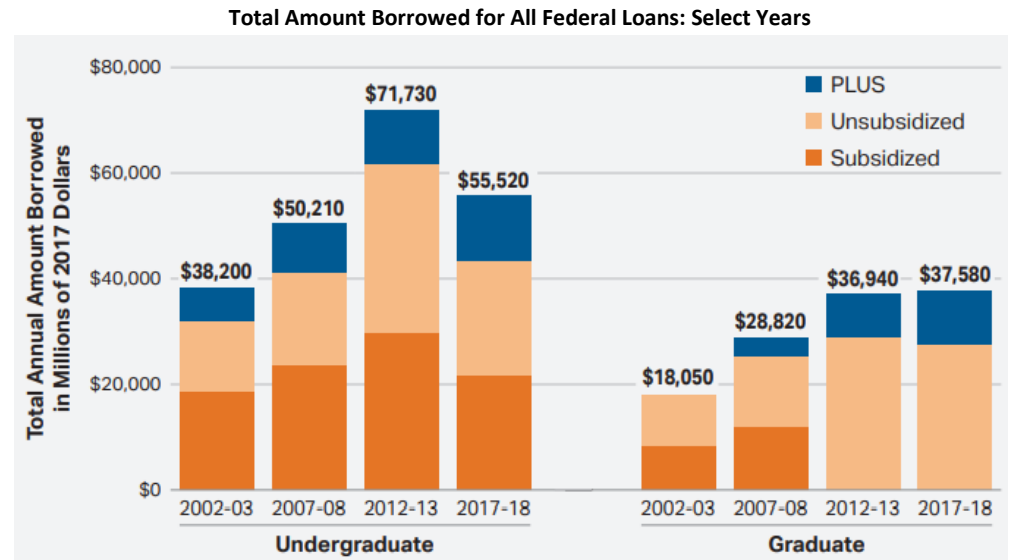


Source: The College Board, Trends in Student Aid 2018, and Trends in College Pricing 2018

Private Loan Demand – Borrower Economics

Borrower Perspective: A credit worthy borrower who expects to repay student debt obligations can use alternative/private student loans to reduce the expense of borrowing, achieve better terms and receive better customer service.

- Alternative/private student loans can provide financing up to the cost of attendance, while Stafford loans have limits.
- Federal PLUS loans can be used to fill the gap, but alternative/private lenders are typically able to offer lower interest rates than the statutory PLUS loan rate, which is set at 7.60% for the 2018-19 academic year.
- In addition, most alternative/private lenders charge no origination fees for their loans, while the origination fees for federal PLUS and GradPLUS loans are currently set at 4.248% of the principal amount for loans originated between October 1, 2018 and September 30, 2019.
- Term and payment structure may be more closely tailored to a borrower's need in an alternative loan program.



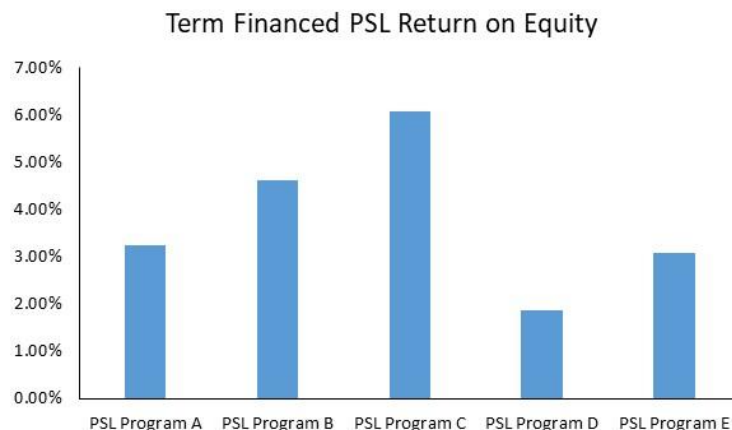
Source: The College Board, Trends in Student Aid 2018

- Borrowers with smaller scale servicing often enjoy better customer service than can be the case with the federal loan servicing centers.
- By opting for an alternative/private loan, borrowers may give up certain benefits that Federal loans allow, including Income Based Repayment.
- For refinancing, Federal Consolidation loans use a weighted average approach to determine the borrower's interest rate, with a repayment term fixed by loan size. By contrast, an alternative/private loan refinancing product will often carry an interest rate as determined by the borrower's credit worthiness and would offer the borrower a choice of repayment term options. This can result in better terms and lower interest rates for the borrower than federal consolidation loan products.
- Students and parents often use alternative/private loan refinance loan products, especially those offered by state-based agency and non-profit lenders, to refinance federal PLUS and GradPLUS loans at a lower interest rate.

Private Loan Demand – Lender Economics

Lender Perspective: Lender's, including state-based and non-profits, offering carefully underwritten alternative/private loan programs have experienced positive returns on their capital. Additionally, state-based agency and non-profit lenders alternative/private loan programs offer important and much needed products and services to their constituents, typically with an “all-in” value proposition that is equal or better than federal loan programs.

- Lenders often target the federal PLUS and GradPLUS rates in program design, seeking to offer their borrowers a lower interest rate than the PLUS rate.
- Lenders usually offer loans without origination fees, providing significant up-front savings to their borrowers versus the federal PLUS and GradPLUS programs.
- For state-based agency and non-profit lenders, alternative/private loan rates are typically set based on the cost of financing. The loan rate calculation usually approximates the cost of financing, plus administrative costs, plus an allowance for expected loan losses, plus targeted earnings, which are driven in part by ratings agencies. Earnings of 1-2% per annum are typically required to offset ratings-agency-stressed default losses. Because the assumed ratings agency losses are typically higher than expected actual program losses, that loan interest rate calculation has, for most lenders, resulted in sustainable, competitive loan products that provide a positive economic return and overall balance sheet growth.



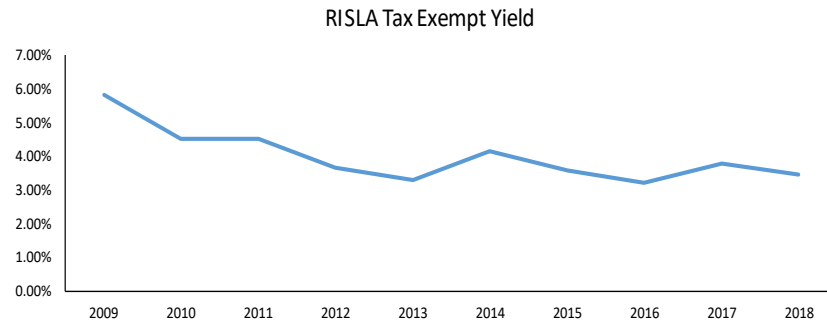
The graph to the left shows the return on equity as projected in closing-case bond cash flows for 5 non-profit private loan programs that finance to term. Return on equity is constrained by three primary factors:

- Mission to offer lowest possible rate to borrowers
- Cap on earnings due to arbitrage restrictions
- Long cash flows and lag in release of residual back to the lender

The returns on equity calculations do not include servicing or administration economics, which can be significant where applicable.

Private Loan Demand – Capital Market Receptivity

The capital markets are receptive to revenue bonds backed by alternative/private student loan collateral, particularly for state-based agency and non-profit lenders issuing tax-exempt and taxable municipal bonds. We have observed an ever-increasing number of issuers enter this space since



the credit crisis with the number and size of those transactions increasing annually. Credit spreads and market demand for tax-exempt alternative/private student loan bonds have improved continually since 2009, and the relatively new market for taxable municipal bonds has produced quite favorable bond interest rates for issuers this year. The graph to the left shows RISLA's weighted average bond yields since 2009. RISLA is a good example, having issued annually since 2009 out of one master trust. Bond ratings for the RISLA issues graphed below were "A" through 2015 and "AA" from 2016 forward.

Most state-based agency and non-profit issuers finance their alternative loan volume in the spring of each year, before the upcoming academic year lending season. In 2018, all issuers who accessed the capital markets for their funds did so quite successfully. The table below lists the alternative/private student loan backed municipal revenue bond issues executed last year.

Issuer	RISLA	VSAC	MEFA 2018A	MEFA 2018B	ISL	NJHESAA	FAME	RISLA	KHESLC	CHESLA	MOHE
Closing Date	5/15/2018	6/6/2018	6/13/2018	6/13/2018	6/6/2018	6/1/2018	7/25/2018	7/17/2018	7/18/2018	9/17/2018	11/27/2018
Issue Size	72,325,000	37,055,000	158,975,000	147,370,000	74,290,000	215,850,000	10,000,000	35,000,000	85,000,000	10,000,000	54,535,000
Mode	TE Fixed	TE Fixed	T Fixed	TE Fixed	TE Fixed	TE Fixed	TE Fixed	T Fixed	T Fixed	TE Fixed	TE Fixed
Sr. Ratings (M/S/F)	NR/AA/AA	NR/A/A	NR/AA/NR	NR/AA/NR	NR/A/A	Aaa/AA/NR	A2/AA/NR	NR/AA/NR	NR/AA/NR	A1/NR/A	NR/AA/NR
WA Bond Yld	3.46%	3.99%	4.23%	3.81%	3.84%	3.60%	3.79%	3.99%	4.33%	3.82%	4.04%
Notes		Sr/Sub		Sr/Sub		Sr/Sub	Bond Ins.		Sr/Sub		

As the table illustrates, state-based agency and non-profit entities issued over \$900 million of alternative/private student loan-backed, tax-exempt and taxable municipal revenue bonds through November 2018. This compares to just over \$598 million of issuance in 2017. The market for this type of financing should prove to be a robust funding source for the County when it chooses to access the capital markets.

Private Loan Demand – Montgomery County, MD

Fed. Student Loan Portfolio				
State	Balance	Borrowers	Avg. Debt	Residents
Alaska	\$2.1	66.2	\$31.3	737.4
Arkansas	11.1	360.4	30.7	3,013.8
Connecticut	14.9	460.7	32.3	3,572.7
Indiana	26.9	879.7	30.5	6,691.9
Iowa	12.2	431.6	28.2	3,156.1
Kentucky	17.3	570.7	30.3	4,468.4
Louisiana	18.8	592.9	31.8	4,660.0
Maine	5.4	176.5	30.6	1,338.4
Maryland	30.9	789.6	39.2	6,042.7
Massachusetts	27.3	855.5	31.9	6,902.1
Minnesota	24.2	775.7	31.2	5,611.2
New Hampshire	5.8	183.0	31.6	1,356.5
New Jersey	36.2	1,112.2	32.5	8,908.5
North Carolina	41.1	1,188.1	34.6	10,383.6
Pennsylvania	56.9	1,725.7	33.0	12,807.1
Rhode Island	4.0	133.2	30.0	1,057.3
South Carolina	23.4	660.3	35.5	5,084.1
Vermont	2.6	74.0	34.7	626.3

Portfolio Balances in Billions, Borrower Count, Avg. Debt and Residents in Thousands
Source: FSA and Census Bureau 2018 Population Estimates

The table on this page shows outstanding federal loan balance data for each state that has an alternative/private student loan program. Included are total federal loan balances for residents of the state (in Billions) along with the number of borrowers, average loan balance and number of residents (all in Thousands) for each state that has an alternative/private student loan program. Interestingly, Maryland's \$39.2 thousand average student loan debt balance is the highest average debt for any of the 50 states (not just those listed) other than the District of Columbia whose residents have a \$51.7 thousand average balance.

The County's residents are well educated, a contributing factor to Maryland's high average student debt balances. In 2016, 59% of residents aged 25 and older held a bachelor's degree or higher. In addition, 32% of residents age 25 and older held an advanced degree, the fifth highest rate of any county in the United States. County residents also have high median annual incomes, \$99,763 compared to the national average of \$57,617 in 2016.

As shown in the table, Maryland has 6.043 million residents with residents of the County comprising 1.044 million of the state's total residents. The demographics for County residents – high education and income levels -

coupled with Maryland's student debt data results in an attractive market for an alternative/private student loan program. Successful, sustainable programs are in place in several states with populations less than the County's population. The key drivers for sustainable alternative/private loan programs are 1) attractive loan terms/conditions, 2) high quality loan origination/servicing and customer service and 3) effective program marketing. Most of the state-based private loan programs generate average annual private loan volumes of more than \$20 million. Arkansas, North Carolina and Pennsylvania are new programs initiated since 2017, and we are aware of two additional states that are currently evaluating offering programs.

Proposed County SLRA Private Loan Program Objectives

As noted, the County will need to assess its goals for the Program in terms of how broad of a range of constituents will be eligible for the loan products against the required capital to serve differing credit score ranges. The Program terms and conditions set forth herein are derived from current market conditions for lenders and bond market participants. We have set the Program interest rates and credit criteria to provide for attractive interest rates for County residents rather than providing profits for the County. Private student loans are a credit underwritten loan product. State-based non-profit private loan programs typically have an average FICO scores in the 740 to 770 range. In order to minimize its capital commitments to the Program, we would further expect the County to extend loans to borrowers (and co-signers, where applicable) with minimum FICO scores of 670-680 but with emphasis on higher FICO score borrowers creating a portfolio with a weighted average FICO in excess of 740. This baseline credit-worthy metric might be lowered slightly in order to increase access and volume, though with higher capital commitment requirements (as discussed further below). We anticipate the majority of Student Loans would be co-signed, with fewer cosigners for Refinance Loans, and that the in-school loans would only be offered via a school originations channel (with financial aid office certification) for attendance at non-profit and state schools. We would expect these parameters to be adjusted to meet the County's objectives and have set forth one version of expanded loan access in the section Financing Alternatives – Reduced Credit profile.

The County needs to be mindful that the national lenders and fin-tech's have different business models and it is important to understand what model an entity wishes to pursue then setting up a program. In general, we observe some lenders, often fin-techs, use the refinancing product as a loss leader to attract customers to which other products can be offered. Other lenders are trying to accumulate scale through a large refinancing program. Here programs are structured to have a positive though small margin and economics are often derived from servicing or other assets under management fee streams. This is a capital intensive business and we have seen some entities try and abandon this model. The goal of the state-based mission-driven lenders is to reduce the interest rate of constituent borrowers and/or have a broadly available program with careful structuring and underwriting processes designed to produce a sustainable Program.

Thus, lender goals and capital availability often determine the path. High flying and well-funded fintech lenders will have big marketing budgets and offer ultra-low teaser rates just to capture the customer. The mission-driven and less well funded lenders need to offer sustainable products which will offer the borrower savings but may not be able to compete with teaser rates.

As an aside the concept of using the refinance product as a way to attract customers who will then remain loyal and utilize other financial products is untested as yet. The concept makes sense but there is a school of thought that the super prime refinance borrower is financially savvy, savvy enough not to be cross sold other financial products without careful market comparison.

Outsourced Business Model

Student lending is a complex, highly specialized, niche business involving loan program development, consumer finance law, loan originations, servicing, bond financing, marketing and program administration, amongst many other functions. If the County were to commence a Private Student Loan Program, we believe it will be more efficient to outsource many of the functions set forth above. Outsourcing certain functions will also enable the County to minimize its infrastructure investment in the Program, thus limiting downside risks in the event the Program doesn't achieve sustainable loan volumes. In addition, using companies who specialize in private student lending will result in higher quality and more consistent services being delivered to Program participants.

The County would retain responsibility for overall program administration and marketing. In our modeling we have assumed the County will have one full time employee who manages, coordinates and oversees the Program. Additionally, we have provided for Program marketing expenses. Key customer facing loan operations functions, such as loan origination, servicing and borrower customer service, are outsourced to companies who specialize in the private loan business.

The recommended outsourced business model is consistent with the business model many of the recently created state-based non-profit alternative/private loan programs are using. Several of the legacy programs with many years of lending experience with both private and FFELP loans, also utilize at least some level of outsourcing, generally for loan origination and servicing. In general, the more functions are outsourced the faster a program can be implemented and the lower the upfront cost. However, for loan programs that achieve scale, outsourcing will result in lower economic returns over time. Organically created platforms will be time consuming and expensive to create but offer maximum flexibility and the highest economic upside. Based on the projections set for herein, the County's Private Loan Program would not achieve scale for at least 10 years. In the event Program growth far exceeds our projections, the County could revisit outsourcing vs. internally developed systems and staffing.

While initially developing and implementing the Program's terms and conditions with the loan origination/servicing company, because of the structural overlap between the different loan types, it makes sense to set up the Student, Parent and Refinance loan programs at the same time.

County SLRA Summary Economics

Given volume assumptions by year shown below together with program terms, cash flow assumptions and financing structures discussed herein the table below shows 5-year pro forma cash flows for the Private Loan Program. The Program is profitable but only modestly so, by design. In other words, the Program could be said to fulfill a mission because it covers costs and generates a modest return all while giving the borrowers the lowest interest rate possible. That mission is as opposed to for-profit programs that seek to maximize net interest earnings by maximizing interests and fees charged to borrowers.

	Year 1	Year 2	Year 3	Year 4	Year 5
Origination Volume					
In School Deferred	1,000,000	3,000,000	7,000,000	10,000,000	13,000,000
In School Immediate	200,000	500,000	1,000,000	1,500,000	2,000,000
15 Year Refinancing	1,560,000	1,840,000	2,120,000	2,400,000	3,000,000
10 Year Refinancing	4,160,000	4,906,667	5,653,333	6,400,000	8,000,000
5 Year Refinancing	2,080,000	2,453,333	2,826,667	3,200,000	4,000,000
	9,000,000	12,700,000	18,600,000	23,500,000	30,000,000
EOY Portfolio Principal Balance	8,325,309	18,830,456	33,595,485	51,651,621	74,395,561
EOY Portfolio Accrued Interest Balance	30,769	188,767	668,189	1,474,610	2,511,110
Bonds Issued	0	0	24,310,000	24,310,000	24,310,000
Loan Receipts					
Loan Principal Receipts Including Prepayments	605,134	1,970,322	3,463,241	5,126,833	7,165,945
Loan Interest Receipts	197,852	625,648	1,067,252	1,556,353	2,198,607
Total Loan Receipts	802,987	2,595,970	4,530,493	6,683,186	9,364,552
Program/Financing Expenses					
Start Up Cost	250,000	0	0	0	0
Servicing Expense	23,154	70,736	134,850	217,681	320,912
Administration Expense	120,000	120,000	120,000	121,385	160,456
Origination Expense	11,967	21,283	38,100	51,583	66,667
Marketing Expense	45,000	63,500	93,000	117,500	150,000
Interest Expense	0	0	669,528	1,363,323	2,028,278
Credit Losses	57,736	182,850	301,244	418,033	557,466
Total Program Expenses	507,856	458,370	1,356,722	2,289,506	3,283,778
Net Loan Cash Flow	295,131	2,137,600	3,173,771	4,393,681	6,080,774
<i>Net Interest Earnings (Accrual Basis)</i>	(276,623)	329,309	194,776	278,780	558,046
<i>Net Interest Margin (Accrual Basis)</i>	-3.32%	1.75%	0.58%	0.54%	0.75%
Annual Cash Commitment to Program	8,704,869	10,562,400	(5,710,000)	(810,000)	5,690,000
Cumulative Cash Commitment to Program	8,704,869	19,267,269	13,557,269	12,747,269	18,437,269

Private Loan Program -Start Up & Ongoing Costs

The development and implementation of a Private Loan Program for the County will result in estimated Program start-up costs of up to \$250,000. These costs include the professional fees for attorneys, consultants, loan originator and servicer set up and other as set forth below:

Program Development	\$125,000
Legal	25,000
Compliance/Audit	15,000
Origination/Servicer Set Up	25,000
Marketing	25,000
Misc./Other	35,000

Annual ongoing program administration costs, i.e. excluding loan origination/servicing and bond financing costs, in an outsourced business model includes an estimated annual Program administration expense of \$120,000 plus marketing expenses equal to 0.50%, or 50 bps, of loan balances originated.

Proposed County SLRA Private Loan Program Structure

Credit Parameters

- We recommend careful credit underwriting in order to minimize loan losses. This will maximize the County's return on capital, receive a better reception at the ratings agencies and capital markets when external financing is needed, and make the most efficient use of the County's available capital. General credit guidelines might include:
 - Weighted average borrower/co-signer FICO of 740 and higher; (The County could offer a Program with a lower weighted average FICO score—perhaps down to 700—in the event increased borrower access is an important policy objective. However, offering loans to a broader set of borrowers may result in a higher capital commitment for external financing and lower financial returns for the Program.)
 - Minimum FICO not lower than 670;
 - The use of a co-signer where necessary to ensure that the FICO threshold is met, with the goal of having a very high percentage of in-school Student Loans cosigned;
 - Inclusion of immediate repayment loans in the product mix, such as immediate repayment (Student Loans, Parent Loans and Refinance Loans);
 - A limitation on eligible schools to non-profit schools only;
 - A requirement that the financial aid office certifies all in-school Student and Parent Loans.

Origination/Servicing/Collection

- The County should carefully select and work closely with its servicing and originations partner to carefully integrate the County's loan program characteristics into the contractor's existing platform workflow and parameters.
- The County should work with the originations and servicing partner to establish a data-capturing mechanism in "real time" beginning with the first loan application in order to accumulate all necessary data for the ongoing monitoring of Program performance.
- Pre-charge-off default prevention should be robust in order to minimize defaults. This can be done through the origination and servicing contractor, but can also be outsourced as desired or for comparison performance purposes. Post-charge-off collections are likely best accomplished by one or more traditional collection agencies.

Proposed County SLRA Private Loan Program Structure

Financing

- We recommend funding initial Program loan originations through an existing revenue fund/account on balance sheet with currently available County capital.
 - While it is possible to pre-fund loans in a capital markets bond transaction, such a strategy would be inefficient and costly especially for a new loan program.
 - Moreover, ratings agencies impose ratings caps on prefunded transactions that would limit the County's ability to evaluate financing structures at higher investment grade rating levels.
 - Typically, ratings higher than single-A are not possible unless a majority of the collateral exists and is pledged at closing.
 - In addition, initial balance sheet origination and accumulation ahead of a capital markets bond transaction allows time for the loans to season and to establish a performance history, which will be important to ratings assumptions and investors in a bond financing transaction.
- With confirmation from tax counsel as to procedure and documentation, loan balances originated by the County on its balance sheet can be financed in the municipal bond capital markets at some future date once a sufficient balance has accumulated.
 - We recommend a minimum bond issuance size of \$20 - \$25 million in order to realize transaction cost and rate execution efficiency.
 - That transaction can be structured to refinance loans previously originated on balance sheet and can provide for pre-funding proceeds for a subsequent originations period (e.g. 12 months), assuming the pre-funding amount does not exceed the actual loans pledged. Once established, this financing strategy can be repeated as needed.
- Based on tax law as currently interpreted by most bond counsels, we recommend that the County utilize the tax-exempt municipal bond market for the permanent financing of its Student and Parent Loans and the taxable municipal bond market for the permanent financing of its Refinance Loans.
 - The tax-exempt municipal bond market has been quite receptive for revenue bonds backed alternative/private student and parent loans, resulting in stable investor demand and low-cost capital.
 - The taxable municipal bond market for student loans was new in 2018 but got off to a strong start with three transactions. The first of the three was successful and ground breaking, followed by transactions two and three, which were met with significant investor demand and over-subscription. This market is new and developing but appears quite promising.

Proposed County SLRA Private Loan Program Structure

Program Terms

The table below outlines a potential initial program offering with the following recommendations and observations:

Loan Type	Term	Coupon	Coupon Type	Repayment Type	Average Loan Size	Borrower Benefits	Fees	Cosigned	Wtd Avg FICO	Forbearance Offering	Deferred Period
In School	180 Months	6.65%	Fixed	Deferred	15,000	0.25% ACH	None	70%+	760	12 Mos in 3 Mo Groups	Up to 4 Years
In School/Parent	120 Months	5.40%	Fixed	Immediate	12,000	0.25% ACH	None	70%+	760	12 Mos in 3 Mo Groups	None
Refinancing	180 Months	6.70%	Fixed	Immediate	50,000	0.25% ACH	None	50%	760	12 Mos in 3 Mo Groups	None
Refinancing	120 Months	5.95%	Fixed	Immediate	50,000	0.25% ACH	None	50%	760	12 Mos in 3 Mo Groups	None
Refinancing	60 Months	4.95%	Fixed	Immediate	50,000	0.25% ACH	None	50%	760	12 Mos in 3 Mo Groups	None

- We recommend that the County offer the following loan products:
 - A Refinance Loan with repayment beginning immediately after disbursement;
 - An in-school Student Loan with two repayment options:
 - Deferred (for up to four years), and
 - Immediate repayment of loan principal and interest following disbursement; and
 - An in-school Parent Loan with repayment beginning immediately after disbursement.
- We recommend that the County roll out its Private Loan Program products as follows in order to build overall volume as quickly as possible and to take advantage of the seasonal nature of in-school loan product demand:
 - Market and launch its Refinance Loan upon program launch, these loan products will be less seasonal;
 - Market and “soft-launch” its Student and Parent Loans in advance of seasonally heavy volume months of August and September.
- We recommend that the County offer loan interest rates that are competitive with the current federal PLUS and GradPLUS rates:
 - 4.95% - 6.70% fixed rate for Refinance Loans, based on loan term;
 - 5.40% fixed rate for Parent Loans;
 - 6.65% fixed rate for Student Loans that carry the deferred repayment option;
 - 5.40% fixed rate for Student Loans that carry the immediate repayment option.

Proposed County SLRA Private Loan Program Structure

- We recommend repayment terms (from the date of conversion to repayment) for the County's Private Loan Program products as follows:
 - 5-15 years for Refinance Loans;
 - 10 years for Parent Loans;
 - 15 years for Student Loans that carry the deferred repayment option, following the in school period;
 - 10 years for Student Loans that carry the immediate repayment option.
- As noted above, we recommend that all loan products initially carry a fixed interest rate to the borrower.
 - This should allow for faster implementation onto the origination contractor's system and more efficient integration into the loan servicing system.
 - Based on feedback from schools and the County's customer base, it is possible to add a variable rate product as well if there appears to be sufficient demand, provided an appropriate financing vehicle could be structured and upon careful review of borrower disclosures which are typically more substantial for variable rate loan products.
- We recommend that the County impose no origination or other upfront fees to the borrower on any of its loan products.
- We recommend that all loan products carry a borrower benefit of 0.25% reduction in interest for the borrower participating in monthly automatic ACH payments.
- Based on our experience and observation, we would expect the vast majority of Student Loans to be co-signed and approximately 30 to 50% of Refinance Loans to be co-signed.
- Based on our experience and observation, we would expect 80 to 90% of student borrowers to elect the deferred repayment option on the Student Loan product.
- Subject to the subcontractor's loan servicing system guidelines, forbearance could be offered at the County's discretion, but we recommend offering forbearance for no more than a total of 12 months during the life of the loan, and only in 3-month increments.

Proposed County SLRA Private Loan Program Structure

- Subject to the subcontractor's loan servicing system guidelines, we recommend a loan forgiveness policy, as follows:
 - Death or total, permanent disability of the borrower (all products);
 - Death or total, permanent disability of the benefiting student (Parent Loans);
 - Co-signer release in event of death or total, permanent disability of co-signer, but continued collection of loan from underlying borrower (Student and Refinance Loans).

Depending upon school and Maryland student and family borrower receptivity—and of course on marketing strategy—we would expect modest volume in the first year, increasing in subsequent years as the program becomes more known and product design changes can be incorporated to meet market demand and encourage more volume without materially increasing risk of loss. Serialization of in school loans or borrowing through each year of study will also drive rising volumes.

Many of the Program terms we have assumed in this overview are driven by and reflect current market conditions. However, it will be important for the County to adjust loan terms during the life of its Program as market conditions change. For example, if overall interest rates rise, the cost of term bond financing will increase, and the County might wish to increase its loan interest rates accordingly.

Financing on Balance Sheet

We have assumed that the County will initially finance its originations via an existing revenue fund on balance sheet. The tables below illustrate sample projected cash flows of 12 months of operations with funding on balance sheet.

	Originations						Cash Flow							Balances		
Period	Deferred	Immediate	Refi15	Refi10	Refi5	Total	Prepayment	Default	Current Principal	Current Interest	Program Expense	Net Cash Flow	Principal Balance	Accrued Int. Cap.	Accounts	
1	1,083,333	166,667	250,000	666,667	333,333	2,500,000	0	0	0	0	18,056	(18,056)	2,500,000	0	111	
2	1,083,333	166,667	250,000	666,667	333,333	2,500,000	8,622	2,263	10,527	6,554	30,130	(4,427)	4,978,587	6,206	222	
3	1,083,333	166,667	250,000	666,667	333,333	2,500,000	17,108	4,527	21,016	13,007	31,154	19,977	7,435,937	18,621	333	
4	1,083,333	166,667	250,000	666,667	333,333	2,500,000	25,458	6,790	31,468	19,361	32,169	44,118	9,872,834	36,632	443	
5	1,083,333	166,667	250,000	666,667	333,333	2,500,000	33,944	9,124	42,211	25,823	33,176	68,802	12,288,167	60,646	553	
6	1,083,333	166,667	250,000	666,667	333,333	2,500,000	42,292	11,459	52,915	32,184	34,173	93,218	14,682,114	90,663	663	
7	1,083,333	166,667	250,000	666,667	333,333	2,500,000	50,504	13,793	63,579	38,445	35,162	117,366	17,054,851	126,684	772	
8	1,083,333	166,667	250,000	666,667	333,333	2,500,000	58,580	16,127	74,203	44,607	36,142	141,249	19,406,553	168,708	882	
9	1,083,333	166,667	250,000	666,667	333,333	2,500,000	66,522	18,462	84,788	50,670	37,113	164,868	21,737,394	216,736	991	
10	1,083,333	166,667	250,000	666,667	333,333	2,500,000	74,332	20,796	95,331	56,637	38,075	188,224	24,047,547	270,767	1,100	
11	1,083,333	166,667	250,000	666,667	333,333	2,500,000	82,009	23,130	105,834	62,506	39,029	211,320	26,337,186	330,802	1,208	
12	1,083,333	166,667	250,000	666,667	333,333	2,500,000	89,556	25,465	116,296	68,280	39,975	234,157	28,606,481	396,840	1,316	

Period	County Cash			
	Originations	Gross Receipts	Program Expense	Net Cash Expenditure
1	2,500,000	0	18,056	2,518,056
2	2,500,000	25,703	30,130	5,022,483
3	2,500,000	51,131	31,154	7,502,505
4	2,500,000	76,287	32,169	9,958,388
5	2,500,000	101,978	33,176	12,389,586
6	2,500,000	127,391	34,173	14,796,368
7	2,500,000	152,528	35,162	17,179,002
8	2,500,000	177,390	36,142	19,537,754
9	2,500,000	201,980	37,113	21,872,886
10	2,500,000	226,300	38,075	24,184,662
11	2,500,000	250,349	39,029	26,473,342
12	2,500,000	274,132	39,975	28,739,185

- The table above shows periodic activity for the 12 months of originations. Originations for each product are split evenly over each month.
- The table to the left shows the County's cash utilization from its own capital in order to fund originations for the 12 month period depicted above.
- The immediate-repayment Refinance, Parent and Student loans provide upfront cash flow, which allows the program to cover its own operating costs and expenses.
- Cash flow assumptions are shown in Appendix D herein.

Transition to Term Financing

In the example on the previous page, the County originated a \$29 million portfolio (consisting of \$28.6 million of principal and \$0.4 million of accrued interest to be capitalized) on balance sheet. With that level of volume it could access the municipal bond capital markets in the following year to issue fixed rate bonds to finance the portfolio for its term. Based on the current interpretation of tax law, the County would likely finance the Refinancing loans via a taxable municipal bond issuance and would finance the in-school Student and Parent Loans with a tax-exempt municipal bond issuance. In all likelihood the County would use proceeds to purchase volume off balance sheet and create some level of prefunding to fund the next year's volume. For simplicity, and to calculate the economics of one year's origination volume, we have omitted the prefunding component. A schematic for each transaction is shown below.

Tax-Exempt Structure – Single-A Rated

Financing Balance Sheet	
Assets	
Debt Service Reserve	391,800
Accrued Interest to be Capitalized	396,840
Loan Principal	14,881,101
Total Assets	15,669,741
Liabilities	
2020 Serial: 2.46%, Locked Out	500,000
2021 Serial: 2.62%, Locked Out	750,000
2022 Serial: 2.78%, Locked Out	1,000,000
2023 Serial: 2.94%, Locked Out	1,010,000
2024 Serial: 3.10%, Locked Out	1,100,000
2025 Serial: 3.26%, Locked Out	1,100,000
2026 Serial: 3.35%, Locked Out	1,200,000
2027 Serial: 3.44%, Locked Out	1,200,000
2028 Serial: 3.52%, Locked Out	1,200,000
2029 Serial: 3.59%, Locked Out	1,000,000
2030 Serial: 3.70%, Locked Out	1,000,000
2034 Term: 3.90%, Callable	2,000,000
Total Liabilities	13,060,000
Net Assets	2,609,741
Parity Ratio	119.98%

Financing Sources and Uses	
Sources	
Fixed Rate Bond Issue	13,060,000
Total Sources	13,060,000
Uses	
Portfolio Acquisition	12,368,200
Reserve Fund	391,800
Costs of Issuance	300,000
Total Uses	13,060,000

Taxable Structure– Single-A Rated

Financing Balance Sheet	
Assets	
Debt Service Reserve	337,500
Accrued Interest to be Capitalized	0
Loan Principal	13,725,381
Total Assets	14,062,881
Liabilities	
2020 Serial: 3.25%, Locked Out	620,000
2021 Serial: 3.35%, Locked Out	850,000
2022 Serial: 3.45%, Locked Out	950,000
2023 Serial: 3.55%, Locked Out	950,000
2024 Serial: 3.65%, Locked Out	1,050,000
2025 Serial: 3.75%, Locked Out	1,050,000
2026 Serial: 3.85%, Locked Out	1,150,000
2027 Serial: 3.95%, Locked Out	1,150,000
2028 Serial: 4.05%, Locked Out	1,000,000
2029 Serial: 4.15%, Locked Out	
2030 Serial: 4.25%, Locked Out	
2034 Term: 4.05%, Callable	2,480,000
Total Liabilities	11,250,000
Net Assets	2,812,881
Parity Ratio	125.00%

Financing Sources and Uses	
Sources	
Fixed Rate Bond Issue	11,250,000
Total Sources	11,250,000
Uses	
Portfolio Acquisition	10,612,500
Reserve Fund	337,500
Costs of Issuance	300,000
Total Uses	11,250,000

Financing Structure Rationale

Having an existing loan collateral pool prior to accessing the bond capital markets has several advantages:

1. Reduces negative carry associated with prefunding;
2. Extant pool will have some performance data, which rating agencies can rely upon;
3. Credit characteristics will be known rather than covenanted;
4. Impact of rating caps associated with prefunded portfolios is mitigated;
5. Non-origination risk is mitigated, which is important for investors and for overall Program economics.

For these reasons initially funding on balance sheet should lead to better capital markets execution. Prefunding can be added to the term transactions to increase size, thereby achieving some economies of scale related to issue cost and decreasing pressure on the balance sheet in the following years. However, and as noted above, having an initial tranche of extant loans in the financing will be beneficial from a structuring and rating perspective, which will lead to better overall economics.

In terms of the bond structure, the example on the previous page shows the County issuing two, distinct student loan revenue bond transactions: (1) a taxable transaction to finance the Refinancing loans (since interpretation of current tax law prohibits these from being financed on a tax-exempt basis); and (2) a tax-exempt transaction to finance the in-school Student and Parent loans. Each transaction consists of serial bonds which are locked out from early redemption, and a larger term bond which is callable and is designed to absorb any prepayments. Call features are important to both the rating and pricing process. In general, locked out bonds will price to a lower yield, so it will be beneficial to maximize the par amount of those bonds. However, rating stresses drive the need for callable bonds to absorb prepayments, and in fact having callable bonds makes good sense for the issuer as an outlet for unexpectedly high prepayments. Ratings Agency assumptions will drive the estimated starting parity ratio of 120% and 125% for the tax-exempt and taxable structures respectively, and the reserve fund requirement of 3% for each transaction. We assume costs of issuance are \$300,000 per transaction. Of the net cash outlay of \$28.7 million shown above, the County will receive \$23.0 million in cash back at closing and maintain \$5.7 million as equity in the Trust to be released over time. At closing the County will have a realized a net expenditure of \$5.7 million in order to leverage one year of originations amounting to \$30.0 million.

Term Financing Cash Flows

The financing structure detailed on the previous pages will provide term financing for the County's originations and revolve the County's revenue funds. That is, the County will receive cash back at a rate of approximately 75-80 cents on the dollar, which can then be recycled to fund additional loans on balance sheet. The 20-25% of equity that is pledged within each bond financing Trust will remain there in the form of residual, but will be released to the County over time together with the accumulated earnings of the Trust.

Tax-Exempt Financing						Taxable Financing					
Period	Loan Balance	Bond Balance	Parity Ratio	Admin Fees	Residual Cash Flow	Date	Loan Balance	Bond Balance	Parity Ratio	Admin Fees	Residual Cash Flow
Closing	15,277,941	13,060,000	119.98%	0	0	Closing	13,725,381	11,250,000	125.00%	0	0
Year 1	15,924,724	13,060,000	122.45%	120,000	0	Year 1	11,224,284	11,250,000	123.83%	120,000	0
Year 2	16,590,061	13,060,000	124.90%	120,000	0	Year 2	9,014,452	8,770,000	129.33%	120,000	0
Year 3	17,264,778	12,560,000	128.33%	120,000	0	Year 3	7,094,498	8,150,000	130.69%	120,000	0
Year 4	15,457,245	11,810,000	130.63%	120,000	0	Year 4	5,436,852	7,300,000	134.53%	120,000	0
Year 5	13,827,154	10,810,000	134.53%	120,000	0	Year 5	4,012,394	6,350,000	140.23%	120,000	0
Year 6	12,258,523	9,800,000	136.96%	120,000	179,355	Year 6	3,172,839	5,400,000	142.71%	120,000	257,775
Year 7	10,881,315	8,700,000	137.84%	120,000	564,184	Year 7	2,412,572	4,350,000	145.78%	120,000	293,490
Year 8	9,549,044	7,600,000	139.43%	120,000	457,550	Year 8	1,722,122	3,300,000	150.80%	120,000	258,580
Year 9	8,260,062	6,400,000	144.79%	120,000	249,442	Year 9	1,096,363	2,150,000	161.92%	120,000	275,018
Year 10	7,133,907	5,200,000	155.94%	120,000	144,536	Year 10	532,424	1,000,000	224.89%	120,000	0
Year 11	6,178,537	4,000,000	176.81%	120,000	0	Year 11	402,954	0	0.00%	120,000	264,127
Year 12	5,244,439	3,000,000	205.14%	120,000	63,696	Year 12	287,624	0	0.00%	120,000	31,135
Year 13	4,329,314	2,000,000	257.91%	120,000	94,826	Year 13	182,529	0	0.00%	120,000	14,167
Year 14	3,432,044	2,000,000	213.04%	120,000	961,669	Year 14	86,956	0	0.00%	120,000	1,237
Year 15	2,551,592	2,000,000	169.00%	120,000	891,004	Year 15	628	0	0.00%	120,000	0
Year 16	1,687,054	1,381,000	184.33%	120,000	181,267	Year 16	0	0	0.00%	20,000	464,617
Year 17	837,814	0	0.00%	120,000	0					1,820,000	1,860,147
Year 18	5,234	0	0.00%	120,000	521,001						
Year 19	0	0	0.00%	20,000	488,808						
				2,180,000	4,797,337						

In the term financing structure illustrated above, loan principal receipts are used to redeem the bonds, and loan interest cash flows are used to pay bond interest and expenses. The net interest margin, or excess interest earnings over bond interest and expenses (including loan servicing expenses), will be released to the County over time, as will the initially pledged equity (the residual), to the extent those cash flows are not required to cover loan losses during the life of the financing. Thus, the County's economic stake in the financed portfolio consists of its administrative fee draw, its net interest margin, and the residual (net of loan losses). Importantly the return calculations included in this report only measure economic return based on residual cash flow. Administrative fee cash flow is meaningful and it is likely that all or a portion of that fee income would be used for the County to administer the program or for other purposes. In this report administrative fees are always displayed but not included in economic return.

Financing Roll Up and Alternatives

The previous pages have demonstrated how the County could initiate and finance the originations under its Private Loan Program, initially on balance sheet and then through term financing. Ongoing, it will be important for the County to monitor the cash inflow to and outflow from the Program in order to maintain liquidity for additional years of originations and bond financings or for other corporate purposes. The table below tracks projected County cash flow through the initial origination and financing process. The text to the right discusses some alternatives the County could consider for ongoing financing after the first bond transaction.

Funding Period on Balance Sheet	(28,739,185)
Return of Cash Via Financing	22,980,700
	0
	0
	0
	0
	0
	437,130
	857,674
	716,130
	524,460
	144,536
	264,127
	94,830
	108,992
	962,905
	891,004
	645,884
	0
	521,001
	488,808
Sum of Cash Flows	898,998
IRR of Cash Flows	1.0%

Residual Cash Flow

- In our example the County would earn a net profit (over time) of \$0.9 million against the initial \$30.0 million portfolio of loans, which represents an internal rate of return of 1.0%.
- This return profile is directly linked to the leverage ratio employed by the County in its term financing – the higher the leverage ratio, the higher the internal rate of return.
- The amount of permitted leverage—the amount of bonds that may be issued against a collateral pool—is tightly controlled by the ratings agencies. The financing cash flows must maintain sufficient equity to pass stress-case loss assumptions.
- In order to increase leverage (i.e. reduce the necessary capital contribution to a financing), ratings agencies would have to ease their stressed loss assumptions. This might be possible with the accumulation of positive performance data, but it would take time. Alternatively, the County could increase leverage by raising the yield on its portfolio, thereby increasing its gross interest margin, but at the expense of higher borrowing costs for its customers. Or it could target a lower bond rating level that would reduce stressed loss assumptions and therefore permit increased leverage, though at the expense of a higher cost of funds.
- This analysis focuses on one year of loan production and tracks that portfolio through its life. In subsequent years, the County could employ the same model to fund originations on balance sheet, refinance those loans with bonds, and recycle the resulting net refinancing proceeds into new loans.
- An alternative would be to structure the initial bond issue to finance the first pool of loans originated on balance sheet and to fund a loan prefunding account to finance originations for the upcoming period. Subsequent bond issues under this master trust indenture would simply add prefunding proceeds sufficient to meet estimated loan demand for the next upcoming period. This technique results in some strain on the cash flows and may subject the financing transaction to rating caps. However, it would reduce the need for County cash to fund loan originations and would provide certainty of financing, since new loans would be financed by previously issued bonds.

Financing Alternatives – Reduced Credit Profile

The County might conclude that the program designed thus far serves primarily prime and super-prime borrowers but does not address the needs of borrowers with lower credit profiles. Such borrowers can be included but in the context of bond financing this will drive higher capital requirements and reduced returns as shown below.

Tax Exempt Financing	
Financing Balance Sheet	
Assets	
Debt Service Reserve	391,800
Accrued Interest to be Capitalized	396,840
Loan Principal	14,881,101
Total Assets	15,669,741
Liabilities	
2020 Serial: 2.46%, Locked Out	400,000
2021 Serial: 2.62%, Locked Out	650,000
2022 Serial: 2.78%, Locked Out	900,000
2023 Serial: 2.94%, Locked Out	960,000
2024 Serial: 3.10%, Locked Out	1,000,000
2025 Serial: 3.26%, Locked Out	1,050,000
2026 Serial: 3.35%, Locked Out	1,100,000
2027 Serial: 3.44%, Locked Out	1,100,000
2028 Serial: 3.52%, Locked Out	1,100,000
2029 Serial: 3.59%, Locked Out	940,000
2030 Serial: 3.70%, Locked Out	900,000
2034 Term: 3.90%, Callable	1,950,000
Total Liabilities	12,050,000
Net Assets	3,619,741
Parity Ratio	130.04%

Financing Sources and Uses	
Sources	
Fixed Rate Bond Issue	12,050,000
Total Sources	12,050,000
Uses	
Portfolio Acquisition	11,358,200
Reserve Fund	391,800
Costs of Issuance	300,000
Total Uses	12,050,000

Taxable Financing	
Financing Balance Sheet	
Assets	
Debt Service Reserve	337,500
Accrued Interest to be Capitalized	0
Loan Principal	13,725,381
Total Assets	14,062,881
Liabilities	
2020 Serial: 3.25%, Locked Out	520,000
2021 Serial: 3.35%, Locked Out	750,000
2022 Serial: 3.45%, Locked Out	850,000
2023 Serial: 3.55%, Locked Out	850,000
2024 Serial: 3.65%, Locked Out	950,000
2025 Serial: 3.75%, Locked Out	1,050,000
2026 Serial: 3.85%, Locked Out	1,050,000
2027 Serial: 3.95%, Locked Out	1,100,000
2028 Serial: 4.05%, Locked Out	900,000
2029 Serial: 4.15%, Locked Out	
2030 Serial: 4.25%, Locked Out	
2034 Term: 4.05%, Callable	2,395,000
Total Liabilities	10,415,000
Net Assets	3,647,881
Parity Ratio	135.03%

Financing Sources and Uses	
Sources	
Fixed Rate Bond Issue	10,415,000
Total Sources	10,415,000
Uses	
Portfolio Acquisition	9,777,500
Reserve Fund	337,500
Costs of Issuance	300,000
Total Uses	10,415,000

Funding Period on Balance Sheet (28,739,185)
Return of Cash Via Financing 21,135,700

Residual Cash Flow

Sum of Cash Flows (2,573,454)

IRR of Cash Flows -2.5%

- In this example we assume 10% of loans are made to borrowers with FICO scores less than 670 with the remaining 90% of loans made to the prime borrower population described herein
- In a rating context 100% of the less than 670 FICO accounts are assumed to default
- This drives capital requirements higher by a commensurate amount
- While not 100%, actual losses across the less than 670 FICO accounts will be materially worse than the prime accounts
- Higher capital required and a fall-off in performance drives a negative return all else held equal

Financing Alternatives – Reduced Credit Profile

As discussed throughout this report the rating agencies drive much of what lenders are able to achieve in terms of program terms and economic returns. Though not common in the student lending sector, it may be possible for the County to issue debt with ratings based on the general obligation of Montgomery County as opposed to the structured cash flows of the program. In such a structure there would be triggers requiring make whole payments by the county to the bond holders in the event of a shortfall. The bond ratings would be based on the County's ratings and not on the structure enabling a much higher leverage ratio to be structured. The key structuring constraint will be gaining comfort that the structure is strong enough to stand on its own through most economic cycles and the need to draw on the make whole is unlikely.

Tax Exempt Financing Financing Balance Sheet	
Assets	
Debt Service Reserve	391,800
Accrued Interest to be Capitalized	396,840
Loan Principal	14,881,101
Total Assets	15,669,741
Liabilities	
2020 Serial: 2.46%, Locked Out	700,000
2021 Serial: 2.62%, Locked Out	950,000
2022 Serial: 2.78%, Locked Out	1,100,000
2023 Serial: 2.94%, Locked Out	1,160,000
2024 Serial: 3.10%, Locked Out	1,200,000
2025 Serial: 3.26%, Locked Out	1,250,000
2026 Serial: 3.35%, Locked Out	1,300,000
2027 Serial: 3.44%, Locked Out	1,300,000
2028 Serial: 3.52%, Locked Out	1,300,000
2029 Serial: 3.59%, Locked Out	1,200,000
2030 Serial: 3.70%, Locked Out	1,100,000
2034 Term: 3.90%, Callable	2,365,000
Total Liabilities	14,925,000
Net Assets	744,741
Parity Ratio	104.99%

Financing Sources and Uses	
Sources	
Fixed Rate Bond Issue	14,925,000
Total Sources	14,925,000
Uses	
Portfolio Acquisition	14,233,200
Reserve Fund	391,800
Costs of Issuance	300,000
Total Uses	14,925,000

Taxable Financing Financing Balance Sheet	
Assets	
Debt Service Reserve	337,500
Accrued Interest to be Capitalized	0
Loan Principal	13,725,381
Total Assets	14,062,881
Liabilities	
2020 Serial: 3.25%, Locked Out	800,000
2021 Serial: 3.35%, Locked Out	900,000
2022 Serial: 3.45%, Locked Out	1,050,000
2023 Serial: 3.55%, Locked Out	1,100,000
2024 Serial: 3.65%, Locked Out	1,200,000
2025 Serial: 3.75%, Locked Out	1,400,000
2026 Serial: 3.85%, Locked Out	1,200,000
2027 Serial: 3.95%, Locked Out	1,250,000
2028 Serial: 4.05%, Locked Out	
2029 Serial: 4.15%, Locked Out	
2030 Serial: 4.25%, Locked Out	
2034 Term: 4.05%, Callable	3,325,000
Total Liabilities	12,225,000
Net Assets	1,837,881
Parity Ratio	115.03%

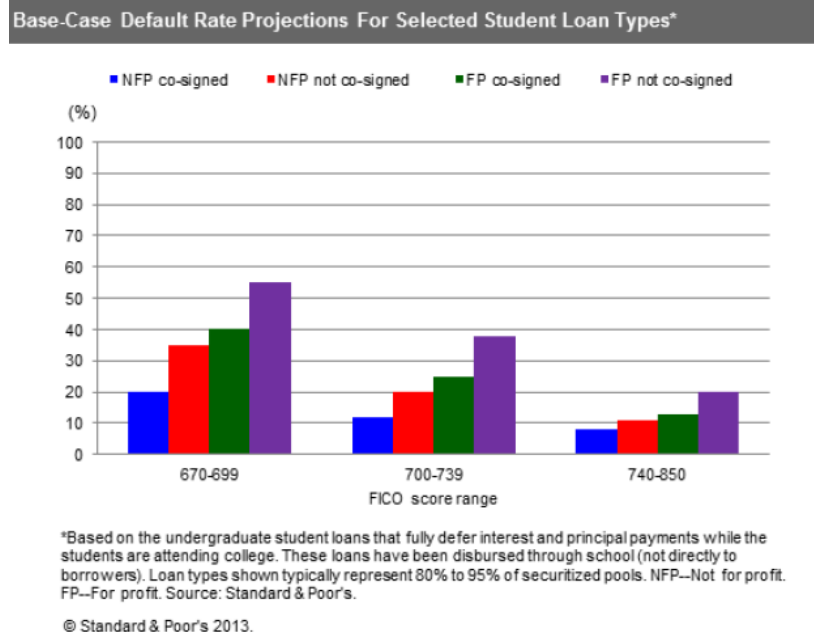
Financing Sources and Uses	
Sources	
Fixed Rate Bond Issue	12,225,000
Total Sources	12,225,000
Uses	
Portfolio Acquisition	11,587,500
Reserve Fund	337,500
Costs of Issuance	300,000
Total Uses	12,225,000

Funding Period on Balance Sheet	(28,739,185)
Return of Cash Via Financing	25,820,700
Residual Cash Flow	0
	0
	0
	0
	0
	0
	23,762
	265,236
	427,651
	297,299
	83,678
	52,727
	31,135
	14,167
	704,294
	888,666
	522,571
	0
	277,062
	488,808
Sum of Cash Flows	1,158,569
IRR of Cash Flows	1.8%

- In this example the capital requirements are significantly reduced
- The reduction is wholly attributable to a move away from structured financing ratings to municipal ratings
- This leads to improved economics

Ratings Agency Views

The primary cash flow stress for financing alternative/private loans—that is, the assumption that typically drives much of the economics and receives the most attention from the ratings agencies—is the expected net loss rate. Ratings agencies develop a base case default assumption: the number of borrowers they think will default and when those defaults will occur over time. This base case default assumption is then subject to a multiplier based on the rating level the issuer is seeking. Ratings agencies will look at historical issuer data to derive the base case default rate, or if data is insufficient, they will have their own views based on the key credit criteria listed on the following page and in Appendix A. The table below shows Standard & Poor’s base case default view for alternative/private student loans and how the credit metrics drive that view.



Sound credit underwriting is important for the real world performance and profitability of an alternative/private loan program, but it is also closely linked to how efficiently the portfolio can be financed in the capital markets. An upfront focus on credit underwriting will lead to good portfolio performance and efficient capital markets execution.

Ratings Agency Views

In a new highly regulated environment ratings agencies are constrained in how they approach the alternative/private student loan asset class. Generally they need all alternative/private student loans to fit into the same box and to be evaluated using the same model. This means data gathering and presentation in the correct format is critical in order to receive the best reception and most favorable assumptions from the ratings agencies. Essential data and presentation elements include:

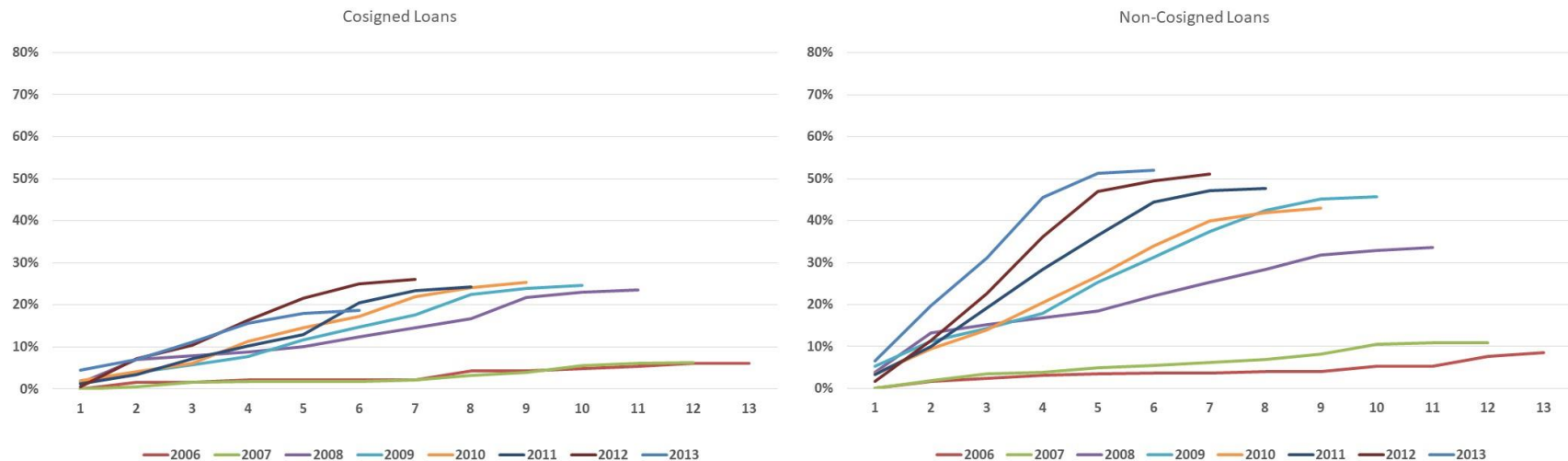
- Cohort default rates on a gross basis with cohorts based on repayment vintage, and default rate expressed with the repayment balance (as opposed to the disbursed amount) as the denominator;
- Seasoning data expressed as payments made and also a current balance than can be compared to the repayment balance;
- Recovery data presented on a cohort basis which shows historical recoveries by default vintage;
- Prepayment data expressed as a constant prepayment rate;
- Forbearance utilization data;
- Borrower benefit utilization data;
- Historical 30, 60 and 90 day delinquencies;
- Data broken out by product: deferred repayment, immediate repayment and refinancing loans should all be separate data sets;
- Credit metrics should be broken out according to the evaluation criteria, and loss data should be presented by subset. For example if the County offered a deferred repayment product and was seeking assumptions from S&P, the portfolio should be broken out by cosigned/non-cosigned loans, the 3 FICO tiers shown on the previous page, and for/non profit schools, for a total of 12 subsets of data. Each additional product would have its own 12 subsets of data, and for each subset ideally the County would be able to present at least cohort default data if not all the performance metrics above.

Data has always been and remains central to the rating process for private student loans. The new twist is that not only is data important now, but data in the correct format is critical to receiving the most favorable ratings agency views. Rating agencies will no longer use an issuer specific model. Rather, they use one model for alternative/private student loans, and all products must fit into that model.

Appendix A: Credit Metrics and Considerations

Cosigners

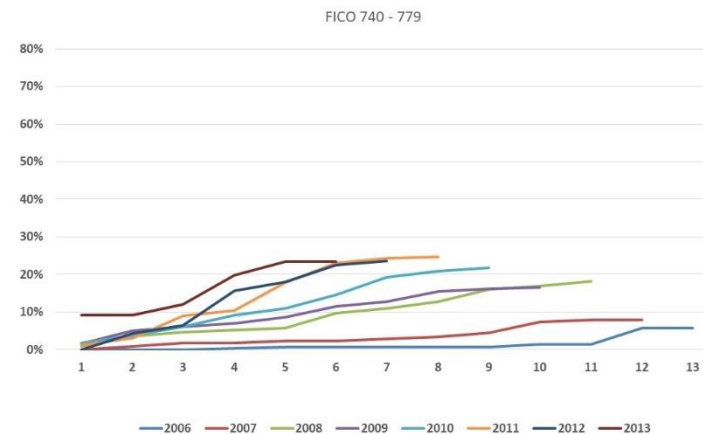
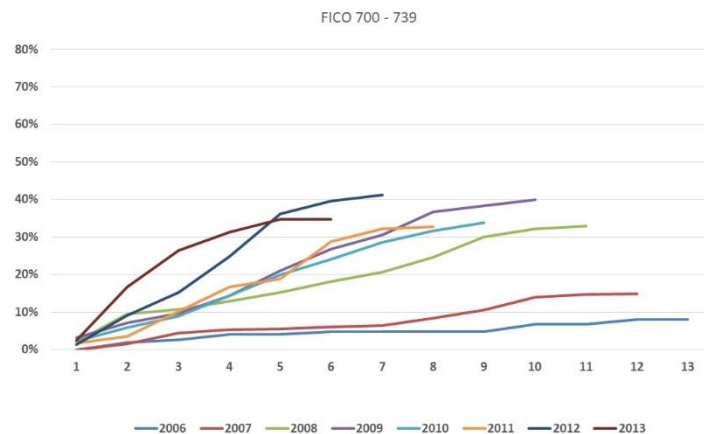
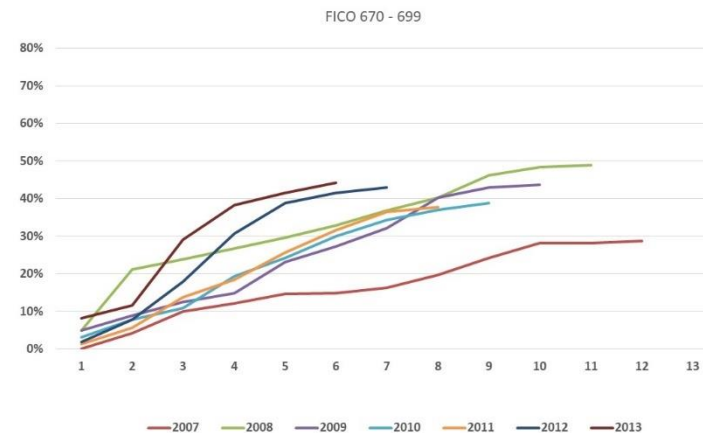
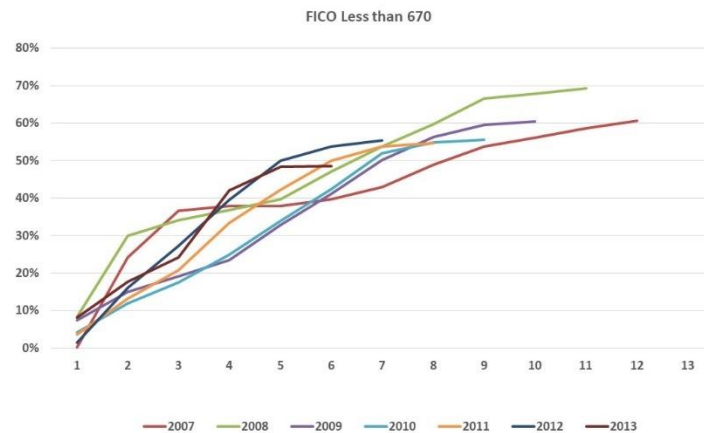
We have observed that co-signed loans result in significantly lower losses rates than student-only loans. As an illustration, the graph below shows the relationship between default rate and co-signer for a large portfolio originated by a for-profit student loan company.



Appendix A: Credit Metrics and Considerations

FICO Scores

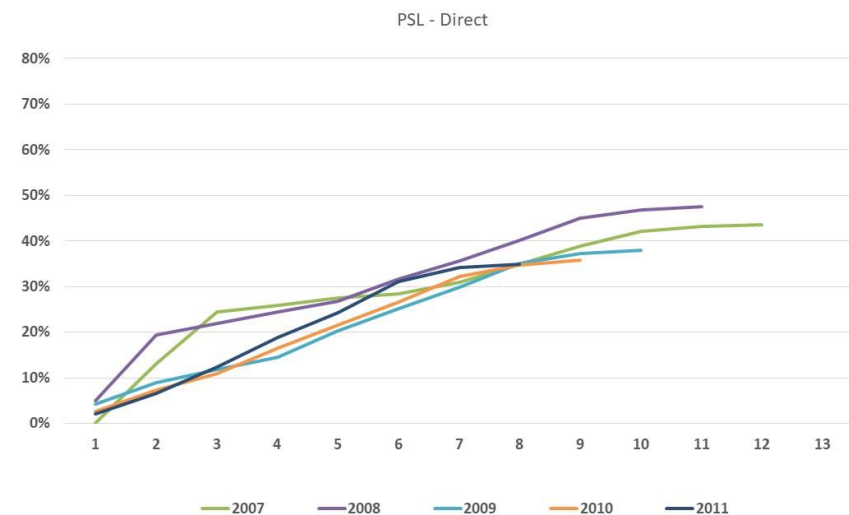
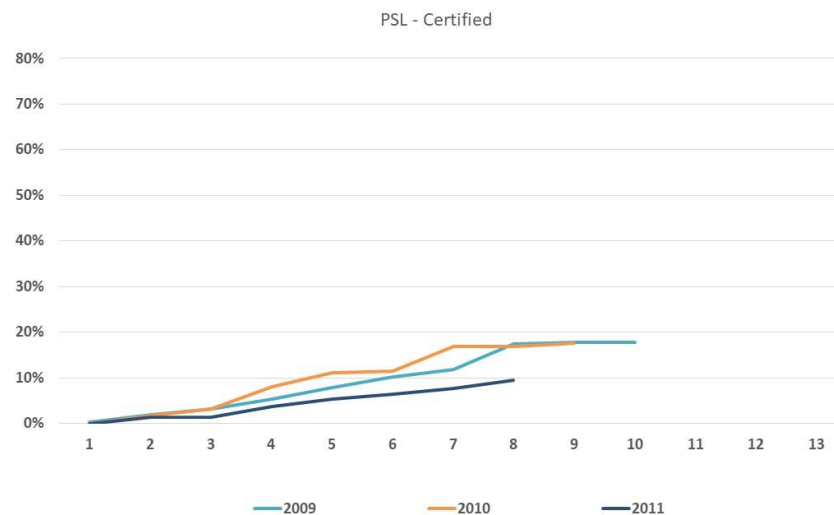
We have observed that borrowers with higher FICO scores lead to lower default losses. The table below illustrates this relationship with data pulled from a for-profit lender's portfolio.



Appendix A: Credit Metrics and Considerations

Origination Channel

Prior to the credit crisis there was much discussion about origination channel, with some lenders using a direct to consumer approach rather than the traditional school channel for originations. While the direct to consumer channel generated billions in volume, those loans proved to have materially worse loss performance over the long run, which ultimately led to the demise of many alternative/private student loan companies. Today it is often a given that in-school loans will be school certified. Only refinancing loans will be originated through a direct to consumer approach, and then only with thorough credit underwriting and proof of payoff for the underlying student loans refinanced. The graph below illustrates the wide performance gap between school channel loans and direct to consumer loans for a large for-profit lender.



Appendix A: Credit Metrics and Considerations

Other

Co-signer, school type, credit score, and originations channel may be the four main pillars of credit underwriting—and will receive the most attention from the ratings agencies—but there are other important credit considerations.

- **Debt-to-Income Ratio**

- This measure of a borrower's ability to carry a debt load has fallen out of favor, and some lenders have stopped using it. On an in-school product there would be little current income for the student. Such a metric would be much more useful for a co-signer or for refinancing products. In addition this is not a credit metric that gets much focus by the ratings agencies; they simply have not developed views of how loan performance correlates to the debt-to-income ratio. Still, some lenders find this to be a meaningful part of the underwriting process, and it is no doubt an effective tool for measuring a borrower's current ability to pay. For those lenders that use a debt-to-income ratio as a component of the underwriting criteria, we typically see a requirement of a 30% to 50% debt-to-income. A key question, in particular for refinancing loan products, is whether existing student loan debt is included or excluded from the calculation. We believe that debt-to-income ratios are a valuable metric for the underwriting guidelines for parent co-signed or parent-focused loans and for refinancing loans.

- **Deferred Payments versus Immediate Payments**

- For an in-school alternative/private loan product we have observed a high demand for deferred repayment products: loans that do not require payments in school but accrue interest to be capitalized when repayment starts. From a performance perspective, however, deferred repayment loans tend to have a higher default rate, because the borrowers experience payment shock when they are required to start making payments after a long in-school period. Loan products that require immediate payments tend to perform better, because they do not have this payment shock. This may not be practical for many borrowers, and such a product may not be met with much demand. Some lenders offer a middle ground where they require interest only payments while in school rather than full amortizing payments. To the extent that a product includes some form of immediate payment, we believe that it will tend to perform better. For parent-focused loans, immediate repayment products may make the most sense. Obviously, for refinancing loans immediate repayment is present by definition.

Appendix A: Credit Metrics and Considerations

- **School Type**

- The generally held view, supported by data is that borrowers attending non-profit schools tend to default at a lower rate than borrowers who attend for-profit schools. Furthermore borrowers attending 4-year schools will have a lower default rate than 2-year schools with proprietary schools performing the worst.

- **Deferment and Forbearance Offerings**

- Forbearance can be a valuable tool to help struggling borrowers, but it must be carefully monitored and not given freely or for long periods of time. Given careful monitoring and short duration, forbearance can help borrowers avoid default. On the other hand a freely given forbearance for a long period of time tends to be a default in waiting. We often see programs structured with a finite cumulative forbearance offering but with a provision that borrowers are only allowed to take it in small increments and with careful management oversight. For example, a program might allow a borrower to use 12 cumulative months of forbearance for the life of the loan but with no individual forbearance period exceeding 3 months. Forbearance will be stressed by the ratings agencies both in terms of maximizing its negative liquidity impact and through an assumption that most borrowers in forbearance will default.
- Deferment in school is a common feature of the deferred loan product. Deferment offerings post-graduation though vary across programs and are an important consideration in program design. A fundamental question is whether undergraduate borrowers are permitted to enter into another deferment if they go to graduate school. Other forms of deferment should also be considered but because of the length of graduate deferments this form of deferment often receives the most focus.
- The concept of cash flow extension and stressed forbearance and deferment offerings is a “hot-button” issue at the ratings agencies. Issuers can expect significant scrutiny on any programs allowing cash flows to be extended and expect assumptions that seek to maximize permitted extension.

- **Free Cash Flow Metrics**

- With the boom in student loan refinancing, metrics around a borrower’s free cash flow available to service a refinancing loan have become popular and have gained some traction with the ratings agencies. It will be important to have a free cash flow requirement as part of the underwriting process and to capture that data for future analysis. The free cash flow concept is linked to employment and salary verification and will be important in program design.

Appendix B: Program Alternatives

We have examined several alternative structures for a student loan and/or refinancing loan program for Montgomery County. These include:

1. Program to encompass refinancing loans and tuition loans and is offered to all State residents/students (this is the configuration used in our initial report)
2. Program to encompass refinancing loans only and is offered to all State residents/students
3. Program to encompass tuition loans only and is offered to all State residents/students
4. Program to encompass refinancing loans and tuition loans and is offered only to County residents/students
5. Program to encompass refinancing loans only and is offered only to County residents/students
6. Program to encompass tuition loans only and is offered only to County residents/students
7. A capped program in which a full array of products is offered to all State residents/students but volumes are capped to limit the capital need

In general we observe the following characteristics as the loan mix and lending population changes.

- A. Program set up costs are largely fixed, the larger the lending program is (more products and larger borrower population) the less set up costs as a percent of program size. Simply economies of scale can be generated with a larger program.
- B. Capital markets financing requires certain minimum portfolio sizes to be accomplished efficiently and effectively. A program that is too small risks being “orphaned”. That is, it is too small for capital markets financing and too unique for efficient sale in the whole loan market. Such a portfolio would end up stuck on balance sheet long term unless it was sold at a deep discount, this represents a potential long term use of County capital. A larger loan program may require more capital initially to make loans but time to term financing is shorter and 80% of the capital outlay is returned at the time of financing.
- C. Tuition loan products tend to have a higher yield than refinancing products for the student lending industry as a whole. Student borrowers are less price sensitive, they typically do not make interest payments in school and believe they will refinance when they graduate anyway. Refinancing borrowers are highly price sensitive, that is why they want to refinance, and will shop around for the best rate. In addition, for lenders with tax-exempt financing capacity, tuition loans can be financed on a tax-exempt basis while refinance loans currently cannot. The result is a higher cost of financing refinance loans than tuition loans. As a result of these factors, lender returns for tuition loans are higher than for refinancing loans.

On the following pages we look at each scenario described above and comment on how the various factors described in A through C above factor into each one. In all cases, loan products have the terms and conditions set forth on page 21 herein.

Appendix B: Program Alternatives

State-Wide – Tuition and Refinance

Funding Period on Balance Sheet	(28,739,185)
Return of Cash Via Financing	22,980,700
	0
	0
	0
	0
	0
	0
	437,130
	857,674
	716,130
	524,460
	144,536
	264,127
	94,830
	108,992
	962,905
	891,004
	645,884
	0
	521,001
	488,808
Sum of Cash Flows	898,998
IRR of Cash Flows	1.0%

Residual Cash Flow

- This was the base case scenario presented in our initial report and contemplates a program that includes both deferred and immediate repayment tuition loans as well as refinancing loans. The cash flow to the left shows the accumulation and long term financing of a \$30 million portfolio of loans and is meant to depict a mature program capable of generating this volume in a short period of time, that is these are not the results in the first year post launch.
- The initial funding period is 12 months long followed by a term financing. This means that \$28.7 million in capital is required to originate the portfolio but much of that capital is returned upon financing leaving only the “OC” outstanding of about \$6.0 million.
- The blend of loan types creates a positive return for the program of 1.0% after accounting for all credit losses as well as origination, servicing and financing costs while offering very attractive loan rates to borrowers.
- By offering an array of products to a broad audience volumes are substantial driving economies of scale.

Appendix B: Program Alternatives

State-Wide – Refinance Only

Funding Period on Balance Sheet Year 1	(13,722,392)
Funding Period on Balance Sheet Year 2	(10,632,094)
Return of Cash Via Financing	19,449,200
	0
	0
	0
	0
	376,001
	671,427
	611,174
	612,684
	549,455
	583,726
	0
	465,374
	149,681
	117,954
	88,636
	545,647
	0
	0
	0
	0
Sum of Cash Flows	(133,526)
IRR of Cash Flows	-0.2%

Residual Cash Flow

- When we restrict loan type to the refinance product only volumes decline meaning it takes longer to build up a portfolio which can be efficiently term financed, in this case we assume two years. This potentially ties up County capital for a longer period of time.
- Importantly, absent a hedge, this longer time until term financing adds interest rate risk.
- Refinance loan rates tend to be lower and competition is substantial. Unless loan rates are increased, and without companion higher yielding tuition loans the total return of the program restricted only to refinance loans is slightly negative.
- The need to fund the refinance portfolio on a taxable basis further squeezes margins.
- Program returns could be increased by increasing borrower rates but this likely would further drive down volume especially since the target borrower would be a prime credit with access competing refinance products.

Appendix B: Program Alternatives

State-Wide – Tuition Only

Funding Period on Balance Sheet Year 1	(15,126,793)
Funding Period on Balance Sheet Year 2	(14,895,853)
Return of Cash Via Financing	25,948,200
	0
	0
	0
	0
	0
	494,230
	1,297,122
	1,074,872
	895,623
	696,811
	334,795
	203,883
	333,814
	2,089,926
	1,945,406
	995,702
	0
	1,055,527
	493,795
Sum of Cash Flows	7,837,061
IRR of Cash Flows	5.9%

Residual Cash Flow

- When we restrict loan type to the tuition products only volumes decline meaning it takes longer to build up a portfolio which can be efficiently term financed, in this case we assume two years. This potentially ties up County capital for a longer period of time.
- Importantly, absent a hedge, this longer time until term financing adds interest rate risk.
- Tuition loan rates tend to be higher with less price sensitive borrowers. In addition, this volume can be financed on a tax-exempt basis providing a lower funding cost. Taken together the tuition loan only scenario produces an attractive program return of 5.9%.
- Loan rates could be reduced to the extent that the County wished to pass along program profitability to borrowers in the form of reduced coupon but this likely wouldn't be necessary to drive volume.

Appendix B: Program Alternatives

County Only – Tuition and Refinance

We have assumed that the County has one third of the State wide borrower population. On that basis we cut loan volumes by two thirds and arrive at the origination projections for the mature program shown below:

Period	Originations						Cash Flow						Balances		
	Deferred	Immediate	Refi15	Refi10	Refi5	Total	Prepayment	Default	Current Principal	Current Interest	Program Expense	Net Cash Flow	Principal Balance	Accrued Int.	Cap. Accounts
1	361,111	55,556	83,333	222,222	111,111	833,333	0	0	0	0	16,710	(16,710)	833,333	0	37
2	361,111	55,556	83,333	222,222	111,111	833,333	2,874	754	3,509	2,185	17,051	(8,484)	1,659,529	2,069	74
3	361,111	55,556	83,333	222,222	111,111	833,333	5,703	1,509	7,005	4,336	17,390	(346)	2,478,646	6,207	111
4	361,111	55,556	83,333	222,222	111,111	833,333	8,486	2,263	10,489	6,454	17,725	7,704	3,290,945	12,211	148
5	361,111	55,556	83,333	222,222	111,111	833,333	11,315	3,041	14,070	8,608	18,058	15,935	4,096,056	20,215	184
6	361,111	55,556	83,333	222,222	111,111	833,333	14,097	3,820	17,638	10,728	18,387	24,076	4,894,038	30,221	221
7	361,111	55,556	83,333	222,222	111,111	833,333	16,835	4,598	21,193	12,815	18,714	32,129	5,684,951	42,228	257
8	361,111	55,556	83,333	222,222	111,111	833,333	19,527	5,376	24,734	14,869	19,038	40,092	6,468,851	56,236	294
9	361,111	55,556	83,333	222,222	111,111	833,333	22,174	6,154	28,262	16,890	19,358	47,968	7,245,798	72,245	330
10	361,111	55,556	83,333	222,222	111,111	833,333	24,777	6,932	31,777	18,879	19,676	55,757	8,015,849	90,256	367
11	361,111	55,556	83,333	222,222	111,111	833,333	27,336	7,710	35,278	20,835	19,992	63,458	8,779,062	110,267	403
12	361,111	55,556	83,333	222,222	111,111	833,333	29,852	8,488	38,765	22,760	20,304	71,073	9,535,494	132,280	439
13	361,111	55,556	83,333	222,222	111,111	833,333	32,324	9,266	42,239	24,653	20,614	78,602	10,285,202	156,294	475
14	361,111	55,556	83,333	222,222	111,111	833,333	34,754	9,849	45,701	26,515	20,921	86,049	11,028,436	182,309	511
15	361,111	55,556	83,333	222,222	111,111	833,333	37,142	10,432	49,150	28,347	21,225	93,414	11,765,250	210,325	547
16	361,111	55,556	83,333	222,222	111,111	833,333	39,489	11,015	52,588	30,149	21,527	100,699	12,495,696	240,342	582
17	361,111	55,556	83,333	222,222	111,111	833,333	41,796	11,591	56,013	31,922	21,826	107,905	13,219,833	272,361	618
18	361,111	55,556	83,333	222,222	111,111	833,333	44,063	12,168	59,426	33,665	22,122	115,030	13,937,715	306,381	654
19	361,111	55,556	83,333	222,222	111,111	833,333	46,289	12,745	62,826	35,378	22,416	122,077	14,649,393	342,402	689
20	361,111	55,556	83,333	222,222	111,111	833,333	48,476	13,321	66,214	37,063	22,708	129,046	15,354,919	380,424	725
21	361,111	55,556	83,333	222,222	111,111	833,333	50,624	13,898	69,590	38,719	22,997	135,936	16,054,344	420,447	760
22	361,111	55,556	83,333	222,222	111,111	833,333	52,734	14,474	72,952	40,347	23,283	142,750	16,747,721	462,471	796
23	361,111	55,556	83,333	222,222	111,111	833,333	54,804	15,051	76,303	41,946	23,567	149,486	17,435,101	506,496	831
24	361,111	55,556	83,333	222,222	111,111	833,333	56,837	15,628	79,640	43,517	23,849	156,145	18,116,534	552,523	866
25	361,111	55,556	83,333	222,222	111,111	833,333	58,832	16,204	82,964	45,061	24,128	162,729	18,792,072	600,551	901
26	361,111	55,556	83,333	222,222	111,111	833,333	60,789	16,613	86,277	46,577	24,404	169,239	19,461,930	650,580	936
27	361,111	55,556	83,333	222,222	111,111	833,333	62,710	17,021	89,579	48,067	24,679	175,678	20,126,158	702,610	971
28	361,111	55,556	83,333	222,222	111,111	833,333	64,595	17,429	92,870	49,531	24,951	182,046	20,784,801	756,641	1,006
29	361,111	55,556	83,333	222,222	111,111	833,333	66,445	17,832	96,150	50,969	25,221	188,343	21,437,911	812,674	1,041
30	361,111	55,556	83,333	222,222	111,111	833,333	68,260	18,235	99,418	52,381	25,141	194,918	22,085,535	870,707	1,076
10,833,333 1,666,667 2,500,000 6,666,667 3,333,333 25,000,000															

A program restricted to the County only would be less efficient from a scale perspective due to lower volumes. Critically those lower volumes may present a barrier to term financing creating a long term capital drain to operate the program. Unless leverage can be applied all loans would have to funded on “balance sheet”. In the example above after 30 months of originations the total tuition loan balance is \$12.2 million and the refinance loan balance is \$9.8 million, both likely on the cusp of being too small to finance.

Appendix B: Program Alternatives

County Only – Single Loan Products

The volume problem highlighted on the previous page only gets worse when we restrict lending to certain loan products.

Period	Originations					Total
	Deferred	Immediate	Refi15	Refi10	Refi5	
1	361,111	55,556	83,333	222,222	111,111	833,333
2	361,111	55,556	83,333	222,222	111,111	833,333
3	361,111	55,556	83,333	222,222	111,111	833,333
4	361,111	55,556	83,333	222,222	111,111	833,333
5	361,111	55,556	83,333	222,222	111,111	833,333
6	361,111	55,556	83,333	222,222	111,111	833,333
7	361,111	55,556	83,333	222,222	111,111	833,333
8	361,111	55,556	83,333	222,222	111,111	833,333
9	361,111	55,556	83,333	222,222	111,111	833,333
10	361,111	55,556	83,333	222,222	111,111	833,333
11	361,111	55,556	83,333	222,222	111,111	833,333
12	361,111	55,556	83,333	222,222	111,111	833,333
13	361,111	55,556	83,333	222,222	111,111	833,333
14	361,111	55,556	83,333	222,222	111,111	833,333
15	361,111	55,556	83,333	222,222	111,111	833,333
16	361,111	55,556	83,333	222,222	111,111	833,333
17	361,111	55,556	83,333	222,222	111,111	833,333
18	361,111	55,556	83,333	222,222	111,111	833,333
19	361,111	55,556	83,333	222,222	111,111	833,333
20	361,111	55,556	83,333	222,222	111,111	833,333
21	361,111	55,556	83,333	222,222	111,111	833,333
22	361,111	55,556	83,333	222,222	111,111	833,333
23	361,111	55,556	83,333	222,222	111,111	833,333
24	361,111	55,556	83,333	222,222	111,111	833,333
25	361,111	55,556	83,333	222,222	111,111	833,333
26	361,111	55,556	83,333	222,222	111,111	833,333
27	361,111	55,556	83,333	222,222	111,111	833,333
28	361,111	55,556	83,333	222,222	111,111	833,333
29	361,111	55,556	83,333	222,222	111,111	833,333
30	361,111	55,556	83,333	222,222	111,111	833,333
	10,833,333	1,666,667	2,500,000	6,666,667	3,333,333	25,000,000

- Set up cost will be inefficient given lower County only loan volumes.
- It is possible that a single product County only loan program cannot achieve the scale needed to finance.

Appendix B: Program Alternatives

Capped Program Pro Forma

The loan program size could be capped to limit the County capital need. In the example below we assume \$9 million of loans are originated in the first year using 100% County funding. In year 2 and all years after that originations are capped at \$13.5 million and bonds are issued in the amount of \$13.5 million each year. In this way the County's capital commitment comes from funding net loans in year one which then serve as equity for bond financings for the future. That initial equity funding is an asset but it remains locked up in the bond Trust long term. Note this scenario assumes a program that includes tuition and refinancing loans and that all loan types may be financed together on a tax-exempt basis. Further guidance from the IRS is needed on this point but it would not be possible to assume separate taxable and tax-exempt issues in this case because volume is too low.

	Year 1	Year 2	Year 3	Year 4	Year 5
Origination Volume					
In School Deferred	1,000,000	3,188,976	3,188,976	3,188,976	3,188,976
In School Immediate	200,000	531,496	531,496	531,496	531,496
15 Year Refinancing	1,560,000	1,955,906	1,955,906	1,955,906	1,955,906
10 Year Refinancing	4,160,000	5,215,748	5,215,748	5,215,748	5,215,748
5 Year Refinancing	2,080,000	2,607,874	2,607,874	2,607,874	2,607,874
	9,000,000	13,500,000	13,500,000	13,500,000	13,500,000
EOY Portfolio Principal Balance	8,325,309	19,579,339	29,237,068	37,649,374	45,059,979
EOY Portfolio Accrued Interest Balance	30,769	194,549	570,313	928,206	928,297
Bonds Issued	0	13,500,000	13,500,000	13,500,000	13,500,000
Loan Receipts					
Loan Principal Receipts Including Prepayments	605,134	2,016,141	3,470,681	4,811,398	6,156,709
Loan Interest Receipts	197,852	640,735	1,065,500	1,441,117	1,856,856
Total Loan Receipts	802,987	2,656,877	4,536,181	6,252,515	8,013,565
Program/Financing Expenses					
Start Up Cost	250,000	0	0	0	0
Out of Pocket Bond Issuance Expense	0	100,000	100,000	100,000	100,000
Servicing Expense	23,154	72,810	124,669	169,553	208,932
Administration Expense	120,000	120,000	120,000	120,000	120,000
Origination Expense	11,967	22,624	22,624	22,624	22,624
Marketing Expense	45,000	67,500	67,500	67,500	67,500
Interest Expense	0	377,223	736,376	1,052,866	1,322,760
Credit Losses	57,736	187,248	300,857	384,519	459,745
Total Program Expenses	507,856	947,405	1,472,026	1,917,061	2,301,561
Net Loan Cash Flow	295,131	1,709,472	3,064,155	4,335,453	5,712,004
Net Interest Earnings (Accrual Basis)	(276,623)	(138,857)	(25,937)	87,459	162,102
Net Interest Margin (Accrual Basis)	-3.32%	-0.71%	-0.09%	0.23%	0.36%
Annual Cash Commitment to Program	8,704,869	0	0	0	0
Cumulative Cash Commitment to Program	8,704,869	8,704,869	8,704,869	8,704,869	8,704,869

Appendix B: Program Alternatives

Capped Program Yield and Considerations

Funding Period on Balance Sheet (12,706,861)

Return of Cash Via Financing 10,091,200

0

0

0

0

0

0

0

Residual Cash Flow

191,616

235,927

229,770

224,696

0

6,748

0

0

84,122

137,932

120,984

104,302

484,768

Sum of Cash Flows (794,797)

IRR of Cash Flows -2.3%

A limited program with low volume will lose economies of scale compared to a larger program. Yield will decline for such a capped program, in this example the yield of a mature vintage is -2.30% compared to 1.00% in the initial analysis. This is entirely due to scale:

- Set up costs are larger as a percentage of loans originated
- Bond issuance costs are not able to be paid entirely from bond proceeds (2% limitation on proceeds able to be used for costs), the County must come out of pocket modestly to pay bond issue costs
- The cost to administer the program has a floor, we assume \$10,000 per month and the smaller the program is the more impact on yield this has

If the overall goal is to cap County capital needs these negatives can be overcome by making upward adjustments in loan interest rates. If higher loan interest rates are not appealing the program could also simply be operated at a small loss.

Economics aside the obvious shortcoming of a capped program is having to shut down lending operations after certain volume targets have been met. Potentially this leaves some constituents unable to benefit from the program.

Appendix B: Program Alternatives

Conclusions

- Access to loan volume is critical
 - It provides scale in the context of diminishing set up cost as a percentage of originations
 - It provides quick access to capital markets term financing which minimizes County equity and allows county equity to revolve
 - Low volume may preclude capital markets financing which means that year after year the County would fund volume unlevered
- The program could be restricted to a certain loan product or to a certain geography but as the likely borrower population declines the volume analysis becomes critical. That is to say we feel comfortable that a state-wide program could generate enough volume to term finance whether refinance only, tuition only, or programs combined. Whether the county population only could drive sufficient volume is less certain.
- Program returns are an important consideration
 - The refinance product will have thin margins
 - Increasing coupon is generally not an option because these are sophisticated, prime credit customers who will quickly move to another lender if rates aren't competitive
 - The tuition product has attractive yields with far less price sensitive borrowers
- Restricting the program doesn't necessarily reduce capital requirements. If restricting the program means volumes will be too low to term finance then annual originations must perpetually be funded by the County which in total may represent a larger capital commitment.
- Capping volume at levels sufficient to access the capital markets for bond financing but short of total demand is a viable way to reduce capital requirements. This approach, however, would result in denials for some qualified borrowers and would still have scale implications and reduced earning levels associated with not achieving full economies of scale.

Appendix C: Selected For-Profit Loan Offerings

Wells Fargo



In School Product

Rate	Term	Type	Fees	APR
4.57%-10.51% Variable	180 Months	Deferred	None	4.57%-10.51%
5.94%-11.26% Fixed	180 Months	Deferred	None	5.94%-11.26%

In School Product Notes

Medical/Dental specific product
 Cosigner may be required based on credit
 \$120,000 Loan limit
 Rate reduction programs
 Credit tiered

Parent Only Product

Rate	Term	Type	Fees	APR
5.74%-12.24% Variable	180 Months	Immediate Repay	None	5.74%-12.24%
6.49%-12.99% Fixed	180 Months	Immediate Repay	None	6.49%-12.99%

Parent Product Notes

Rate reduction programs
 Credit tiered
 \$25,000 per year limit, \$100,000 cumulative education debt

Refinancing Product

Rate	Term	Type	Fees	APR
4.99%-9.74% Variable	240 Months	Immediate Repay	None	4.99%-9.74%
5.24%-9.99% Fixed	240 Months	Immediate Repay	None	5.24%-9.99%

Refinancing Product Notes

Consolidate only private student loans, no Federal
 Cosigner may be required based on credit
 \$120,000 Loan limit, \$250,000 Cumulative student loan limit
 Rate reduction programs
 Credit tiered

Discover



In School Product

Rate	Term	Type	Fees	APR
3ML+1.62%-9.62% Variable	180 Months	Deferred	None	3.99%-11.99%
5.99%-12.99% Fixed	180 Months	Deferred	None	5.99%-12.99%

In School Product Notes

Medical/Dental specific product
 Cosigner may be required based on credit
 Cost of attendance loan limit
 Rate reduction and rebate programs
 Credit tiered
 Post grad deferral available to 5 years
 In school payment option

Parent Only Product

Not Offered

Parent Product Notes

NA

Refinancing Product

Rate	Term	Type	Fees	APR
3ML+2.49%-5.74% Variable	120-240 Months	Deferred	None	4.87%-8.12%
5.24%-8.24% Fixed	120-240 Months	Deferred	None	5.24%-8.24%

Refinancing Product Notes

Rate reduction programs
 Consolidate Federal of Private student loans
 Credit tiered
 Cosigner may be required based on credit

Appendix C: Selected For-Profit Loan Offerings

Citizens Bank



In-School Product

Rate	Term	Type	Fees	APR
4.04%-12.01% Variable	60-180 Months	Deferred	None	4.04%-12.01%
5.74%-12.09% Fixed	60-180 Months	Deferred	None	5.74%-12.09%

In-School Product Notes

General Graduate product also available
 Cosigner may be required based on credit
 \$170,000 loan limit (\$225,000 total education debt)
 Rate reduction programs
 Repayment term as low as 5 years
 Credit tiered
 In-School payment options
 Cosigner release available

Parent-Only Product

Rate	Term	Type	Fees	APR
5.02%-8.34% Variable	60-120 Months	Deferred	None	5.02%-8.34%
5.74%-8.56% Fixed	60-120 Months	Deferred	None	5.74%-8.56%

Parent Product Notes

Immediate payment required but interest only offered
 \$170,000 loan limit (\$225,000 total education debt)
 Repayment term as low as 5 years
 Rate reduction programs

Refinancing Product

Rate	Term	Type	Fees	APR
4.52%-7.87% Variable	60-240 Months	Immediate Repay	None	4.52%-7.87%
5.54%-8.49% Fixed	60-240 Months	Immediate Repay	None	5.54%-8.49%

Refinancing Product Notes

\$350,000 loan limit
 Any private or federal loan can be included
 Rate reduction programs
 Credit tiered
 Cosigner release available

SallieMae



In-School Product

Rate	Term	Type	Fees	APR
4.12%-10.98% Variable	180 Months	Deferred	None	4.12%-10.98%
5.74%-11.85% Fixed	180 Months	Deferred	None	5.74%-11.85%

In-School Product Notes

Graduate products also available by field of study
 Cosigner may be required based on credit
 Cost of attendance loan limit
 Rate reduction programs
 Credit tiered
 In-School payment option
 Cosigner release available

Parent-Only Product

Rate	Term	Type	Fees	APR
5.62%-11.99% Variable	120 Months	Deferred	None	5.62%-11.99%
5.74%-12.87% Fixed	120 Months	Deferred	None	5.74%-12.87%

Parent Product Notes

I/O payments available in-school

Refinancing Product

Not offered

Refinancing Product Notes

NA

Appendix C: Selected For-Profit Loan Offerings

PNC Bank



In-School Product

Rate	Term	Type	Fees	APR
5.23%-11.23% Variable	180 Months	Deferred	None	5.03%-11.23%
6.29%-12.29% Fixed	180 Months	Deferred	None	6.01%-12.29%

In-School Product Notes

Cosigner may be required based on credit
 \$100,000 loan limit
 Rate reduction programs
 In-school payment options
 Cosigner release available
 Credit tiered
 Deferral available
 Program specific graduate loans

Parent-Only Product

Not Offered

Parent Product Notes

NA

Refinancing Product

Rate	Term	Type	Fees	APR
4.82%-7.02% Variable	120-180 Months	Immediate	None	4.82%-7.02%
5.39%-7.59% Fixed	120-180 Months	Immediate	None	5.39%-7.59%

Refinancing Product Notes

Cosigner may be required based on credit
 Any private or federal loan can be included
 Rate reduction programs
 Credit tiered
 Cosigner release available

College Ave



In-School Product

Rate	Term	Type	Fees	APR
3.69%-10.94% Variable	60-180 Months	Deferred	None	3.69%-10.94%
5.29%-12.07% Fixed	60-180 Months	Deferred	None	5.29%-12.07%

In-School Product Notes

Cosigner may be required based on credit
 Separate graduate programs
 In-school payment options
 Rate reduction programs

Parent-Only Product

4.96%-9.94% Variable	60-144 Months	Immediate Repay	None	4.96%-9.94%
6.62%-10.57% Fixed	60-144 Months	Immediate Repay	None	6.62%-10.57%

Parent Product Notes

Full deferral not offered but 0% payment options exist
 Rate reduction programs



Refinancing Product

Rate	Term	Type	Fees	APR
2.88%-7.63% Variable	60-180 Months	Immediate Repay	None	2.88%-7.63%
3.25%-8.00% Fixed	60-180 Months	Immediate Repay	None	3.25%-8.00%

Refinancing Product Notes

Cosigner may be required based on credit
 IO option available
 Rate reduction programs

Appendix C: Selected For-Profit Loan Offerings

SoFi						Commonbond					
											
In-School Product						In-School Product					
None						Rate	Term	Type	Fees	APR	
						3.72%-9.68% Variable	60-180 Months	Deferred	None	3.72%-9.68%	
In-School Product Notes						5.30%-9.82% Fixed	60-180 Months	Deferred	None	5.30%-9.82%	
NA						In-School Product Notes					
Parent-Only Product						Rate Reduction Programs					
None						In-School Payment Option					
Parent Product Notes						Cosigner Release Available					
NA						Credit Tiered					
Refinancing Product						Deferral Available					
Rate	Term	Type	Fees	APR		Program Specific Graduate Loans					
2.79%-7.90% Variable	60-240 Months	Immediate Repay	None	2.79%-7.90%							
3.90%-8.18% Fixed	60-240 Months	Immediate Repay	None	3.90%-8.18%							
Refinancing Product Notes						Parent-Only Product					
Rate Reduction Programs						Not Offered					
Credit Tiered						Parent Product Notes					
Approved School List						NA					
Any Federal or Private Loan Eligible						Refinancing Product					
						Rate	Term	Type	Fees	APR	
						2.72%-7.25% Variable	60-240 Months	Immediate Repay	None	2.72%-7.25%	
						3.20%-7.25% Fixed	60-240 Months	Immediate Repay	None	3.20%-7.25%	
						Refinancing Product Notes					
						Rate Reduction Programs					
						Credit Tiered					
						Any Private or Federal Loan Can Be Included					
						Hybrid Coupon (Variable with Cap) Available					

Appendix D: Selected Non-Profit Loan Offerings

Connecticut Higher Education Supplemental Loan Authority



In School Product

Rate	Term	Type	Fees	APR
4.95% Fixed	140 Months	Deferred	3%	5.33%-5.45%

In School Product Notes

Graduate loan is deferred, undergraduate requires IO payments
 Cosigner may be required based on credit
 \$125,000 Loan limit
 Cosigner release feature

Parent Only Product

Not Offered

Parent Product Notes

NA

Refinancing Product

Rate	Term	Type	Fees	APR
4.75%-6.80% Fixed	60-180 Months	Immediate	0%	4.75%-6.80%

Refinancing Product Notes

Federal and private loans eligible
 Maximum loan amount \$100,000

Kentucky Higher Education Student Loan Corporation



In School Product

Rate	Term	Type	Fees	APR
3.80%-6.99% Fixed	120-180 Months	Multiple	0%	NA

In School Product Notes

Cosigner may be required based on credit
 Immediate, IO and Deferred options
 0.25% Rate reduction for ACH
 Fixed Rate level based on credit tier and repay option

Parent Only Product

Rate	Term	Type	Fees	APR
3.80%-6.99% Fixed	120-180 Months	Multiple	0%	NA

Parent Product Notes

Immediate and Deferred options
 0.25% Rate reduction for ACH
 Fixed Rate level based on credit tier and repay option

Refinancing Product

Rate	Term	Type	Fees	APR
3.75%+ Fixed	120-240 Months	Immediate	0%	NA

Refinancing Product Notes

Fixed Rate level based on credit tier and repay length
 0.25% Rate reduction for ACH
 Cosigner release available
 Federal and private loans eligible

Appendix D: Selected Non-Profit Loan Offerings

Massachusetts Educational Financing Authority



In School Product

Rate	Term	Type	Fees	APR
4.50%/5.40% Fixed	120 Months	Immediate Repay	4-7%	5.63%-6.03%
4.80%/5.70% Fixed	180 Months	Immediate Repay	4-7%	5.84%-6.15%
6.40%/7.30% Fixed	180 Months	Interest Only	4-7%	7.40%-7.75%
6.70% Fixed	180 Months	Deferred	4-7%	6.63%-7.25%
7.20% Fixed	180 Months	Deferred-Release	4-7%	7.06%-7.75%

In School Product Notes

Immediate and I/O loans offer lower rate during the in school period only
 4% fees for cosigned loans, 7% fees for non-cosigned loans
 Cost of attendance loan limit

Parent Only Product

Not Offered

Parent Product Notes

NA

Refinancing Product

Rate	Term	Type	Fees	APR
4.45%+ Fixed	120-180 Months	Immediate Repay	0%	4.45%+
4.37%+ Variable	120-180 Months	Immediate Repay	0%	4.37%+

Refinancing Product Notes

Federal and private loans eligible
 \$10,000 minimum loan amount

Maine Educational Loan Authority



In School Product

Rate	Term	Type	Fees	APR
4.99% Fixed	120 Months	Immediate Repay	0%	4.74%-4.99%
6.29% Fixed	180 Months	Interest Only	0%	6.04%-6.29%
7.49% Fixed	180 Months	Deferred	0%	6.92%-7.06%

In School Product Notes

0.25% Rate reduction for ACH
 Cosigner may be required based on credit
 Cost of attendance loan limit
 Extended deferment available for medical loans

Parent Only Product

Not Offered

Parent Product Notes

NA

Refinancing Product

Not Offered

Refinancing Product Notes

NA

Appendix D: Selected Non-Profit Loan Offerings

Higher Education Student Assistance Authority (State of New Jersey)



Higher Education Student Assistance Authority

In School Product

Rate	Term	Type	Fees	APR
4.79% Fixed	120 Months	Immediate Repay	3%	5.50%
5.60% Fixed	180 Months	Interest Only or IR	3%	6.00%-6.03%
7.20% Fixed	240 Months	Deferred	3%	7.61%

In School Product Notes

Cosigner may be required based on credit
Cost of attendance loan limit
Separate graduate program with a 300 month term

Parent Only Product

Not Offered

Parent Product Notes

NA

Refinancing Product

Rate	Term	Type	Fees	APR
Wtd Average of Underlying	300-360 Months	Immediate Repay	1%	Variable

Refinancing Product Notes

Only HESAA loans eligible

Rhode Island Student Loan Authority



In School Product

Rate	Term	Type	Fees	APR
4.24% Fixed	120 Months	Immediate Repay	None	3.99%-4.24%
6.49% Fixed	180 Months	Deferred	None	6.24%-6.49%

In School Product Notes

0.25% Rate reduction for ACH
Income based repayment available
Forgiveness Programs
Cosigner may be required based on credit
\$125,000 Loan limit

Parent Only Product

Rate	Term	Type	Fees	APR
5.49% Fixed	120 Months	Immediate Repay	None	5.24%-5.49%

Parent Product Notes

0.25% Rate reduction for ACH
Income based repayment available
Forgiveness Programs
\$125,000 Loan limit

Refinancing Product

Rate	Term	Type	Fees	APR
4.97% Fixed	60 Months	Immediate Repay	None	3.49%-7.64%
5.42% Fixed	120 Months	Immediate Repay	None	3.49%-7.64%
6.22% Fixed	180 Months	Immediate Repay	None	3.49%-7.64%

Refinancing Product Notes

0.25% Rate reduction for ACH
Rates shown are averages, actual rates vary by cosigner and credit tier
Any federal or private loan eligible

Appendix D: Selected Non-Profit Loan Offerings

Vermont Student Assistance Corporation



In School Product

Rate	Term	Type	Fees	APR
5.90% Fixed	120-180 Months	Immediate Repay	0-5%	5.90%-6.69%
6.65% Fixed	120-180 Months	Interest Only	0-5%	6.65%-7.28%
7.55% Fixed	120-180 Months	Deferred	0-5%	7.25%-7.78%

In School Product Notes

Cosigner required
 Cosigner release available after 48 months
 Cost of attendance loan limit
 Origination fee level based on credit tier

Parent Only Product

Rate	Term	Type	Fees	APR
5.90% Fixed	120-180 Months	Immediate Repay	0-5%	5.90%-6.69%
7.45% Fixed	120-180 Months	Deferred	0-5%	7.40%-8.11%

Parent Product Notes

Deferral term capped at 12 months

Refinancing Product

Not Offered

Refinancing Product Notes

NA

North Carolina State Education Assistance Authority



In School Product

Rate	Term	Type	Fees	APR
6.50% Fixed	180 Months	Deferred	0%	NA

In School Product Notes

0.25% Rate reduction for ACH

Parent Only Product

Rate	Term	Type	Fees	APR
5.50% Fixed	120 Months	Immediate Repay	0%	NA

Parent Product Notes

0.25% Rate reduction for ACH

Refinancing Product

Not Offered

Refinancing Product Notes

NA

Appendix E: Cash Flow Assumptions

We applied the following assumptions in our analysis.

Gross Defaults

- Deferred Loans: 8.0% distributed 30% in year one, 20% in years two and three and 10% in years four, five and six
- Immediate Repayment Loans: 6.0% distributed 30% in year one, 20% in years two and three and 10% in years four, five and six
- Refinancing Loans: 5.0% distributed 40% in year one, 30% in year two, 20% in year three and 10% in year four

Recoveries

- 20% recovery rate with on defaulted principal only with a 3-year lag

Deferment and Forbearance

- Deferred loans are assumed to begin repayment 3 years after origination
- 3% of all loans are assumed to enter forbearance for 3 months prior to the commencement of repayment

Prepayment

- In school deferred and immediate repayment loans are assumed to have a 4% constant prepayment rate
- Refinancing loans are assumed to have an 8% constant prepayment rate

Interest Rates

- Financing costs are assumed to be as of January 2019 for a single-A rated tax-exempt and taxable student loan revenue bond issue based on comparable transactions
- Funds not released to the County are assumed to be reinvested at 1-Month LIBOR less 0.20%
- 1-Month LIBOR is assumed to follow the forward curve

Appendix E: Cash Flow Assumptions

Program Expenses

- Servicing fees are assumed to be 0.50% of the loan balance paid monthly
- Administrative fees are assumed to be 0.25% of the loan balance paid monthly with a minimum expense level of \$10,000 per month
- Marketing expense is assumed to be 0.50% of the par amount of loans disbursed per year
- Origination fees are assumed to be \$50 per account
- Trustee fees for the term financing case only are assumed to be 0.02% of the bond balance paid annually

Debt Service Reserve Fund

- Assumed to be 3.0% of the bond balance with minimum of \$250,000

Residual Release Rules

- Residual will be released when the parity ratio reaches 5% in excess of the starting parity so long as the asset coverage is 5% of the initial bond balance.

Bond Structure

- Both the taxable and tax-exempt structures have locked out serial bonds which cannot be prepaid coupled with a callable term bond designed to absorb prepayments.
- The taxable bonds will price as a spread to Treasury yields
- The tax-exempt bonds will price as a spread to MMD rates
- In both cases the terms bonds may be able to be priced to their average life rather than legal final maturity which is to the issuer's advantage.

Appendix F : SLCS Summary

SL Capital Strategies LLC (“SLCS”). Our core business is providing independent financial advisory services to student loan sector participants. Since inception SLCS has provided strategic and financial advisory services to 80 different clients on engagements representing \$70 billion in asset value. We have completed a wide variety of assignments for clients, including advising on the issuance of over \$7.9 billion in par amount of debt across the municipal tax-exempt, municipal taxable and asset-backed markets. More information on our firm can be found at www.slcapitalstrategies.com. Short bios of the principals working with the County on this project are set forth below.

Mark J. Weadick, Managing Director

Mark Weadick has more than 30 years’ finance, management and consulting experience and now specializes in providing consulting and financial advisory services. Before joining SLCS in 2008, Mark was the co- head of Citigroup’s Student Loan Investment Banking Group and has worked for both Citigroup (originally joining Smith Barney in 1996) and William R. Hough & Co. Currently, Weadick is primarily advising clients on new financings and restructurings, strategy and acquisitions, valuations, private loan tuition and refinancing programs, rating agency and guarantor matters, and the administration of bond trusts.

Prior to his investment banking career, Mr. Weadick served as the chief financial officer for Student Loan Funding Corporation, as a certified public accountant for Arthur Andersen and as a corporate/securities lawyer at Taft Stettinius & Hollister. Mr. Weadick is an honors graduate of Bowling Green State University and the University of Cincinnati College of Law.

Patrick Belica, Managing Director

Mr. Belica takes day-to-day responsibility for many of SL Capital Strategies’ clients. He is responsible for all of the Firm’s analytics. Prior to helping found SLCS in 2007, Mr. Belica worked in the Investment Banking Group at Citigroup where he was responsible for analytical work relating to client issuance of debt, M&A and whole loan sales. Mr. Belica was the chief interface with Ratings Agencies and other professionals in connection with these assignments. In all of these assignments, Mr. Belica was responsible for transaction structuring, Ratings Agency analytics, derivative strategies and, ultimately, coordination with trading desks on the initial pricing and ongoing remarketing of securities. Mr. Belica’s debt issuance experience spans the municipal, corporate and ABS markets, having executed transactions in every available mode in each sector. This experience serves him well at SLCS where he oversees all analytics of the firm and ensures that quantitative analysis for each client is up to the highest standard.

Since the founding of SLCS, Mr. Belica has served clients in a number of ways including acting as advisor on new debt issues, advising on M&A assignments, bond restructurings, private loan program development and capital markets financing, portfolio sales, and asset and liability valuations for financial statement purposes. Mr. Belica is a graduate of Columbia University.