Future Potential versus Past Performance: MPOWER Financing's Innovation in Student Loan Underwriting

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Summary: *The Payment Cards Center hosted a February 2016 workshop featuring MPOWER Financing, a start-up public benefit corporation created to be a source of student loans for high-potential scholars who either do not qualify for federal aid or who face a gap between federal aid maximums and the full cost of their educations. MPOWER has taken a unique approach to loan underwriting that is based on future potential rather than past credit experience and has developed a scoring model that helps predict loan repayment for young adults who have yet to establish a credit history. This paper summarizes highlights from the MPOWER workshop.*

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I. Introduction

The trends are compelling. Tuition at American postsecondary schools has increased at rates much higher than the increases in both wages and inflation. At public four-year colleges, tuition increased 79.5 percent from 2003 to 2013,[1] continuing a series of double-digit increases over five-year increments that began in the mid-1980s.[2]

At the turn of this century, mounting tuition costs coincided with the arrival of the Millennials on campus. This largest generation in U.S. history triggered an increase in the absolute numbers of college-aged individuals; in addition, a higher proportion of its members are pursuing higher education. Between 2003 (when the oldest Millennials would have been in college) and 2013, the number of people aged 18 to 24 years increased by 9 percent, and the proportion of them enrolled in degree-granting institutions increased from 38 percent to 40 percent.[3] Students are also staying in school longer: The average time to complete an undergraduate degree has increased and so has enrollment in postbaccalaureate programs. The number of people continuing on to master's, doctoral, and professional programs (e.g., law, medicine, and dentistry) increased by 36 percent between 2000 and 2010.[4]

To no surprise, these trends have contributed to another: A marked increase in student loans. Over time, financial grants and aid have taken on a larger proportion of total undergraduate

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[1] Using data from the College Board, *U.S. News & World Report* compared increases in college tuition with the increases in other costs over the same 10-year period. Medical care rose 43.1 percent; food and beverages, 31.2 percent; and housing, 22.8 percent. The overall increase in the consumer price index for the period was 26.7 percent, according to its report. See "Charts: Just How Fast Has College Tuition Grown," by Danielle Kurtzleben, *U.S. News & World Report*, October 23, 2013, www.usnews.com/news/articles/2013/10/23/charts-just-how-fast-has-college-tuition-grown.

[2] "Trends in Higher Education: Tuition and Fees and Room and Board over Time," The College Board, https://trends.collegeboard.org/college-pricing/figures-tables/tuition-and-fees-and-room-and-board-over-time-1975-76-2015-16-selected-years.

[3] "Fast Facts: Enrollment," National Center for Education Statistics, http://nces.ed.gov/fastfacts/display.asp?id=98.

[4] "Postbaccalaureate Enrollment," National Center for Education Statistics, http://nces.ed.gov/programs/coe/indicator_chb.asp.

expenses, while out-of-pocket costs (in real dollars and as a share of total expenses) have declined. Student loans make up the remainder, having nearly doubled to 29 percent of the average outlay for a year of education (from 15 percent for the 1990–91 school year).[5] Over a recent 10-year period (from 2004 to 2014), the number of student loan borrowers increased 92 percent from 23 million to 43 million, while total student debt in the U.S. tripled from $364 billion to $1.16 trillion. In 2004, 27 percent of 25-year-olds had student debt; in 2013, it was 45 percent.[6] A corollary rise in delinquencies and charge-offs also occurred: In the two years from 2012 to 2014, student loan write-offs increased 46 percent (to $13.6 billion).[7]

The American education system is also a magnet for foreign students, more than a million of whom were attending schools in the U.S. in 2015. This was 14 percent more than the previous year, 50 percent more than in 2010, and 85 percent more than in 2005.[8] Brookings describes the U.S. as "the preeminent global hub for academic training," hosting 21 percent of students worldwide who are studying outside their home countries.[9] Non-U.S. student expense is largely paid by the individual or his or her family, or by a sponsoring government, organization,

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[5] Thomas Hylands, "Student Loans: A Primer," The Federal Reserve Bank of Philadelphia's *Cascade* 84, Winter 2014. Hylands adapted work by the Hamilton Project to show the share shift, across three payer categories, for the average expense (tuition, fees, and room and board, expressed in constant 2012 dollars) for a year of undergraduate education. In 1990–91, grant aid accounted for 28 percent (about $2,800); out-of-pocket, 57 percent (about $5,700); and student loans, 15 percent (about $1,500). In 2010–11, the comparative numbers were 43 percent for grant aid (about $7,740), 28 percent for out-of-pocket (about $5,040), and 29 percent for student loans (about $5,220). Grant aid over that period increased about 2.75 times and student loans increased about 3.5 times, while out-of-pocket payments declined by about 12 percent.

[6] "Student Debt and Higher Education Financing: A Public Finance Perspective," remarks by James McAndrews, Federal Reserve Bank of New York, to the National Association of College and University Business Officers, February 5, 2015.

[7] These statistics are based on Equifax data included in an e-mail from the National Collections & Operational Risk Conference, Subject: Sallie Mae on Student Loans: Opportunities & Challenges, dated January 9, 2014. McAndrews' speech cited in the previous footnote also discusses rising delinquencies and other aspects of nonpayment of student loan debt.

[8] Miriam Jordan, "International Students Stream into U.S. Colleges," *Wall Street Journal*, March 24, 2015, www.wsj.com/articles/international-students-stream-into-u-s-colleges-1427248801.

[9] Neil G. Ruiz, "The Geography of Foreign Students in U.S. Higher Education: Origins and Destinations," Brookings Institution, August 2014, www.brookings.edu/interactives/the-geography-of-foreign-students-in-u-s-higher-education-origins-and-destinations/.

or individual in the home country.[10] When additional monies are needed, however, these students typically do not qualify for U.S. federal student loans.[11]

A Washington, D.C.-based start-up, MPOWER Financing (MPOWER), has positioned itself at a point of intersection for many of these trends. MPOWER provides educational financing for high-potential scholars, primarily those who are international students studying in the U.S. but also those who are U.S. residents who have not yet established a U.S. credit history.

Created as a public benefit corporation in April 2014 by Manu Smadja and Mike Davis, MPOWER was born out of its founders' own experiences in pursuing their advanced educations. Smadja, from France, completed bachelor's and master's degrees at the University of Virginia. Davis was born in the U.S. to immigrant parents and completed a degree in computer engineering at Purdue University, followed by an M.B.A. from INSEAD.[12] As foreign and first-generation students, respectively, they found that they and other students like them encountered obstacles when they needed additional funding to complete their degree programs. Those observations, combined with later career experience, led Smadja and Davis to identify $75 billion in annual unmet financing needs among international and independent U.S. students. This in turn informed their concept for financing higher education while mitigating some of the risk inherent in lending to young adults with no current income and limited data on past credit use. Using these insights and their combined experience, they founded MPOWER, where Smadja is chief executive officer and Davis is chief technology officer.

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[10] From a presentation of the Open Doors® 2015 Report on International Educational Exchange to the Access for All conference hosted by the U.S. Departments of State and Education, November 16, 2015. These funds are part of a $31 billion contribution to the U.S. economy that foreign students made during the 2014–15 school term.

[11] *Author's note*: There is a distinction between foreign students and students who are residents of the United States but not U.S. citizens. The latter may be eligible for federal student aid if they meet certain conditions. See "Many Non-U.S. Citizens Qualify for Federal Student Aid," Federal Student Aid, https://studentaid.ed.gov/sa/eligibility/non-us-citizens.

[12] The name INSEAD is an acronym derived from the graduate business school's original name upon its founding in 1957, Institut Européen d'Administration des Affaires.

Earlier this year, the Payment Cards Center hosted a workshop featuring MPOWER. Joining Smadja and Davis in facilitating that workshop was Lana Bronipolsky, the company's chief financial officer and vice president of finance. This paper summarizes insights from that event.

II. The MPOWER Venture

MPOWER's mission is to remove financial barriers to higher education in the U.S. It has specifically targeted the needs of two student populations frequently excluded from other commonly used educational financing sources:

1. The 1 million foreign students ineligible for U.S. government loans
2. The 2 million-plus U.S. residents who either don't qualify for federal aid or who face a gap between federal aid and their full educational expenses.

Within both of these targeted groups are students who have already demonstrated both promise and some attainment toward achieving their future potential; empirically validating that potential is a key element to MPOWER's approach. Government-guaranteed student loans involve no underwriting and, thus, experience high rates of delinquency and charge-off compared with private student loans and other types of consumer loans.[13] Obtaining investor financing would be difficult and expensive under that model. Private loan underwriting typically relies on

[13] As of September 30, 2015, 11.6 percent of aggregate student loan debt was 90 or more days past due or in default. That rate was higher than comparable rates for credit card, mortgage, automobile, or revolving home equity loans. This is graphically depicted on page 12 of "Quarterly Report on Household Debt and Credit," Federal Reserve Bank of New York Research and Statistics Group, Microeconomic Studies, November 2015, www.newyorkfed.org/medialibrary/interactives/householdcredit/data/pdf/HHDC_2015Q3.pdf. Private student loans comprise less than 8 percent of total student loan debt, according to the Consumer Financial Protection Bureau, which also reports that default on private student loans (in the 2014 time frame) was 3 percent compared with 14 percent for the federal student loan program. See "CFPB Report Illustrates Differences Between Government and Private Student Loans," by Michael Tremoglie, MainStreet.com, November 13, 2014, www.mainstreet.com/article/cfpb-report-illustrates-differences-between-government-and-private-student-loans.

some measure of past performance (generally a credit score). That model is likewise unsuited to MPOWER's target audience of young adults who have yet to build credit histories. Some, however, have established scholastic histories that could be modeled to predict their potential for college success (e.g., degree completion) and future earnings (and correlated loan repayment.)[14]

MPOWER developed underwriting standards around criteria that were sufficiently predictive of future repayment potential that the company was able to secure investor financing to allow it to pursue its lending mission. The predictive capacity of the model also permits loans to be made without need of cosigners.

Loans are approved at interest rates fixed for the life of the loan, which can extend up to 10 years after graduation. Loan repayment is structured such that small (interest-only) payments begin while the students are still in school, enabling them to build credit histories before graduation. MPOWER also provides its borrowers with personal finance education and offers gateway financial products to prepare them for life after college.

Underwriting young adults on their future potential is not itself a new concept. Lenders have intuitively understood and considered future earnings in their lending decisions. Medical students, for example, have rarely found it impossible to obtain loans. Until regulations restricted the practice, many banks entered partnerships with colleges for the purposes of opening new credit card, checking, and other bank accounts with students to establish relationships with these "next generation" customers. These customer acquisition strategies were developed around the future value of college-educated customers. The Federal Reserve Bank of San Francisco, for

[14] The College Board reported two-year default rates on student loan balances among borrowers who completed degrees and those who did not. From 1995 through 2012, default rates among those who did not complete college were two to four times greater than the rates for those who finished college. For the latter group, default rates ranged from a low of 4 percent in 2001 through 2005 to a high of 10 percent in the 2010–11 academic year. Among college dropouts, the lowest default rate, 11 percent, occurred in 1998–99, and defaults reached 30 percent in 2009–10. See Figure 14A, "Trends in Student Aid 2015," by Sandy Baum et al., The College Board, 2015.

example, calculates that college grads will earn an average of $800,000 more in their careers than those whose education did not advance beyond high school.[15] Higher income individuals, the banks ventured, would likely need a number of financial services over the course of their lifetimes.[16]

MPOWER's innovation came about from a finer analysis of the data that had produced these generalized higher income averages. MPOWER's analysis identified characteristics among the overall college-educated population that were highly associated with future degree completion, employment after graduation, and salaries sufficient to repay the debt being assumed. Using those findings, MPOWER built a predictive model that assesses the risk of loan default in an empirical way, creating a more reliable means than what lender intuition afforded and a more robust tool than what overall statistical averages provided. Their underwriting model, which reviews past behavior and augments it with the borrower's *future potential*, differs fundamentally from the standard underwriting models that calculate a score based solely on *past performance* in managing debt and repaying loans.

As with credit scoring models, the algorithms used by MPOWER are proprietary information. But, also similar to credit scoring models, there are characteristics known to correlate with high scores. The FICO credit score model, for example, correlates with how a person has repaid prior loans, how long one has used credit, the types of credit used, and the number and value of recent credit applications.[17]

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[15] Mary C. Daly and Leila Bengali, "Is It Still Worth Going to College?" Economic Letter 2014-13, Federal Reserve Bank of San Francisco, May 5, 2014, www.frbsf.org/economic-research/publications/economic-letter/2014/may/is-college-worth-it-education-tuition-wages/.

[16] It should be noted that the lifetime value of the relationship was not the banks' only strategic consideration. University partnerships were also a cost-effective customer acquisition method. For a lower per-account acquisition cost than banks incurred with direct mail solicitations or mass media advertising, banks could redirect some of the expenditures from those methods to their university partners, creating cost savings for the bank and an infusion of monies for the universities.

[17] See "What's in My FICO Scores," www.myfico.com/CreditEducation/WhatsInYourScore.aspx.

Researchers of student loans have identified a correlation between certain characteristics of the student borrower and later earnings and student loan debt repayment outcomes. The Payment Cards Center organized a September 2015 conference as a forum for the discussion of research related to student loan repayment. More than one speaker at this event reported findings that the "crisis" in student loans that has been widely reported is not a generalized malaise. Rather, there are segments of students who are on track toward careers that will enable them to repay the loans and more than recoup the investment in their education. There are also segments of students with lower future earning potential. The differentiating factors these researchers identified included college major and type of educational institution.[18]

The point of using predictive characteristics is, of course, to reduce credit risk by excluding borrowers who do not meet the established criteria. MPOWER's model follows private-lending best practices in developing applicant criteria, differentiating it from the federal student loan program in its specificity. Most aspects of the federal student loan programs are structured as entitlements.[19] Any U.S. citizen who has been accepted for admission to an accredited institution of higher education is entitled to borrow within the guidelines of the student loan program. But students who have borrowing needs not met by federal loan programs often look to options provided by the private student loan market, which includes lenders such as Citizens Bank, Discover, SLM Corporation (Sallie Mae), and Wells Fargo. MPOWER is one such option for a segment of that market.

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[18] "Student Loan Repayment: Research, Data and Policy," a conference hosted by the Payment Cards Center, was held September 17 and 18, 2015. A conference summary is forthcoming.

[19] See Congressional Budget Office, *Federal Investment*, December 2013, p. 9, www.cbo.gov/sites/default/files/113th-congress-2013-2014/reports/44974-FederalInvestment.pdf. See also U.S. Department of Education, *Federal Student Loan Programs Data Book, Fiscal Years 1997–2000*, 2002, p. 1, https://www2.ed.gov/finaid/prof/resources/data/fslpdata97-01/loandatabook.pdf.

In addition to the predictive model it has developed, MPOWER also uses partnerships to deliver its services. These partnerships will be covered in Section C. The following section will cover more detailed information about MPOWER's services and clientele.

A. Who Is Borrowing? How Much? At What Cost?

Thus far in MPOWER's brief history, graduate students make up the bulk of its borrowers. More than 90 percent of borrowers are foreign students, and nearly 10 percent are U.S. citizens. The majority of these domestic students are racial or ethnic minorities, many of whom are first-generation Americans. MPOWER will make loans of up to $25,000 per academic period, for a maximum of $50,000 per borrower. These funds are directed to the universities for school-related expenses, including tuition, housing, meal plans, and health insurance.

Loans are priced to risk but at the category level, not the borrower level. MPOWER's proprietary algorithm assigns category risk through an assessment of key criteria including, but not limited to, undergraduate or graduate status.[20] As of this writing, MPOWER's published rates range from a low of 7.99 percent up to 13.99 percent. Interest rates are fixed for the life of the loan, which are either three-year or 10-year terms. Whether an undergraduate applicant is a foreign or domestic student, he or she must have completed the first two years of a degree program to qualify for an MPOWER loan.

Interest-only payments begin while the student is still in school. These payments are reported to the credit bureau, allowing students to begin building credit histories while completing their degrees. Repayment of principal begins after graduation but can be deferred for up to six months. There are no prepayment penalties. The loans are nondischargeable, the same as student loans from other lenders.

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[20] The lower risk among graduate students is validated from other sources. Only 7 percent of this group defaults on its student loans, compared with 22 percent among those who borrow for undergraduate studies only, according to U.S. Department of Education estimates reported in a *New York Times* article. See "Why Small Student Debt Can Mean Big Problems," by Susan Dynarski, *New York Times*, September 1, 2015, p. 3. (*Author's note:* Dynarski was a keynote speaker at the PCC conference cited in footnote 18.)

B. Regulatory Considerations

Any innovator in financial services encounters numerous federal regulations applying to origination, servicing, disclosures, prudential lending, and other factors. Individual states have also enacted their own regulations, in addition to those in force at the national level. In developing its service, MPOWER engaged the services of five different law firms to work on compliance. It also held discussions with regulators to explain the MPOWER concept and how the underwriting model works. While the model, by design, differentiates based on future repayment potential, the workshop speakers indicated that the regulators were satisfied that it did not adversely affect any protected group and, rather, was focused on supporting financial inclusion in the targeted demographic.

MPOWER projects that it will work with more than 200 schools across 21 states by the end of 2016. The processes for state licensing vary from state to state. As the number of states in which MPOWER can originate loans increases, so does the number of universities where MPOWER has both direct and indirect lending relationships.

C. Partnerships

MPOWER has adopted a mission that goes beyond providing educational loans. It also provides personal finance education through a partnership with USA Funds, a nonprofit established in 1960 that works with college students to promote financial literacy, support degree completion, and prevent student loan default. MPOWER also helps its clients build credit histories and links them with other financial products and services.

As with many other lenders, MPOWER also uses partners and third parties, including Cology and FUTR, to provide borrower infrastructure and support.[21] Because many of the international

[21] More information about these MPOWER partners can be found at their respective websites: www.usafunds.org, www2.cology.com, and www.futr.com.

student borrowers return to their home countries after completing their course work, MPOWER has also engaged partners with operations outside of U.S. borders.

III. Conclusion

MPOWER is in its early stages. Only a small number of borrowers have graduated from their degree programs and have had their loans mature into full repayment status. But MPOWER has already compiled a considerable amount of repayment data, thanks to its loan repayment structure. Because the structure requires smaller payments while the student is in school, MPOWER has been able to accumulate hundreds of repayment data points. Although the overall time series data are still limited, the early repayment indicators thus far have been excellent.

While the federal student loan program provides by far the majority of student loans in the U.S., it alone is not sufficient to meet all the borrowing needs of students in U.S. colleges and universities. With the cost of college rising, the number of students enrolled increasing and more students pursuing postgraduate degrees, there is need for additional options offered by the private student loan market. MPOWER provides one of those options and does so with an innovative way of assessing and managing credit risk.

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