The Promise of Automated Underwriting
Providing a simpler, fairer, more inclusive mortgage-lending system

by Peter E. Mahoney and Peter M. Zorn

At first glance, Louise Beyler of Gainesville, GA, might appear as an unlikely candidate for a mortgage to buy a $105,500 home. Self-employed and earning $19,000 a year, Beyler would have to spend nearly 45 percent of her income to cover the mortgage payments. Given her circumstances, many lenders would deny Beyler a mortgage. Thanks to automated underwriting, however, Beyler’s application was approved—in just three days.

Automated underwriting is changing the way Americans finance their homes. More and more families are finding that obtaining a mortgage need not be cumbersome or frustrating. Automated underwriting is also helping people like Beyler secure a mortgage to buy a home that once seemed out of reach.

A leader in the development of automated underwriting, Freddie Mac began doing business through its state-of-the-art service, Loan Prospector®, in 1995. Now automated underwriting is poised to strengthen America’s housing-finance system by improving the process, reducing costs and expanding homeownership.

Understanding Automated Underwriting
Consumers are already well acquainted with the blink-of-an-eye responses that technological advances make possible. Most people do not think twice about swiping credit cards through a machine on the gas pump or letting a supermarket check-out scanner tabulate grocery bills. Within a few years, automated underwriting will become so commonplace that homebuyers will find it hard to imagine buying a home any other way.

To use an automated underwriting system such as Loan Prospector, a lender first enters a borrower’s application information into its own computer system. The information then is transmitted to a central computer, which collects additional information on the applicant from credit repositories. The automated underwriting system weighs all information to determine the likelihood that the loan will repay as agreed, based on the way similar mortgages with comparable borrower, property and loan characteristics have performed in the past.

This article is based on a recent Freddie Mac report prepared at the request of Senator Carol Moseley-Braun, D-IL. It describes the benefits of automated underwriting and examines the impact of the technology on various borrower groups. To obtain a copy of Automated Underwriting: Making Mortgage Lending Simpler and Fairer for America’s Families (Freddie Mac Report 259, September 1996), call (800) FREDDIE. It is also available through the Internet at www.freddiemac.com.
On the basis of this comprehensive evaluation, automated underwriting systems assess the riskiness of the loan. Loan Prospector, for example, divides loans into three risk categories:

**Accept.** An accept designation indicates the lowest level of risk and further signifies that Freddie Mac is prepared to purchase the loans. Most applications reviewed by Freddie Mac through automated underwriting fall into this category.

**Refer.** This designation signals that the application needs further lender review and is unacceptable for sale to Freddie Mac unless additional information proves otherwise. Loan Prospector provides feedback to help the lender focus on those aspects of the application requiring attention.

**Caution.** This designation, assigned to a small fraction of applications, means that the application carries substantial risk and warrants re-examination by the lender. Freddie Mac is unlikely to buy the mortgage unless the lender is able to identify extenuating circumstances that make the loan a better risk. Loan Prospector identifies which aspects of the application prompted the caution warning.

Once a risk classification has been made, the automated underwriting system communicates the information to the lender, along with any guidance about where potential problems lie. The process is completed within minutes, enabling the lender to make a faster and more accurate loan decision.

**Building on a Good Foundation**

Automated underwriting does not forsake the fundamentals of manual underwriting. As with the traditional approach, automated underwriting evaluates mortgage applications on the basis of collateral, credit reputation and capacity—what the mortgage underwriting industry refers to as the “three Cs” (Exhibit 1). The value added by automated underwriting lies in its ability to analyze many factors simultaneously.

For instance, take the need to balance 10 or more elements in a loan application. Possible combinations of these factors can number in the thousands. Human underwriters cannot be expected to assess them accurately and consistently from application to application. In contrast, statistically based automated underwriting systems such as Loan Prospector are designed to handle risk combinations numbering in the millions.

Default probabilities grow when multiple risk factors are present in an application, a situation often referred to as “layering of risk.” Built on the past performance of similar loans, Loan Prospector strengthens the underwriting process by accurately assessing the layering of risks and identifying compensating factors that often are overlooked or misjudged by traditional underwriters.

The proof of any underwriting system lies in its ability to assess risk. By looking at about one million previously purchased loans, Freddie Mac compared actual mortgage performance with the risk classification that Loan Prospector would have provided. The upshot: Loan Prospector excels at identifying which loans...
will wind up in foreclosure and which will not.

The foreclosure experience of Freddie Mac’s 1994 mortgage purchases illustrates this point. Mortgages assigned a caution classification by Loan Prospector (Exhibit 2) entered foreclosure at about 32 times the rate of those in the accept category.

Making Faster, Fairer Decisions

Many families enter the mortgage market with high hopes and expectations, which fade when days stretch into weeks as their applications undergo processing and review. In some cases, confusion and frustration prevent families from purchasing homes. (See “Fear of Homebuying: Why Financially Able Households May Avoid Homeownership,” SMM, May 1996.)

The challenge of navigating the mortgage-approval process intensifies for borrowers when the demand for mortgages is high. Ironically, when mortgage rates fall and homeownership becomes more affordable, lenders are busiest and can least afford to give extra time to those needing more attention. Traditional loan processing puts every loan application—whether a clear-cut approval or a tough call—through the same paces, even when high loan volume bogs down the process.

Automated underwriting can eliminate these bottlenecks without shortchanging the integrity of the decision-making process. Loan Prospector, for example, routinely returns an accurate loan evaluation to the requesting lender within four minutes. By slashing the time between loan application and closing from weeks to days, automated underwriting can greatly reduce borrower uncertainty as well as costs.

Homebuying can also be an intimidating process, particularly for minority families. Redlining and other discriminatory lending practices occurred with some frequency in earlier decades, leaving a legacy of borrower wariness.

At least since the passage of the Fair Housing Act of 1968, the mortgage industry and the public have worked to end lending discrimination. Yet perceptions of unfair treatment in the mortgage market continue.

A 1994 Gallup Poll commissioned by the Mortgage Bankers Association of America (MBA) documented a widespread view among minority renters that they would fare poorly when seeking a mortgage. Among those who had never applied for a mortgage, 32 percent of African-Americans and 24 percent of Hispanics believed they would encounter discrimination due to their race or ethnic background.

Unfortunately, traditional underwriting still depends on subjective human judgment. Thousands of mortgage originators in the country employ many individual loan underwriters with different backgrounds and skills. Many of these lenders also purchase a substantial portion of their loans from mortgage brokers or other third-party originators. Inevitably, different people make different decisions. Inconsistencies stem from the complex and multifaceted task of tallying all the factors that go into an underwriting decision— including assessing the voluminous material in applicants’ credit files.

Loan applicants, as a result, are treated differently from case to case. Some families who are equipped to succeed as homeowners get turned away. Others who are not ready for the financial responsibilities of
homeownership obtain mortgages only to suffer foreclosure later.

By consistently applying uniform standards of creditworthiness, Loan Prospector provides the same objective treatment to all borrowers. Every attribute entered into the system is evaluated the same way for every borrower every time. Moreover, automated risk assessment is blind to applicants’ demographic or cultural characteristics.

The most compelling evidence of Loan Prospector’s objectivity and fairness is found in the accuracy with which it predicts default risk for all groups of borrowers. This predictive power is illustrated in Exhibit 3. The comparison, based on 1994 Freddie Mac purchases, looks at the foreclosure experience of borrowers in each of Loan Prospector’s risk classifications across racial and ethnic groups. Whether a borrower is African-American, Hispanic or White, those receiving a caution rating performed far worse than those receiving a refer designation, who in turn performed far worse than those given accept ratings. Exhibit 4, also based on Freddie Mac 1994 purchases, shows that Loan Prospector does an equally predictive job across borrower income groups.

Racking Up Cost Savings
Some lenders report that Loan Prospector is already saving them $300 to $650 per loan. As automated underwriting expands and improves, these savings should grow. Further, industry-wide competition will compel lenders to pass cost savings on to borrowers. The potential impact is significant. A $400 reduction in closing costs, for example, would have saved borrowers $2 billion on the 5.1 billion mortgages made in 1995.

Existing borrowers misclassified as high risks also stand to benefit from lower mortgage rates, given the higher degree of accuracy possible through underwriting automation. When credit problems or other circumstances make borrowers ineligible for conventional or Federal Housing Administration (FHA) financing, they typically turn to the subprime market, which accounts for about 5 percent of total mortgage originations. Early evidence from a Loan Prospector pilot program suggests that automated underwriting will identify many borrowers now relegated to this higher-cost market as acceptable risks by conventional market standards.

Freddie Mac launched a subprime pilot program last year in response to lender demand for an automated underwriting service capable of evaluating loans in any mortgage market. The company joined forces with Standard and Poor’s Corporation (S&P), a rating agency with
significant experience evaluating subprime loans.

In the course of the pilot program, Freddie Mac discovered that Loan Prospector not only improved the processing of subprime mortgages, but also uncovered applicants in the subprime market who could have qualified for lower-cost conventional financing. Preliminary Freddie Mac estimates suggest that 10 percent to 35 percent of borrowers who obtained mortgages in the subprime market were actually eligible for conventional loans.

Breaking away from the subprime market promises to confer significant savings to these families. Freddie Mac estimates that subprime borrowers pay mortgage rates that are one percentage point to two-and-one-half percentage points higher than those in the conventional loan market. Thus, borrowers who shift into the conventional market could save roughly $50 to $130 a month on a $75,000, 30-year, fixed-rate mortgage or $100 million annually in the aggregate.

Home Mortgage Disclosure Act (HMDA) data from 21 of the largest subprime lenders in 1994 indicate that minority and low-income households are the most likely beneficiaries of a switch to conventional financing. African-American and Hispanic borrowers are represented in the subprime market at nearly triple their rates in the conventional market, while low-income borrowers show up at a rate of about one-and-one-half times greater than their conventional market presence.

Expanding the Ranks of Homeowners
With widespread adoption, automated underwriting will help put nearly three-quarters of a million renters into their first homes, 80 percent of whom will be low-income or minority families. Automated technology achieves homeownership gains in four ways:

Lower Closing Costs. A $400 reduction in closing costs for every borrower, for example, would increase the number of families qualifying to buy a home by roughly 70,000 households, according to Freddie Mac estimates based on Census Bureau research. Closing costs hit low-income families particularly hard. Most of the documentation, appraisal and other third-party services necessary to close a loan cost the same for every homebuyer, regardless of the price of the home. More than half of the 70,000 homeowner-ship additions would come from relatively poor households with incomes of 80 percent or less of the area median level. African-American and Hispanic families likewise would profit, with a $400 closing-cost reduction increasing by 8 percent the number of minority renters who possess sufficient funds to buy a home. By comparison, only 2 percent of White families would benefit similarly.

Greater System-Wide Fairness. As more minorities come to believe that lenders will deal with them fairly—and as the treatment they are accorded confirms those beliefs—the gap in homeownership rates that currently exists between minority and nonminority households should narrow substantially. By leveling the playing field, automated underwriting would enable an additional 400,000 of today’s African-American and Hispanic renters to become homeowners.

More Accurate Decision-Making. Greater accuracy will help provide lenders with confidence to offer low-cost conventional mortgage financing to borrowers who may not fit the traditional profile. By providing sharper tools to
identify these borrowers, Loan Prospector-guided lenders would increase the number of homeowners by up to 250,000 families, according to preliminary Freddie Mac estimates.

**Mortgage-Lending Risk Reduction.** Automated underwriting will identify as high risk some applicants who might have won approval under traditional underwriting. Decreasing the number of high-risk borrowers approved initially will lower the average risk that the mortgage industry must absorb. As average risk declines, competitive pressures will spur the market to expand at the margin, bringing in borrowers whose current profiles put them just beyond existing standards. The net effect on the size of the market inevitably will prove positive. Replacing borrowers with significantly higher rates of default with borrowers just at the margin of acceptability will enable the industry to serve a greater number of families without increasing overall risk exposure.

**Shaping a Promising Future**
To keep pace with an ever-changing mortgage marketplace, automated underwriting will undergo continuous updating and refinement. Building on the benefits these systems have produced already, Freddie Mac is exploring a wide range of applications for Loan Prospector in cooperation with other industry participants. For example, in July 1996, Freddie Mac and the Department of Housing and Urban Development (HUD) launched a pilot program to evaluate benefits that automated underwriting could bring to FHA borrowers. Working with HUD, Freddie Mac built a version of Loan Prospector that provides risk classifications based on actual FHA default insurance claims. The 10 lenders making FHA mortgages under the pilot project represent state housing finance agencies, nonprofit housing groups and large and small mortgage lenders. A similar pilot program with the Department of Veterans Affairs (VA) began more recently with respect to VA-guaranteed loans.

The development of Loan Prospector has also enhanced Freddie Mac’s understanding of which loans perform well and why. Freddie Mac is using this new-found knowledge to develop new loan offerings. For example, a recent Freddie Mac decision to begin purchasing a traditionally high-risk mortgage product—loans with a down payment of just 3 percent—came about only because of the insight provided by Loan Prospector regarding the layering of risks and the factors that offset those risks.

Over time, improvements in Loan Prospector will generate still more new insights and lending opportunities. For instance, the NeighborWorks Campaign for Homeownership ®, in which Freddie Mac participates, provides extensive pre- and post-purchase homeownership counseling. Initiatives like this ultimately will generate data needed to assess the impact of counseling on loan performance. Potentially, future versions of Loan Prospector may come to recognize counseling as a compensating factor.

America has the best housing-finance system in the world, but automated underwriting can make it better still.

---

America has the best housing-finance system in the world, but automated underwriting can make it better still.