

# Price Profiling

Does the airline pricing system drive you crazy? Banks are dabbling with something similar—for home-loan rates. A look into the latest industry to try “optimized” pricing.

By Anne Kadet

**T**USHARMATHUR HAD EVERY reason to expect Bank of America’s best deal on a mortgage. After all, the 31-year-old software developer kept a checking account and a credit card with the giant consumer bank. He had a ridiculously high credit score—785—and was willing to make a 20 percent down payment on a brand-new four-bedroom colonial in the Atlanta suburbs.

But a funny thing happened on the way to closing the deal on his first home. After reviewing his application, he says, a Bank of America representative offered him a rate of 6.5 percent, nowhere near as good as the 5.8 to 6.2 percent rates he had been quoted from other lenders. And the difference wasn’t lunch money: Had he gone with Bank of America, his mortgage payments, over the life of the loan, would have cost an extra \$21,000 more than the deal he ultimately accepted. “They were higher than anybody, and I don’t know why,” he says of his branch’s offer.

For its part, Bank of America declines to discuss its offer to Mathur or the details on how it makes such decisions. But ask a financial-industry consultant and he’ll tell you what may have been going on: something called price optimization. That’s a fancy way of saying Mathur’s rate was partially based on what the bank’s computer thought he might be willing to pay. Sound familiar? Yes, banks have started to play the same elaborate—and convoluted—pricing game that airlines, hotels and a host of other

industries have perfected, charging customers different prices for an identical product or service. Only what’s at stake isn’t a one-way ticket to Phoenix that might cost one customer \$80 and another \$800, but some of the largest financial transactions most folks will ever make: mortgages, car loans and home-equity lines of credit.

The move to price optimization, which most banks are still only testing, has been spurred by the mammoth challenges threatening the \$6 trillion lending industry. Subprime lending losses contributed to a 45 percent drop in bank earnings last quarter, and mortgage-loan volume is expected to tumble 16 percent this year. Analysts say banks are looking to price optimization as a relatively quick and easy way to boost a sagging bottom line by as much as 5 to 10 percent in three to six months. “The return on investment is huge,” says Terry Kuester, a banking consultant with Deloitte & Touche. “It’s a huge opportunity for banks.”

When airlines first moved to this sort of high-tech pricing in the ’80s, consumers howled. Though optimization led to lower fares for some, fliers argued it smacked of price gouging, because fares go up when people need to travel the most, like during holidays and school breaks. But in the case of loans, customers will only be able to guess when the bank is swapping in higher rates. “I think it’s terrible,” says Merrick, N.Y., mortgage broker Robert Bram. “I don’t believe anyone should be charged a higher rate just because they aren’t as rate-conscious as the next guy.”


THERE IS, OF COURSE, NOTHING new about banks offering different rates to different customers; lenders have long used sophisticated statistical models to set higher rates on risky loans made to customers with bad credit. But now, says TowerGroup consumer-lending analyst Bobbie Britting, banks are turning all that statistical firepower toward sniffing out profit-boosting opportunities. Most won't discuss or confirm the practice, but insiders say Wachovia and Washington Mutual are using the technology to set rates on home-equity loans, and Citibank is testing its own in-house version of the technology. Bank of America, meanwhile, has experimented with mortgage loans, and big auto lenders like Ford Motor Credit and AmeriCredit are using it to help price car loans.

One lender, SunTrust, a top-10 bank centered in the Southeast, says it started considering the idea last May. According to Carl Caron, its manager of pricing and profitability, the bank sifted through years of auto- and home-equity-loan transactions to search for times when it might have undercharged customers willing to pay more—or lost business with rate offers that might have been too aggressive. The bank comes to those conclusions using software that strips out the effect of variables such as seasonality or advertising campaigns and then analyzes how often different kinds of customers accepted or rejected various rate offers. The program then pumps out a new set of rates for various customer segments.

The result? A complicated pricing system that only a computer could love. Gone are the days when everyone with a 720 credit score gets offered the same rate on a \$50,000 home-equity loan. Some banks are coming up with different rates for as many as 20,000 customer segments—defined by variables like location, loan type, transaction history and banking habits. Prefer to apply at your local branch? A computer may decide you'll typically accept higher rates than those who apply online or by phone. Live in the Midwest or a rural outpost? The software may suggest you're likely to stomach higher rates than customers living in big coastal cities. While it's not surprising to learn that unsophisticated consumers with low credit scores often accept higher rates than they should, banks have also discovered that loyal customers are often more likely to accept a

high rate. Tom Schwartz, vice president of profitability analytics at AmeriCredit, a \$13 billion auto lender, says his company segments by geography but will also charge different interest rates depending on which of its three subsidiary companies—AmeriCredit, Long Beach Acceptance Corp. and Bay View Acceptance Corp.—the customer approaches first. And the technology's not just for new loan applicants, says SunTrust's Caron. If you have a home-equity line of credit you're not using, the bank might surprise you with a customized incentive offer at the very moment you're considering a kitchen renovation.

Mark Ferguson, an operations management professor at Georgia Tech and optimization proponent, says that when the airline and car-rental industries adopted the technology, it produced not only higher profits for companies but also lower prices for consumers. That's because optimization seeks to increase sales by getting the less price-sensitive customers to subsidize discounts for everyone else. When lenders use the strategy, 40 percent of their customers typically get lower rate offers, and rates stay the same for another 20 percent. Still, banks are well aware of the pain that the other 40 percent experience. Even though most "optimized" rate changes are small—typically no more than half a point in either direction—that half point can add an extra \$70,000 on a \$600,000 30-year mortgage. Indeed, Richard DeLotto, an analyst at the Gartner Group, recalls seeing bankers taking sudden bathroom breaks when the topic came up at conferences. "They don't even want to be associated with it," he says.

Lenders themselves say the strategy can be self-correcting: If they consistently make unreasonably high loan offers, they'll lose business to other banks, and the software will start suggesting lower prices. Indeed, "customers have the opportunity to not take the deal," adds AmeriCredit's Schwartz. "It's an open marketplace." The issue for consumers, of course, is trying to figure out which side of the price-optimization equation the software has relegated them to—which may ultimately be the banks' secret weapon here. After all, says Kuester, the Deloitte & Touche consultant, "customers might never know they could've gotten a better offer." 

## Beating the Computer

Dozens of industries now use statistical software to determine "optimized" prices for things like sweaters and football tickets. Many consumers end up paying more, but the system creates more bargains, too. A guide:

**Apartment Managers** Companies that own or manage large apartment buildings use software to set rents. To minimize the need to find tenants in low-demand months like December, most factor in the building's "expiration profile," or percentage of units vacated each month, says Tammy Farley of the Rainmaker Group, a Georgia-based price-optimization-software firm. You might get a lower rent by agreeing to a lease that helps them improve their expiration profile.

**Retailers** Yes, somewhere out there is a lower price for that cozy cashmere sweater. Retailers e-mail discount codes to new shoppers or those who haven't purchased lately, leaving loyal customers to pay full price. If you're not getting enough discount love from your favorite store, track coupons down yourself on Web sites like RetailMeNot.com.

**Live Entertainment** Pro ball teams, symphony orchestras and other big-ticket entertainers use software that sets ticket prices based on everything from demand for a particular performance to what the competition is offering. There may be cheaper tickets for the ballet when the local symphony is featuring Yo-Yo Ma, for example, or more cheap seats to a football game if the local hoops team is playing its archrival that day.

**Car Rental** Agencies hike prices according to demand, of course, but demand will be different depending on their markets. So play to their weaknesses: Look for special discounts on weekend and holiday rentals from business-oriented brands, like National, Hertz and Avis; dig up discounts on business travel from leisure-travel brands, like Alamo, Budget and Thrifty.

# The Two-Headed Pricing Prophet

Still angry about the time you paid \$400 to fly to Boston and discovered the guy sitting next to you paid \$149? Convinced your favorite online retailer is charging different prices to different customers? Take heart: There is a man to blame for these things. Actually, make that two.

Consumers, meet Bob Cross and Bob Phillips. Over the past 25 years, the pair has introduced price optimization—the art of charging different prices to different people—to hundreds of companies, including cruise lines, hotels and, most recently, banks. If they have their way, someday the price of nearly everything will depend on a software program that calculates a special price just for you.

Do we really need two of them? They're both tall, high-energy businessmen in their 50s, and yes, they're both named Bob. But spend some time in their company and the differences emerge. The ever-smiling Bob Cross is the enthusiastic salesman who even persuaded his barber to adopt price optimization. Give him 20 minutes and suddenly, you, too, are dreaming of the day when scientific pricing solves problems like rising medical costs and Atlanta's water shortage. Ask why he got interested in price optimization and his answer is immediate: "It's magic! We make a smarter decision today, tomorrow we make more money. It just falls straight to the bottom line! Huge amounts!"

Cross was a lawyer at Delta when the airline industry deregulated. It was a rough time. Upstart discounters People Express was gobbling market share, and Delta was suffering losses. But then American Airlines pioneered a revolutionary pricing approach that used sophisticated software to forecast demand and offered fares that competed with People Express. In 1984 Cross launched a similar system at Delta and to his astonishment produced \$300 million in new revenue the first year. Within a few years he launched a consulting firm out of his Atlanta home and spread the strategy to several new industries, including hotels and casinos. It wasn't easy. Companies were often shocked at the suggestion of charging different prices to different people. The typical reaction: "We don't want to treat our customers that way." But they changed their tune when they fell on hard times. Says Cross: "They all hired me because they had to."

The other Bob, Bob Phillips, is the scary-smart scientist who quotes Flaubert, exhibits conceptual art and writes award-winning fiction. He doesn't try to sell you on price optimization; ask a critical question and he's suddenly staring into space as if contemplating some fascinating new

algorithm. Asked why he's spent his career on it, he mentions his interest in "mathematically interesting problems," before veering off into anecdotes about the economic behavior of rhesus monkeys. A Stanford Ph.D., Phillips got his start in a brainy California economics consultancy that intended to save the world through applied mathematics; after a few years trying to solve the '70s energy crisis, he worked on a price-optimization strategy for United Airlines. He became the consultancy's CEO, spreading the price-optimization gospel to car-rental agencies and cruise lines.

When the two Bobs finally met at a conference in the early '90s, they each recognized their missing half. Cross's company had superior marketing prowess; Phillips's outfit had better software. In 1995 their firms merged to become Talus Solutions, an 800-pound price-optimizing gorilla. At its peak the firm's client roster included 17 of the top 25 airlines and seven of the 10 largest hotel chains. They talked of expanding their strategies into telecom, manufacturing and high tech; Phillips crowed about an impending IPO. But the company, split between two corporate cultures and two coasts, failed to fulfill its promise. In 2000 the Bobs sold their baby to supply-chain and resource-planning giant Manugistics for a cool \$366 million and parted ways.

These days Cross remains in Atlanta, where he heads up Revenue Analytics, a pricing and demand-forecasting firm. Phillips, still in California, is the founder of Nomis Solutions, which makes price-optimization software for banks. And they're both still big believers. As they point out, price-optimization science has spread exponentially since the glory days of Talus. It now determines prices for everything from sporting events to sweaters to symphony tickets.

Still, as you might imagine, they're plenty aware of how irritating their systems can be. At cocktail parties and on plane rides, both Bobs get flack from consumers who see price optimization as inconvenient, unfair or both. Cross responds with enthusiastic persuasion, of course, while Phillips tries to cut the conversation short by making esoteric mathematical observations. But both say the real problem is that consumers aren't thinking rationally. Sure, we all say we want simple, transparent pricing, but we usually choose the company offering the best deal—and it's price optimization that makes those deals possible.

Cross does make one concession: Companies could do a better job of demystifying their pricing. When prices and rules constantly change—with no disclosure—it feels like playing a game where the other guy has stacked the deck. If the game were more straightforward, it might even make life a little easier for the Bobs. "People tell me, 'You're the bastard that makes me pay \$800 when the guy next to me pays \$89,'" sighs Cross. "The guy paying \$89, I never hear from him. Never!"