

# APR Flawed for Fair-Lending Analysis

By Stanley D. Longhofer

**W**HETHER LENDERS DISCRIMINATE against minority applicants is a long-standing question that has vexed regulators, bankers, and policymakers alike. In recent years, the focus of fair-lending enforcement has expanded to include the pricing of mortgage credit. Thus, in addition to investigating whether an applicant's race or ethnic group affects lenders' underwriting decisions, regulators also try to determine whether minorities pay higher interest rates and fees for mortgages once they have been approved.

Although this may seem a straightforward proposition, the fact that mortgage loans are priced along two dimensions makes it difficult to compare the prices different borrowers are ultimately charged for their loans. For example, how can we determine whether a borrower who pays one point with a rate of 7.25 percent is paying more or less than another borrower who receives a rate of 8 percent with no up-front fees?

At first blush, the annual percentage rate (APR) would seem a reasonable way to compare prices across mortgage loans. In fact, a calculation similar to APR has been used in conjunction with overages in several high-profile antidiscrimination settlements, including the well-publicized Long Beach case in 1996 and the more recent settlement by Roslyn Bancorp. Unfortunately, APR has a fundamental flaw that makes it a potentially misleading measure of pricing bias.

That fundamental flaw is that APR ignores the decisions different borrowers make about the rate-point trade-off. To understand this problem, consider a lender that offers its borrowers the following two pricing options:

1. 7 percent nominal interest rate with two discount points
2. 7.75 percent nominal interest rate with no discount points.

Assuming that no other processing fees are involved, the APR on a \$100,000, 30-year loan under option 1 would be 7.2 percent. In contrast, the APR on the same loan under option 2 would be 7.75 percent—55 basis points higher.

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Although option 2 has a higher APR, there are many circumstances under which a borrower would willingly choose it over option 1. For example, some borrowers may anticipate moving or refinancing their mortgages soon. In this case, the limited benefit obtained from a lower nominal interest rate is not worth two discount points. Second, many borrowers have limited funds to cover their closing costs; they may prefer the second pricing option with its lower up-front expenses.

Unfortunately, APR ignores such borrower preferences. As a result, its use as a fair-lending tool can lead to the inaccurate impression that borrowers choosing option 2 are "unfairly" paying more for their mortgages, even if they willingly choose option 2 over option 1.

This fundamental flaw exists with any effective interest rate calculation that uses a common holding-period assumption for all borrowers. APR measures used in the Long Beach and Roslyn investigations were calculated in several ways, using a variety of assumptions about anticipated holding periods. Although such recalculations of APR may affect the magnitude and statistical significance of observed "disparities," they cannot correct for the basic problem underlying interest rate-based measures of mortgage pricing: Borrowers choose different loan terms based on their own personal needs. As a result, any comparison of "effective interest rates" will provide an inherently unreliable measure of discrimination in the pricing of mortgage loans.

How should regulators attempt to detect pricing bias? The answer is overages. In essence, an overage is calculated by adding all the points a borrower actually paid (as disclosed on the HUD-1 Settlement Statement) and comparing that sum with the total points the lender required to originate the loan, given the prevailing rate sheet on the day the borrower's interest rate was locked. In some cases, a lender may agree to waive or pay some of the borrower's closing costs; because such credits constitute a reduction in the total cost of the borrower's loan, their value (in points) is subtracted to arrive at a final overage calculation.

By comparing the frequency and magnitude of overages paid by otherwise comparable minority and white borrowers, regulators can better determine whether lenders have illegal racial disparities in their loan pricing. Such investigations usually involve a statistical comparison of the average overages charged each group, controlling for other factors that may legitimately affect the size of overages, such as loan amount, loan product type, borrower's edu-

cation, and market conditions.

Uncovering and eradicating discrimination in credit markets are an important goal for federal and state bank regulators. Unfortunately, determining what constitutes discriminatory behavior is often more difficult than it appears. Although APR may seem a reasonable way to compare prices across different loans, it does not consider the voluntary choices that borrowers make about the terms of their loans. As a result, relying on APR can lead to inaccu-

rate conclusions about the presence of discrimination.

Regulators and others involved in fair-lending enforcement should abandon use of APR and other similar effective-interest rate comparison tools. Instead, fair-lending compliance should be measured by statistical comparisons of the relative frequency and magnitude of overages across groups. By this means, regulators can get a clearer, more accurate picture of the true options that were available to different borrowers. ■

# Do Environmental Regulations Increase Economic Efficiency?

By Jane S. Shaw and Richard L. Stroup

**A** PHYSICIST, A CHEMIST, AND AN ECONOMIST are stranded on an island with nothing to eat. A can of soup washes ashore. The physicist says, "Let's smash the can open with a rock." The chemist says, "Let's build a fire and heat the can." The economist says, "Let's assume that we have a can opener."

As this familiar joke (attributed to Paul Samuelson) attests, economists rely on assumptions. In doing so, they sometimes ignore reality. Economists have recently been ignoring an important reality: business executives are beginning to embrace economywide regulation as being good for the bottom line.

Economists know that regulation is seldom good for the economy unless the benefits outweigh the costs. Thus, they spend a lot of time weighing the costs and benefits of proposed rules.

## REGULATION AS A SPUR TO INNOVATION?

A DIFFERENT IDEA IS GAINING GROUND IN BUSINESS BOARD-rooms, however. Saving the environment is a "business opportunity," says Tachi Kiuchi of Mitsubishi Electric. According to the Aspen Institute (in a report developed with help from businesses—from Anheuser-Busch to Weyerhaeuser), "By learning to 'value the environment,' companies and financial institutions are uncovering another competitive edge."

Yes, regulation can be a good business opportunity for some, even with the higher costs it imposes. For example, producers who are the first companies to discover better ways to reduce pollution can profit by keeping costs down. In addition, they may profit by selling new tech-

nologies to other producers. (As we will note later, some companies also profit by obtaining monopoly power through regulation.)

So far, so good. But some business strategists make another leap: they argue that regulation leads to *cost-reducing* innovation, directly increasing profits. Lower costs and lower pollution can result. Under these conditions, who would argue against tighter regulation?

Although there are variants, the idea that regulation spurs innovation that raises profits stems largely from the work of Michael Porter and Claas van der Linde. They have presented their views in such places as the *Harvard Business Journal*, *Scientific American*, and the *Journal of Economic Perspectives*. Indeed, an exchange with economists in the latter journal seems to be the one serious debate over the issue—and it is not clear that the economists won. Since their competing essays appeared in 1995, economists have moved on, assuming they were victors. Or, so it would appear. Meanwhile business strategists have held conferences, written books, and persuaded journalists (in case they needed persuasion) that more environmental regulation is nearly always a good thing.

In the 1995 article, Porter and van der Linde argued that "properly designed environmental standards can trigger innovation that may partially or more than fully offset the costs of complying with them." They offered several examples of such offsets.

- Ciba-Geigy responded to environmental standards by making process changes that saved \$740,000 per year.
- 3M saved \$120,000 in capital investment and \$15,000 annually by replacing solvents with water-based solutions.
- The Robbins Company saved nearly \$300,000 in capital

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