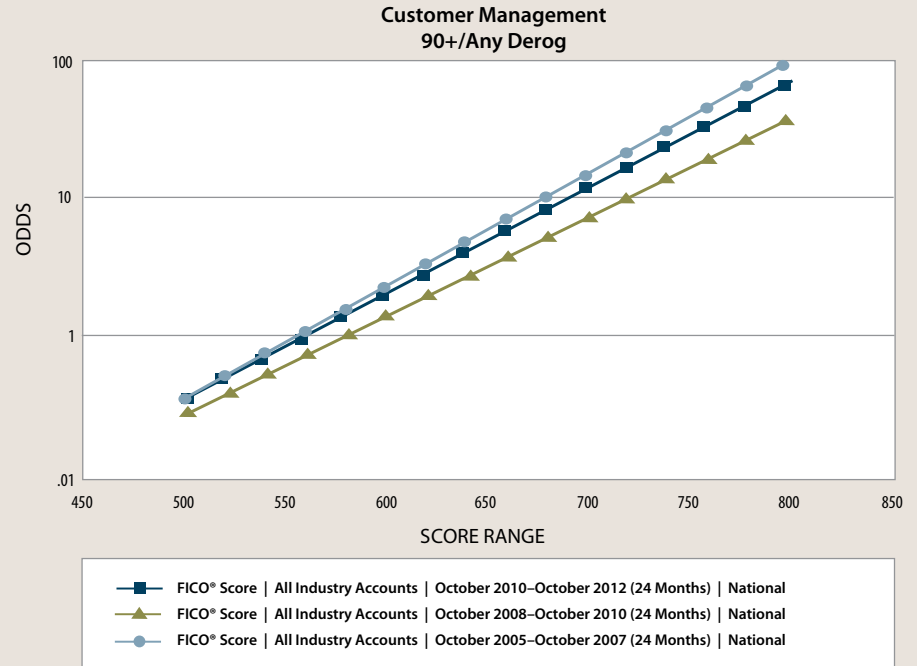


scores

## Outperform the market

Capital adequacy is central to a bank's ability to provide loans to creditworthy consumers and absorb losses during economic down cycles. As consumers' ability to pay changes with shifts in the economy, FICO® Score Economic Calibration Service can be used to inform its capital adequacy testing, loan loss forecasting and develop economically sensitive business strategies. FICO's patented methodology accounts for variation in risk and resulting probability of default (PD) across consumer risk segments, geographic region and by consumer lending product type. Understanding this sensitivity to economic risk drivers can support a bank in its benchmarking of internal models or incorporation of economically adjusted FICO® Scores into internal models, forecasts and policy decisions.

## Consumers' ability to pay changes as the economy shifts



FICO® Scores always rank order risk, higher FICO Scores having higher odds of repayment. Odds of repayment will change as the economy shifts. Note considerably higher odds of repayment during the 2005–2007 time period compared to the 2008–2010 time period and shift upward again during the 2010–2012 time period.

**B**anks are looking for a consistent and accepted measure of loss probabilities to submit compliant capital plans, conduct ongoing stress testing and translate these results into an actionable business strategy.

FICO® Scores are the most widely accepted measure of consumer credit risk and used by the vast majority of banks in connection with regulatory compliance processes, credit policy, stress testing and capital allocation decisions. To address challenges bank holding companies face in quantifying PD risk, at both a portfolio and individual account level, FICO has developed a patented methodology to overcome these common challenges. By directly incorporating the economic impact into the generally accepted risk score, the FICO® Score, banks can now more effectively bridge the gap between the strategic capital allocation and loan-level PD.

FICO, in conjunction with Moody's Analytics, offers forecasted PDs by a five point FICO® Score range based upon the regulatory baseline and stressed scenarios issued by the Federal Reserve as well as idiosyncratic economic scenarios. These forecasted FICO Scores and associated PD rates are forecasted at a minimum over the mandated nine-quarter forward horizon. Banks can select results specific to industry type—e.g., auto, credit card and real estate—and by geographic regions.

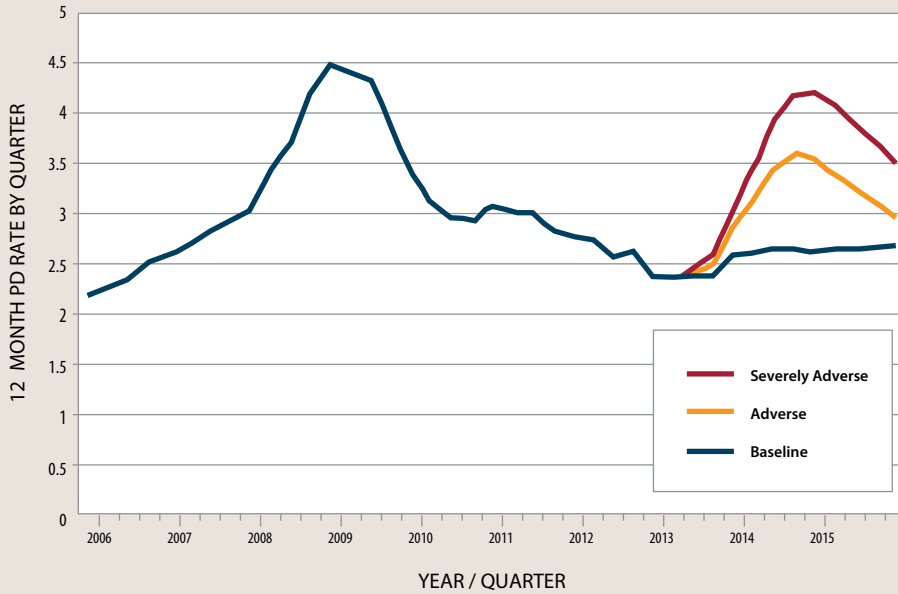
### » Methodology

FICO has developed a patented approach, which can allow banks to better understand how different economic scenarios are likely to impact consumer credit portfolios in the future, adding a forward-looking element to capital and risk management decisions.

To understand how the FICO® Score Economic Calibration Service works, it is first helpful to understand how traditional credit scoring models are developed. Credit scoring models consider credit data factors such as delinquency history, delinquency status and credit utilization. The resulting scores for individual borrowers, made either at the time of the loan origination or calculated on a monthly basis for existing customers, feeds into the probability of default for loans.

If the economy is improving, credit scores tend to improve because consumers have fewer delinquencies. In these economic conditions, the odds to score relationship—the ratio of future "good" accounts (pay as agreed) to future "bad" accounts (don't pay as agreed) at a given score range will also be higher. This in turn means that generally in improving economic times, the PD rates across the score

**All Industries US Across Federal Reserve CCAR Scenarios  
FICO® Score Range: 720–724**



The 2013 CCAR 'severely adverse' scenario provided by the Federal Reserve translates in projected PD rates across all asset classes that peaks at the end of 2014 at a level lower than that seen in the Great Recession, while the baseline scenario remains stable, as expected based on the scenarios.

range will go down and by extension the risk weights and the amount of capital required to be held will tend to go down also.

By contrast, if the economy is deteriorating, consumers will generally have more delinquencies and their scores will go down. In addition, in times of economic downturn, the odds-to-score relationship will deteriorate across the score range so that there would be more future "bad" accounts than normal in most score ranges. This in turn means that generally in such economic conditions, the PD will go up, and the risk weights and amount of capital required to be held would also go up.

Based on past economic and consumer payment dynamics, FICO has derived an empirical relationship between the default rates observed at different score ranges and historical changes in economic conditions, to project an expected odds-to-score outcome under given economic conditions. FICO's methodology incorporates regional economic variables such as labor market trends, interest rates, GDP, consumer leverage and house price indexes, provided by Moody's Analytics and CoreLogic, to model forecasted future probabilities of default.

FICO® Score Economic Calibration Service allows banks to leverage the most widely accepted credit risk model in the industry—shaped by FICO over the last 25 years—for another critical decision area, regulatory capital planning and loan loss forecasting.

**FICO® Score Economic Calibration Service Benefits:**

**Consistency:** Directly predict the likely impact of the economy on the cornerstone FICO® Score, providing a consistent measure of impact across lines of business, portfolios and across the enterprise.

**Transparency:** Compensate for the challenges inherent in back-testing stress models by conducting sensitivity analysis through the use of benchmark PD models.

**Timeliness:** Forecasted probability of default available within days following Federal Reserve's announced economic scenarios for CCAR and DFAST submission support and updated for idiosyncratic stress-testing purposes.

**Accuracy:** Leverage FICO's patented analytically derived correlation between economic conditions and PD to support sound sensitivity analysis and capital planning decisions.

**Efficiency:** Leverage industry standard risk measure and support from FICO to address the short duration of capital planning process and constrained resources.

**Flexibility:** Select the economic scenarios, product type and geography to facilitate the stress testing process specific to the bank's needs.



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