VANTAGESCORE®

VantageScore 2.0 Stress Testing: Predictive Performance, Consumer Default Insight and Score Democratization

October 2011

INTRODUCTION

Often referred to as the "Great Recession," the period between 2008 and 2010 presented an exceptionally challenging environment for U.S. consumers and lenders. In this context, predictive performance of VantageScore® 2.0—already repeatedly validated in times that were economically less challenging - was tested again in a recent study.

The study focused on the predictive performance of VantageScore 2.0 when considering the two factors generally cited as the primary drivers of the recession: unemployment and home price depreciation. To gain additional insights into consumer default rates, the study then analyzed the predictive performance of VantageScore 2.0 broken down by lending industry: real estate, bankcard and auto.

SUMMARY

The results of the study confirm superior risk management capabilities with VantageScore 2.0 when compared with a benchmark credit score, especially in those regions where economic stresses have significantly influenced consumer default rates. In addition, the study found that the greatest overall impact on consumer default behavior was caused by high home price depreciation.

STUDY OVERVIEW: HOW DOES VANTAGESCORE 2.0 PERFORM UNDER STRESSED ECONOMIC CONDITIONS?

Ten million consumers were randomly selected from a national consumer credit database[1], and were assigned to one of four segments defined by unemployment rate, home price depreciation rate and sufficient representation. The four segment designations are:

- Low-U, Low-D: States where the unemployment rate was less than or equal to 9.5% and home price depreciation was less than or equal to 15%. Consumers in these states were least affected by the recession.
- Low-U, High-D: States where the unemployment rate was less than or equal to 9.5% and home price depreciation was greater than 15%.
- High-U, Low-D: States where the unemployment rate was greater than 9.5% and home price depreciation was less than or equal to 15%.
- High-U, High-D: States where the unemployment rate was greater than 9.5% and home price depreciation was greater than 15%.

[1] Personally identifiable information was removed from the consumer data prior to the data being furnished to VantageScore Solutions LLC. VantageScore Solutions does not have nor maintain consumer credit files with personally identifiable information.

© Copyright VantageScore Solutions, LLC 2011

STUDY OVERVIEW: HOW DOES VANTAGESCORE 2.0 PERFORM UNDER STRESSED ECONOMIC CONDITIONS? (Cont.)

Home price depreciation rates for each state were determined by comparing current average home values with the peak average home values in Q4 2006. The unemployment rate was determined by identifying the maximum unemployment rate during the periods from 2008-2010.[2] Average default rates[3] for each of these regions were then included in the study data.

Using these criteria, 24% of the study population fell into the Low-U, Low-D segment, with an equal percentage in the High-U, High-D segment. The remaining 52% was divided between the Low-U, High-D segment (15%) and High-U, Low-D segment (37%) (Figure 1). Perhaps not surprisingly, the most dramatic impact of the recession was felt in the High-U, High-D states, where default rates were 43% higher than in the Low-U, Low-D states (22.2% vs. 15.7%).

FIGURE 1
STUDY POPULATION BY CATEGORY

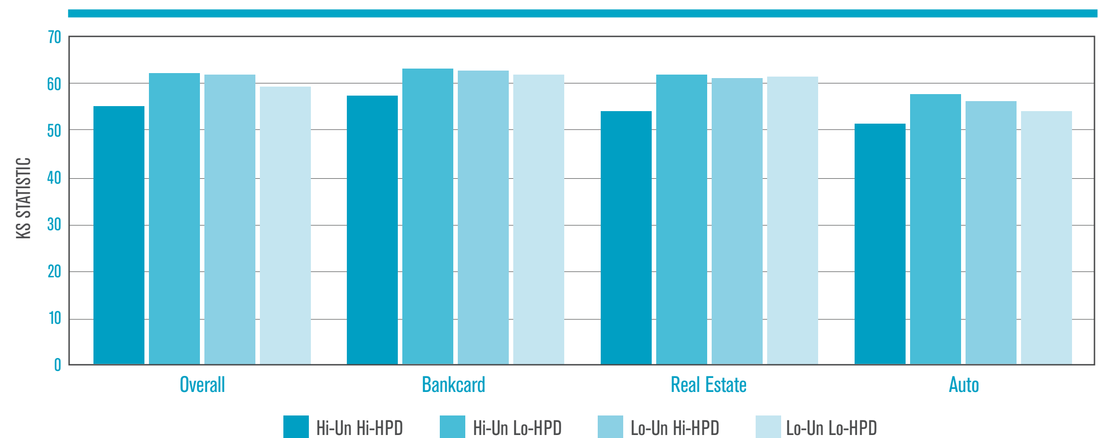
SEGMENT	UNEMPLOYMENT RATE	HOME PRICE DEPRECIATION	STATES*	PERCENTAGE OF POPULATION	DEFAULT RATE
LOW-U LOW-D	≤ 9.5%	≤ 15%	AR, IA, KS, ND, NE, OK, SD, TX, WI, NY, MN	24%	15.7%
LOW-U HIGH-D	≤ 9.5%	> 15%	LA, MD, MT, NH, UT, VA, WA	15%	16.9%
HIGH-U LOW-D	> 9.5%	≤ 15%	AL, GA, IL, IN, KY, MA, MO, MS, NC, NJ, OH, PA, SC, TN	37%	17.3%
HIGH-U HIGH-D	> 9.5%	> 15%	CA, AZ, FL, NV, MI	24%	22.2%
				100%	18.0%

*States not listed did not fall within the profiles.

KS statistic demonstrates high predictive performance

Strong predictive performance was broadly seen using the KS statistic (Figure 2).

FIGURE 2
VANTAGESCORE 2.0 SCORE PERFORMANCE FOR KEY INDUSTRIES BY QUADRANT

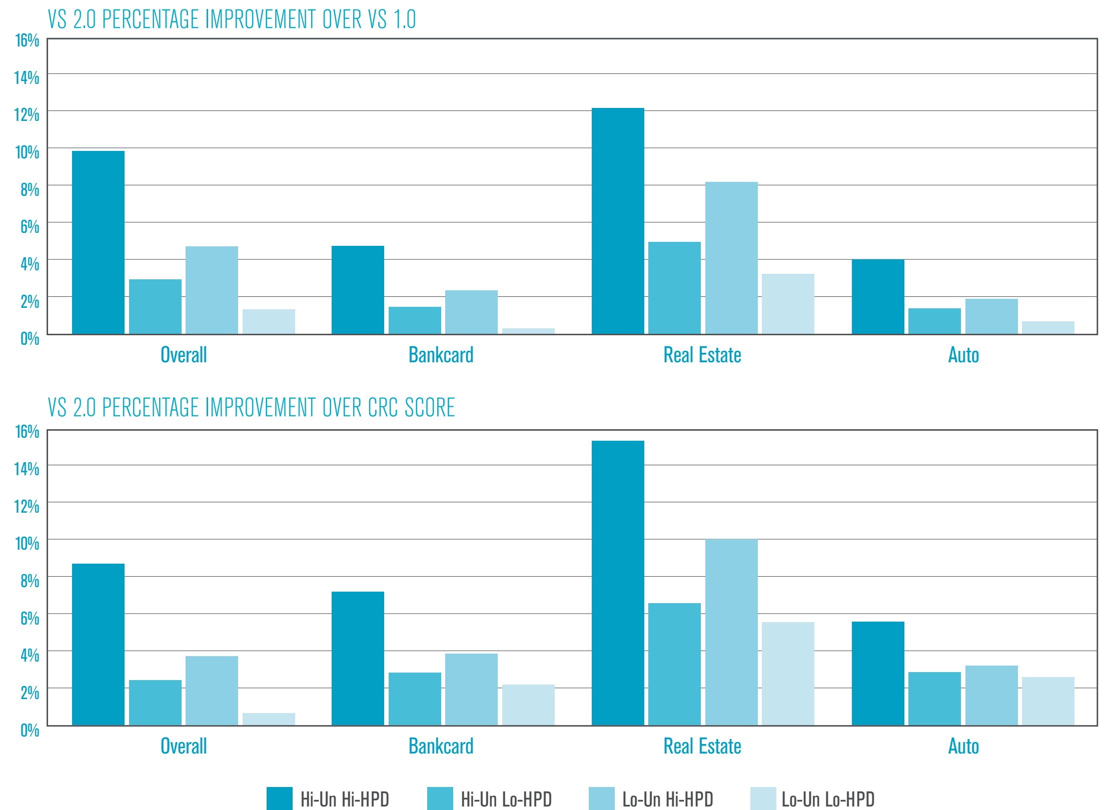


[2] The regions were identified using data from Federal Housing Finance Agency ("FHFA") and the Bureau of Labor Statistics for the 2008-2010 periods.
[3] Default: 90 days or more past due

STUDY OVERVIEW: HOW DOES VANTAGESCORE 2.0 PERFORM UNDER STRESSED ECONOMIC CONDITIONS? (Cont.)

Similarly, VantageScore 2.0 provided superior results when compared with VantageScore 1.0 and with industry benchmarks.[4] For all three major lending industries, VantageScore's greatest performance sensitivity was among consumers facing simultaneous economic stresses of home price depreciation and unemployment (Figure 3).

FIGURE 3
VANTAGESCORE 2.0 PERFORMANCE COMPARED WITH VS 1.0 AND INDUSTRY BENCHMARK



Even in the context of a distressed economy, VantageScore 2.0 remains a highly reliable predictor of consumer behavior, with a particularly strong advantage over VantageScore 1.0 and a benchmark credit score in the real estate loan category.

Additionally, the "Low-U, Low-D" segment (low unemployment, low home price depreciation) offered an informal benchmark against which the default rates of the other segments could be compared because the "Low-U, Low-D" segment suffered the least effects of the economic downturn. For example, consumers in the High-U, High-D segment categorized in the "Super" credit tier (upper-left quadrant, Figure 4), were 427% more likely to default on real estate loans than consumers categorized in the Super credit tier in "benchmark" Low-U, Low-D segment (0.97% vs. 0.18%).

[4] Comparison was performed using a consumer reporting company ("CRC") proprietary credit score.

STUDY OVERVIEW: HOW DOES VANTAGESCORE 2.0 PERFORM UNDER STRESSED ECONOMIC CONDITIONS? (Cont.)

FIGURE 4
DEFAULT RATE ANALYSIS BY SEGMENT AND CREDIT TIER

QUADRANT	CREDIT TIER	REAL ESTATE		BANKCARD		AUTO	
		DEFAULT RATE	% OVER/UNDER LOW-U LOW-D	DEFAULT RATE	% OVER/UNDER LOW-U LOW-D	DEFAULT RATE	% OVER/UNDER LOW-U LOW-D
HIGH-U HIGH-D	SUPER PRIME 900-990	0.97%	427%	0.41%	65%	0.31%	56%
HIGH-U LOW-D		0.20%	6%	0.25%	-1%	0.18%	-8%
LOW-U HIGH-D		0.24%	28%	0.24%	-5%	0.14%	-27%
LOW-U LOW-D		0.18%		0.25%		0.20%	
HIGH-U HIGH-D	PRIME 700-899	10.48%	340%	4.92%	69%	3.32%	90%
HIGH-U LOW-D		2.98%	25%	3.10%	7%	1.86%	7%
LOW-U HIGH-D		3.42%	44%	2.88%	-1%	1.76%	1%
LOW-U LOW-D		2.38%		2.91%		1.74%	
HIGH-U HIGH-D	NEAR PRIME 640-699	33.53%	171%	22.03%	35%	11.93%	51%
HIGH-U LOW-D		15.11%	22%	17.47%	7%	8.65%	10%
LOW-U HIGH-D		16.74%	35%	16.23%	-1%	8.21%	4%
LOW-U LOW-D		12.38%		16.31%		7.90%	
HIGH-U HIGH-D	SUBPRIME 501-639	58.12%	73%	47.14%	13%	30.40%	27%
HIGH-U LOW-D		38.49%	15%	44.28%	6%	26.36%	10%
LOW-U HIGH-D		40.21%	20%	41.88%	1%	24.78%	4%
LOW-U LOW-D		33.61%		41.67%		23.95%	

These results point to the perspective that the greater driver of the current economic distress is home price depreciation.

- For all credit tiers, default rates for consumer segments experiencing the double impact of high unemployment and high depreciation are significantly higher than the default rate deterioration for any single driver impact.
- Among super prime consumers, the real estate default rate in the Low-U, High-D segment was 0.24%, compared to a default rate of 0.18% among consumers in the "benchmark" segment (Low-U, Low-D) for the same credit tier. Default rates for super prime consumers that experienced high unemployment but low home price depreciation (High-U Low-D) was 0.20%. The other credit tier categories consistently tell a similar story, that is, regardless of credit tier, consumers in segments with high home price depreciation and low unemployment reflect higher default rates than those with high unemployment but low depreciation.
- The high utility of bankcard and auto products likely drives lower overall default rate deterioration.

© Copyright VantageScore Solutions, LLC 2011

CONCLUSION

OPPORTUNITIES FOR LENDERS IN MANY REGIONS

The study offers a clear counterpoint to popular impressions of the current recession, which suggest that its impact is broad-based and indiscriminate. Rather, the impact of the recession has most noticeably affected those consumers in the five states (CA, FL, AZ, NV and MI) where high home price depreciation is the dominant economic theme. Even in states where unemployment is high, as long as home prices didn't depreciate more than 15%, real estate and other consumer credit default rates didn't deteriorate as dramatically.

In the studies described above, VantageScore 2.0 demonstrated superior and consistent predictive capabilities, even in the context of a historically distressed economic environment. VantageScore 2.0 also provided results that were superior to both VantageScore 1.0 and to a benchmark industry credit score, with predictive capabilities that were particularly evident in those regions most impacted by the recession.

© Copyright VantageScore Solutions, LLC 2011