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Choosing to Fail or Lack of Choice? The Demographics of Loan Delinquency

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Loan-delinquency rates vary significantly across demographic dimensions, including age, education level (which may stand in for socioeconomic status) and race or ethnicity. In particular, younger, less educated and nonwhite families are much more likely to miss loan or other payment obligations than older, better educated and white families. Do “delinquency-prone” demographic characteristics underlie a greater “taste for risk,” or are families with certain demographic characteristics exposed to greater risk for reasons they did not choose and cannot control? Survey evidence collected over about 25 years points toward structural factors related to demographic characteristics rather than individual risk preferences as the better explanation for varying delinquency risks.

“Delinquency-prone” demographic characteristics. Figure 1 displays estimated odds ratios and 95-percent confidence intervals for the probability of a family with a given demographic characteristic becoming seriously delinquent on a loan or other payment obligation relative to a reference group with a relatively low delinquency probability.¹ These estimates are derived from logit regressions that use 41,528 families observed in the Federal Reserve Board’s Survey of Consumer Finances at some time between 1989 and 2013.²

For example, we estimate that a randomly chosen family headed by someone under 40 years old is 5.04 times as likely to become seriously delinquent—i.e., miss at least two consecutive payments—as a randomly chosen family headed by someone 62 years old or more.³ With 95-percent confidence, we estimate that

the true odds ratio lies between 4.77 and 5.34. If families from these two groups were equally likely to become seriously delinquent, the odds ratio would be 1.00. Thus, we are highly confident that young families are more likely to become seriously delinquent than old families—indeed, about five times as likely. Being young appears to make a family prone to delinquency. Middle-aged families are 3.75 times as likely as older families to miss two or more consecutive payments, with a 95-percent confidence interval of 3.26 to 4.30.⁴

Likewise, we estimate that a randomly chosen family headed by someone with at most a high school diploma is 2.50 times as likely to become seriously delinquent as a family headed by someone with postgraduate education. With 95-percent confidence, we believe the true odds ratio lies between 2.28 and 2.74, far above 1.00. We estimate that families with at most a four-year college degree are 2.37 times as likely to become seriously delinquent as a family with postgraduate education, with a 95-percent confidence interval of 1.98 to 2.85.

Finally, we estimate that a randomly chosen black family is 2.17 times as likely to become seriously delinquent as a white family, with a 95-percent confidence interval of 1.94 to 2.41. Among Hispanic families, we estimate that serious delinquency is 1.58 times as likely as among white families, with a confidence band of 1.36 to 1.84—comfortably above 1.00.

Choosing to fail? Different “tastes for risk.” We have documented very large dif-



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ferences in delinquency risk across demographic groups, but we have not explained why these differences exist. A potential explanation is that delinquency-prone demographic characteristics correlate with a greater taste for risk. In other words, younger, less educated and nonwhite families simply may prefer to take on some obligations they know they are relatively less able to meet than their older, better educated and white counterparts. Under this hypothesis, these risk tolerant families readily accept higher risk-based interest rates and understand that their (likely already low) credit scores will suffer if they fail to pay on time. As explained below, we do not believe this hypothesis is supported by the evidence, but we investigate it because some readers may have heard arguments like it.

To test this possibility, we looked for evidence of financial and personal choices and behaviors that might lead to higher delinquency rates.⁵ The results are shown in Figure 2, where the odds ratios now simulate predicted delinquency risks after risky financial and personal choices and behaviors have been eliminated. In essence, the model answers this question: How much more likely is a randomly chosen young (or less educated or nonwhite) family to encounter serious delinquency than an old (or better educated or white) family if the young family made financial and personal choices exactly like those of an old (or better educated or white) family and faced the same risks of income shocks, bequests or bad health?

With the exception of Hispanic families, eliminating all of the so-called “bad choices” and “bad luck” that we could identify in our data reduced but did not remove the disparities in serious delinquency risks. We estimate that young families would be 1.80 times as likely as old families to become seriously delinquent even if young families mimicked the choices and behaviors of old families; middle-aged families would become seriously delinquent 2.08 times as often. Confidence bounds for both young and middle-aged families do not come close to overlapping 1.00, which would imply equality of risks.

Families with at most high school education and at most college education both would remain about 1.4 times as likely to become seriously delinquent as the most highly educated families, with 95-percent confidence intervals clearly above 1.00. We estimate that black families would become seriously delinquent about 1.36 times as often as white families even if the former emulated the latter in every way we could measure; with 95-percent confidence, we believe the true odds ratio lies in the interval 1.20 to 1.54. As noted, Hispanic families are the only group that becomes just as likely as its reference group (white families) if the Hispanic families’ financial and personal choices, behavior and exposure to luck conformed to those of the lower risk group.

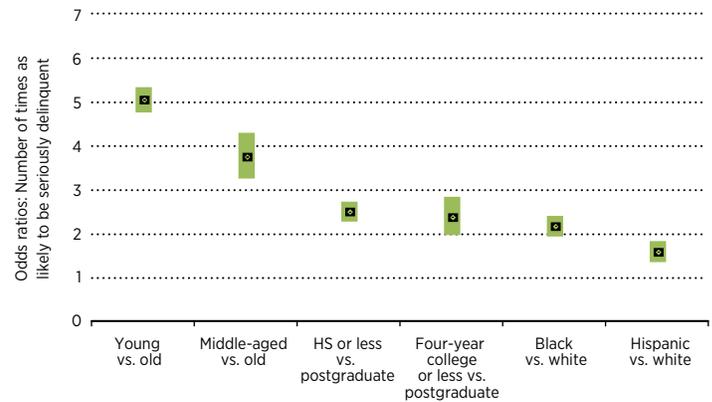
Thus, demographic characteristics generally retain important predictive power for delinquency rates even after differences in observable choices, behavior and luck are taken into account. This may be due to unobservable structural, systemic or historical factors or to experiences related to specific demographic groups.

But how realistic is this exercise? Can young families really “act old”? Can less educated families behave as if they were highly educated, and nonwhite families simply choose to expose

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FIGURE 1

Probability of Serious Delinquency: Baseline



SOURCES FOR ALL FIGURES: Federal Reserve Board Survey of Consumer Finances between 1989 and 2013, authors’ calculations.

NOTES FOR ALL FIGURES: Figures reflect, with 95-percent confidence, the probability that a group will be seriously delinquent relative to the probability that a low risk reference group will be seriously delinquent. For example, in Figure 1, the “young” group is about five times as likely as the “old” group to be seriously delinquent. Young refers to family heads under 40 years old. Middle-aged refers to family heads between 40 and 61 years old. Old refers to family heads 62 years old or older.

HS or less refers to family heads with at most a high school or GED diploma. Four-year college or less refers to family heads with at least a high school diploma but no more than a four-year college degree. Postgraduate refers to family heads with schooling beyond a four-year college degree.

Black refers to a survey respondent who identifies as non-Hispanic African-American or black.

Hispanic refers to a survey respondent who identifies as Hispanic of any race. White refers to a survey respondent who identifies as non-Hispanic white.

FIGURE 2

Probability of Serious Delinquency: “Bad Choices” and “Bad Luck” Eliminated

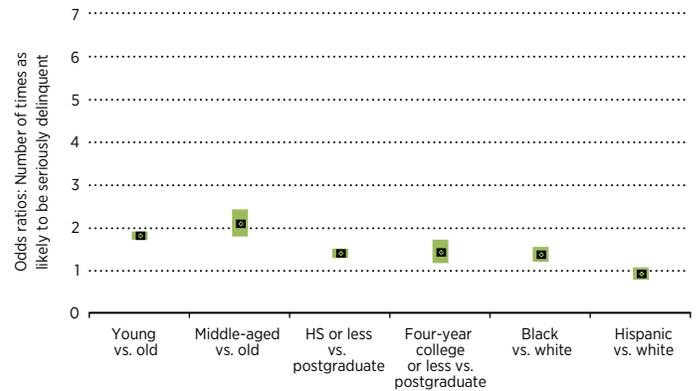
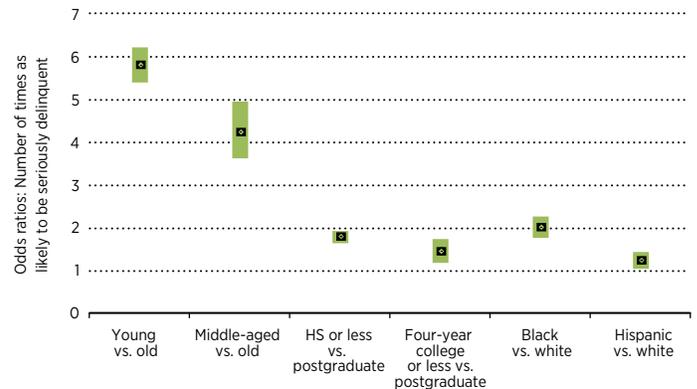


FIGURE 3

Probability of Serious Delinquency: Individual Choice Deviations from Peer Group



NOTE: Freely exercised choices deviate only from demographically-defined peer groups.

themselves only to the risks white families typically face? Clearly, these hypothetical scenarios cannot be the last word when exploring the demographics of loan delinquency.

A lack of choice: The importance of demographically defined peer groups. We believe a more realistic starting point for assessing the mediating role of financial and personal choices, behavior and luck in determining delinquency risk is a family's peer group. That is, compared to a *typical* or the *average* young black or Hispanic family with no more than a high school diploma, how much debt does a particular family of this type owe? How much of their assets are invested in housing compared with their peer-group average? What is their family structure?

To capture what we believe are important "gravitational" effects of a family's peer group, we calculated the average value for each of our explanatory variables—describing financial choices, family structure and exposure to luck—for every family according to its age, race or ethnicity and education.⁶ We then included only the deviation from a peer-group average for each variable in the regression—for example, how much more or less of a given family's assets were invested in housing than the average for its peer group? We assign the explanatory power of the peer group itself for predicting delinquency risk to its underlying demographic characteristics. In other words, we assume that the distinctive financial or personal traits associated with a peer group ultimately derive from the structural, systemic or historical circumstances and experiences unique to that demographic group.

Figure 3 shows how risky each demographic group appears to be relative to its low-risk reference group when we assume that individual families' choices extend only to their departures from peer-group norms. Here we assume that young families as a whole cannot escape their inherent challenges and risk exposures. That is, one cannot simply choose to enter adult life with student loans paid off, money in the bank to pay for a house and car, and the accumulated financial know-how of a lifetime of learning by doing. Consequently, individual choices may exert only marginal effects. Likewise, families headed by someone with low or moderate job market skills cannot simply choose to earn a high income or invest heavily in a diversified portfolio of financial assets while taking on little debt. Families of color cannot simply choose to ignore the legacies of historical discrimination and deprivation that shaped their parents' and their own lives.

Comparing Figure 3 to Figure 1, we conclude that groups with "delinquency-prone" demographic characteristics—young, less educated and nonwhite families—may have little choice in the matter. Figure 3 displays our estimates of the odds ratios and confidence intervals for delinquency risk by demographic group when we attribute to families in each group only the deviations from peer-group means that they freely exercise. Figures 1 and 3 are qualitatively similar, as each demographic group shown appears significantly riskier than its reference group. Rather than signaling an elevated "taste for risk," demographic characteristics associated with high delinquency risk likely indicate structural, systemic and historical circumstances and experiences that individual families did not choose and over which they have little control.

Understanding loan delinquency demographics requires a deeper explanation than a "taste for risk." The striking differences in delinquency risk across demographic groups cannot be

explained simply by referring to differences in risk preferences. Instead, we suggest that deeper sources of vulnerability and exposure to financial distress are at work. Families with "delinquency-prone" demographic characteristics—being young, less educated and nonwhite—did not choose and cannot readily change these characteristics, so we should refrain from adding insult to injury by suggesting that they simply have brought financial problems on themselves by making risky choices. ■

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ENDNOTES

- 1 Serious delinquency is defined as missing at least two consecutive scheduled payments within the year prior to the survey interview.
- 2 A logit regression is a statistical technique that estimates a causal relationship between a dichotomous outcome (in this case falling behind on debt payments) and a set of explanatory variables.
- 3 These odds are unconditional in the sense that we include all families in our calculations, whether or not they owe any debt or have other fixed obligations.
- 4 To be sure, some of the gap is due to a larger share of old families owing no debt or owing only small amounts. We control for differences in borrowing behavior and other financial choices in the "A lack of choice" section and Endnote 5.
- 5 In particular, we estimated a logit regression of serious delinquency that contains, in addition to dummy variables for demographic characteristics, a large number of independent variables capturing aspects of a family's financial choices related to liquidity, diversification and leverage; its family structure; financial obligations to extended family; its exposure to income shocks and bequests; and a measure of overall physical health.
- 6 Due to sample-size limitations, we combine racial and ethnic groups and education groups to create 12 peer groups. We define two racial/ethnic categories: (1) Non-Hispanic white or other/Asian, (2) Non-Hispanic African-American/black or Hispanic, any race. We define two education categories: (1) High school or GED diploma and below, (2) Some college or any college up to graduate/professional degree. We define three age categories: (1) Young, headed by someone under 40; (2) Middle-aged, headed by someone between 40 and 61; (3) Old, headed by someone 62 years old or older. The result is 12 peer groups, with each family assigned to one of them.