Article

Cracking the Code: An Empirical Analysis of Consumer Bankruptcy Outcomes

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INTRODUCTION

Policymakers have long had an affinity for chapter 13 consumer bankruptcy, the "reorganization" option for consumers. Instead of quick forgiveness of most unsecured debts, consumers enter into three-to-five-year plans to pay back creditors. Payments are based on available future income, taking into account a debtor's expenses such as house and car payments. The idea is appealing both substantively and morally. Creditors get some or all of their money paid back, and consumers get to keep assets and take steps to do the right thing with repay-

ment efforts. More than a million families each year struggle to repay debts in chapter 13 bankruptcy.[1]

The hard facts on chapter 13, however, are difficult to mesh with the positive sentiments.[2] Study after study,[3] including this one that relies on the most recent available data, has found that only about one-third of consumers who enter chapter 13 complete their repayment plans and therefore receive a discharge of remaining unsecured debts.[4] Two out of three consumers dropout before the end of the repayment plan and fail to get the broad debt relief of a bankruptcy discharge. For a system that devotes tremendous court resources to chapter 13 bankruptcy and for the bankrupt families that struggle to make ends meet, this statistic is disappointing. As previous empirical work has shown, most of the debtors who drop out of chapter 13 almost immediately start struggling with the same financial problems they had before filing for bankruptcy, often within

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1. *Table F-2*, U.S. COURTS, http://www.uscourts.gov/statistics/table/f-2/statistical-tables-federal-judiciary/2015/12/31 (last visited Nov. 30, 2016). With 301,705 new Chapter 13 filings for 2015, and chapter 13 cases lasting up to five years, we conservatively estimate there are 500,000 pending chapter 13 cases in the United States.

2. Teresa A. Sullivan, Elizabeth Warren & Jay Lawrence Westbrook, *Who Uses Chapter 13?*, *in* CONSUMER BANKRUPTCY IN GLOBAL PERSPECTIVE 269, 273 (Johanna Niemi-Kiesilainen et al. eds., 2003) ("The ideological marketing of Chapter 13 appears to be in sharp contrast with practical realities facing the debtors.").

3. TERESA A. SULLIVAN, ELIZABETH WARREN & JAY LAWRENCE WESTBROOK, AS WE FORGIVE OUR DEBTORS: BANKRUPTCY AND CONSUMER CREDIT IN AMERICA 17, 217 (1989) [hereinafter SULLIVAN, WARREN & WESTBROOK, AS WE FORGIVE OUR DEBTORS] (estimating that one-third of 1529 chapter 13 cases in their study completed plan payments); Gordon Bermant & Ed Flynn, *Measuring Projected Performance in Chapter 13: Comparisons Across the States*, AM. BANKR. INST. J., July/Aug. 2000, at 22, 22 (stating that chapter 13 completion rates hover nationally at about one-third of confirmed plans); Jean Braucher, *An Empirical Study of Debtor Education in Bankruptcy: Impact on Chapter 13 Completion Not Shown*, 9 AM. BANKR. INST. L. REV. 557, 571 (2001) (reporting five judicial districts' chapter 13 completion rates in 1994, which ranged from 18.2% to 54.9%); Henry E. Hildebrand III, *Administering Chapter 13—At What Price?*, AM. BANKR. INST. J., July/Aug. 1994, at 16, 16 (reporting that chapter 13 trustees estimated a completion rate of 32.89% based on their experiences); Scott Norberg & Andrew J. Velkey, *Debtor Discharge and Creditor Repayment in Chapter 13*, 39 CREIGHTON L. REV. 473, 476 (2006) (reporting a 33% discharge rate in seven-district sample); William C. Whitford, *The Ideal of Individualized Justice: Consumer Bankruptcy as Consumer Protection, and Consumer Protection in Consumer Bankruptcy*, 68 AM. BANKR. L.J. 397, 411 (1994) (stating that the national average reported rate in 1993 for completed cases was 31%).

4. *See infra* Table 1 (reporting that among a national sample of cases filed in 2007, 36.5% of chapter 13 cases did not received a discharge).

just weeks of the dismissal.[5] The help from bankruptcy was temporary;[6] only completing the bankruptcy repayment plan could ensure that property such as a home was kept from creditors and that creditors did not return to dunning and debt collection.[7]

Despite this enduring reality, there has never been a national study of chapter 13 plan completion that applies statistical methods to predict a debtor's success in chapter 13. This study is the first.[8] Its findings upset longstanding assumptions

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5. Katherine Porter, *The Pretend Solution: An Empirical Study of Bankruptcy Outcomes*, 90 TEX. L. REV. 103, 112 (2011).

6. *Id.* ("The data show that families temporarily accomplished these goals during the time they were in Chapter 13. . . . Once their cases were dismissed, the relief quickly evaporated.").

7. *Id.* at 162 ("Nearly all of the two in three families that file Chapter 13 and later drop out of their repayment plans do so in precarious financial straits. The majority of homeowners seem poised to lose their homes, and families are already experiencing an uptick in collection pressure.").

8. A few of the plan completion studies cited in note 3, *supra*, have gone further and attempted an empirical analysis of the factors that are associated with plan completion. For the reasons noted below, none of these studies had nearly the scope of sample (national and random), richness of data (debtor surveys, court records, and district practices), and statistical sophistication (logistic regression and theory-driven modeling) of this Article. Because of the constraints of the prior work, only sharply limited inferences from the findings were possible. *See* Braucher, *supra* note 3, at 579 (reporting results from regression analysis using four independent variables that reflected district-wide practices and one variable at the case-level, and cautioning that "[r]elevant variables such as individual debtor characteristics that could affect income and expenses over the course of the plan may predict completion rates far better than this analysis, which explains less than 10 percent of the variance"); David A. Evans & Jean M. Lown, *Predictors of Chapter 13 Completion Rates: The Role of Socioeconomic Variables and Consumer Debt Type*, 29 J. FAM. ECON. ISSUES 202 (2008) (using a sample drawn solely from cases filed in Utah, with no survey data on debtors' demographics and reasons for filing, and no ability to measure variation across districts because of single-district design); Scott Norberg, *Consumer Bankruptcy's New Clothes: An Empirical Study of Discharge and Debt Collection in Chapter 13*, 7 AM. BANKR. INST. L. REV. 415 (1999) (using comparative tests (t-tests and chi-square tests) rather than regression to predict outcomes from court record (non-survey) data on seventy-one case samples from a single judicial district, the Southern District of Mississippi); Norberg & Velkey, *supra* note 3, at 475, 479–82 (conducting tests of comparison or correlation (chi-square and t-tests) on variables drawn from court records on a sample of cases from seven judicial districts located in five states, which the authors characterized as "national study"). In our view, Norberg and Velkey's study is the most comprehensive prior to ours. We respectfully disagree with the authors' characterization that their sample is "national," given its approximate half-dozen or so judicial districts. *See infra* Part I (reporting that our sample was randomly selected from cases filed in all states and judicial districts and contains cases from eighty-one of the ninety judicial districts in the United States).

and challenge prior research on how bankruptcy works. Indeed, only when we know what might set apart the minority of successful debtors can we design changes that could fix the broken bankruptcy system.

While it may be hard to believe that there has never been a study such as ours of chapter 13 success, a key reason is data limitations. Even with advances in technology, our study necessarily involved hand coding hundreds of variables and administering surveys. Data available from the required bankruptcy forms,[9] which are much easier to collect electronically, simply cannot create a convincing model with adequate relevant variables. Robust effects also require careful model building such as awareness of collinearity and variable construction. But it is not just a lack of data or statistical analyses that has created the gap in knowledge. Several misperceptions about bankruptcy have contributed to a perception that our goal of predicting success in chapter 13 bankruptcy was either impossible or elusive.

We believe that a misinterpretation of an idea that took hold over thirty years ago, when leading scholars Teresa Sullivan, (now-Senator) Elizabeth Warren, and Jay Westbrook introduced the concept of "local legal culture" to bankruptcy scholarship, has retarded certain research questions.[10] Local legal culture is the theory that even when the formal law is the same or similar across locations, perceptions, expectations, practice variation, and beliefs can change the reality of law.[11] In their seminal piece, Sullivan, Warren, and Westbrook argued that "local legal culture exercises a pervasive, systematic influence on the operation of the federal bankruptcy system" and

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9. The official bankruptcy forms mandate a petition for relief and over a dozen "schedules" of assets, debts, income, and expenses. *Bankruptcy Forms*, U.S. COURTS, http://www.uscourts.gov/forms/bankruptcy-forms (last visited Nov. 30, 2016). These forms are filed under penalty of perjury. *Id.*

10. Teresa A. Sullivan, Elizabeth Warren & Jay Lawrence Westbrook, *The Persistence of Local Legal Culture: Twenty Years of Evidence from the Federal Bankruptcy Courts*, 17 HARV. J.L. & PUB. POL'Y 801 (1994). The theory of "local legal culture" was initially used as a residual explanation for variations in chapter 13 outcomes that the researchers' data could not otherwise explain. *Id.*

11. *Id.* at 804 (defining local legal culture as "systematic and persistent variations in local legal practices as a consequence of a complex of perceptions and expectations shared by many practitioners and officials in a particular locality, and differing in identifiable ways from the practices, perceptions, and expectations existing in other localities subject to the same or a similar formal legal regime").

pointed to variations in chapter 13 practice as an example of such effects.[12] They argued that future research should be sensitive to local legal culture and that analysis of the bare law was insufficient.[13]

The original theory of local legal culture, which calls on researchers to be aware of regional variations and to account for them in their statistical analyses,[14] gradually morphed into an explanation for why the persistently poor outcomes in bankruptcy could not be rigorously examined. For example, in response to data about the dismal discharge rates in chapter 13, the reply would be: rely on the widespread variation in discharge rates to argue that chapter 13 *can* work.[15] Actors in the bankruptcy system report that "their districts" are different in numerous and unseen ways, arguing that unless the research studied their local, impliedly better way of doing things, a study's findings were unpersuasive.[16]

This Article rejects this analytical approach as an overly expansive application of the theory of local legal culture—one that its original proponents, dyed-in-the-wool empiricists themselves—undoubtedly never intended. Indubitably, differences based on local practice are aspects of the system. We can respond to local differences in practice, in debtor demographics, and in other variations in this Article because our comprehensive data collection and analysis have allowed us to do two key things: (1) control for judicial district variation in our models; and (2) test local practices in chapter 13 that are often relied on to explain differences in outcomes.

Additionally, we can assess a host of other previously hypothesized, but never tested, potential predictors of who fares well in chapter 13. Indeed, in this Article, we return to the sci-

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12. *Id.* at 806.

13. *Id.* at 857–65.

14. *Id.*

15. *See* Porter, *supra* note 5, at 109 (describing benefits of chapter 13 other than discharge); William C. Whitford, *Small Ball*, 90 TEX. L. REV. SEE ALSO 9, 12 (2011) (noting that uses of chapter 13 vary dramatically by judicial district).

16. Porter, *supra* note 5, at 153; *see* Robin R. Randolph, *Chapter 13: Getting to Completion*, CONSIDER CHAPTER 13 (June 19, 2016), http://considerchapter13.org/2016/06/19/chapter-13-getting-to-completion (disagreeing with critics of chapter 13 and arguing that "deeper study, however, of chapter 13 plan completion rates at the federal judicial district level reveals successes that should be duplicated in every district" and offering up "cooperation and collegiality" as an example of a local best practice that can influence debtor outcomes).

entific approach that Sullivan, Warren, and Westbrook pioneered to understand bankruptcy. We use comprehensive hand-gathered data, contextual knowledge of bankruptcy law and its practice, and robust statistical modeling to study chapter 13 outcomes. Our analysis is the first to combine these three approaches despite the lamentations about chapter 13. Our rich data come from a national sample, the 2007 Consumer Bankruptcy Project of 770 chapter 13 cases.[17] It is also the only national data set that has comprehensive demographic characteristics about filers.

Some of our most important findings revolve around what does *not* predict debt reduction in bankruptcy. Wage orders and payment of mortgages by trustees through repayment plans, both features that some herald as best practices and are proffered as explanations for why certain districts outperform others, are not determinants of completing a chapter 13 case.[18]

Our findings about what *does* predict bankruptcy outcomes are disquieting. Blacks have less than half the chance of bankruptcy success as non-blacks;[19] this worsens the recent insight that blacks are overrepresented in bankruptcy because of attorney steering to chapter 13.[20] More than amount of debt, prior bankruptcies, or having a job—all features that the bankruptcy system does account for in considering a person's eligibility for chapter 13—race matters.

Debtors with young children also have a reduced likelihood of bankruptcy debt relief.[21] And the more dependent children the person has, the less likely bankruptcy will work to right the family financially.[22] We link these findings to the expense instability and income volatility that are associated with young children.[23] Similarly, we find a correlation between medical insurance coverage and success in bankruptcy, probably due to its role in buffering expenses that can derail repaying creditors.[24]

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17. *See infra* note 34.
18. *See infra* Part II.C.
19. *See infra* Part II.B.
20. Tara Siegel Bernard, *Blacks Face Bias in Bankruptcy, Study Suggests*, N.Y. TIMES, Jan. 21, 2012, at A1.
21. *See infra* Part II.B.
22. *See infra* Part II.B.
23. *See infra* Part II.B.
24. *See infra* Part II.D.

As previous research has suggested, attorneys also matter in chapter 13. Outcomes for debtors without an attorney are particularly grim as they face a likely probability of discharge well below ten percent.[25] This has profound policy implications for policymakers, particularly in light of the increased push for "self-help" in the legal system.[26]

Finally, homeownership is a key factor in determining success.[27] The less affordable someone's housing is, given his or her income, the less likely he or she is to succeed in chapter 13.[28] Further, a person who reports preventing foreclosure as a reason for seeking bankruptcy is less likely to succeed than someone who entered chapter 13 for any other reason. This finding calls into question the efficacy of chapter 13 as a home-saving device.[29] Entering chapter 13 to preserve a home—precisely one of its vaunted benefits compared to the chapter 7 liquidation alternative—predisposes a debtor to exiting bankruptcy without a discharge of unsecured debt.[30] Combining this finding with Porter's prior work that most debtors who exit chapter 13 do not save their homes—they only delay an inevitable foreclosure[31]—is a serious impeachment of the current tools in chapter 13 for ailing struggling homeowners.[32]

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25. *See* Angela Littwin, *The Do-It-Yourself Mirage Complexity in the Bankruptcy System*, in BROKE: HOW DEBT BANKRUPTS THE MIDDLE CLASS 157, 166 (Katherine Porter ed., 2012) (reporting that in a 2007 Consumer Bankruptcy Project sample, 91.3% of chapter 13 pro se cases were dismissed before confirmation).

26. James Greiner et al., *Self-Help, Reimagined*, 92 IND. L.J. (forthcoming 2016) ("A significant part of the access to justice toolkit must include self-help materials."). For a description of a particular self-help intervention in the consumer debt context, see generally Dalie Jimenez et al., *Improving the Lives of Individuals in Financial Distress Using a Randomized Control Trial: A Research and Clinical Approach*, 20 GEO. J. ON POVERTY L. & POL'Y 449 (2013) ("[D]escrib[ing] a proposed [Randomized Control Trial] to evaluate two interventions that are part of contemporary attempts to assist consumers in financial distress, one from legislators and the other from legal services providers.").

27. *See infra* Part II.A.

28. *See* John Eggum et al., *Saving Homes in Bankruptcy: Housing Affordability and Loan Modification*, 2008 UTAH L. REV. 1123, 1141 (describing as "grim" the finding that fewer than three in ten homeowners in chapter 13 bankruptcy had affordable housing costs).

29. *But see* Mark R. Lindblad et al., *Bankruptcy During Foreclosure: Home Preservation Through Chapters 7 and 13*, 25 HOUSING POL'Y DEBATE 41, 61 (2015) (finding that bankruptcy, particularly chapter 13 bankruptcy, reduces the likelihood of foreclosure).

30. *See infra* Part II.A.

31. Porter, *supra* note 5, at 147–48; *see also* Lindblad et al., *supra* note 29,

In this Article, we further discuss these findings and other significant determinants of chapter 13 success. In Part I, we describe the methodology. In Part II, we present multiple, debtor-level models to predict outcomes in chapter 13 from a random national sample. We construct four different models based on existing empirical literature, theories of bankruptcy law and family economic security, and law reform ideas. The first model examines financial characteristics. The second model analyses demographic variables. The third model tests case procedures. The fourth model estimates the influence of factors that contribute to a household's economic security.

We test each model using logistic regression, with a binary positive outcome of a debtor receiving a chapter 13 discharge. We use random effects, a statistical tool, to control for unobservable or unmeasurable effects at the level of judicial districts. The models identify several predictors of chapter 13 completion—and suggest some areas where prior assumptions about how to improve chapter 13 for debtors may be misplaced. For example, we are unable to find support for the idea that increased strictures by trustees related to wages or mortgage payments help debtors.

In Part III, the predictors from the four separate models retain statistical significance in a final model. We discuss the theoretical significance of the final model predictors and discuss how they contribute to understanding the various forces and actors that shape bankruptcy outcomes. Part IV of the Article explores how our findings support the need for reform to bankruptcy law and policy. We identify some specific changes for consideration, based on our findings, and also develop a blueprint for further theoretical and empirical study.

Chapter 13 is a cornerstone of the bankruptcy system. We need accurate information about why the majority of millions of families that seek chapter 13's refuge will not achieve the debt relief of a discharge. Revisions and changes based on empirical

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at 52, tbl.3 (reporting that of those who filed bankruptcy after a foreclosure was started, approximately half have either lost their home to foreclosure or the house remains in foreclosure despite months or years elapsing since the bankruptcy).

    32.   Chapter 13 allows debtors to cure missed past payments over time but expressly prohibits reducing the principal or making other modifications to the going-forward terms of the loan. 11 U.S.C. § 1322(b)(2), (b)(5) (2012). *See generally* Eggum et al., *supra* note 28, at 1154–64 (summarizing history, rationale, and possible reforms of treatment of home mortgages in chapter 13 cases).

data from a national sample can direct us to reforms of chapter 13 practice that are likely to be helpful across the country. At stake is improved access to the fresh start of a bankruptcy discharge and a legal system that delivers the help that families need to right themselves financially.

I. METHODOLOGY

In this Part, we detail our methods. We describe the sample, the construction of the dependent variable, and the logistic regression analysis. Given our interest in untangling the influence of local legal culture on case outcomes, we made sure we had a geographically widespread, national sample of cases. We also used statistical methods to control for district-level effects that might influence whether debtors receive a discharge.

A. 2007 CONSUMER BANKRUPTCY PROJECT

The 2007 Consumer Bankruptcy Project ("CBP") is a part of an iterative study on people who file bankruptcy. The first CBP was conducted in 1981, with subsequent studies conducted in 1991, 2001, and 2007. Another CBP study is ongoing with data collection having begun in 2013.[33] The 2007 version of the CBP is the first national random sample of households that filed for bankruptcy following the changes to the consumer bankruptcy law in 2005.[34] The investigators believed that the bankruptcy system had stabilized sufficiently following the effective date of the law in October 2005 to make 2007 cases fairly representative of the likely future cases.[35]

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33. The principal investigators in this study, Robert M. Lawless, Katherine Porter, and Deborah K. Thorne, are also coding court records and surveying debtors. These data will not be available for analysis of chapter 13 completion until at least five years from filing dates when the repayment plan terms have ended. The data in this Article, from cases filed in 2007, is the most current available, as data collection could not be completed until 2013. We needed to allow six years, as some cases did not begin five-year repayment plans until one year after the filing date.

34. *See* Bankruptcy Abuse Prevention and Consumer Protection Act (BAPCPA) of 2005, Pub. L. No. 109-8, 119 Stat. 23 (codified as amended in scattered sections of 11 U.S.C.).

35. Robert M. Lawless, Angela K. Littwin, Katherine M. Porter, John A.E. Pottow, Deborah K. Thorne & Elizabeth Warren, *Did Bankruptcy Reform Fail? An Empirical Study of Consumer Debtors*, 82 AM. BANKR. L.J. 349, 354 (2008) [hereinafter Lawless et al., *Bankruptcy Reform*] ("These trends led us to conclude that 2007 would yield a representative data pool of post-BAPCPA cases . . . ."). While we agree, we also note that the depth of the foreclosure crisis in 2008 and continuing changes in household balance sheets could have

Data from this Article come from the 2007 Consumer Bankruptcy Project (hereinafter all references to the "CBP" will refer to the 2007 version unless otherwise noted) and subsequent follow-up data collected on the initial 2007 sample. The sample for the 2007 CBP was drawn from a national random sample of bankruptcy filers using the Automated Access to Court Electronic Records (AACER) system.[36] The sample included chapter 7 and chapter 13 cases from eighty-one of the ninety federal judicial districts.[37] Over a five-week period beginning in the last week of January 2007 through February 2007, 5000 cases were randomly selected from all judicial districts in the United States. The CBP ultimately collected data on a subset of these randomly selected consumer bankruptcy filers using information from a written questionnaire, court records, and telephone interviews (with a subset of 1000 of the sample families).[38]

First, each of the 5000 randomly selected households received a letter from the investigators. The letter briefly described the study and told respondents that if they wanted to participate, they should complete the survey they would be receiving in the mail. One week after they received the introductory letter, potential participants received a questionnaire packet. The packet included a cover letter, an eight-page questionnaire, a stamped return envelope, and two dollars in cash as a token of appreciation. Potential participants were sent a thank you/reminder letter one week after the initial questionnaire was sent and the research team contacted respondents via telephone (when the respondents' telephone numbers were available) to follow-up. A second reminder was sent one month

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produced some meaningful changes in the chapter 13 population. That said, the most recent data suggest similar demographic and financial profiles for 2007 and 2013–14 bankruptcy filers. *See* Robert Lawless, Katherine Porter & Deborah Thorne, Struggling to Bankruptcy (May 16, 2016) (unpublished paper) (on file with authors) [hereinafter Lawless et al., Struggling to Bankruptcy].

36. Automated Access to Court Electronic Records ("AACER") is now part of EPIQ Systems. The 2007 national filing data were supplied through the generous assistance of Mike Bickford and his colleagues at AACER, a bankruptcy data and management company.

37. The sample does not include cases filed in the judicial districts of Guam, Puerto Rico, the Northern Mariana Islands, or the Virgin Islands.

38. For a complete description of the CBP methodology, see Lawless et al., *Bankruptcy Reform*, *supra* note 35, at 387–405. The CBP phone interview data was not used for this study and thus a detailed explanation of the methodology for that part of the study is not included in this Article.

after the initial questionnaire was mailed, with an additional two dollars as a token of appreciation encouraging participation. In July 2007, final letters were sent to respondents who had not yet completed the questionnaire.

The response rate on the surveys was roughly 50%, yielding a total sample of 2521. Investigators analyzed court record data from non-respondents to test whether they were statistically distinguishable from respondents, and they were not.[39] Two-thirds (66%) of the sample was chapter 7 bankruptcies, while the remaining 34% were chapter 13 bankruptcies.[40] Approximately 70% of the returned questionnaires were single filings and 30% were joint filings (filings by married couples).[41]

Court records for all debtors who responded to the written questionnaire were obtained using the federal government's electronic court record system, PACER. For every case, the docket sheet, petition, financial schedules, Statement of Financial Affairs, and Statement of Intention were downloaded from the public records. These forms were coded to obtain information on roughly 200 additional variables. These variables included financial information about debtors and their households and about case outcomes.[42] Further details on the 2007

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39. Specifically, to test for response bias, CBP researchers coded and analyzed major financial variables from the court records of 100 non-respondent debtors (people who did not return questionnaires and therefore did not participate in the study). Income, debts, assets, monthly expenses, and prior bankruptcy status were some of the financial variables that were included in the analysis. This data was compared with data collected from the participants who constituted the core random sample. The analysis suggested that respondents and non-respondents shared similar characteristics on major financial variables and thus that there was no significant sample bias. Lawless et al., *Bankruptcy Reform*, *supra* note 35, at 396.

40. According to government data, out of all non-business bankruptcy filings, approximately 62.3% are chapter 7, and the remaining 37.7% are chapter 13. The chapter 7 filings in this CBP sample seem somewhat overrepresented. To adjust for the inflation in chapter 7 filings, the investigators weight the sample size.

41. The percentage of joint and single filers in the CBP sample is representative of the population of consumer bankruptcy filers. In 2007, approximately 29% of bankruptcy filers filed a joint petition and the remainder filed a single petition.

42. The court records were coded by trained law students. The training included reading a thirty-eight-page coding manual and a supervised practice coding session with one chapter 7 and one chapter 13 case. To test reliability, 10% of the court records were randomly selected a second time for recoding. These selected cases were compared to the original coding and checked for discrepancies and errors. An error rate of 0.8% was reported.

CBP, including its funding and acknowledgements of assistance, are available in prior published work.[43]

B. OUTCOMES FROM CHAPTER 13

This study focused on the chapter 13 CBP sample. Chapter 13 plans may be five years in duration.[44] This runs from the time of plan confirmation, which itself may follow the chapter 13 filing by several months. Our goal was to record the final outcome in all chapter 13 cases, so we updated the outcomes in March 2013. This is a minimum of six years from initial petition date.[45] For three cases, we were unable to categorize the outcome.[46] These cases were excluded from the sample.

The table below displays the distribution of outcomes. In our sample of cases filed in 2007, the chapter 13 discharge rate was slightly higher (36.5%) than the "one-third" statistic that has endured for decades.[47] While the Bankruptcy Reform Abuse & Consumer Protection Act of 2005—as well as the foreclosure crisis—may have increased the chapter 13 completion rate in the intervening years since 2007, even the most generous statistics suggest that about half of chapter 13 cases are dismissed without a discharge, most commonly for failure of the debtor to make the required plan payments.[48]

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43.   For a complete description of the CBP methodology, see Lawless et al., *Bankruptcy Reform*, *supra* note 35, at 387–98.

44.   11 U.S.C. § 1322(d) (2012).

45.   Lawless et al., *Bankruptcy Reform*, *supra* note 35, at 391.

46.   These cases were closed but neither discharged nor dismissed. Reasons could include that a debtor failed to complete the required debtor education or was not otherwise eligible for a discharge but the case was never subject to a motion to dismiss. It was administratively closed.

47.   *See* Norberg & Velkey, *supra*, note 3.

48.   Table BAPCPA 6 – Bankruptcy Abuse Prevention and Consumer Protection Act (BAPCPA) (December 31, 2015) U.S. COURTS, http://www.uscourts.gov/statistics/table/bapcpa-6/bankruptcy-abuse-prevention-and-consumer-protection-act-bapcpa/2015/12/31 (last visited Nov. 30, 2016). This report captures all the cases closed in a given one-year period, not the outcomes of cases filed in a particular moment in time. The difference in method could produce a substantial difference because cases closed in 2015 could have been filed as early as 2009, while many dismissed cases are likely to have been filed more recently. This is an effect of plan completion taking three to five years, so by definition the completed cases were filed at least a few years ago. Dismissed cases could have been filed only months before the 2015 case closed report was created.

Table 1: Chapter 13 Outcomes of Cases in 2007 Sample

	Percentage	Number
Dismissed, pre-confirmation	17.3	134
Dismissed, post-confirmation	35.7	276
Converted, pre-confirmation	1	8
Converted, post-confirmation	8.5	66
Pending, plan confirmed	.5	4
Discharged in chapter 13	36.5	282
Total	100	770

To create a binary variable for regression analysis, we recoded the outcomes in Table 1 into two categories: discharged and not discharged. We made the assumption that any pending cases more than six years from filing would achieve a discharge.[49] The distribution of the dependent variable was 286 cases as "1," a positive outcome, and 484 as "0," a negative outcome.

Converted cases could be viewed as a success, since the conversions were to chapter 7 and nearly all chapter 7 cases end in discharge.[50] On the other hand, conversion is a more time-consuming and expensive path to discharge than making an initial chapter 7 filing. While one of us has argued that conversion should be more widely used as a tool to address the struggles of chapter 13,[51] that does not make it an optimal outcome from chapter 13. For simplicity, we chose to use a binary dependent variable of discharged or not discharged in a chapter 13 case. This meant including cases converted to chapter 7 in the "not discharged" category, regardless of what happened in the converted case. We also rejected ordinal regression as con-

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49. While it is possible that something could derail such a case, for it to have been pending at our final coding, such debtors all had confirmed plans and were in chapter 13 for six years. Sometimes plans are functionally "suspended," allowing a debtor to skip a payment and add a month to the five-year plan, such that the actual period of repayment can exceed five years. These are already debtors who have shown years of capacity to pay in chapter 13, such that missing a final month or two of payment is highly unlikely.

50. *See* Angela Littwin, *The Affordability Paradox: How Consumer Bankruptcy's Greatest Weakness May Account for its Surprising Success*, 52 WM. & MARY L. REV. 1933, 1973 tbl. 3a. (2011) (reporting that only 2.5% of chapter 7 cases in random national sample had a negative outcome of dismissal).

51. Porter, *supra* note 5, at 141.

verted cases are not "in between" discharge and no discharge in any substantive sense.[52]

Additionally, we estimated regression models with a tripartite dependent variable: dismissed, converted, and discharged. All independent variables remained significant or not significant as in the logistic regression with the binary outcome. This reinforced our approach of focusing on discharge as the sole positive outcome of cases initially filed in chapter 13. That is, the only benefit of a considering converted cases as separate from dismissed ones would be to reduce the statistical power of our analysis by subdividing the outcome variable.

A binary outcome variable produced an overall discharge statistic of 37.14%. It is similar to the discharge rate found in nearly all prior studies of multiple districts.[53]

C. LOGISTIC REGRESSION ANALYSIS

Regression is a statistical technique used to understand the impact of variables of interest on a given outcome. In this way, researchers can control for the impact of different variables on the key topic of investigation. This Article uses one kind of regression, logistic regression, to predict the outcome in chapter 13 cases. Previous work has not used regression models at the individual case level to make such predictions.

In this Article, we use logistic regression to make prediction estimates of the odds of a chapter 13 discharge compared to a case ending without discharge.

Additionally, we used random effects to account for the fact that our data includes filers from eighty-one different districts

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52. Cases converted from chapter 13 to chapter 7 will often result in the quick discharge of unsecured debt, but will lack the debt relief related to missed payments on secured debts, such as mortgages and car loans. Converted cases are not a halfway outcome such that they could be treated as an intermediate outcome between a fully complete chapter 13 case and a dismissed chapter 13 case with no discharge at all.

53. *See, e.g.*, Bermant & Flynn, *supra* note 3 ("Completion rates [for chapter 13 filings] hover nationally at about one-third of confirmed plans . . . ."); Hildebrand III, *supra* note 3 ("The trustees estimated that the completion rate of chapter 13 cases averaged 32.89 percent. This is consistent with conventional wisdom that approximately two-thirds of chapter 13 cases fail to reach discharge."); Norberg & Velkey, *supra* note 3, at 505 ("The overall discharge rate for the debtors in the seven districts covered by the Project was exactly the oft-repeated statistic of one-third.").

throughout the United States. This technique is appropriate given the "local legal culture" research suggesting that chapter 13 outcomes and practices vary substantially in different judicial districts.[54] Using random effects creates a hierarchical model structure that recognizes debtors reside in different judicial districts. Random effects also reflect our interest in making predictions about chapter 13 discharge to districts not included in our sample. If we used fixed effects, making out-of-sample predictions (i.e. making predictions of districts not included in our sample) is not appropriate since the unit effect for unobserved districts are unknown. Finally, including random effects allows us to be more confident in the output of our models because random effects produce higher standard errors.[55] This reduces the likelihood of reporting a statistical significance relationship between two variables when one does not exist, by imposing a higher threshold for the models' calculations.[56]

II. WHO, WHAT, HOW, AND WHY: DEBTOR AND CASE DIFFERENCES

This Part describes how we grouped the variables into four models, each constructed around a theory of what types of factors might relate to the likelihood of discharge. We eschewed the kitchen-sink approach of including all independent variables in a single analysis. Each model is based on a theory of what drives chapter 13 outcomes and the empirical knowledge of the system. Model 1, the Debtor Finances model, uses information that bankruptcy law requires a debtor to provide to the court, the trustee, and creditors. Model 2 reflects demographic data (which the law largely deems irrelevant) and which were collected by written surveys of debtors sent by the Consumer Bankruptcy Project. Model 3, System Process, reflects variables that will guide a case process, such as having an attorney, or using a wage order to collect payments. The final one, Model 4, Household Security, looks at underlying causes of financial instability.

To a certain extent, the models also use data that generally were drawn from the same source (required forms, written sur-

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54. Whitford, *supra* note 15, at 12–13; Whitford, *supra* note 3 at 408–13.

55. WILLIAM H. GREENE, ECONOMETRIC ANALYSIS 316–17 (5th ed. 2002).

56. *See id.* at 183; *see also* ANDREW GELMAN & JENNIFER HILL, DATA ANALYSIS USING REGRESSION AND MULTILEVEL/HIERARCHICAL MODELS 246 (2007) (recommending that researchers "*always* use" random effects and explaining the primary motivations for using multilevel modeling).

veys, district-level practices, etc.). This approach to model building is useful in developing reform ideas for chapter 13 based on our findings. That is, to the extent the estimates suggest that district practices are influential, one might focus reforms on implementing the beneficial practices. Alternatively, if many highly predictive variables are not collected by required forms, adding such data may improve chapter 13 counseling and confirmation decisions.

We supplemented the Consumer Bankruptcy Project data by gathering additional variables that the prior literature had suggested might be relevant to discharge. This was particularly useful in building the models that focus on trustee and court processes, as the Consumer Bankruptcy Project focused on debtor characteristics. These additional data give us the new opportunities for analysis of chapter 13 and permit us to study interactions between system and debtor characteristics in a way never before possible.

A. DEBTOR FINANCES MODEL

Bankruptcy is a remedy for those with financial problems, so an initial model examining how outcomes vary by debt, income, and assets made intuitive sense. This model also bears the most resemblance to prior analyses. Researchers, beginning with Sullivan, Warren, and Westbrook in the 1980s, collected these variables and used them to study the functioning of the bankruptcy system.[57] Scott Norberg's and Andrew Velkey's study of chapter 13 is the most expansive example of this approach, focusing on income and debt characteristics.[58]

For this first model, (hereinafter referred to as the "debtor finances" model for shorthand), the data come from debtors' petitions and schedules. The petition and schedules serve as a mirror that reflects the bankruptcy system's decisions of what information is necessary for administering cases. The Bankruptcy Code requires the disclosure of information about assets and debts.[59] The determination of what must be paid to creditors reflects a calculation drawn from disclosures about income and expenses.[60]

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57. SULLIVAN, WARREN & WESTBROOK, AS WE FORGIVE OUR DEBTORS, *supra* note 3, at 17.

58. *See* Norberg & Velkey, *supra* note 3.

59. 11 U.S.C. § 521(a) (2012).

60. *Id.* § 1325(b).

Trustees review the petition and schedules, and a debtor must appear at a mandatory meeting to answer questions about the financial characteristics contained therein.[61] The debtor finances model contains the "quick facts" that are ascertainable in a minute or two of reviewing a debtor's case file. If this information meaningfully predicts plan completion, trustees could begin to raise objections to plan confirmation immediately in a case.[62] Similarly, these are the core facts that are being gathered in client counseling by debtors' attorneys as they complete the petition and schedules. All parties have ready and immediate access to these debtor characteristics.

Another notable attribute of the debtor finances model is that the variables are highly standardized. The forms are required in all districts. This reflects a degree of consensus about the importance of these characteristics to a legal system of debt relief.

1. Predictor Variables

The variables in the debtor finances model reflect the most important financial characteristics of chapter 13 debtors. We tested models that included other variables and also checked the variables for collinearity.[63] In joint filings, the debts and net income reflect the information on both spouses. We also include the descriptive statistics of all independent variables in the model in Table 2 below.

a) Net Household Income (in thousands): A continuous variable that includes income from all sources, both wage and non-wage, less any payroll deductions from wage income. It includes spousal income in cases when a debtor was married (regardless of whether the bankruptcy was filed jointly or singly).

b) Unsecured Debt Amount (in thousands): A continuous variable that measures the total of unsecured debts listed on

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61. *Id.* § 341.

62. To confirm a chapter 13 plan, a court must determine that "the debtor will be able to make all payments under the plan to comply with the plan." *Id.* § 1325(a)(6). This is called the "feasibility" requirement as it reflects the debtor's capacity to continue making plan payments for the years of the plan.

63. Tests to see if the data met the assumption of collinearity indicated that multicollinearity was not a concern (Net Household Income, Tolerance=0.49, VIF=2.06; Unsecured Debt Amount, Tolerance=0.88, VIF=1.13; Priority Unsecured Debt Amount, Tolerance=0.85, VIF=1.18; Secured Debt Amount, Tolerance=0.50, VIF=1.99; Unaffordable Housing, Tolerance=0.90, VIF=1.11).

each debtor's Schedule F.[64] Any debts entitled to priority re-payment, such as domestic support, are not included.

c) Priority Unsecured Debt Amount (in thousands): A con-tinuous variable that represents the total of priority unsecured debts listed on each debtor's Schedule E. Only 38% of the sam-ple owed some priority debt. Priority debt includes tax and ali-mony debt. In the sample, about 31% of the sample had tax debt and 4% had alimony debt.

d) Secured Debt Amount (in thousands): A continuous var-iable that measures the total of secured debts on each debtor's Schedule D. This includes mortgage debt and car debt.

e) Unaffordable Housing: This variable represents the to-tal amount of housing expenses divided by household gross in-come. This variable was calculated for both renters and home-owners. Total housing costs include the rent/mortgage payment and utility payments (electricity, gas, water, etc.). Gross income was used in calculating the ratio because this is the standard measure in the housing literature. The resulting housing cost data were split into three categories and recoded based on the existing literature on housing affordability. If the debtors spent 0% to 30% of their household income on housing costs, it was coded as affordable. If the debtors spent between 31% and 50% of household gross income on housing coasts, it was coded as unaffordable. If the debtors spent more than 50% of their household gross income on housing costs, it was coded as se-verely unaffordable.[65] The higher numerical codes correspond to more unaffordability, and 69.77% of debtor households had af-fordable housing.

f) Homeowner: This is a dichotomous variable that reflects whether a debtor owned a home or did not own a home at the time of chapter 13 filing. It was recoded from the answers given in the written survey that asked the debtors to describe their living situations at the time of filing. If a debtor lived with fam-ily or friends, regardless of whether rent was paid, the debtor

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64. The bankruptcy schedules in use in 2007 did not make it possible to readily distinguish what was likely non-dischargeable student loan debt from other unsecured debts. New forms went into effect in December 2015 that will permit later researchers to make this distinction and examine student loans in bankruptcy.

65. For this variable, as the numerical values for each category increase, housing becomes more unaffordable. In particular, affordable housing is coded as 0, unaffordable housing is coded as 1, and severely unaffordable housing is coded as 2.

was coded as a non-homeowner. Homeowners filed 74% of cases.

Table 2: Descriptive Statistics for Debtor Finances Model

	Min	Max	Median	Mean	Standard Deviation
Net Household Income*	0.444	19	3.06	3.46	1.97
Unsecured Debt Amount*	0	289.18	23.44	35.67	41.55
Priority Unsecured Debt Amount*	0	318.28	0	3.38	15.45
Secured Debt Amount*	0	887.48	91.68	119.66	126.93
Unaffordable Housing	0	2	0	0.358	0.59
Home Owner	0	1	1	0.736	0.44

Note: * indicates amount in thousands of U.S. dollars.

1. Regression Results

There were 731 valid cases for the debtor finances model. The omitted cases were the result of missing data for any one or more of the variables. For example, a few debtors made only bare petition or "face sheet" filings and never filed schedules. Other debtors did not answer the survey question on homeowner status. Zeroes were not considered missing, but rather taken to be actual numbers. Some debtors simply did not owe any debts of a certain type; this was common with priority debt, for example, where the typical debtor did not have any debts entitled to legal priority in repayment.

Table 3 below shows the output from the logistic regression with random-effects on the judicial district variable. The dependent variable was chapter 13 discharge, which codes all cases that were discharged as "1." In addition to the coefficients[66] from the regression analysis, Table 3 includes the pre-

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66. The coefficients represent the likelihood of chapter 13 completion (or chapter 13 discharge). For positive coefficients, an increase in the independent variable increases the likelihood of chapter 13 completion. A negative coeffi-

dicted probabilities of chapter 13 discharge for each variable. It also includes two predicted probabilities for each variable, each of which are calculated holding all other variables in the model at their mean. The first predicted probability for each variable is calculated by subtracting the standard deviation[67] from the mean, and the second probability for each variable is calculated by adding the standard deviation to the mean.[68] Calculating the predicted probabilities for variables at the interval of one standard deviation from the mean in both directions, and then calculating the difference between these probabilities allows us to compare the relative relationships of variables to chapter 13 completion.

The variable with the largest difference in predicted probabilities has the most influence on chapter 13 completion. Therefore, out of all the variables included in the debtor finances model, we found that Unsecured Debt Amount has the largest effect in predicting chapter 13 completion (difference=0.35), followed by priority debt (difference=0.25), secured debt (difference=0.18), and affordability of housing (difference=0.15).

cient indicates an increase in the independent variable decreases the likelihood of chapter 13 completion. For example, Unsecured Debt Amount has a positive coefficient, which is interpreted as indicating that increases in the amount of unsecured debt increases the likelihood of chapter 13 completion. On the other hand, Unaffordable Housing has a negative coefficient, meaning the more unaffordable housing becomes (or as the unaffordable housing variable increases) the likelihood of chapter 13 completion decreases.

   67. The standard deviation of a variable is a measure of dispersion from the mean. It is the average (mean) of the spread between each observation and the average observation (mean).

   68. For instance, looking at Table 2, we find that net household income has a mean of 3.46 and a standard deviation of 1.96. The first predicted probability for net household income was calculated by holding all other variables in the model equal to their mean and net household income equal to 1.49 (which equals the mean-standard deviation ("sd")), and the second predicted probability was calculated holding all other variables in the model equal to their mean and net household income equal to 5.43 (which is the mean+sd). The predicted probabilities were calculated for each variable in this way.

Table 3: Debtor Finances Model

	Coefficients	Predicted Probabilities (mean-sd)	Predicted Probabilities (mean+sd)	Difference in Predicted Probabilities
Net Household Income	0.05 (0.06)	0.39	0.43	0.04
Unsecured Debt Amount	0.02*** (0.00)	0.27	0.59	0.32
Priority Debt Amount	-0.04* (0.01)	0.44	0.30	-0.14
Secured Debt Amount	-0.002** (0.001)	0.50	0.33	-0.17
Unaffordable Housing	-0.50*** (0.16)	0.46	0.34	-0.12
Homeowner	-0.22 (0.21)	0.44	0.40	-0.04
Constant	-0.35			
Log Likelihood	-445.46			

Notes: 1) Predicted probabilities represent the predicted probability of dis-
charge for each variable, plus and minus the standard deviation,
holding all other variables in the model constant at their mean.

2) *p<0.05, **p<0.01, ***p<0.001.

3) Standard errors are reported in parentheses.

2.   Interpretation of Findings

The debtor finances model strikes us as most interesting for the variables that are not significant: income and homeownership. The debt variables have the anticipated associations.

Higher unsecured debts are related to greater likelihood of discharge. The value of a discharge comes in relation to general unsecured or priority unsecured debts. The more unsecured debt that a family has, the greater benefit a discharge will bring in its financial problems. When there is little or no unsecured debt, a chapter 13 case may be successfully resolved

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without a discharge—at least as theoretical matter.[69] We interpret the correlation between unsecured debt and discharge as some indication that the anticipated economic incentives created by the legal system to shape real-world outcomes. People who derive the most relief from completing a chapter 13 plan are significantly more likely to do so.

Another explanation may exist for why those with large unsecured debts fare better in chapter 13. General unsecured debts are required to be paid only if the debtor has disposable income, and often debtors have little or no such income available. Thus, families achieve real savings inside bankruptcy from eliminating or reducing monthly minimum payments to unsecured creditors. In turn, this frees up money in the family's budget to make payments to secured creditors—a requirement for completing a plan.

Higher general unsecured debts also do not burden a debtor's path to chapter 13 success because of bankruptcy law's requirement that a debtor only make payments on unsecured debt if he or she has "disposable" income (income remaining after reasonably necessary expenses).[70] For many debtors, there is no such disposable income, and a "repayment" plan may actually propose to pay zero to unsecured creditors. Thus, regardless of the dollars of debt, the repayment requirement may evaporate if a debtor needs all her income to meet expenses.

Having a higher amount of secured debt at bankruptcy is related to a lower likelihood of discharge ($p < 0.05$). At first blush, this finding may be surprising. The primary motivation for most chapter 13 filings, as reported by debtors, is trying to save their homes.[71] Not surprisingly, mortgage debt is the bulk of secured debt for 74% of the sample who are homeowners. To be sure, chapter 13 has tools to address difficulty in paying secured debts. For home mortgages, the main tool is the right to cure a delinquency on a home mortgage by spreading the repayment of the arrears over many months or years. For other secured debts, such as automobile loans, the debtor may be able to reduce the secured debt to the value of the collateral.

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69. *See* Porter, *supra* note 5, at 149–52 (discussing the challenge that chapter 13 households face in achieving their goals without a discharge because most dismissed cases result in the immediate resumption of debt collection activities).

70. 11 U.S.C. § 1325(b) (2012).

71. Porter, *supra* note 5, at 135–36.

The available research suggests that these tools, however remarkable they may strike a non-bankruptcy specialist, are simply too weak to rehabilitate debtors.[72] The lien or mortgage remains attached to the collateral in bankruptcy,[73] meaning that if debtors cannot make the monthly payments due, the creditor can repossess and foreclose. When the car or home is expensive, vis-a-vis a debtor's income and other expenses, the debtor may simply be unable to make the loan payments. When a debtor misses one or more payment, a creditor will file a motion for the bankruptcy court's permission to repossess or foreclose on the collateral. At that point—realizing that a creditor will soon take ownership of their cars, homes, or other assets, many debtors give up on bankruptcy entirely. They cease to make any payments at all under the plan—even those that do not relate to the collateral asset. The result is that the debtor's bankruptcy ends, with the trustee to then file a motion to dismiss the case. Prior research using interviews with debtors whose cases did not achieve a discharge documented this pattern.[74] What appears on the court docket as a dismissal for the debtor's failure to make chapter 13 plan payments (distributed to unsecured creditors) is actually driven by a debtor's refusal to continue with bankruptcy when the ongoing secured loan cannot be paid and the car, house, or asset will be forfeited to the lender.

We tested this idea further by constructing and including a variable that assessed housing costs as a fraction of a debtor's income. Renters, like homeowners, face eviction, despite being in chapter 13, if they do not make their ongoing monthly obligations. Housing cost is a better measure of the way in which a family's shelter obligations may influence chapter 13 completion than a binary look at homeownership. As the regression shows, homeownership itself is not statistically significant.

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72. *Id.* at 112–13.

73. Mortgage liens may be eliminated in bankruptcy in a few situations. Least commonly—but most cleanly—if a lien would be invalid against a hypothetical bona fide purchaser of the property or a hypothetical judgment creditor, then the lien is invalid. 11 U.S.C. § 544 (2012). Junior mortgage liens that are wholly unsecured (that is, the collateral value is less than the senior lien) may be eliminated with appropriate language and completion of the debtor's chapter 13 plan. Some courts require a discharge, rather than simply plan completion, but all require the completion of plan payments as a prerequisite to strip off a wholly unsecured mortgage lien.

74. *See* Porter, *supra* note 5.

Some people who file chapter 13 own their homes outright with no mortgage, and others are deeply underwater with multiple liens. A binary homeownership variable masks the tremendously different financial consequences of homeownership between those who have no mortgage, modest mortgages, and expensive mortgages.

Housing cost burdens, which can be calculated for both renters and homeowners, are a measure of the available fraction of income taken for housing. Because most people are unable or reluctant to move quickly, these housing cost burdens limit the flexibility to deal with unexpected peaks in expenses or troughs in income. The added burden of a chapter 13 plan payment as a fixed expense only increases the dollars that are earmarked in a family's budget and so unavailable to meet varying expenses.

Prior research has demonstrated the high housing cost burdens of chapter 13 debtors. In a study of chapter 13 debtors who filed in 2005, Eggum, Porter, and Twomey reported that 71% of cases had unaffordable or severely unaffordable homeownership costs.[75] That sample was limited to homeowners living in states that permit non-judicial foreclosure.[76] The sample used here is national and includes renters and homeowners. Our analysis found that 30% of cases were filed by households burdened with unaffordable or severely unaffordable housing. This is actually slightly lower than the national rate; in 2015, the "share of cost-burdened households . . . [was] 34.1 percent."[77]

Our results find that as housing becomes more unaffordable, the likelihood of chapter 13 completion decreases. People in bankruptcy who must meet rent, mortgage, and utility payments have little ability to shoulder the additional burdens of chapter 13 with regard to plan payments. Because of the dire and rapid consequences of a default on rent, mortgage, or utility payments, this is a difficult expense to defer in order to meet chapter 13 plan payment deadlines. Faced either with case dismissal or eviction/foreclosure/utility shut-off, people often let the chapter 13 case end. Even in cases in which the plan payment to unsecured creditors is zero, an unaffordable housing

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75. Eggum et al., *supra* note 28, at 1142.

76. *Id.* at 1133.

77. JOINT CTR. FOR HOUS. STUD. OF HARV. UNIV., THE STATE OF THE NATION'S HOUSING 2015, at 30 (2015) (defining "cost-burdened" as households paying in excess of 30% of income for housing).

burden means that making regular mortgage payments is a big stretch. If saving a home was the primary goal of the chapter 13 bankruptcy, then either missed mortgage payments or missed trustee payments may doom the case. When a debtor fails to make required plan payments, the case will be dismissed without a discharge.

Income is an important predictor of many phenomena. Yet, in chapter 13, the absolute amount of income is largely irrelevant as debtors are required to commit all excess "disposable income" to their repayment plans.[78] Having a higher income does not require larger plan payments if a debtor's expenses are correspondingly larger. Bankruptcy law effectively imposes a 100% "tax" on any additional income that exceeds expenses in chapter 13. The models did not estimate any independent effect of income amount in predicting plan completion.

A positive interpretation of this finding is that it suggests that chapter 13 bankruptcy works about equally well for lower-income people as for higher-income people. In a legal system in which income inequality drives many results,[79] bankruptcy is notable as a counterexample. While all debtors must have some amount of regular income to qualify for chapter 13, the estimates suggest that even those with a modest amount of income can achieve a discharge.

B. DEBTOR DEMOGRAPHIC MODEL

Across many areas, the outcomes of a social or legal process are associated with demographic characteristics of its users. This dynamic is particularly apparent in the criminal justice context; it is well established, for example, that young, black and Latino males involved in the criminal justice system have historically received longer sentences than comparably situated white males.[80] Further, in some jurisdictions and in

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78. 11 U.S.C. § 1325(b) (2012).

79. *See* DEBORAH RHODE, ACCESS TO JUSTICE (2004) (providing a book-length treatment of Rhode's argument); Deborah Rhode, *Whatever Happened to Access to Justice*, 42 LOY. L.A. L. REV. 869, 882 (2009) ("Unrealistic income eligibility ceilings, typically set at 125 percent of the poverty line, . . . exclude many individuals who cannot realistically afford counsel. As a consequence, millions of Americans lack access to the legal system." (citations omitted)).

80. TUSHAR KANSAL, THE SENTENCING PROJECT, RACIAL DISPARITY IN SENTENCING: A REVIEW OF THE LITERATURE 7 (2005); *see also* Cassia Spohn & David Holleran, *The Imprisonment Penalty Paid by Young, Unemployed Black and Hispanic Male Offenders*, 38 CRIMINOLOGY 281, 299–301 (2000) (extending a previous study conducted in Pennsylvania, and concluding that in addi-

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the federal system, "minority defendants [are] more likely to receive a death sentence than white defendants."[81] The theory of the debtor demographic model is that households in bankruptcy would follow the same basic trends: better outcomes (here, more likelihood of discharge) for people who are better educated, non-minority race, married, and working in higher social status jobs.

While repeated studies have shown that people in bankruptcy are demographically similar to a broadly defined middle class of Americans,[82] that "middle class" finding does not mean there is not variance in demographic characteristics. Our data set is big enough to allow us to measure whether social and personal qualities, rather than financial characteristics (Debtor Finances Model), of individuals are associated with success in chapter 13. The CBP data gather over two dozen demographic characteristics for each filer, none of which are collected by the Official Bankruptcy Forms. Testing this model using our data can give insights that are not available to the most researchers, who are limited to administrative data.

This debtor demographic theory is particularly important to test because of recent research showing that race is perhaps the single best predictor of whether a person files chapter 13 instead of chapter 7.[83] Blacks are twice as likely to file chapter 13, even when controlling for homeownership and other legal, geographic, and socioeconomic factors.[84] This groundbreaking

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tion to Pennsylvania, young black and Hispanic males are more likely than middle-aged white offenders to be sentenced to prison in Chicago, Miami, and Kansas City); Gene Demby, *Study Reveals Worse Outcomes for Black and Latino Defendants*, NAT'L PUB. RADIO (July 17, 2014), http://www.npr.org/sections/codeswitch/2014/07/17/332075947/study-reveals-worse-outcomes-for-black-and-latino-defendants (reporting the findings of the Vera Institute for Justice, which examined more than 2,220,000 Manhattan cases over a two-year period and found that "race still played 'a statistically significant independent factor' in how a given case was handled at almost every stage").

81. KANSAL, *supra* note 80, at 14; *see also* Richard R.W. Brooks & Steven Raphael, *Life Terms or Death Sentences: The Uneasy Relationship Between Judicial Elections and Capital Punishment*, 92 J. CRIM. L. & CRIMINOLOGY 609, 610 (2002) ("Our analysis also reveals a consistent pattern of harsher outcomes correlated with the race of the defendant.").

82. Elizabeth Warren & Deborah Thorne, *A Vulnerable Middle Class: Bankruptcy and Class Status*, *in* BROKE, *supra* note 50, at 25, 25–26.

83. *See* Jean Braucher et al., *Race, Attorney Influence, and Bankruptcy Chapter Choice*, 9 J. EMPIRICAL LEGAL STUD. 393, 393 (2012) ("Even after controlling for financial, demographic, and legal factors . . . African Americans are much more likely to file chapter 13, as compared to debtors of other races.").

84. Dov Cohen & Robert M. Lawless, *Less Forgiven: Race and Chapter 13*

finding is a powerful reminder that although the written law may be race-neutral, the system may not function that way. We were interested in whether other demographic qualities, such as age, also were associated with the likelihood of discharge. Here again, our model is based on research. The proportion of older Americans, particularly those in their seventies and older, in increasing sharply.[85] Our analysis looks at whether they fare differently after seeking debt relief.

1. Predictor Variables

Each of the variables comes from the 2007 CBP's written survey.[86] These variables were collected for each person, meaning that there are data for two people in dual-headed households.[87] To illustrate, if a case was filed by a forty-five-year-old man with a high school degree and a thirty-year-old woman with a college degree, the household was assigned an age of forty-five years and an education level of college degree. While there are certainly other valid approaches, none of our testing suggested a difference in results. As a matter of theory, we think a household has the benefit and burdens of the person with the "most" of a particular quality (that is, if only one person has a college degree, the household still has that benefit over a household with two lesser-educated people).

a) Marital Status: The survey allowed participants to reveal their marital status in some detail, such as by indicating widowed, single (never married), divorced, etc. We made the variable dichotomous, reflecting whether an adult who was currently married filed the bankruptcy or not. A case filed by a married person was coded as a "1." Of the cases, 51% had a married person as a debtor.[88]

Bankruptcy, *in* BROKE 176, 181 (Katherine Porter ed., 2012).

85.   John A.E. Pottow, *The Rise in Elder Bankruptcy Filings and Failure of U.S. Bankruptcy Law*, 19 ELDER L.J. 119, 120 (2011); *see also* Deborah Thorne, Elizabeth Warren & Teresa A. Sullivan, *The Increasing Vulnerability of Older Americans: Evidence from the Bankruptcy Court*, 3 HARV. L. & POL'Y REV. 87, 88 (2009) ("The average age for filing bankruptcy has increased, and the rate of bankruptcy fillings among those ages sixty-five and older has more than doubled since 1991.").

86.   Lawless et al., *Bankruptcy Reform*, *supra* note 35, at 391.

87.   The survey asked for information on both adults living in a household, regardless of whether the bankruptcy filing itself was made jointly or only one adult in a married couple had filed.

88.   Bankruptcy petitions may be either single or joint, the latter being an option only for married couples. But a married person may file a single petition. This variable is drawn from the survey, which asked the debtor to report

b) Household Age: This continuous variable reflected the age of the oldest filer (or their non-filing spouse in a non-joint case filed by a married couple).

c) Household Education: This ordinal variable allowed respondents to indicate the highest education they had obtained, with a "0" being no high school diploma/no GED, and "7" being a doctorate or professional degree. The two largest categories were 23.5% selected high school graduate or GED and 24% selected one or more years of college but no college degree. Only one in five households had one or more adults with a bachelor's degree or higher.[89]

d) Household Occupational Prestige: Occupational prestige is an "indication of one's ability to demand and receive deference and opportunities . . . ."[90] Successive surveys over decades measure the status that people associate with particular occupations. For example, a hair stylist has a prestige score of 33; a physician has a score of 84.[91] Income and education are correlated, but there are exceptions.[92]

e) Self-Employment: Unlike age, education, and occupational prestige, we categorized a household as being self-employed if *either* of the adults reported being self-employed. This decision reflects two conclusions. First, as a theoretical matter, we think a household with even one self-employed person has some characteristics that distinguish it from a household with two traditional wage earners. For example, self-employed people bear more responsibility for tax withholding, may have more experience with borrowing, and may have less stable total household income due to fluctuations in the self-employed person's work. Second, there were not enough households with two self-employed people to merit a separate category. Among all cases, 21% had one or two self-employed adults. In this dichotomous variable "1" reflects self employment.

f) Race (black): The survey asked respondents if they were a member of one or more racial or ethnic groups. Information

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current marital status. So regardless of whether the case was single or joint, the data reflect the case composition—half of all cases are filed by one or more married adults.

89.   The education variable is coded as follows: (0) Some education, no diploma/GED; (1) High school graduate or GED equivalent; (2) Some college credit but no degree; (3) One or more years of college, but no degree; (4) Associate's Degree; (5) Bachelor's degree; (6) Master's Degree; (7) Doctorate.

90.   Warren & Thorne, *supra* note 82, at 252 n.19.

91.   *Id.* at 31 (providing examples of occupational prestige scores).

92.   *Id.*

also was reported on the other person for two-adult households. Respondents could check all race/ethnicity categories that applied. Consistent with the empirical research discussed above,[93] and after testing other approaches, we chose a binary measure at the household level. If either one or both adults in the household self-reported being African American/black, then the household was coded as a "1" for black.[94]

e) Minor Dependents: This variable measures the number of minor dependents in a household under eighteen years of age. Just over half (53%) of all households had children. Fewer than 4% of households had four or more dependents.

Table 4: Descriptive Statistics for Debtor Demographic Model

	Min	Max	Median	Mean	Standard Deviation
Married (1=married)	0	1	1	0.53	0.50
Household Age	21	85	46	46.40	11.49
Race (1=black)	0	1	0	0.34	0.47
Household Education	0	7	3	2.92	1.67
Household Self-Employed	0	1	0	0.22	0.41
Occupational Prestige	12	76	42	41.51	10.58
Number of Minor Dependents	0	8	1	1.10	1.29

2. Regression Results

There were 640 valid cases for the demographic model. Cases were dropped when one or more variables was missing. We had to drop a number of cases in which the debtor indicated "other" as education, as that response could not be included when we were treating the educational variable as ordinal. On the CBP survey, respondents could skip any question. Dropping

93. Braucher et al., *supra* note 83 (showing that black debtors, but not other ethnic and racial groups, are disproportionately represented in chapter 13 bankruptcy).

94. Very little is known about how those who identify as Hispanic or Asian (or other ethnic or racial populations) fare in bankruptcy. Generally, surveys have reported rates of bankruptcy of Hispanic Americans and Asian Americans that are disproportionately lower than their presence in the general population. Porter, *supra* note 5, at 129–30 nn.125–27.

all cases in which one or more variables had missing data resulted in a loss of 118 cases.

Table 5 presents the results from the logistic regression. Random effects were used to control for the effect of judicial district. As with the first model, the dependent variable was the case ending in a chapter 13 discharge as the positive outcome ("1"). The table shows that in this model race plays the biggest indicator on chapter 13 completion, followed by the number of minor dependents. In fact, blacks are 17% less likely to complete chapter 13 over their non-black counterparts.

Table 5: Debtor Demographic Model

	Coefficients	Predicted Probabilities (mean-sd)	Predicted Probabilities (mean+sd)	Difference in Predicted Probabilities
Married (1=married)	0.22 (0.18)	0.40	0.42	0.02
Household Age	-0.003 (0.008)	0.41	0.40	-0.01
Race (1=black)	-1.10*** (0.20)	0.48	0.31	-0.17
Household Education	0.09 (0.05)	0.38	0.43	0.05
Self-Employed	-0.22 (0.21)	0.42	0.38	-0.05
Occupational Prestige	-0.002 (0.009)	0.41	0.40	-0.01
Number of Minor Dependents	-0.23** (0.08)	0.47	0.33	-0.14
Constant	-0.06			
Log Likelihood	-405.48			

Notes: 1) Predicted probabilities represent the predicted probability of discharge for each variable plus and minus the standard deviation holding all other variables in the model constant at their mean.

2) *p<0.05, **p<0.01, ***p<0.001.

3) Standard errors are reported in parentheses.

3. Interpretation of Findings

In general, the model produced estimates in the expected direction. That is, the independent variables were more or less likely to predict discharge in a way that aligned with hypotheses. Married couples and households with one or more relatively well-educated people were more likely to complete chapter 13 with a discharge. These are consistent with the idea that education and two adults who can contribute to the household are financially beneficial. Prior research has also found that joint filings, which are always married people, are more likely to complete a plan.[95] Married people may file without their spouses, however, and our demographic data allow for a more nuanced look at the effect than relying on the administrative data of joint or single filings. Our findings from a national sample are consistent with the single-district (Utah) study that found marital status was positively related to plan completion.[96]

Households with an older adult and with self-employed workers were both less likely to discharge their debts after making payments in bankruptcy. Research from the 2007 CBP has discussed the financial challenges facing older Americans and the self-employed,[97] as both groups are overrepresented in bankruptcy. They also fare worse in bankruptcy when they do seek help in chapter 13.

While marriage, education, age, and self-employment have the expected direction of effect on bankruptcy success, none of these four variables were statistically significant. We think our findings confirm the general validity of our sample and analysis but we do not rely on marriage, education, age or self-employment in our final model as we cannot be reliably certain that such predictive effects are not the result of chance.

Two demographic factors were predictive of discharge in chapter 13 and statistically significant: households with one or more black adults or households having minor children are

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95. Norberg & Velkey, *supra* note 3, at 510.

96. Evans & Lown, *supra* note 8, at 213.

97. Robert M. Lawless, *Striking out on Their Own, the Self-Employed in Bankruptcy*, *in* BROKE, *supra* note 50 at 101, 103 (noting that the self-employed in bankruptcy are usually in an even deeper financial hole than other filers); Pottow, *supra* note 85, at 144 (finding that elder bankruptcy filers typically have even lower monthly incomes than younger filers).

both less likely to finish chapter 13. These findings are troubling because both racial minorities and those with children are particularly vulnerable to other economic and social risks, such as facing discrimination in finding housing or securing jobs, despite laws to the contrary.[98]

Households with one or more adults that select black as part of their racial identities are much more likely to fail to complete chapter 13. This finding gives real bite to the prior research showing that blacks are much more likely to be in chapter 13 than chapter 7.[99] While those scholars have noted that chapter 13 is generally more expensive, slower, and more burdensome than chapter 7,[100] our data show that blacks also are less likely to get a discharge in chapter 13 than filers with no black adults in the household. As an empirical matter, not just a theoretical one, blacks do not get the debt relief from bankruptcy that non-blacks enjoy.

We caution that correlation is not causation. While we are confident in the association between being black and not completing chapter 13, our data cannot explain the reason for that outcome. Several possibilities occur to us based on our knowledge of the scholarship and the functioning of the bankruptcy system. First, since previous research shows that blacks are being disproportionately steered into chapter 13,[101] it may be that there are a disproportionate number of blacks in chapter 13 who are steered into it even when it is not suited to their financial profile. Further, if blacks are more likely to be counseled to file chapter 13 than non-blacks, they may have less interest or commitment to chapter 13 of their own accord. With less independent interest or desire for chapter 13 (outside of their attorney's accord), blacks may be less willing to endure the long repayment plan. This is a rational reaction that could reflect a slow realization that a non-bankruptcy or chapter 7 bankruptcy solution would be better, despite their attorney's counseling at the time of filing. Second, blacks may encounter discrimination during the chapter 13 process. No data exist that permit an analysis of whether trustees' or judges' decisions about chapter 13 may differ by race, controlling for relevant factors. There may be no such effect, but the Bankruptcy Rules

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98. Fair Housing Act, 42 U.S.C. §§ 3601–3619 (2015); Equal Opportunity Employment Act, 42 U.S.C. § 2000e-2.

99. Braucher et al., *supra* note 83.

100. Cohen & Lawless, *supra* note 84, at 176.

101. Braucher et al., *supra* note 83.

Committee's refusal to add racial self-identification to the bankruptcy forms makes it impossible to examine the issue.[102] Finally, blacks may be more likely to have qualities associated with not completing chapter 13 that we cannot identify because of data limitations. As an example, our data cannot measure the risk of chronic disease, but such medical problems could cause greater income interruptions that hinder chapter 13 completion.

Children are expensive, as the perennial graphics in newspapers illustrate.[103] Indeed, it is not surprising that the more children debtors have, the less likely they are to successfully complete their chapter 13 plan. More children means more clothes and shoes to buy, more food to provide, greater transportation costs—the list goes on and on. But chapter 13 plans are supposed to take into account these additional expenses by allowing a debtor to deduct expenses for dependents, such as day care and additional food allowances.[104]

What chapter 13 plans do not take into account, however, is the increased risk of financial shock that each additional child adds to one's life. Financial shocks are usually considered unexpected events that result in a loss of income or expenditure paid.[105] Elizabeth Warren's research has pointed to the exceptional risk for a bankruptcy filing for families with children.[106]

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102. E-mail from Judge Elizabeth Perris, U.S. Bankr. Court Dist. of Or., to Katherine Porter, Professor of Law, Univ. of Cal. Irvine Sch. of Law (Jan. 13, 2011, 13:41 PST) (on file with author) (stating that the "kind[] of data collected . . . is limited by judicial policy to what is needed for case administration and what is required by law" and that collecting racial identification would require a change to judiciary policy).

103. Josh Zumbrun, *Coming Soon: Millennials Married with Children*, WALL ST. J. (Aug. 12, 2015), http://www.wsj.com/articles/coming-soon -millennials-married-with-children-1439371801.

104. 11 U.S.C. § 1325(b) (2012).

105. *See* Signe-Mary McKernan & Caroline Ratcliffe, *Events That Trigger Poverty Entries and Exits*, 86 SOC. SCI. Q. 1146, 1146 (2005) (examining "how [trigger] events—such as changes in household composition, employment status, disability status, and economic conditions—affect poverty entries and exits"); *see also* Mary Jo Bane & David T. Ellwood, *Slipping into and out of Poverty: The Dynamics of Spells*, 21 J. HUM. RESOURCES 1, 2 (1986) (referring to these shocks as "disturbances"); Sara Sternberg Greene, *The Broken Safety Net: A Study of Earned Income Tax Credit Recipients and a Proposal for Repair*, 88 N.Y.U. L. REV. 515, 528 n.52 (2013) (recording as a shock event "any event that [survey] respondents described as initially unanticipated and potentially damaging to [their] economic well-being").

106. Elizabeth Warren, *Bankrupt Children*, 86 MINN. L. REV. 1003, 1006 (2002) ("By every measure, these data show that families with children are

As she noted, "Children do not file for bankruptcy, but the story of bankruptcy is a story about children."[107] Our finding supports that her conclusion applies to how families fare *in* bankruptcy, not just to risk of bankruptcy filing.

Debtors with children may start out able to make their monthly plan payment, but with each additional child, there is an increased risk of an unexpected event that wipes out the money needed to make plan payments. For example, if a child experiences an unexpected medical problem, the debtor would have to pay for any expenses not covered by insurance, copayments, medical equipment and so on. Additionally, depending on how severe the medical condition is, the debtor may have to take off from work and lose income for those days, or even worse, lose his or her job if there are too many absences (or late arrivals) due to the medical condition. As this example illustrates, shocks of one type can spiral into a cascade of other shocks, each resulting in a loss of income (or an expenditure).[108] For debtors paying into chapter 13 plans, a cushion to account for this type of expense is usually unavailable, since any disposable (after court-approved expenses) income is going towards plan payments.[109] As previous research has shown, families who experience financial shocks often rely on credit cards to stay afloat during the fall-out from shocks.[110] For chapter 13 debtors, credit cards are likely to be unavailable or only offer a

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disproportionately at risk for bankruptcy when compared with their childless counterparts.").

107. *Id.* at 1004.

108. For further details about how one shock can result in a cascade of other negative and expensive events, see *id.*

109. Some districts do permit a cushion in debtors' budgets, while others do not. This is a frequently proffered example of local legal culture. While chapter 13 provides that "all" of a debtor's disposable income is to be paid to creditors, 11 U.S.C. § 1325(b)(1)(B) (2012), some courts accept a cushion or reserve fund for emergencies as a legitimate "reasonably necessary" expense that may be deducted from disposable income. *See, e.g.*, *In re* Belt, 106 B.R. 553, 563 (Bankr. N.D. Ind. 1989) ("[A] reasonable reserve or contingency fund in the debtor's budget would not violate 11 U.S.C. § 1325(b)(1)(B) and is properly a part of the disposable income analysis."); *In re* Fries, 68 B.R. 676, 683 n.7 (Bankr. E.D. Pa. 1986) (permitting a contingency fund of $92.16 per month for a family of four with two young children). *But see In re* LaSota, 351 B.R. 56, 60 (Bankr. W.D. N.Y. 2006) (denying savings to build a bank account for the future, observing that while "[p]ursuit of a growing bank account is certainly more highly recommended than pursuit of a finer house or car, . . . it is still 'discretionary'"). We discuss the idea of how chapter 13 might accommodate income and expense instability further in Part IV, *infra*.

110. Greene, *supra* note 105, at 552–57.

couple hundred dollars of credit.[111] This leaves people in bankruptcy without a resource available to nonbankrupt families to cope with the unexpected expenses that children often create.

These findings add to the longstanding research of Elizabeth Warren and others that describes the typical bankruptcy debtor as a white, middle-aged, person, with some college and other indicia of middle class membership.[112] Our regression analysis shows that two demographic characteristics—being black and having minor dependents—significantly change the odds a chapter 13 bankruptcy filing will be successful. The law may be race-neutral and believe that it makes appropriate allowances for dependents; however, our findings suggest that changes may be needed to level the playing field across demographic groups.

C. SYSTEM PROCESS MODEL

In a prior study of chapter 13 completions, Jean Braucher compared plan completion rates in different judicial districts.[113] She used regression analysis to examine whether variations on district practice could be supplementing the attitudinal differences of debtors' attorneys, judges, and trustees that she identified in a seminal piece on local legal culture.[114] Her thesis was that procedural or operational differences were a key mechanism for expressing local legal culture, and themselves rein-

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111. People in chapter 13 bankruptcy can use credit cards, but there are several reasons why this is uncommon. First, as a consequence of the filing, the issuer will normally cancel any credit card listed as a debt in the bankruptcy. Second, chapter 13 debtors must obtain the permission of the chapter 13 trustee to take on any new debt during their repayment plans. This permission adds a major procedural step for debtors, and trustees vary in their willingness to grant such requests. Third, cards that are available are likely to be either secured cards (in which the borrower puts cash on deposit with the lender as collateral for repayment) or to be capped at very low amounts. Additionally, the Credit Card Accountability Responsibility and Disclosure Act of 2009 sharply limited default fees and imposed other requirements to discourage issuers from giving cards to people who are likely to have problems making payment. Because chapter 13 debtors are supposed to be devoting all excess income to repayment, they are not able to demonstrate their ability to repay additional new debts.

112. SULLIVAN, WARREN & WESTBROOK, AS WE FORGIVE OUR DEBTORS, *supra* note 3.

113. Jean Braucher, *An Empirical Study of Debtor Education in Bankruptcy: Impact on Chapter 13 Completion Not Shown*, 9 AM. BANKR. L. REV. 557, 558 (2001).

114. *Id.* at 577–79.

force the belief culture of a particular district.[115] These systems decisions—often driven by a particular judge's or trustee's preferences, or historical practices—are viewed as inevitable, non-malleable qualities of chapter 13. "Everyone" in the bankruptcy world knows that if you file in District X that certain processes will be used.[116]

Consider three illustrative examples. The Central District of California has a rate of pro se filings that is many multiples of the national average.[117] This has endured for decades, despite lamentations.[118] Filers without an attorney face severe hardships in navigating chapter 13 bankruptcy.[119] This varies by district, which we address in the regression with a random effects control, but even within a district, the judges and trustees have more or less tolerance for filers without an attorney. Some are quick to dismiss these cases, believing they are essentially doomed to failure; others have extensive programs to assist these filers. The self-help desk, the online chat, and electronic self-representation software are examples of innovations in the Central District of California to ease the burdens on people without attorneys.[120] There is no similar program in other areas in the judicial district.

As another example, there are judges who vehemently oppose wage orders, which are a voluntary deduction of the plan payment from the employer, on the grounds that they brush too close to the Thirteenth Amendment or are paternalistic.[121] Oth-

115. *Id.* at 559.

116. *See* Melissa B. Jacoby, *Superdelegation and Gatekeeping in Bankruptcy Courts*, 87 TEMP. L. REV. 875, 891–92 (2015) (describing judges' practices, including standing orders and informal, yet known, requirements that create variation in chapter 13 hearings).

117. US BANKR. COURT CENT. DIST. OF CAL., ACCESS TO JUSTICE: SELF-REPRESENTED PARTIES AND THE COURT 2013 (2013), http://www.cacb.uscourts.gov/sites/cacb/files/documents/publications/ProSe%20Annual%20Report%202013.pdf [hereinafter ACCESS TO JUSTICE].

118. *Id.*

119. Littwin, *supra* note 50, at 158.

120. ACCESS TO JUSTICE, *supra* note 117, at 19–22.

121. *See* Randolph, *supra* note 16 ("Some experts disagree that automatic payments should be mandatory. In the late 1930s, when Congress debated the wage-earned plans precursor to chapter 13 bankruptcy, one bankruptcy official in the Northern District of Illinois objected to the court's exercise of control over debtors' income. Today, at least one judicial district prohibits mandatory wage orders. Others doubt that mandatory automatic payments teach debtors to pay their bills on time because it facilitates their reliance on someone else (the trustee) to submit payments for them."); *see also In re Aberegg*, 1990 WL 92429 (Bankr. N.D. Ind. June 15, 1990) (denying trustee's request

er trustees or judges impose them nearly automatically; a debt-
or must actually inquire or object to learn that a wage order is
not actually required by the Bankruptcy Code. A leading chap-
ter 13 treatise advises that "Debtors' attorneys can enhance the
likelihood of success of their clients' cases and, incidentally, en-
hance the likelihood of payment of attorneys' fees by insisting
upon income deduction orders at the filing of every Chapter 13
case."[122]

Finally, several trustees believe that making mortgage
payments through the plan (called "conduit pay" because the
trustee serves as an intermediary to transmit the homeowner's
mortgage payment to the mortgage servicer) is beneficial to
plan completion. Despite educational efforts, many trustees re-
fuse to shoulder this burden.[123] Some cite the need to change
procedures and educate local practitioners, while others note
that it can, in some cases, increase costs of plan administration
at least initially.[124]

The system process model looks at how cases are adminis-
tered to see if these approaches are related to plan completion.
We hypothesized that factors that reduce debtor discretion and
increase expert involvement in the case would increase plan
completion. These variables are wage orders, paying the mort-
gage through the plan, and attorney representation. Converse-
ly, we expected that those in longer plans or with more refilings
would be less likely to complete plans. The longer the plan, the
more opportunity for missed payments that result in case dis-
missal. Those with refilings have a prior history of plan failure

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that chapter 13 debtors be forced to submit payment using a wage order be-
cause doing so would potentially bring chapter 123 into conflict with the Thir-
teenth Amendment); *cf. In re Leask*, 194 B.R. 416, 418 (Bankr. E.D. Tex. 1996)
(rejecting argument that a wage deduction order in a chapter 13 case would
violate the prohibition in the Texas Constitution on wage garnishment).

122.   Keith M. Lundin & William H. Brown, CHAPTER 13 BANKRUPTCY, 4TH
EDITION, § 248.1, ¶ 8, Sec. Rev. June 8, 2004, www.Ch13online.net; *see also*
Randolph, *supra* note 16 (stating that data "indicate a strong correlation be-
tween automatic payment rules and plan completion rates").

123.   Doreen Solomon & Martha Hallowell, *Chapter 13 Trustees Weigh Ad-
vantages and Disadvantages of Paying Debtors' Ongoing Mortgages*, NACTT
Q., Apr./May/June 2009, *reprinted in Bankruptcy Articles*, U.S. DEP'T JUST.,
https://www.justice.gov/ust/bankruptcy-articles#2009 (download PDF) ("If a
trustee chooses not to handle ongoing mortgage payments, the U.S. Trustee
will support that decision. . . . We understand that managing these mortgages
will require more resources . . . .").

124.   Gordon Bermant & Jean Braucher, *Making Post-Petition Mortgage
Payments Inside Chapter 13 Plans: Facts, Law, Policy*, 80 AM. BANKR. L.J.
261, 261–62 (2006).

that we expected would repeat; this intuition is supported by prior studies.[125] Some trustees that we interviewed for this project, however, believed that there was a "learning curve" to chapter 13 and stated that in their districts prior filers were more likely to complete.[126] We sought to test this hypothesis with a large, national sample and regression techniques.

1. Predictor Variables

Most of the variables come from the 2007 CBP's written survey. Two of these variables—wage order and mortgage paid through the plan—were not coded by the 2007 CBP, and we went back to each of hundreds of case files to discern the relevant data. In some instances, the use of these procedures could not be discerned.

a) Length of Plan: This ordinal variable represents length in months of each filer's chapter 13 plan. The variable is coded as "0" for those with a plan of 36 months or less, "1" for those with a plan more than 36 months but less than 60 months, and "2" for those with a 60-month plan. In our sample, more than half of the sample (approximately 62%) had 60-month plans.

b) Number of Prior Bankruptcies: For each filer, we coded this variable as "0" for individuals with no prior bankruptcies, "1" for individuals with one prior bankruptcy, or "2" for individuals with 2 or more bankruptcies. Approximately 69% of the sample had no prior bankruptcies and 20% had one prior bankruptcy.

c) Attorney Represented: This is a dichotomous variable that is coded "1" for filers with attorney representation. In the sample 96% had attorney representation.

d) Mortgage Payment Plan: We, the authors of this Article, added this variable to the 2007 CBP data for the purposes of this study. We determined whether, for each debtor with ongoing mortgage payments, whether the debtor was making these payments directly or the payments were "conduit," paid by the trustee out of the overall contribution of the debtor to repayment. This variable is a dichotomous variable coded as "1" for

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125. Norberg, *supra* note 8, at 449.
126. E-mail from Debra Miller, Chapter 13 Trustee, N. Dist. of Ind., to Katherine Porter, Professor of Law, Univ. of Cal. Irvine Sch. of Law (Sept. 11, 2015, 11:28 PST) (on file with author) ("I think that a prior chapter 13 that dismissed is generally a good indicator that the second filed chapter 13 bankruptcy will be more likely to complete and be successful. . . . Some trustees call the first case a starter bankruptcy.").

filers that have their mortgages paid through a plan. In the sample, 57% of cases had mortgages paid through the plan by the trustee.

e) Wage Order: This is a binary variable representing whether a wage order was entered in the case. In unconfirmed cases, this was coded as a no. About one-third (34%) of cases had a wage order used to collect the plan payment.

Table 6: Descriptive Statistics for System Process Model

	Min	Max	Median	Mean	Standard Deviation
Length of Plan	0	2	2	1.39	0.84
Number of Prior Bankruptcies	0	2	0	0.42	0.68
Attorney Representation	0	1	1	0.98	0.15
Mortgage Payment Plan	0	1	1	0.59	0.49
Wage Order	0	1	0	0.35	0.48

2. Regression Results

Compared to the other three models, the system process model is smaller in two senses. The number of observations is 682 cases. The largest number of cases (eighty-nine) was dropped because the length of the plan was not observed in the records. The model also contains fewer independent variables—only five. Nonetheless, as Table 7 reports, we find some surprising results. Many of the most "cultural" aspects of bankruptcy practice—reflecting the choices and preferences of the local chapter 13 trustee and the small cadre of judges—do not seem to influence chapter 13 outcomes. The model estimation also affirms the prior research on repeat filers and pro se filers. Both groups fare poorly relative to first-time bankruptcy debtors and those who have attorney representation.

Table 7: System Process Model

	Coefficients	Predicted Probabilities (mean-sd)	Predicted Probabilities (mean+sd)	Difference in Predicted Probabilities
Length of Plan	-0.12 (0.10)	0.40	0.35	-0.05
Number of Prior Bank-ruptcies	-0.66*** (0.13)	0.44	0.27	-0.17
Attorney Representa-tion	2.27* (1.05)	0.30	0.39	0.09
Mortgage Payment Plan	-0.08 (0.20)	0.38	0.36	0.02
Wage Order	0.29 (0.19)	0.35	0.40	0.05
Constant	-2.24			
Log Likelihood	-445.42			

Notes: 1) Predicted probabilities represent the predicted probability of discharge for each variable plus and minus the standard deviation holding all other variables in the model constant at their mean.

2) *p<0.05, **p<0.01, ***p<0.001.

3) Standard errors are reported in parentheses.

3.   Interpretation of Findings

Local legal culture is the theory that even when the formal law is the same or similar across locations, perceptions, expectations, and beliefs can change the reality of law.[127] The postulation was that local legal culture transcends individual experiences, endures over a long period of time, and is a shared set of beliefs in the anthropological sense of the term "culture."[128] In

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127.   Sullivan, Warren, & Westbrook, *supra* note 10, at 804 (defining local legal culture as "systematic and persistent variations in local legal practices as a consequence of a complex of perceptions and expectations shared by many practitioners and officials in a particular locality, and differing in identifiable ways from the practices, perceptions, and expectations existing in other localities subject to the same or a similar formal legal regime.").

128.   *Id.* at 803.

their seminal piece, Sullivan, Warren, and Westbrook argued that "local legal culture exercises a pervasive, systematic influence on the operation of the federal bankruptcy system," and pointed to variations in chapter 13 as an example of such effects.[129] They argued that in bankruptcy, context, as much as the Bankruptcy Code, created legal experiences, and they proffered quantitative and qualitative data to support the role of local legal culture.[130]

Sullivan, Warren, and Westbrook argued that future research should be sensitive to local legal culture, and that analysis of the bare law was insufficient.[131] They warned that even empirical studies of the bankruptcy system might "miss the underlying reality" or be "incomplete" if the studies did not or could not include indicators of local effects.[132] Their powerful conclusion called for an end to the "anonymity of local legal cultures" and a new approach to assessing law:

> Local legal culture is not just dust in the national legal machine. In fact, it may be a significant element of the legal landscape. Failure to account for it causes policy debates as well as legal reforms to fall wide of their marks. It is surely time to accelerate our study of such cultures and to begin to piece together a systematic view of their influence on the legal system.[133]

Simultaneously to Sullivan, Warren, and Westbrook, others were articulating similar concerns. Jean Braucher interviewed dozens of attorneys, finding significantly different approaches in counseling debtors on the appropriateness of chapter 13.[134] Gary Neustadter observed lawyers' intake and counseling sessions and found significant differences in the structure and content of their questions and their answers to clients.[135] Decades later, Melissa Jacoby reports on an extreme variation of delegation techniques used by judges with respect to chapter 13 plan confirmation.[136] Local legal culture took its

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129. *Id.* at 806.

130. *Id.* at 853 ("The narratives suggest and the data support the conclusion that the differences may coalesce into a force that has a measurable impact on debtor decisionmaking.").

131. *Id.* at 861.

132. *Id.*

133. *Id.* at 865.

134. Jean Braucher, *Lawyers and Consumer Bankruptcy: One Code, Many Cultures*, 67 AM. BANKR. L.J. 501, 502–03 (1993).

135. Gary Neustadter, *When Lawyer and Client Meet: Observations of Interviewing and Counseling Behavior in the Consumer Bankruptcy Law Office*, 35 BUFF. L. REV. 177, 178 (1986).

136. *See* Jacoby, *supra* note 116, at 876–77 (contrasting judges who hand

place alongside the statutes in the Bankruptcy Code, the Colliers' treatise, and published case law as a guidepost for what bankruptcy really "is."

Even as empirical studies have become larger and increasingly sophisticated, local legal culture persists as the response to findings that are counter to one's beliefs, experiences, or perceptions. The exemplar of the explanatory interaction between data and local legal culture is the debate about discharge rates in chapter 13. As one of us has written, "[t]he hard fact is that every single study of the consumer bankruptcy system has concluded that repayment bankruptcies fail" to end in discharge.[137] The response points to the widespread variation in districts as evidence that chapter 13 *can* work.[138] One need only look under the correct rock to find the answer.[139] Actors in the bankruptcy system report that "their district," "their cases," or "their court" are different than the data in a study of chapter 13 outcomes, inviting the researcher to study the differences (i.e., the better way of doing things) used in their local area.[140]

In chapter 13, local legal culture has become the residual explanation for the extreme variation in practice.[141] When the efficacy of a local process is questioned, the default justification is that one could not change it—even with a better approach—because local legal culture is so enduring and powerful. This point was raised repeatedly in the recent rulemaking effort to create a national form for a chapter 13 plan. Actors from various districts asserted that "their" system was not broken, and so the use of a national form should not be mandated.[142] Under pressure from those with a national perspective who found the variation in plans to be problematic, some critics compromised,

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over their courtrooms to chapter 13 trustees to conduct plan confirmation hearings with judges who impose additional hurdles on chapter 13 beyond the statutory confirmation requirements).

137. Porter, *supra* note 5, at 155.

138. *Id.* at 117; Whitfo*rd*, *supra* note 15, at 12–13.

139. Whitford, *supra* note 15, at 13 (acknowledging the "extreme variance in Chapter 13 practice . . . which came to be called 'local legal culture'").

140. Porter, *supra* note 5, at 153.

141. *See* Whitford, *supra* note 15, at 13 ("Chapter 13 practices can vary considerably even within a single judicial district.").

142. Meeting Minutes of Advisory Committee on Rules of Bankruptcy Procedure, Administrative Office of U.S. Courts, Apr. 20, 2015, http://www .uscourts.gov/rules-policies/archives/meeting-minutes/advisory-committee -rules-bankruptcy-procedure-may-2015. In the wake of disagreement, the Advisory Committee on Rules of Bankruptcy Procedure decided to delay implementing a model form for a plan. Its future remains uncertain.

allowing that those districts that wanted to adopt the model plan should be permitted to do so.[143] The defeat of a national model chapter 13 plan is consistent with an embrace of local legal culture.

Many of the administrative variables in this model are exactly the administrative practice differences that judges, trustees, and attorneys turn to when they claim that *their* district is different—they are doing things right, unlike the rest of the country.[144] These factors, indeed, are where local legal culture is most salient. Judges and trustees may perceive that these administrative choices are beneficial,[145] but hard data do not support that they boost chapter 13 completion. Our model shows that these administrative variations do not correlate with success for debtors, contradicting conventional wisdom.[146] This is not to suggest that such goals are not valid. Trustees and judges may prefer wage orders, for example, because they minimize late payments. Also, mortgage payments through the plan may assist debtors in ensuring that servicer records are reconciled at the end of the case with their payments during the plan. Our empirical findings, however, illustrate the need for robust evaluation of the efficacy of legal systems. People embedded in the system have many goals and factors that influence their beliefs. Our data collection and analysis serve as beneficial tools for challenging assumptions and distinguishing in policy debates between sound general approaches, and the specific practices that demonstrably increase plan completion.

Additionally, the anecdotal belief among some bankruptcy professionals that a prior history of plan failure actually increases success in the subsequent chapter bankruptcy is similarly not supported by the data.[147] Instead, the inverse is true—

143.   Marvin Isgur et al., *Comments on Proposed National Chapter 13 Plan: A Diverse Group of Bankruptcy Professionals Propose a Compromise Solution*, REGULATIONS.GOV (Feb. 10, 2015), http://www.regulations.gov/document?D= USC-RULES-BK-2014-0001-0061 (download "Committee Submission Letter") (proposing to allow districts to decide whether to adopt the national model form or create a local version of a model form).

144.   *See* Randolph, *supra* note 16 and accompanying text.

145.   A. THOMAS SMALL & EUGENE R. WEDOFF, A PROPOSAL FOR MORE EFFECTIVE BANKRUPTCY REFORM 16 (unpublished manuscript) (on file with the American Bankruptcy Institute) (arguing that wage orders and mortgage payments through the plan are the most effective way to help debtors complete repayment, relying in part on their years of experience as bankruptcy judges).

146.   Bermant & Braucher, *supra* note 124, at 277.

147.   E-mail from Debra Miller, *supra* note 126 ("That prior case makes the

with no prior bankruptcies, the likelihood of a discharge is 0.44. With one prior bankruptcy, this drops to 0.29, and with more than two prior bankruptcies, the likelihood of discharge is 0.17. This is consistent with research showing that the primary reason most chapter 13 refilers had dropped out of bankruptcy the first time was because they experienced a financial shock that made payment plans impossible.[148] People may file a later bankruptcy case because they had somewhat recovered from the prior shock and wanted to try again to get bankruptcy relief as a lasting solution to piled up debts.[149] Our data suggest, however, that these people are high-risk cases. We cannot measure their attitudes, and perhaps the trustees are correct that these debtors are "more realistic."[150] The data show they still face exceptionally long odds compared to first-time filers—who themselves have less than even odds of plan completion.

One might postulate two interpretations of this connection between refilers, shocks, and plan failure. First, those who were most vulnerable to experiencing a shock during the first filing might be at higher risk for experiencing a shock during the second filing. Perhaps they have less financial stability in their lives overall compared to non-refilers. Or, it may be that this group of refilers is at no higher risk of a shock than first-time filers, but since they did not have the resources to withstand the shock and continue making their chapter 13 payments the first time, they similarly are unable to do so when a shock hits again. They did not have a financial cushion the first time around, and they similarly did not have it for previous filings. There is not enough research about financial shocks and stability at this time to know which, if either, of these theories is correct, but they may help explain why refilers are at an increased risk for plan failure.

An area where scholars and professionals have long had common ground is concern about pro se filings.[151] Those who

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debtors more likely to be successful in the second bankruptcy—they know what is expected and are willing to make changes to their lifestyles to make it happen. Because of that realistic attitude and commitment to changes, debtors filing their second bankruptcies are generally more likely to complete their chapter 13.").

148. Sara Sternberg Greene, *The Failed Reform: Congressional Crackdown on Repeat Chapter 13 Bankruptcy Refilers*, 89 AM. BANKR. L.J. 241, 262–63 (2015).

149. *Id.*

150. E-mail from Debra Miller, *supra* note 126.

151. *See* NAT'L. BANKR. REV. COMM'N., *supra* note 121, at 235 ("[D]ebtors

have attorneys are much more likely to finish chapter 13. The predicted probability of getting a discharge is much greater with an attorney. Prior research pointed to this problem. For example, Angela Littwin, using an earlier version of the 2007 CBP (before plan completion data was available) that we use in this Article, reported that pro se chapter 13 filers get their cases dismissed quickly.[152] Without an attorney to help them craft a plan that satisfies creditors and the trustee, such debtors face objections to plan confirmation and hearings before the court that they are ill equipped to navigate alone. While this finding is not surprising to us, the analysis is helpful to undergird arguments that access to justice issues relate to actual justice achieved by consumers. As in nonbankruptcy legal settings, an effective reform needs to take into account the process-oriented factors that relate to plan completion, not just the substantive legal rules.[153] Our analysis can help policymakers weigh the relative costs and benefits of interventions such as pro se clerks for bankruptcy courts or requiring attorney representation for chapter 13 filings. Our multi-factor model should advance the debate from naked lamentations about the difficulties presented by pro se bankruptcy debtors. Both the refiling variable and the attorney variable suggest that chapter 13 may benefit from reforms that reduce its complexity and improve debtors' abilities to navigate the system to debt relief.[154]

Of our models, the systems model best typifies the influence of local legal culture on the actual experience of chapter 13 practice. This model should be the most fruitful. The results debunk the myth that a trustee's or judge's practices are hugely

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who end up in the complicated Chapter 13 system without good advice are unlikely to be able to navigate their way through the process."); Angela K. Littwin, *The Affordability Paradox: How Consumer Bankruptcy's Greatest Weakness May Account for Its Surprising Success*, 52 WM. & MARY L. REV. 1933, 1955–56 (2011); *see also* Joseph Callanan, *Pro Se Bankruptcy Filings Growing Faster than Other Debtor Relief*, AM. B. ASS'N (Dec. 29, 2011), https://apps.americanbar.org/litigation/litigationnews/top_stories/010312-pro-se-bankruptcy-growing.html; CONSUMER BANKR. PROJECT, CITY BAR JUSTICE CTR., http://www.citybarjusticecenter.org/projects/consumer-bankruptcy-project (last visited Nov. 5, 2016).

152. Littwin, *supra* note 50, at 166 (reporting that in the 2007 Consumer Bankruptcy Project sample, 91.3% of chapter 13 pro se cases were dismissed before confirmation).

153. *See generally* D. James Greiner et al., *The Limits of Unbundled Legal Assistance*, 126 HARV. L. REV. 901, 951–55 (2013) (discussing the need for further research to determine best practices).

154. Porter, *supra* note 5, at 156 ("A simpler, redesigned system can articulate a crisp objective and build ways to test progress into the system itself.").

influential in how debtors fare. Choices such as wage orders and paying through the plan may make the system more efficient or less expensive or have other beneficial features, but we could not see that debtors succeed because of these practices. Our finding pushes back at Jean Braucher's seminal study that asserted wage orders were a significant predictor of chapter 13 completion.[155] Because we use case-level data and random effects on judicial district, we believe that our analysis provides a more reliable and nuanced assessment of whether wage orders and conduit pay are the keys to chapter 13 success. Sadly for those looking for a quick fix for chapter 13—and one that does not require Congressional amendment to the Bankruptcy Code—procedural interventions will not remedy the concerns about case outcomes.

We also note that the length of the repayment plan is not statistically significant. In many ways, this is a happy finding. On the one hand, unsecured creditors can rejoice that you can squeeze longer and therefore increase recoveries, without forcing debtors out of repayment. On the other hand, from the debtor-focused perspective, policymakers and scholars raised grave concerns that the mandate of bankruptcy reforms (BAPCPA) that certain families have five-year plans[156] would drive down chapter 13 success.[157] This does not necessarily mean that longer plans are sound policy. We cannot measure the discouragement effect of five-year plans as our sample contains only those who did file bankruptcy.

More importantly for our question of interest, the immateriality of length of plan points toward the very problem with *any* plan that is at least three years of length. To have an influence on success, any reform would need to amend the Bankruptcy Code to reduce the minimum repayment to fewer than three years. Put another way, because all plans must be between three and five years,[158] we can only show that this difference in repayment does not seem to influence outcomes. We

155.   Braucher, *supra* note 113, at 578–79.

156.   *See* 11 U.S.C. § 1325(b)(4) (2012) (imposing an "applicable commitment period" for repayment plans in chapter 13 of five years if income exceeds the state median for a household of the same size as the debtor household).

157.   Charles Jordan Tabb, *The Death of Consumer Bankruptcy in the United States?*, 18 BANKR. DEV. J. 1, 25 (2001).

158.   11 U.S.C. § 1325(b)(4)(A). The exceptions are if the debtor pays 100% of unsecured debts prior to three years of plan repayment, *id.* § 1325(c), or if the debtor obtains a hardship discharge under *id.* § 1328(b).

cannot opine on the effect on chapter 13 plans if repayment were of other lengths, such as one year or ten years.

D. HOUSEHOLD SECURITY MODEL

Prior CBP studies have provided substantial insights on debtors' self-identified reasons for filing bankruptcy.[159] These reasons are only obtainable from survey data, as bankruptcy law itself does not require the debtor to provide an explanation for the borrowing or repayment difficulties. The data on bankruptcy reasons point to factors associated with household economic security (such as job status and whether the debtor had health insurance) as frequent contributors to the financial distress that leads to bankruptcy. Each iteration of CBP data over the years found that shocks—from a job problem, a medical problem, or a change in family situation—were the leading causes of bankruptcy.[160]

In this model, we examine whether the most common problems that precipitated bankruptcy in the first place continue to affect debtors' abilities to successfully complete their chapter 13 plans. The theory for why such a shock may continue to predict ability to successfully complete chapter 13 is best illustrated using an example. Consider a debtor who self-identifies that a medical problem is his reason for filing for bankruptcy, and that problem was cancer. One could imagine that the existence of the medical problem, in this case cancer, makes the debtor more susceptible to secondary shocks related to the cancer. This could take the form of a recurrence, which would cause further medical bills, more medical appointments—which result in loss of income—or a host of other factors. Or, the theory could be that for any given shock, once someone experiences such a shock and files for bankruptcy because of it, they are more likely both to experience a shock, and to be unable to weather the shock in the context of their financial reality (which would include payment plans once they file for chapter 13 bankruptcy). Should this theory hold true, then attorneys would know to ask potential debtors about the reasons they

159. *See generally* TERESA A. SULLIVAN, ELIZABETH WARREN & JAY LAWRENCE WESTBROOK, THE FRAGILE MIDDLE CLASS: AMERICANS IN DEBT (2000) [hereinafter SULLIVAN, WARREN & WESTBROOK, FRAGILE MIDDLE CLASS].

160. ELIZABETH WARREN & AMELIA WARREN TYAGI, THE TWO-INCOME TRAP 81 (2003).

filed for bankruptcy and indeed could consider chapter choice based on these factors.

Likewise, should other predictors of household stability (such as employment status, health insurance status, etc.) predict success in chapter 13, attorneys and debtors could consider these factors when evaluating chapter choice and make more informed decisions about a debtor's ability to succeed based on his or her unique financial situation. Indeed, health insurance status, difficulty in making house payments, and other stability factors are apparent at the time of filing, so knowing their relationships to success in chapter 13 has the potential to profoundly inform chapter choice without additional effort on the part of the debtor or the attorney.

1. Predictor Variables

This model includes variables that examine why households filed for bankruptcy, and other household characteristics that may influence financial security. Most of these variables reflect the debtor's self-reported reasons for filing bankruptcy or coping strategies used before bankruptcy. These variables were not available in prior studies, which relied solely on administrative (non-survey) data.[161] There are 768 observations in this model.

a) Job Reason: This dichotomous variable represents whether bankruptcy was filed due to losing a job or decline in income, as self-reported in the survey. Approximately fifty-six percent of the sample filed due to loss of job or decline in income.

b) Medical Reason: This dichotomous variable represents whether bankruptcy was filed due to medical reasons. Forty four percent of the sample filed for medical reasons.

c) Family Reason: This dichotomous variable represents whether bankruptcy was filed due to a change in family dynamics, such as divorce, death in family, or birth of a child. Thirty-one percent filed for bankruptcy due to a change in family dynamics.

d) House Reason: This dichotomous variable represents whether bankruptcy was filed because filers couldn't afford their house or mortgage. Fifty-six percent of the sample filed for this reason.

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161. *See supra* note 8.

e) Spending Reason: A dichotomous variable that measures whether bankruptcy was filed due to problems controlling spending. Twenty-six percent of the sample filed for this reason.

f) Help Others Reason: A dichotomous variable that measures whether a reason for the debtors' financial problems that preceded bankruptcy was helping others financially. Nineteen percent of the sample filed for this reason.

g) Health Insurance: This variable measures the health insurance status of everyone in the household. Zero is coded for households where no one has health insurance. One is coded for households where only some have health insurance and two is coded for households where everyone is insured.

h) Family/Friends Borrow: This dichotomous variable measures whether filers borrowed money from family or friends two years before filing bankruptcy. Sixty-six percent of the sample borrowed money two years prior to filing.

i) Working Household: This dichotomous variable measures whether individuals in the household are working. Approximately seventy-eight percent of the sample has one person in the household who is working.

Table 8: Descriptive Statistics for Household Security Model

	Min	Max	Median	Mean	Standard Deviation
Job Reason	0	1	1	0.56	0.50
Medical Reason	0	1	0	0.44	0.50
Family Reason	0	1	0	0.31	0.46
House Reason	0	1	1	0.56	0.50
Spending Reason	0	1	0	0.26	0.44
Help Others Reason	0	1	0	0.19	0.39
Health Insurance	0	2	2	1.58	0.70
Family/Friends Borrow	0	1	1	0.66	0.47
Working Household	0	1	1	0.78	0.42

2   Regression Results

There were 768 observations in this model. As in the first three models, a case observation was dropped from the sample for analysis when one variable or more was missing. Table 9

presents the results from the logistic regression. Also consistent with the first three models, random effects were used to control for the effect of judicial district and the dependent variable was the case ending in a chapter 13 discharge as the positive outcome ("1").

When we compare the differences in the predicted probabilities to determine the influence each variable has on chapter 13 completion, we see that the variable with the largest difference has the most influence on chapter 13 completion. Therefore, out of all the variables included in the household security model, we find that house affordability (House Reason) has the largest effect in predicting chapter 13 completion (difference = 0.23), followed by whether someone in the household was working (Working Household) (difference = 0.15), and finally the health insurance status (Health Insurance) of everyone in the household (difference = 0.13).

Table 9: Household Security Model

	Coefficients	Predicted Probabilities (mean-sd)	Predicted Probabilities (mean+sd)	Difference in Predicted Probabilities
Job Reason	0.12			
	(0.17)	0.34	0.37	0.03
Medical Reason	-0.16			
	(0.17)	0.37	0.34	-0.03
Family Reason	-0.24			
	(0.18)	0.37	0.32	0.05
House Reason	-0.97***			
	(0.17)	0.47	0.26	-0.21
Spending Reason	0.28			
	(0.19)	0.34	0.38	0.04
Help Others Reason	-0.11			
	(0.22)	0.36	0.34	-0.02
Health Insurance	0.39**			
	(0.13)	0.29	0.42	0.13

Family/ Friends Borrow	-0.31+ (0.18)	0.39	0.33	-0.06
Working Household	0.71** (0.22)	0.29	0.39	0.10
Constant	-1.01			
Log Likelihood	-462.72			

Notes: 1) Predicted probabilities represents the predicted probability of discharge for each variable plus and minus the standard deviation holding all other variables in the model constant at their mean.

2) +p<0.10, *p<0.05, **p<0.01, ***p<0.001.

3) Standard errors are reported in parentheses.

4) We also tried this same model but used job tenure (continuous variable of years employed) instead of a working household dichotomous variable. There was no difference in statistical significance of any variable from the model presented in Table 9. Job tenure was statistically significant in the estimation, with a positive sign, indicating that those households with longer job tenure were more likely to complete chapter 13 discharge (p<0.01). We included working household in the model instead of job tenure because of the need to drop observations when a debtor gave years for a status such as "unemployed," "student," or "retired." Years in these non-working situations does not measure the possible effect on household income stability in the same way as years of continued employment at a particular job.

3. Interpretation of Findings

At first glance, the results of this model may appear surprising because the factors that most contribute to entrance into bankruptcy (financial shock events such as job loss, a medical issue, or a change in family status), do not predict success in chapter 13.[162] As discussed in the introduction to this model, it is easy to postulate that a household that experiences a shock before filing for bankruptcy would be less likely to succeed in chapter 13. Warren, Westbrook, and Sullivan were crusaders for empirical research to identify the factors most likely to

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162. NAT'L. BANKR. REV. COMM'N, *supra* note 121, at 234 ("Some commentators suggest that debtors frequently encounter repeated financial difficulties. . . . The same kinds of spotty employment or medical problems that caused debtors' initial financial problems may reemerge, or new problems may appear.").

cause bankruptcy,[163] and indeed, much of the academic investigation into consumer bankruptcy focuses on the front-end: who files and why?

The important takeaway from this model is that the data show that the "why" of bankruptcy filing is not determinative of success in bankruptcy. Put another way, the household security model suggests that at least some of the most important factors in causing financial failure do not doom people to failing to address their financial problems.

Two examples illustrate the twists in the relationship between pre-bankruptcy problems and "in-bankruptcy" problems. For decades, the CBP data have shown that a job problem is the number one, self-identified cause of bankruptcy.[164] When reduction or elimination of income leaves people unable to meet expenses and drives up debt, the result is bankruptcy. Chapter 13, however, requires people to have steady income as an initial eligibility criterion.[165] Those with the most severe job problems, such as long-term unemployment, thus are likely diverted to chapter 7 as a matter of law. Attorneys also may counsel families with substantial income volatility, such as independent contractors or seasonal workers, to file chapter 7.[166] Job problems that created debt are likely at least partially resolved by the time people file chapter 13 bankruptcy. This factor is not significant in our model. As a second, more abbreviated example, consider family change or break-up. This variable, both in our data and in studies on reasons for bankruptcy, includes situations such as death of a spouse, divorce or separation, or the

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163. *See generally* SULLIVAN, WARREN & WESTBROOK, FRAGILE MIDDLE CLASS, *supra* note 159; SULLIVAN, WARREN, & WESTBROOK, AS WE FORGIVE OUR DEBTORS, *supra* note 3.

164. *See* SULLIVAN, WARREN & WESTBROOK, FRAGILE MIDDLE CLASS, *supra* note 159, at 79, fig.3.1 (showing that 67.5% of bankruptcy debtors reported one or more job problems); *see also id.* at 105 ("[B]y every measure, the debtors in bankruptcy are there as a result of trouble at work.").

165. 11 U.S.C. § 109(e) (2012) ("Only an individual with regular income . . . may be a debtor under chapter 13 of this title.").

166. Some courts have interpreted "regular income," *id.* § 109(e), quite broadly to include sources such as regular monthly support from a boyfriend, and most courts accept benefits payments as "regular income" if they have no termination date (such as long-term disability). Unemployment or severance, because of its temporary nature, may not satisfy the legal requirement for "regular income." *See, e.g.*, *In re* Loomis, 487 B.R. 296, 300 (Bankr. N.D. Okla. 2013) (holding that a debtor who was no longer eligible to receive unemployment compensation, and whose girlfriend of eighteen months did not give him funds to pay his separate bills, was "not 'an individual with regular income'" as that term is defined in 11 U.S.C. § 109(e)).

birth of a child. While these events destabilize household income and expenses, they are (relatively) discrete moments. After a period of months or years, the household may have sharply reduced income, with spousal/child support not making up the cost of a separate household, for example, but the amount of income will be fairly fixed. People in financial distress because of a family change can follow the advice to wait until their financial situation has stopped declining before seeking bankruptcy help.[167] With relatively stable income, these families can assess whether they can make the years of payments in chapter 13.

When the regression results are analyzed in the context of household security research, the data are consistent with that literature. Factors that curb a household's ability to reallocate income or adjust expenses make it harder to complete chapter 13. We suspect that bankruptcy debtors deploy a variety of strategies to find the cash to pay the trustee, similar to other households where money is tight.[168] Similarly, a lack of income- or expense-smoothing tools, such as insurance, leaves a household more vulnerable to financial turbulence. The result is to destabilize the chapter 13 plan. "Bankruptcy does not insulate against subsequent disaster,"[169] and families with less flexibility in budgets fall out of chapter 13 to cope.

The biggest indicator of predicting chapter 13 success in this model is housing cost. Based on our data, a household that filed for bankruptcy because it could not afford its rent or mortgage payment has only a 26% likelihood of completing chapter 13 successfully. The problem is not the absolute size of the housing payment; it is the amount of income that each month must be committed without exception to avoid risking eviction or foreclosure. Housing costs cannot be easily adjusted. One must locate new housing and actually move. The associated costs, such as rental deposits and moving expenses, require available cash that few families with debt problems have. Families literally bunker down in their existing housing—even when the house is, as Elizabeth Warren colorfully described, a

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167. ELIZABETH WARREN & AMELIA WARREN TYAGI, ALL YOUR WORTH: THE ULTIMATE LIFETIME MONEY PLAN 266 (2005) ("Bankruptcy helps the most if you wait until the crisis has passed before you file.").

168. Laura M. Tach & Sara Sternberg Greene, *Robbing Peter To Pay Paul: Economic and Cultural Explanations for How Lower-Income Families Manage Debt*, 61 SOCIAL PROBLEMS 1, 10–16 (2014).

169. NAT'L. BANKR. REV. COMM'N, *supra* note 121, at 234.

"cement life raft."[170] If housing costs are a fixed component that chews up more than 30% (or 50%) of a family's income, the budget has limited flexibility. Faced with the choice between losing a place to live and paying the trustee, many families make their mortgage payments and short their creditors. However, these same families are unlikely to have been persuaded to file chapter 7, because a primary reason for filing for bankruptcy may have been to try to save their home from foreclosure.

The second most influential factor in our household security model was membership in the active labor force. The majority, or 78% of the sample, had at least one person working in the household. The remainder of the sample cases had income generated by retirement, benefits, or other usually fixed amounts. Working households were more likely to successfully complete chapter 13 than households without at least one adult in the labor market. Income from a job, of course, provides the means to make plan payments, but as illustrated in the Debtor Finances Model (Table 3) that examined financial characteristics, the amount of income itself does not appear to relate to chapter 13 completion. The primary obstacle for nonworking households may be the inability of an adult to boost income as expenses increase or to cope with temporary expenses. To make ends meet, lower-wage workers may add hours or shifts, take on seasonal employment, or look for a better paying position. Non-workers, such as people with a permanent disability or infirm from age, cannot boost their incomes. In fact, unless cost of living adjustments are adequate, their buying power may decline in subsequent years, even as plan payments remain level. It would be an uphill battle to complete chapter 13 on a fixed income, especially those that are designed to be subsistence amounts such as public benefit programs.

The next strongest influence on chapter 13 completion is health insurance. Households that have no health insurance (for any members of the household) are 29% less likely to successfully complete chapter 13 than their insured counterparts. Insurance does not necessarily, on average, reduce health costs when premiums and out-of-pocket costs are considered.[171] But

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170. WARREN & TYAGI, *supra* note 160, at 137.
171. We confess that we have not examined the health finance literature to know the empirical answer for typical Americans. Our point is that the entire theory of insurance is built on the idea that the premiums, over time in the aggregate, are more than the actual costs.

inexorably, insurance smooths costs. Instead of no bills when all are healthy and nonabsorbent expenses when someone is ill, insurance allows families to stabilize their household budgets by paying a fixed premium and (relatively) modest copays. Insurance protects against expense shock, which can jolt a family out of chapter 13.

Ultimately, the household security model shows us that there are some important factors associated with household security that help predict success in chapter 13, but some of the most important factors that affected household security *before* filing do not ultimate predict stability and success once a debtor files for chapter 13.

III. PREDICTORS OF CHAPTER 13 SUCCESS

The four models described above identify certain factors that are predictive of chapter 13 success. Each is built on a different theory of bankruptcy, hypothesizing respectively that what matters is debtor's financial situations, their demographics, the implementation of chapter 13 in their case, and their financial prospects/habits. In this Section, we estimate a final model that brings together all statistically significant factors in the prior separate models. These are the independent variables, with chapter 13 discharge remaining as the dependent variable. The final model allows us to identify which independent variables retain their statistical significance when controlling for other variables that have measurable effect.

Table 10 below shows the results from the final model. The negative findings are easiest to see. Only two variables no longer retain statistical significance at the 5% level: secured debt and borrowed money from family/friends to cope before bankruptcy. As Table 10 indicates, secured debt is significant at the 10% level, and we are reluctant given the novelty of our study to discard it as worthy of further study.[172]

The right-hand column of Table 10 allows for a rank ordering of the variables having the most influence on chapter 13 success. The bigger the difference in the two calculated predicted probabilities, the larger the effect of that variable. Although

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172. We are particularly cautious given that the cases in our sample were filed in 2007, when mortgage debt as a form of household leverage was at an all-time high. Although we think this cuts the other way, and makes it even more likely that secured debt is not a major predictor of chapter 13 completion, we also know that statistical significance is a test on a particular sample, and that "close can count."

we have discussed the implications of each variable in the context of its model, we reflect here on the relative magnitude of the significant factors on chapter 13 success.

Discouragingly, but perhaps not surprisingly in light of continued evidence of racial issues in the United States, having one or more self-identified black people in a debtor household is a powerful predictor of bankruptcy failure (difference in predicted probabilities, 0.17). Holding equal other factors in the final model, a black debtor is 17% less likely to receive a discharge in chapter 13 than a non-black person.[173] More than amount of debt, prior bankruptcies, trying to save a home from foreclosure, or having a job—all features that are imbedded in chapter 13 of the Bankruptcy Code—race matters.

The next largest differences in the predicted probabilities are unsecured debt amount (difference=0.19), house reason (difference=0.13) and working household (difference=0.10).[174] Of the three-dozen variables studied, we find that these are the most predictive of chapter 13 success. A person who reports that trying to save a house from foreclosure was a reason for their seeking bankruptcy has a 29% chance of discharge. Making identical assumptions about the factors in the full model, a person who filed bankruptcy for reasons other than saving a house has a much higher likelihood of success at 42%. Entering chapter 13 to save a house—precisely one of its vaunted benefits compared to the chapter 7 liquidation alternative—predisposes a debtor to not completing the plan and getting debt relief.

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173. The 17% figure presents the difference in the predicted probability of a chapter 13 discharge for a black debtor with all other variables in the model held at the value of its mean minus its standard deviation and for a black debtor with each other variable in the model held at the value of its means plus its standard deviation.

174. For this analysis, the positive and negative signs on the "difference in predicted probabilities" are not relevant. The absolute values of the differences in predicted probabilities can be compared to each other to assess relative size.

Table 10: Full Model

	Coefficients	Predicted Probabilities (mean-sd)	Predicted Probabilities (mean+sd)	Difference in Predicted Probabilities
Unsecured Debt	0.11*** (0.002)	0.27	0.46	0.19
Priority Debt	-0.03* (0.01)	0.37	0.30	-0.07
Secured Debt	-0.002+ (0.000)	0.39	0.31	-0.08
Unaffordable Housing	-0.41* (0.17)	0.39	0.29	-0.10
Black	-0.91*** (0.21)	0.43	0.26	-0.17
Number of Minor Dependents	-0.19* (0.08)	0.40	0.30	-0.10
Number of Prior Bank-ruptcies	-0.30* (0.15)	0.38	0.31	-0.07
Attorney Representa-tion	2.20* (1.07)	0.27	0.36	0.09
House Reason	-0.59** (0.20)	0.42	0.29	-0.13
Health Insurance	-0.31* (0.14)	0.31	0.40	0.09
Family/ Friends Borrow	-0.27 (0.19)	0.38	0.33	-0.05
Working Household	0.68** (0.25)	0.28	0.38	0.10
Constant	0.01			
Log Likelihood	-397.43			

Notes*:* 1) Predicted probabilities represent the predicted probability of dis-
charge for each variable plus and minus the standard deviation hold-
ing all other variables in the model constant at their mean.

2) +p<0.10, *p<0.05, **p<0.01, ***p<0.001.

3) Standard errors are reported in parentheses.

Figure 1 below is a visualization of our key findings. It il-
lustrates the difference in the probability of a debtor getting a
chapter 13 bankruptcy discharge, holding other factors in the
model at their central tendency point (mean (average) for con-
tinuous variables and median for categorical (dichotomous and
ordinal) variables). The figure shows that, for many variables,
there are marked changes in outcomes. For example, holding
all other factors at their midpoint, a debtor who has an attor-
ney to help her navigate bankruptcy has a 36% chance of a dis-
charge. Without help—going at it alone—we estimate a 6%
chance of debt relief for person of similar race, prior bankrupt-
cies, secured debts, housing costs, insurance, or employment
status (all factors in model).

Figure 1:
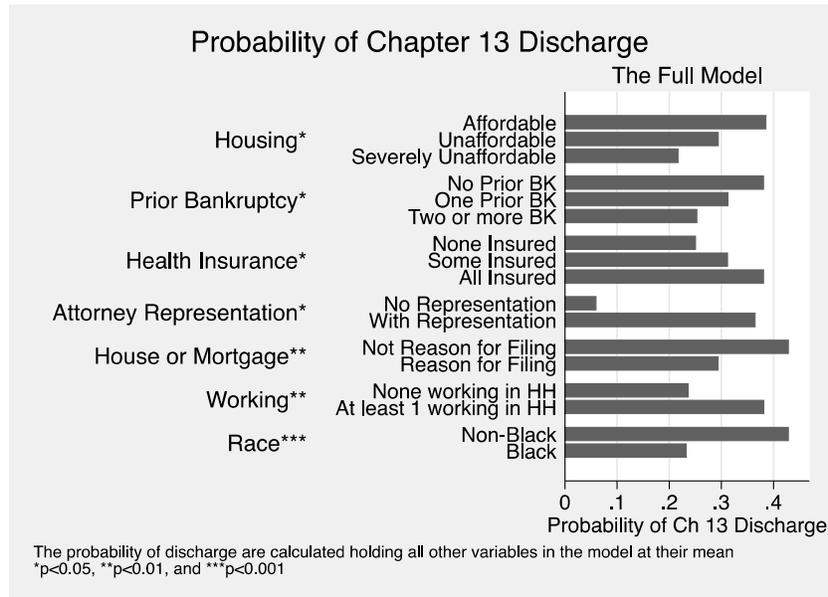
As shown in Figure 1, the greater a household's protection
from expense or income shocks, the higher the probability of

discharge. Health insurance illustrates the effect; households in which all people have insurance have the highest relative rates of discharge (38% holding other variables at midpoint). Next, are households with some, but not all members, insured (31%). Households completely without insurance have the grimmest odds (25%). We see similar trends in how housing affordability and working households relate to being able to meet the demands of chapter 13 repayment plans.

The higher the amount of unsecured debt that a debtor owes at bankruptcy filing, the greater likelihood that the debtor completes the chapter 13 plan. This strikes us as a straightforward incentive effect. Debtors with large amounts of unsecured debt need a discharge to forgive the amount of debts that they cannot pay. If all plan payments are not made, there will not typically be a discharge.[175] Unless the debtor gets to the end of the plan, making all required payments, the chapter 13 bankruptcy has only allowed them to whittle away at debts using any disposable income—an outcome available without the additional costs and burdens of bankruptcy. To analogize, the discharge is the "treatment" or "cure" for unmanageable unsecured debts, and those with more unsecured debts are more ill and in need of a remedy. To conclude that those most in need have better odds of getting help is not to conclude that chapter 13 is the best option for these debtors. Chapter 7 cases nearly always end in a discharge, and it is typically received within four to six months of filing. While we avoid detouring into the longstanding debate about the relative merits of chapter 7 and chapter 13, we do think it is reassuring that the financially worst off in terms of debt have better chances of getting debt relief in chapter 13.

Cutting the other direction in an evaluation of chapter 13 is the variable measuring whether those who file to save their homes are successful. While a debtor can cure an arrearage on a mortgage without getting a discharge, prior research shows that plan completion is a sound proxy for saving homes as a general matter.[176] The fact that those who enter chapter 13 in

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175. Bankruptcy does permit a court to enter a hardship discharge before completion of plan payments or the repayment of all unsecured debts in full (the usual conditions for discharge). 11 U.S.C. § 1328(b) (2012) (enumerating the three-factor test, stating that the court may grant discharge when a debtor cannot make payments because of circumstances for which the debtor cannot justly be held accountable). We believe hardship discharges are rare but we are not aware of any data.

176. Porter, *supra* note 5, at 141–42.

mortgage trouble are less likely to complete plan payments bodes badly for assessing chapter 13's efficacy as a homesaving tool. This is a frustrating finding, given chapter 13's prominence in policy debates (if not in reality) as a foreclosure prevention device.[177] As we discuss below in the Implications Section, the system may be able to better sort homeowners at the time of filing using other variables that we identify such as unaffordable housing costs and whether the household has earned income from working adults. Further research could fruitfully examine some of the interaction effects between such variables. We also plan to repeat this study with cases filed in 2013 and 2014 from the ongoing CBP to assess how alternatives to chapter 13 for foreclosure prevention such as mortgage loan modifications may result in different findings.

To us, the most notable fact about the full model is not the strength of a few influences, but the rather the absence of such. In the final model, every variable except one—borrowed money to cope before bankruptcy—retains statistical significance. Chapter 13 success may have been elusive precisely because there is no single lever to ratchet. With more than a dozen variables influencing the likelihood of discharge, it is perhaps little wonder that numerous studies (and thousands of continuing legal education programs) have failed to pin down why debtors and their attorneys chose chapter 13 over chapter 7.[178]

IV. IMPLICATIONS

In place of stale debate based largely on anecdote, this Article offers an analysis that can guide reform of chapter 13. The findings from our statistical models reinforce the allegations that chapter 13 is complex,[179] but can also provide boundaries for debate. Until there are larger or newer studies that advance this analysis, policymakers should start debating the

177. For a careful assessment of whether chapter 13 is promoting sustainable homeownership, see generally Melissa B. Jacoby, *Bankruptcy Reform and Homeownership Risk*, 2007 ILL. L. REV. 323 (2007).

178. SULLIVAN, WARREN & WESTBROOK, AS WE FORGIVE OUR DEBTORS, *supra* note 3, at 230–70; Teresa A. Sullivan, Elizabeth Warren & Jay Lawrence Westbrook, *Laws, Models, and Real People: Choice of Chapter in Personal Bankruptcy*, 13 LAW & SOC. INQUIRY 661, 703–04 (1988) (diagraming the numerous variables and reflecting that the image demonstrates how complex the relationship among the factors is); Sullivan, Warren & Westbrook, *supra* note 10, at 815–16; Michelle J. White, *Personal Bankruptcy Under the 1978 Bankruptcy Code: An Economic Analysis*, 63 IND. L.J. 1, 50 (1987).

179. Porter, *supra* note 5, at 104.

variables that we document as particularly useful as determinants of discharge.

A. REFORM WITHOUT REVOLUTION

Empirical studies of chapter 13 have often led to calls for dramatic reform, including the complete repeal of chapter 13.[180] Our analysis points to a number of modest interventions that may go a long way towards improvement, including non-statutory changes. Indeed, there are multiple determinants of chapter 13 completion. Even if our analysis were widely accepted (and proved perfectly predictive in the future), it is unlikely that any single reform in chapter 13 would materially improve outcomes. This analysis shows that there is no panacea, but rather a number of possibilities for improving chapter 13. We highlight here both some strategies and some substantive reforms.

At the most obvious level, attorneys could use our findings to guide discussions with clients about anticipated outcomes. Some consumers, if they knew the odds of completion with more precision, may weigh chapter 7 more favorably. In an era of personalized medicine and individual training, law can start using data to provide information that is more tailored to each client. While consumers will still bring optimism bias to the bankruptcy decision, personalization can help people counter such cognitive traits. Our findings are tools that lawyers could use to improve client advice.[181]

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180. *See* William C. Whitford, *Has the Time Come To Repeal Chapter 13?*, 65 IND. L.J. 85 (1989); *see also* Teresa A. Sullivan, Elizabeth Warren & Jay Lawrence Westbrook, *What We Really Said About Chapter Thirteen*, 5 NAT'L ASS'N OF CHAPTER 13 TR. Q. 18 (1992) (acknowledging that their initial findings on chapter 13 in their book, AS WE FORGIVE OUR DEBTORS, led some to believe the authors thought chapter 13 should be eliminated as an option for debtors).

181. *See* Jean Braucher, *Counseling Consumer Debtors To Make Their Own Informed Choices—A Question of Professional Responsibility*, 165 AM. BANKR. INST. L. REV. 165, 183 (1997) ("Even if a client ultimately decides to file in chapter 13 with an unrealistically tight budget in order to make a final attempt at keeping certain property such as a home, making a realistic budget first will ensure that the client goes forward with her eyes open, understanding the likelihood of failure. Moreover, she may save herself a significant amount of wasted effort and stress if the process of drawing up a realistic budget makes her realize that saving the home is not feasible and should not be attempted.").

Bankruptcy law has always required that a plan be feasible for confirmation;[182] the court must assess whether "the debtor will be able to make all payments under the plan and to comply with the plan."[183] Despite this requirement, less than half of confirmed plans succeed.[184] The odds of success are equal to a coin flip, not a ruling on the merits based on evidence. The experts even give outright contrary advice in some cases, such as that a prior filing makes a successive bankruptcy more likely to result in a discharge.[185] We conclude that the feasibility standard seems to be either underused or woefully inaccurate in application.[186]

Our model also identifies some predictors of chapter 13 success that could be added to the law or practice to improve outcomes. For example, given the importance unaffordable housing, this ratio could be calculated on the bankruptcy forms and made salient. Judges interpreting the "regular income" standard may take a more strict interpretation that favors earned income[187] if they recognized the poor outcome for non-working debtors. We also strongly recommend that the bankruptcy forms collect self-reported race data. Without such information, the disparate racial effects that we identify for blacks will undoubtedly go unaddressed. Any efforts to equalize outcomes for blacks and non-blacks would be complex,[188] but

182. 11 U.S.C. § 1325(a)(6) (2012) (mandating that courts will confirm plans where, in addition to other requirements, "the debtor will be able to make all payments under the plan and to comply with the plan").

183. *Id.*

184. Some plans are dismissed prior to a confirmation hearing. These additional cases are what drive the plan completion rate to between 33% and 40%.

185. E-mail from Debra Miller, *supra* note 126.

186. Feasibility in chapter 13 is usually interpreted to mean "not impossible" rather than "more likely than not." The case law focuses on whether there is an obvious circumstance visible at the time of plan confirmation that would make completion unusually arduous. *See, e.g.*, *In re* Fantasia, 211 B.R. 420 (B.A.P. 1st Cir. 1997) (finding that the feasibility requirement was not satisfied when debtors offered no evidence that they could make a large balloon payment due on their mortgage); *In re* Deutsch, 529 B.R. 308 (Bankr. C.D. Cal. 2015) (ruling that the proposed plan was not feasible because it relied on voluntary contributions of debtor's recent boyfriend and mother to make up the shortfall between debtor's expenses and income); *In re* Eckert, 485 B.R. 77, 85 (Bankr. M.D. Pa. 2013) ("Generally, visionary or speculative Chapter 13 plans will not meet the feasibility standard."); *In re* Compton, 88 B.R. 166, 167 (Bankr. S.D. Ohio 1988) (holding that proposed plan that required debtor to obtain job after expiration of unemployment benefits reduced the uncertainty that the debtor would fail to repay).

187. 11 U.S.C. § 109(e) (2012).

188. Braucher et al., *supra* note 83 (discussing the implications of their

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without the data and government responsibility for assessing the situation, the façade continues that bankruptcy is race neutral.[189]

Other reforms could be stronger. The Bankruptcy Code could be amended to require attorney representation as a condition for chapter 13 eligibility. Such a requirement would sort those without attorneys into chapter 7, or more problematically, deny them bankruptcy relief. While we are emphatically not recommending that action, at least not without careful consideration of alternatives and a robust debate, our analysis is pointed in its conclusion. We cannot close an eye to the plight of pro se filers in chapter 13. Even if pro se filers are prevalent in only a few districts, our data support the need for reforms in those locations. We believe that technology may offer ways to improve the resources available to pro se parties,[190] and that longstanding interventions in other courts, such as dedicated pro se clerks, would ease debtors' plights.[191]

The major implication of this Article is that we can learn more about chapter 13, and then debate how to deploy that knowledge. We do not think our findings, taken alone, support the repeal of chapter 13. While this was debated in the wake of Sullivan, Warren, and Westbrook's initial findings on chapter 13 outcomes,[192] we seek here to explain chapter 13. Eliminating it out of hand would be a sweeping form and require more study and validation. That stated, we are firm in our opinion that these findings make it inexcusable to leave chapter 13 alone under the guise that local practice is the determining factor in chapter 13 outcomes. Our analysis shows that many of

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findings on attorney influence on chapter choice based on race).

189. A. Mechele Dickerson, *Race Matters in Bankruptcy*, 61 WASH. & LEE L. REV. 1725, 1726 (2004). Indeed, when presented with a request to add race as even an optional item to the bankruptcy forms, a member of the Advisory Committee on the Rules of Bankruptcy Procedure replied that race could not be included because the forms were limited to gathering information that was relevant to the just administration of bankruptcy cases. E-mail from Judge Elizabeth Perris, *supra* note 102.

190. Ronald W. Staudt & Marc Lauritsen, Introduction, *Justice, Lawyering and Legal Education in the Digital Age*, 88 CHI.-KENT L. REV. 687 (2012) (describing contents of symposium volume that has several pieces considering how technology can ease access to justice concerns).

191. *Who Does What: Court Legal Staff*, FED. JUDICIAL CENT., http://www .fjc.gov/federal/courts.nsf/autoframe?openagent&nav=menu5b&page=/federal/ courts.nsf/page/355?opendocument (last visited Nov. 30, 2016) (describing the routine use of pro se clerks in federal district court).

192. *See supra* note 180 and accompanying text.

the factors that vary locally and have been deemed "the" important determinant of chapter 13 outcomes do not, in fact, predict success.

B. DISRUPTION BY DATA

One of the goals of this Article is to disrupt the idea that chapter 13 is impenetrably local and inexplicably varied, and that therefore it cannot be improved on a national level. We want to loosen the grip of the misinterpretation of local legal culture theory on the debate about consumer bankruptcy reform, in renewing what we believe is the crucial question: can chapter 13 law and practice be adjusted to boost its efficacy to a level (admittedly undetermined at present) high enough to justify the complexities created by the law's two-chapter approach to consumer bankruptcy?[193]

Our findings can outline the next set of questions. The factors that we identify as influential can guide the construction of new research and even the limitations of our study can prompt replication with additional variables or alternate methodologies.[194] Our data should disrupt the idea of local legal culture. In some ways, our call is back to the future where Sullivan, Warren, and Westbrook began. Their scholarly works on chapter 13 filing rates dislodged the idea that all bankruptcy variation could be explained by the rational choices of debtors acting with full information of their situations and the process ahead.

Indeed, we think this project is a return to the core approach of Sullivan, Warren, and Westbrook. With a random national sample and stronger statistical software, we can produce an analysis of chapter 13 that eluded them. Researchers can repeat or expand our analysis, using new samples and adding statistical tools.[195] If the findings are robust and consistent, this

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193. *Cf.* Whitford, *supra* note 180, at 88 ("The argument for repealing Chapter 13 rests on the assumption that it is not practical to alter existing bankruptcy practice so that most consumers make an informed and self-interested choice between Chapters 7 and 13.").

194. For example, a prominent practitioner and past president of the National Association of Consumer Bankruptcy Attorneys, Ed Boltz, suggested that further study should add in the variation in chapter 13 trustee compensation as an important additional cost that can burden a debtor trying to complete a plan. Telephone Interview by Katherine Porter with Edward C. Boltz, Partner, The Law Offices of John T. Orcutt, P.C., (June 5, 2015).

195. Indeed, we intend to reproduce this study using data from debtors who filed for chapter 13 in 2013. Additionally, we know almost nothing about chap-

Article will have provided a powerful push for reform in the directions that are most likely to prove successful.

Inspiring legal reform is difficult. Beyond the problems of political economy, the actors themselves may resist reforms. Judges, trustees, clerks of courts, and others may resist change, as illustrated by efforts to soften BAPCPA and retain prior practices.[196] In a specialized system such as bankruptcy, the expert and repeat players—the judges, the attorneys, and the trustees—are gatekeepers to reform. The difficulty has been persuading them to move in a single direction when they believed the chapter 13 world defied rational or systemic study. As a result, the dialogue about chapter 13 is undisciplined. The debate diverges into proclamations that "I know success when I see it," and "chapter 13 works pretty well when I use it."[197] The effect can become regional, with people resisting reforms that would change practice in their courts. In a sleight of hand, the policymaker is directed to "look under a different rock,"[198] while being reassured that all is well in a given area.

This approach to chapter 13 is not limited to geography. We ourselves have studied single factors that affect chapter 13, respectively refiling (Greene)[199] and unaffordable mortgages (Porter),[200] without looking at the larger picture. When a reform is attempted, the defense is that there is insufficient evidence that everybody will be better, on average or as a whole, with changes to practices. People offer up their own local legal culture as evidence that their approach is superior, at least for their location. Instead of a debate about whether a reform is desirable or practicable, the discussion devolves into finger

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ter 7 debtors who do not receive a discharge. While that percentage is small, some of the same factors may be predictive of bankruptcy success.

196. Greene, *supra* note 148, at 256 (describing how judges interpret a Bankruptcy Code provision intended to curb repeat filings as not requiring a hearing, despite the explicit language of the statute, in order to avoid imposing expense on debtors and administrative burdens on courts).

197. *See* Nancy B. Clark, *From the President*, CDCBAA NEWSL. (Cent. Dist. Consumer Bankr. Att'y Ass'n), Sept. 2015, at 1, 2 ("I do not view Chapter 13 as a 'government program.' In addition, I pride myself on navigating the challenges of Chapter 13. However, I must concede that the number of dismissals out pace the number of discharges.").

198. *See* Henry E. Hildebrand, III, *A Response to a Pretend Solution*, 90 TEX. L. REV. 1, 7–8 (2011) (providing statistics on chapter 13 outcomes in the Middle District of Tennessee to refute characterization of chapter 13 as a pretend solution).

199. Greene, *supra* note 148.

200. Eggum et al., *supra* note 28.

pointing about a lack of respect for difference and allegations of turf protection.

The debate over whether a model form for the chapter 13 plan should be promulgated by the Advisory Committee on the Rules for Bankruptcy Procedure illustrates the rhetoric. A bankruptcy judge who organized a letter of 144 judges in opposition to the model form explained at a public hearing that the judges were "concerned because they feel by and large that Chapter 13 works in their jurisdictions."[201] In counter, another judge described the problem as "local [legal] culture," calling it a "wonderful phrase to describe 'what you can do is just fine, just don't do it in my back yard.'"[202]

We are confident that this work will upset the chapter 13 community because at least some of our findings are outside the conventional wisdom, such as regarding whether conduit payments and wage orders increase plan completion.[203] But we are even more certain that this disruption is necessary to reset the stale debate about chapter 13.[204] The entrenchment of the status quo is holding back reform. Without a blueprint to

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201. Transcript of Proceedings at 25, *In Re* Bankruptcy Rules Committee Hearing (Jan. 23, 2015), http://www.uscourts.gov/rules-policies/records-and-archives-rules-committees/transcripts (download Transcript of Bankruptcy Rules Public Hearing) [hereinafter Transcript of Proceedings] (statement of Brian Lynch); *see also* PUBLIC HEARING ON PROPOSED AMENDMENTS TO THE FEDERAL RULES OF BANKRUPTCY PROCEDURE AND OFFICIAL FORMS: JUDICIAL CONFERENCE ADVISORY COMMITTEE ON BANKRUPTCY RULES Tab 2 (Jan. 23, 2015), http://www.uscourts.gov/rules-policies/records-and-archives-rules-committees/transcripts (download Testimony submitted for Hearing on Proposed Amendments to the Federal Rules of Bankruptcy Procedure) (testimony of Bryan Lynch) ("Second, despite what proponents suggest, chapter 13 works very well in the legal communities throughout this country, and most courts . . . think that their local chapter 13 plan and processes work well for the needs of their debtors and creditors.").

202. Transcript of Proceedings, *supra* note 201, at 23 (testimony of Keith Lundin); *see also id.* at 24 ("They believe in having a form. They just want their form. And if the Committee would just adopt their form, the whole issue would go away and everybody would be happy.").

203. Hank Hildebrand, *Comments from Hank Hildebrand on Conduit Payments*, CENT. DISTRICT INSIDER (Sept. 24, 2015), http://www.centraldistrictinsider.com/2015/09/24/comments-from-hank-hildebrand-on-conduit-payments ("I have also had the opportunity to observe a significant number of jurisdictions with and without the 'conduit' component in their chapter 13 plans. All of us that are 'conduit' trustees have seen the result: More cases complete.").

204. In this regard, we agree with Judge Keith Lundin, that master of understatement, who pronounced that "this local culture thing" is "killing Chapter 13, but that's just my opinion." Transcript of Proceedings, *supra* note 201.

prompt grounded debate, chapter 13 reform faces even longer odds than chapter 13 debtors do in receiving discharges.

CONCLUSION

Chapter 13 is in the bedrock of consumer bankruptcy, with Congress acting in each amendment after the enactment in 1978 of the Bankruptcy Code to further increase chapter 13 use over chapter 7. But decade after decade, study after study has documented that approximately one-in-three chapter 13 cases end in a discharge.[205] When critics have characterized this fact as a problem that merits law reform, the theory of local legal culture is trotted out to refute that the problem is the law itself.[206] Instead, local legal culture treats the problems that debtors suffer in chapter 13 as individual, geographically specific, cultural, and readily addressable by professionals within the system.

Our analysis illustrates that local legal culture can be incorporated into empirical research to inform chapter 13.[207] A national sample lets us take account of local practice and demographic variations, and regression modeling lets us control for the multiple influences on how people fare in chapter 13. Local legal culture may be a valid partial explanation for the widespread variation in chapter 13 practices, but it should not be allowed to obfuscate the measurable influences on debtor success.

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205. *See supra* note 3 and accompanying text (citing a half-dozen studies conducted in 1980s, 1990s, and 2000s).

206. *See* Sullivan, Warren & Westbrook, *supra* note 10, at 804 ("The significance of local legal culture is obvious.").

207. *Id.* at 861 ("While data are scarce in most areas of legal policymaking, there has been a recent trend toward statistical studies of the bankruptcy system. The data presented here about local legal cultures, however, suggest that some caution about certain empirically based analyses of the bankruptcy system is appropriate. Many statistical analyses of bankruptcy use aggregated data to support their assertions. Aggregated studies do not account for local differences that might yield very different pictures about the operation of the bankruptcy system. The usefulness of such data analyses is problematic. If local legal culture plays as strong a role in the bankruptcy process and its outcomes as these data suggest, then models that do not include indicators of local effects are incomplete. Unfortunately, some local effects are difficult to quantify for statistical models. Researchers might use case studies and other qualitative data to supplement statistical modeling in some cases. Without some accounting for local variation, even those who are willing to do empirical research may miss the underlying reality." (internal citations omitted)).

This Article is the first analysis to bring together three crucial elements: (1) an individual-level, national sample of hundreds of cases; (2) dozens of variables that recognize the multiple actors and processes that shape bankruptcy practice; and (3) regression modeling that accounts for local effects. We construct statistical models that draw on our contextual knowledge of chapter 13 and leading theories of financial distress from law and sociology. The result is a list of factors that can be the guideposts for debates about whether reform is needed to chapter 13.

The poor outcome for the majority of chapter 13 debtors is not immutable. Though additional research and normative debate is needed to chart the best opportunities to improve chapter 13, we hope our study sparks a fiery debate, smothered for the last decades by local legal culture. While bankruptcy may never be as "uniform" as contemplated by the U.S. Constitution,[208] the law can better serve its goals of rehabilitating debtors and repaying creditors by looking across local variation to identify levers for reform.

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208.   U.S. CONST. art. I, § 8, cl. 4.