Bankruptcy Determinants among U.S. Households During the Peak of the Great Recession

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Using the 2007-2009 panel Survey of Consumer Finances (SCF), we explore whether the prevailing wisdom on the determinants of bankruptcy can hold its ground in the wake of a systemic downturn in the U.S. economy. We review the literature on the main causes of filing for personal bankruptcy, then test the relative importance of these causes in a logistic regression framework. Preliminary results suggest that, among demographic characteristics of individuals in the SCF, being younger than 35 is the only factor statistically significantly associated with a lower likelihood of filing for bankruptcy. Further analyses will consider additional possible determinants.

Each year, hundreds of thousands of U.S. households choose the lasting effects that bankruptcy has on their credit reputation over the immediate burden of dealing with collectors and creditors to whom they owe seemingly insurmountable amounts of money. The reasons why debtors file for bankruptcy vary nearly as much as the debtors themselves (Sullivan, Warren, & Westbrook, 2000). One thing these debtors have in common, however, is a belief that the instant benefits of filing for bankruptcy outweigh the enduring costs. There is no shortage of literature on the various determinants of filing for bankruptcy (see Pace and Lown (2016) for an excellent recent review). This study makes a contribution to the extant literature by observing debtors who filed for personal bankruptcy between 2007 and 2009, a time of high unemployment and economic insecurity.

Our main objective is to determine whether the "typical" determinants of bankruptcy remain constant in times of economic upheaval. We aim to answer that question and use the 2007-2009 Survey of Consumer Finances panel dataset, in which data were collected deliberately to observe the effects of the great recession on U.S. households. We also aim to take a big-picture view of the determinants of bankruptcy rather than focus on any specific factor or group of factors, by investigating many of the recognized causes *together* to establish the relative importance of each.

The literature on determinants of personal bankruptcy has identified many factors leading to filing for personal bankruptcy, and organized them along various dimensions.[3] In this review, we specify three main groups. The first group is a series of factors related to personal circumstances. These include demographic and personal characteristics such as age (Golmant & Woods, 2010), gender (Lawless, 2012), education level (Livshits, Mac Gee, & Tertilt, 2016), race or ethnicity (Xiao & Yao, 2014), marital status (Domowitz & Sartain, 1999), number of children (Luckett, 1988), or the region where the individual lives (Edmiston, 2006). In particular, *changes* in these characteristics were found to be important events leading to filing for personal bankruptcy, such as the birth of a child (Linfield, 2011) and separation or divorce (Domowitz & Sartain, 1999), although the latter is subject to debate (Fisher & Lyons, 2006). The relationship between individual or household income and the likelihood to file for bankruptcy is ambiguous: some authors have found that bankruptcy filers have, on average, lower income than non-filers (Warren & Thorne, 2012), but other research suggests that the middle-class is more likely to file than poorer or richer individuals (Warren & Thorne, 2012).

Another type of personal circumstance shown to influence filing for bankruptcy is one's occupation, including large-scale ones like being self-employed (Fan & White, 2003), the loss of employment (Keys, 2010), retirement (Hacker, 2012), as well as more detailed circumstances, such as the industry in which one works (Himmelstein, Thorne, Warren, & Woolhandler, 2009). Beyond these two categories of personal circumstance factors – demographic and occupational characteristics – other personal circumstances matter, notably illness and health insurance (Gross & Notowidigdo, 2011).[4]

A second group of factors found to influence personal bankruptcy filing is the (mis)management of household finances. Most of these factors can be summarized as an excessive amount of debt. Several sources of debt have been associated with filing for personal bankruptcy (Dawsey, Hynes, & Ausubel, 2013). Domowitz and Sartain (1999, p. 403), in a comprehensive study of determinants of personal bankruptcy, concluded that credit card debt and medical debts were the "two strongest contributors to bankruptcy." White (2007) also argues that revolving debt, principally credit card debt, is the main reason why bankruptcy rates increased in the 1990s and early 2000s, although some studies do not find a relationship between credit card debt and filing for bankruptcy (e.g. Tabb (2007)). Medical events, as well as the debt that may follow, are important predictors of bankruptcy. Himmelstein et al. (2009), for example, concluded that 62% of all bankruptcies in 2007 (i.e. after the 2005 reform) were medical. Other sources of debt are likely to be associated with filing for bankruptcy, such as mortgage debt, vehicle loans, and education loans (Gicheva & Thompson, 2015), even though the latter are not dischargeable in bankruptcy.

Finally, the third group of factors influencing personal bankruptcy filings includes macro-level factors, which may only play an indirect role or act through some of the factors identified above. For example, both the housing market and interest rates would strongly determine the level of mortgage and other debt that a household faces, and therefore their likelihood to file for bankruptcy (Jappelli, Pagano, & Di Maggio, 2013). Similarly, Narajabad (2012) attributes the rise of consumer bankruptcy filing in the 1990s and early 2000s to the use of information technology, notably by credit card companies in the form of sophisticated credit rating systems. Black and Morgan (1999) also show that the deregulation of the credit card industry in the 1980s and 1990s led to too many marginal borrowers being able to increase their level of debt, thereby increasing their risk of filing for bankruptcy. Finally, several authors have focused on filing for bankruptcy as a rational decision, arguing that filings increase with the economic and financial benefits from bankruptcy and the decreasing social stigma associated with filing (Fay, Hurst, & White, 2002). Social and psychological factors are also regularly used to explain the decision to file for bankruptcy, including general moral decay and diminishing willingness to fulfill one's obligations (Zywicki, 2007). However, the importance of stigma and societal factors, relative to other signs of financial distress is debated (Pace & Lown, 2016).

We analyze data from the 2007-2009 panel of the Survey of Consumer Finances (SCF), collected by the Federal Reserve (Bricker, Bucks, Kennickell, Mach, & Moore, 2011). We relate pre-bankruptcy filing (2007) characteristics of households to the later decision to file for bankruptcy under either Chapter 7 or Chapter 13 of the United States Bankruptcy Code using a cross-sectional regression model. These waves of the SCF provide a unique opportunity to study the decision to file because the survey, with its accompanying weights, is large and nationally representative. The main advantage of the time period covered by the panel is that it is after the 2005 bankruptcy reform, providing an updated view of the determinants of bankruptcy. On the other hand, the survey was concomitant to one of the worst recessions in the United States, which may have altered the "normal" determinants of bankruptcy. Note, however, that purely from a statistical power point of view, a larger number of bankruptcies helps our analysis.

Our analysis strategy greatly reduces endogeneity bias by relating personal and household characteristics in earlier years to the decision to file for personal bankruptcy at a later time. It does not, however, eliminate the possibility that some relevant variables may be omitted from our estimation. Given that we examine a large number of factors influencing filing for bankruptcy, some identified in the literature as well as some new ones, we believe that the bias from omitted variables is low.

Descriptive statistics using weights to generate nationally-representative percentages (Table 1) show that 63% of "recession filers" were women, 39% were either separated, divorced or widowed, and 55% reported having no children under the age of 18 in their household. The majority of filers (50%) had less than a high school diploma, and 56% of filers reporting that they were currently not in the labor force. Chi-square analyses suggest that these characteristics are statistically significantly associated with filing for bankruptcy (most p-values were less than .01, and all were less than 0.05).

Table 2 provides preliminary results from a logistic regression, using the RII technique to minimize standard errors. It shows that, among the reduced number of variables that we included in the model, being 34 or younger was the only statistically significant variable associated with filing for bankruptcy. Individuals in this age group were less likely to file for bankruptcy than those between the ages of 35 and 44 (p=0.033). Our current analysis also suggests a negative relationship between net worth and the likelihood of filing for bankruptcy during the great recession, but further tests are needed, due to a marginally significant effect (p=0.055).

In the coming few months, we will conduct further analyses to evaluate the role of other possible determinants of bankruptcy, as highlighted in the literature review above. We will also refine our model to ensure its fit, for example by estimating and eliminating possible multicollinearity.

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[3]We summarize factors linked to filing for bankruptcy without separating those pertaining to the economic incentive and the financial distress models of bankruptcy; our goal is to focus on specific determinants rather than test theories. We return to these theories in the conclusion.
[4]We consider here the availability of health insurance; we report on studies linking medical expenses and medical debt to personal bankruptcy filing in the next paragraph.

Table 1. Household Demographics, 2009 Panel Survey of Consumer Finances

		Filed Since 2007?		Means Test
	Total *(n=3,857)*	Yes *(n=60)*	No *(n=3,797)*	Chi-Square/T-test
Age (%)				00.05593***
<35	22.01	19.63	22.06	
35-44	19.98	26.72	19.84	
45-54	21.17	28.49	21.02	
55-64	17.04	19.24	16.99	
Sex (%)				32.1924***
Male	43.84	37.01	43.98	
Female	56.16	62.99	56.02	
Marital Status (%)				111.3176***
Married	48.37	44.70	48.44	
Partners	5.73	9.16	5.73	
Separated, Divorced, Widow(er)	31.00	38.69	30.84	
Never Married	14.90	7.47	15.06	
Dependents (%)				13.6505**
None	54.65	54.84	45.57	
One	19.23	19.19	21.18	

Two	16.59	16.52	19.97	
≥Three	9.54	9.46	13.28	
Education (%)				69.8778***
Less Than HS	47.80	49.67	36.71	
HS Diploma	17.95	24.83	16.23	
Some College	10.77	12.25	11.27	
≥College	23.49	13.25	35.79	
Race (%)				30.5380***
White (Non-Hispanic)	70.70	68.39	70.74	
Black (Non-Hispanic	13.07	15.79	13.02	
Hispanic	12.12	14.30	12.08	
Other	4.11	1.52	4.16	
Labor Force Status (%)				22.1001***
Employed by another	32.79	36.32	32.71	
Self-Employed/Partnership	4.29	1.61	4.35	
Retired/Disabled/Homemaker	9.69	6.19	9.77	
Other (Not In Labor Force)	53.23	55.88	53.17	
Subjective Risk tolerance (%)				33.0368***
Substantial	3.47	2.12	3.47	
Above Average	17.46	18.17	17.45	
Average	38.33	29.73	38.51	
Not Willing	40.73	48.46	40.57	
Mean household income	82,596	51,393	83,269	3.04**
Mean household net worth	574,539	107,693	584,158	3.78***

Note: Means tests were conducted without population weights.

Table 2. Logistic Regression Results, 2007-2009 Survey of Consumer Finances

Variables	Coefficient	Standard Error	*p*-value

Sex			
Male	-0.293	0.334	0.379
Age			
18-34	-1.369	0.644	0.033
45-54	-0.156	0.365	0.670
55-64	0.075	0.395	0.849
65+	-0.390	0.510	0.445
Marital Status			
Partners	0.639	0.770	0.407
Divorced/Separated	0.032	0.456	0.945
Widow(er)	-1.585	1.084	0.144
Never Married	-0.799	0.681	0.240
Dependents			
None	-0.125	0.361	0.729
Two	-0.080	0.417	0.848
≥Three	0.024	0.476	0.960
Education			
Less Than HS	0.102	0.539	0.849
HS Diploma	0.227	0.476	0.634
≥College	-0.533	0.541	0.324
Race			
Black (Non-Hispanic)	0.125	0.378	0.741
Hispanic	-0.102	0.410	0.804
Other	-0.748	1.026	0.466
Labor Force Status			
Self-Employed/Partnership	0.207	0.643	0.748
Retired/Disabled/Homemaker	-0.452	0.678	0.505

Other (Not In Labor Force)	-0.098	0.406	0.809
Subjective Risk Tolerance			
Substantial	0.019	0.761	0.980
Above Average	0.529	0.382	0.166
Not Willing	0.127	0.320	0.692
Mean household Income	-1.5E-6	3.7E-6	0.686
Mean household net worth	-1.3E-6	6.8E-7	0.055

Note: The dependent variable is a binary indicator equal to one if the individual filed for personal bankruptcy between 2007 and 2009, and zero otherwise. All independent variables were measured in 2007. The omitted age category is 35-44 years old. The omitted marital status category is married. The omitted dependents category is none. The omitted education category is some college. The omitted race category is white (non-hispanic). The omitted labor force status category is employed. The omitted risk tolerance category is average.