

Households Showing Financial Characteristics of Potential Bankrupts

Debt burden was concluded to be a major determinant of personal bankruptcy according to previous studies. In this study, nonmortgage debt burden and unsecured debt burden were used to identify households which showed debt characteristics similar to those of households potentially at risk of bankruptcy in the 1989 Survey of Consumer Finance. The findings showed that the target households were on average younger and more educated than others. Also, they had more assets, more total debt, more nonmortgage debt, more unsecured debt, more credit card debt, higher nonmortgage debt burden, higher unsecured debt burden, and higher credit card debt burden.

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Introduction

The number of bankruptcies filed by nonbusiness petitioners increased by 300 percent between 1981 and 1992. In 1992, 899,840 personal bankruptcy proceedings were initiated, which constituted 92 percent of all filings (U.S. Bureau of Census, 1993).

Costs related to nonbusiness bankruptcy are quite considerable. In addition to the out-of-pocket costs, such as attorney's fees and filing fees, the personal costs may include divorce, personal stress, health problems, and loss of job. The social costs are also substantial. They include billions of dollars of loss for lenders per year, higher finance fees to other credit users, and restrictions on the availability of credit. The cost of social inefficiency due to bankruptcy may be as high as \$800 million to \$1.1 billion annually (Sullivan & Drecnik, 1984). Increasing personal bankruptcy rates pose a threat to the stability of the economy according to White (1980) and Bernanke (1981).

Several studies have been carried out in an effort to identify the determinants of personal bankruptcy. The main conclusion reached by the studies is that bankruptcy is positively related to the debt to income ratio, here termed debt burdens (Apilado, Dauten, & Smith, 1978; Domowitz & Sartain, 1992; Luckett, 1988; Shepard, 1984a & 1984b; Sullivan, Warren, & Westbrook, 1989). Due to recent rapid growth in the availability of consumer credit and consumers' willingness to incur debt, the debt of households has grown significantly relative to income. It is expected that overall household borrowing will keep growing substantially (Bloom & Steen, 1987). As Domowitz and Sartain (1992) put it: "The relationship between debt and income is the most critical item in considering financial condition" (p.7).

After reviewing the literature on the causes and effects of personal bankruptcy, Luckett (1987) said that when debt burden exceeded a "threshold" level there was a substantial effect on personal bankruptcy. He also stated, "The examination of bankruptcy at the individual case level has been almost entirely limited to cataloging the observed characteristics of bankruptcy petitioners" (Luckett, 1987, p.51). He suggested that it was necessary to group debtors by characteristics and to compare people who were bankrupt with people who were not.

Accordingly, the purpose of this study is to use debt burden to identify households that have the potential for bankruptcy in the 1989 Survey of Consumer Finance (SCF). Descriptive and cross-tabulation analysis are used to compare the financial and social demographic characteristics of target households with a representative sample of U.S. households.

Review of Literature

Consumer Debt Burden and Personal Bankruptcy

Studying the economic impact of consumer credit expansion, Yeager (1974) developed a bankruptcy growth model to examine longitudinal data through 1950 to 1972 and found a strong relationship between greater consumer debt burden and higher frequency of personal bankruptcy. According to the results, he claimed that there was a "saturation point" of consumer credit burden.

Apilado, Dauten, and Smith (1978) used personal bankruptcy data by states for the years 1962 to 1974 to examine the factors which were associated with personal bankruptcies. They concluded that there was a close connection between the increase of debt burden and the increase of the bankruptcy rate.

Shepard (1984a) used ordinary least squares to estimate a model of the theoretical determinants of

bankruptcy, using U.S. data from 1948 to 1981. The annual incidence of Chapter 7 and Chapter 13 bankruptcy were the dependent variables. He found that the ratio of consumer installment and noninstallment credit to personal disposable income were positively related to personal bankruptcy. The same result was exhibited in another study by the same author (1984b) to assess the influence of the Bankruptcy Reform Act of 1978.

The number of people with large credit burden increased significantly from 1983 to 1986. Comparing financial ratios between 1983 with 1986, DeVaney (1993) found that people's financial status got worse because more people had incurred higher debt burdens. Luckett (1988) interpreted increasing debt burden as a sign that the potential for personal bankruptcy had increased.

Domowitz and Sartain (1992) hypothesized that bankrupt households had large debt to income ratios relative to the rest of the population. They also found that debt burden was highly associated with consumer bankruptcy. Two major debts associated with personal bankruptcy were unsecured credit card debt and secured debt issued by banks and financial companies.

Socio-Economic Characteristics and Personal Bankruptcy

Using the 1983 Survey of Consumer Finance, Bloom and Steen (1987) showed that younger households and more educated households were more likely to incur debts. Shepard found that petitioners for bankruptcy are more apt to be unemployed, recently divorced, members of racial minorities and heavy users of credit than nonpetitioners (1984a). Comparing with other Americans, Sullivan, Warren and Westbrook (1989) described bankrupt debtors to have lower incomes, higher debts, larger debt burdens, and fewer assets. Also, they were more likely to be unemployed.

Lea, Webley, and Levine (1993) collected data from nine county areas on selected economic, sociological and psychological variables, in order to predict indebtedness. They found that social and psychological factors, such as marital status, housing status, number of family friends in debt, and reactions of friends/family to debt were related to debt, and that serious debtors had lower income.

Using the United States General Accounting Office 695 bankrupt cases and 1983 Survey of Consumer Finances, Domowitz and Sartain (1992) concluded that bankrupt households had lower incomes, higher total debt, higher unsecured debt, higher secured debt, and much lower asset levels than the general population. They also found that unemployment or income disruption was not the primary reason for filing bankruptcy. Marriage was apt to reduce the possibility of filing bankruptcy.

Also they identified debt to assets ratio as another important factor associated with consumer bankruptcy.

Domowitz and Sartain (1992) isolated potential bankrupt households using the Survey of Consumer Finances (SCF). They used the 1983 sample to estimate the effects leading to an increased probability of filing for bankruptcy. Removing 19 households with high student loan debt of 31 potentially bankrupt households, 12 bankrupt households resulted. It is the object of this study to use a similar methodology to identify households potentially at risk of bankruptcy from 1989 data.

Analysis

Identifying Potentially Bankrupt Households

This study uses the 1989 Survey of Consumer Finance data to assess the proportion of households showing the characteristics of potential bankrupts, and then examines their financial and social demographic characteristics. According to two previous studies, two critical "risk" levels of debt burden are selected. The first risk level is based on Sullivan, Warren, and Westbrook's (SWW) Consumer Bankruptcy Project (1989). This project included 1529 bankruptcy cases filed in 1981. The mean of total nonmortgage debt to total income ratio for the Chapter 13 bankrupt sample was 1.38. The ratio for the Chapter 7 bankrupt sample was 2.33.

The second risk level is from Domowitz and Sartain's (DS) study (1992) which found the average unsecured debt to total income ratio in Chapter 7 bankruptcy sample was 0.9 by using a random sample of 695 Chapter 7 bankruptcy cases interviewed by the United States General Accounting Office in the second and third quarters of 1980.

Methodology

To understand the difference of financial and socio-economic characteristics between consumers who were at risk of bankruptcy and who were not, it is important to begin at a descriptive level. This study used sample weights because of oversampling of wealthier families in 1989 SCF data.

Financial characteristics included total income, total assets, total debt, nonmortgage debt, unsecured debt, credit card debt, nonmortgage debt to total income ratio, unsecured debt to total income ratio, credit card debt to total income ratio, and total debts to total assets ratio. Social demographic characteristics included age, education, marital status, and employment status. Two categories were used for marital status: married, and divorced and separated. Employed and unemployed were the two groups of employment status. Weighted means of all financial characteristics, age, and education were

reported.

Total incomes which were equal to or less than zero were excluded. After dropping those zero and negative income households, there were insufficient observations to separate race as a social demographic characteristic in this study.

Since the student loan is not dischargeable through bankruptcy, households with high student loan debt were also excluded from the target households.

Results

Applying the above criteria, a sample size of 31 households was at SWW risk of Chapter 13 bankruptcy and 30 households were at SWW risk of both Chapter 13 and Chapter 7 bankruptcy. There were 21 households at DS risk of Chapter 7 bankruptcy. A total of 6 households in the SCF sample exceeded both the SWW "risk" level and the DS "risk" level.

Table 1 shows the financial characteristics of households at SWW risk of bankruptcy. Compared to other households, households at risk of both Chapter 13 and Chapter 7 bankruptcy had lower incomes, higher levels of assets, higher levels of total debts, higher nonmortgage debt, higher unsecured debt, higher credit card debt, higher unsecured debt burden, higher credit card debt burden, higher unsecured debt burden, and much higher nonmortgage debt burden. Households at risk of Chapter 13 bankruptcy had lower incomes, higher levels of assets, higher levels of total debts, higher nonmortgage debt, higher unsecured debt, less credit card debt, higher nonmortgage debt burden, higher unsecured debt burden, higher credit card debt burden, and lower debts to assets ratio. Therefore, the results of credit card debt and total debts to assets ratio were mixed.

Table 1
1989 Mean Financial Characteristics of People at SWW Risk of Bankruptcy

	No Risk	13	13 & 7
N	2,473	31	30
Total Income	38,756	20,179	37,689
Total Asset	263,727	296,256	1,029,029
Total Debt	42,214	75,673	347,232
Nonmortgage Debt	5,913	35,282	145,833
Unsecured Debt	1,563	9,762	58,981
Credit Card debt	748	258	1,427
Nonmortgage Debt			
/Total Income	0.172	1.850	3.991
Unsecured Debt			
/Total Income	0.037	0.298	0.906
Credit Card Debt			
/Total Income	0.023	0.038	0.069
Total Debt			
/Total Asset	2.797	1.751	3.568

From Table 2, compared to other households, households at DS risk of bankruptcy had higher income, higher assets, higher total debts, much higher nonmortgage debt, much higher unsecured debt, higher credit card debt, much higher nonmortgage debt burden, and much higher unsecured debt burden, higher credit card debt burden and much lower debt to asset ratio.

Table 2
1989 Mean Financial Characteristics of People at DS Risk of Bankruptcy

	No Risk	Chapter 7
N	2,513	21
Total Income	38,485	51,725
Total Asset	267,844	907,827
Total Debt	44,384	246,169
Nonmortgage Debt	6,919	118,987
Unsecured Debt	1,501	117,542
Credit Card debt	746	1,407
Nonmortgage Debt		
/Total Income	0.215	2.075
Unsecured Debt		
/Total Income	0.036	2.003
Credit Card Debt		
/Total Income	0.024	0.036
Total Debt		
/Total Asset	2.811	0.332

Table 3 shows the financial difference between households who exceeded both SWW and DS risk levels and those who did not. Potential bankrupt households had higher income, much more assets, much more total debt, much more nonmortgage debt, much more unsecured debt, more credit card debt, much higher nonmortgage debt burden, much higher unsecured debt burden, higher credit card debt burden, but much lower total debts to total assets ratio.

Table 3
1989 Mean Financial Characteristics of People at SWW & DS Risk of Bankruptcy

	No risk	Bankrupt
N	2,528	6
Total Income	38,475	68,995
Total Asset	268,245	1,446,539
Total Debt	44,535	408,067
Nonmortgage Debt	7,054	192,395
Unsecured Debt	1,648	191,213
Credit Card debt	745	2,331
Nonmortgage Debt		
/Total Income	0.219	2.839
Unsecured Debt		
/Total Income	0.040	2.755
Credit Card Debt		
/Total Income	0.024	0.058
Total Debt		
/Total Asset	2.802	0.356

Tables 4, 5, and 6 show the mean, and frequency of selected socio demographic characteristics. From Table 4, households at SWW risk of bankruptcy were younger and had higher education than other households. From Table 5, households at DS risk of

Table 4
1989 Socio-Economic Characteristics of People at SWW Risk of Bankruptcy

	No Risk	13	13 & 7
N	2473	30	31
Age			
Mean	48.4	45.3	39.8
Median	50	51	46
Years of Education			
Mean	12.6	13.8	13.4
Median	14	14	16
Married	1763	21	21
Divorced & separated	289	6	3
(Chi-Square P-value=0.471)			
Employed	1887	26	24
Unemployed	586	5	6
(Chi-Square P-value=0.552)			

Table 5
1989 Socio-Economic Characteristics of People at DS Risk of Bankruptcy

	No Risk	Chapter 7
N	2513	21
Age		
mean	48.3	48.9
median	50	55
Years of Education		
mean	12.7	13.4
median	14	14
Married	1790	15
Divorced & Separated	294	4
(Chi-Square P-value=0.388)		
Employed	920	17
Unemployed	593	4
(Chi-Square P-value=0.625)		

Table 6
1989 Socio-Economic Characteristics of People at SWW & DS Risk of Bankruptcy

	No risk	Bankrupt
N	2528	6
Age		
mean	48.3	45.9
median	50	62
Years of Education		
mean	12.7	13.9
median	14	15
Married	1800	5
Divorced & Separated	298	0
(Chi-Square P-value=0.363)		
Employed	1934	3
Unemployed	594	3
(Chi-Square P-value=0.127)		

bankruptcy were slightly older and more educated. From Table 6, households at both SWW and DS risk levels of bankruptcy were younger and more educated. In regard to the marital and employment status, since the sample size is small, the p-value of Chi-Square test might not be conclusive. Nevertheless, it appears that there is no strong, significant relationship between marital or employment status and potential personal bankruptcy.

Discussion

Based on the descriptive analysis of the financial ratios of the 1989 SCF, the high debt to income ratio cast some doubt on Yeager's 19 percent "saturation point".

From Tables 1, 2, and 3, income is the major difference in financial characteristics between SWW risk of bankruptcy and DS risk of bankruptcy. The lower incomes of households at SWW risk of bankruptcy was consistent with previous studies. But households at DS risk of bankruptcy had higher income than those who were not.

Surprisingly, while households at risk of bankruptcy had higher total debt, they also had much higher levels of total assets. One suggestion is that consumers incurred more debt to purchase assets. This finding also supports the theory that the "shift to asset ownership" was one of the major reasons for growth of consumer credit (U.S. National Commission on Consumer Finance, 1972).

Households potentially at risk of bankruptcy had much lower debt to asset ratios than others. This apparently paradoxical observation did not reflect Domowitz and Sartain's argument that the debt to assets ratio was an important factor in filing bankruptcy. The key here is that the current paper examines potential bankruptcy based on characteristics of known bankrupts. The situation of known bankrupts is similar to this group in that both are heavily involved in high debt and high asset management. They are high risk situations; if the income earning does not adequately support such affairs, disaster results.

Domowitz and Sartain (1992) stated, "An increase in credit card debt relative to income is one of the strongest contributors to the probability of filing for bankruptcy on the margin" (p.16). This study showed that credit card debt and credit card debt burden of potentially bankrupt households was higher than the general population. Further studies are recommended to further probe Domowitz and Sartain's conclusion.

Using 1983 SCF, Jappelli (1990) concluded that the older group was less credit constrained than young consumers. The results of this study were consistent with Jappelli's finding.

This study found 12 out of 30 households at SWW risk of bankruptcy, 10 out of 21 households at DS risk of bankruptcy, and 4 out of 6 households at both of SWW and DS risk levels were possibly using debt for investment. This showed that poor debt management might be a major concern for personal bankruptcy. There is precedent for these findings. Except for credit card loans and first mortgages, 20 percent of 1989 SCF debt was associated with investment (Kennickell & Shack-Marquez, 1992). Stanley and Girth (1971) in their microeconomic study tried to identify the 'underlying' and the 'immediate' causes of personal bankruptcy. Poor debt management accounted for 31 percent and 20 percent for 'underlying' and 'immediate' causes respectively.

Conclusion and Implications

The purpose of this study was to compare the financial and socio-demographic characteristics of households potentially at risk of bankruptcy with those who were not. The 1989 Survey of Consumer Finances was used. Two "risk" levels of bankruptcy were selected. One was based on Sullivan, Warren, and Westbrook's study. The other one was based on Domowitz and Sartain's study.

Since the sample size of potential bankrupt households in the SCF sample was small, advanced multivariate analysis could not be applied at this stage, and findings are based on descriptive statistics. The findings showed that households similar to those at potential risk of bankruptcy were younger, and more educated than others. They had more assets, more total debt, more nonmortgage debt, more unsecured debt, more credit card debt, higher nonmortgage debt burden, higher unsecured debt burden, and higher credit card debt burden. And they had lower total debts to total assets ratio. The evidence on income of households similar to those at risk of SWW risk of bankruptcy is inconclusive.

Investment was apparently the primary purpose to incur debt for households at risk of bankruptcy. This finding is consistent with past studies that households at risk of bankruptcy were younger, more educated, and had more total debt, more nonmortgage debt, more unsecured debt, more credit card debt, higher nonmortgage debt burden, higher unsecured debt burden, and higher credit card debt burden. However, some findings of this study were not consistent with previous studies. The different findings of this study were that target households had more assets, and lower debt to assets ratio.

Households potentially at risk of bankruptcy are more highly educated than those who are not. Though this study does not deal with actual bankrupts, it is possible that because the more educated have more information

about bankruptcy, they may seek to file bankruptcy as a way of releasing them from their financial problems. This implication should be interesting to consumer educators.

Johnson (1989) stated, "Economists have not been notably successful in identifying economic indicators that are rationally and closely associated with shifts in bankruptcy rates over time." (p.41). The impact of debt burden on personal bankruptcy has been a staple of the last ten years. Analysis of debt to income ratio not only enables creditors to identify borrowers at financial risk and to minimize their potential loss (Shepard, 1984a), but also helps credit users to check their own financial status. However, there are limitations on the use of debt burden (Luckett & August, 1985). The major limitations are a lack of information on the debt distribution among households, a misleading measure of debt burden because of no repayment information available, and incomplete coverage of household debt. This study raises questions about debt burden as a measure of risk. At the very least, it poses the problem, what kind of debt burden is the best indicator of potential bankruptcy? And what is the asset portion of the households concerned? These will be interesting questions for future study.

References

- Apilado, V. P., Dauten, J. J., & Smith, D.E.(1978). Personal bankruptcies. The Journal of Legal Studies, 7, 371-392.
- Bernanke, B.S. (1981). Bankruptcy, liquidity, and recession. American Economic Review, 71, 155-159.
- Bloom, D. E., & Steen, T. P. (1987). Living on credit. American Demographics, 22-29.
- DeVaney, S. (1993). Change in household financial ratios between 1983 and 1986: Were American households improving their financial status? Financial Counseling and Planning, 4, 1-17.
- Domowitz, I., & Sartain, R. (1992). Determinants of the Chapter 7 consumer bankruptcy decision at the household level. Unpublished manuscript. Northwestern University, Center for the Study of Law and Economics, Chicago.
- Jappelli, T. (1990). Who is credit constrained in the U.S. economy? The Quarterly Journal of Economics, 219-234.
- Johnson, R.W. (1989). The consumer banking problem: causes and cures. Journal of Retail Banking, 11(4), 39-45.
- Kennickell, A., & Shack-Marquez, J. (1992). Changes in family finances from 1983 to 1989. Federal Reserve Bulletin, 78,1-18.

- Lea, S.E.G., Webley, P., & Levine, R.M. (1993). The economic psychology of consumer debt. Journal of Economic Psychology, 14, 85-119.
- Luckett, C.A. (1987). Personal bankruptcies: Causes and effects. Proceedings of a conference sponsored by the Credit Research Center, Krannert Graduate School of Management, Purdue University. 5-54.
- Luckett, C.A. (1988). Personal bankruptcies. Federal Reserve Bulletin, 74, 591-603.
- Luckett, C.A., & August, J.D. (1985). The growth of consumer debt. Federal Reserve Bulletin, 71, 389-402.
- Shepard, L. (1984a). Accounting for the rise in consumer bankruptcy rates in the United States: a preliminary analysis of aggregate data (1945-1981). The Journal of Consumer Affairs, 18(2), 213- 230.
- Shepard, L.(1984b). Personal failures and the bankruptcy reform act of 1978. Journal of Law & Economics, 27, 419-437.
- Stanley, D.T., & Girth, M. (1971). Bankruptcy: problem, process and reform. Washington, DC: Brookings Institution.
- Staten, M. (1991). Credit after bankruptcy: A problem of incentives. Credit World, 10-20.
- Sullivan, A. C., & Drecnik, D. A. (1984). Social efficiency of the bankruptcy reform act of 1978 with regard to personal bankruptcy. The Journal of Consumer Affairs, 18(2). 231-250.
- Sullivan, T.A., Warren, E., & Westbrook, J.L. (1989). As we forgive our debtors: Bankruptcy and consumer credit in American. New York: Oxford University Press.
- U.S. Bureau of Census (1993, 113th ed.). Statistical Abstract of the United States. Washington, DC: U.S. Government Printing Office.
- U.S. National Commission on Consumer Finance (1972). Consumer credit in the United States. Washington, DC: U.S. Government Printing Office.
- White, M.J. (1980). Public theory toward bankruptcy: Me-first and other priority rules. Bell Journal of Economics, 11, 550-564.
- Yeager, F. C. (1974). Personal bankruptcy and economic stability. Southern Economic Journal, 41, 96-102.

Endnotes

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