Geography of Consumer Bankruptcies and Neighborhood Characteristics

This study reports neighborhood factors that are associated with high bankruptcy filing rates in Utah by examining individual census tracts. This is the first study to use geographic and path analyses to identify both the concentrations of bankruptcy filers by census tracts and the common characteristics of residents in those neighborhoods. Because bankruptcy serves as a negative indicator for communities this study has shed light on community financial and economic issues which are in need of address in each neighborhood. This study has provided a methodological framework that can be replicated in future studies related to bankruptcy in other states.

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Introduction

The most recent figures from the American Bankruptcy Institute (2004a) report that Utah once again leads the nation with the highest bankruptcy rate of any U.S. state (Administrative Office of the U.S. Courts 2004; Flynn and Bermant 2003). The average number of filings in Utah per thousand households for the twelve month period ending March 31, 2004 was 27.39, followed by Tennessee with 25.8 and Georgia with 23.6 (American Bankruptcy Institute 2004a). Closer examination of Utah's recent history reveals a chronic tendency for high bankruptcy filing rates. Over the past 10 years, 123,128 non-business bankruptcy cases were filed in this district, with 55,204 cases in 2000-2002 alone (American Bankruptcy Institute 2003; Flynn and Bermant 2003). With 701,281 Utah households counted in the 2000 census, 123,128 bankruptcy filings represents approximately 17.6% of all households. Accounting for serial filers and multiple attempts to achieve one debt discharge, it is estimated that around 15% of Utah households were involved in bankruptcy over the past decade. Nearly every year since 1995 the state's rate has increased (Flynn and Bermant 2003).

It is likely that Utah residents possess a unique combination of characteristics and circumstances that make them more susceptible to bankruptcy than the average American. Unlike previous research endeavors (*reference omitted* 2003) which seek to examine the unique circumstances of Utah residents that may contribute to high bankruptcy filings, this study seeks to understand Utah bankruptcy in the context of micro-geographic units called census tracts, which are used as proxies for neighborhoods. Census tracts are geographic units relatively homogeneous with respect to population characteristics, economic status, living conditions and arguably resemble typical neighborhood communities. Census tracts are typically comprised of about 4,000 residents but can range from 1,500 to 8,000 residents. It is assumed that, aside from sharing similar demographic and socioeconomic characteristics, including the tendency to file for bankruptcy, neighbors can also have a large influence on each other's daily decisions. While the impact of spatial influence is not directly assessed in this paper, the study does lay the groundwork for identifying the optimal allocation of limited bankruptcy prevention resources, and identifies specific hotbed neighborhoods ideal for future qualitative work or case studies on bankruptcies in Utah. The models employed in this paper can also be easily replicated in other states to achieve similar objectives. Because this research is the first attempt to compare bankruptcy data and neighborhood characteristics, it is considered an exploratory study.

Literature Review

The literature on bankruptcy is very rich, especially for discussing the causes associated with bankruptcy filing; however, studies that examine consumer bankruptcy from a geographic perspective in which each census tract is treated as an independent geographic unit are virtually non-existent. This section first discusses factors associated with bankruptcy filing rates and then explores the geographic nature of these variables as reported in previous literature.

The most comprehensive study of consumer bankruptcy is the Consumer Bankruptcy Project conducted by Sullivan, Warren, and Westbrook (1989, 2000). The project analyzed data on bankruptcies filed in five states: Texas,

Illinois, Pennsylvania, California, and Tennessee. The main conclusions of this research are that bankruptcy is primarily a middle-income phenomenon, and that the principal cause of bankruptcy is reduction in income (job loss or cut in hours or pay) combined with uninsured medical expenses. While the lack of health insurance and rising medical costs are a burden to families, the main financial consequence of accident or injury is loss of income (Sullivan, Warren, and Westbrook 2000). The combined impact of lost income and medical expenses resulting from accident or illness affected more than half of the debtors. A small business failure was also a cause of a sudden drop in income in about one-fifth of the cases (Sullivan, Warren, and Westbrook 2000).

Among many factors, marital dissolution has also been cited as a reason debtors file for bankruptcy protection. The U.S. leads the world in the incidence of both divorce and bankruptcy; Utah's divorce rate of 4.4 per 1,000 people is higher than the national average of 4.0 per 1,000 (U.S. Census Bureau 2003). One empirical study of bankruptcy in Utah (*reference omitted* 2003) found that single women filers with dependent children are overrepresented in bankruptcy court. While large families and low per capita incomes appear to contribute to the high filing rate in Utah, the large number of single women with children suggests that divorce and marriage separation are contributing factors.

An additional reason for filing for bankruptcy is the growing number of Americans who are assuming unsustainable mortgage and home equity debts (Sullivan, Warren, and Westbrook 2000). A study by Canner, Durkin and Luckett (1998) reported that outstanding home equity debt was $420 billion. In 1997 about 13% of homeowners (9 million households) had home based loans: 8% had a line of credit and 5% reported traditional second mortgages (Canner, Durkin and Luckett 1998). Further evidence from a more recent report supports these findings and suggests that overall home equity-based loans and amounts are continuing to increase (Aizcorbe, Kennickell, and Moore 2003). Less than one third of U.S. households has adequate emergency reserves, and therefore find it hard to meet financial obligations, particularly home based loans, when income is lost or reduced (*reference omitted* 2003, Chang, Hanna, and Fan 1997; Huston and Chang 1997).

The remarkable rise in consumer borrowing, especially credit card debt, and relaxation in lending standards for both consumer and mortgage loans contributes to escalating bankruptcy rates. Comparing the 1989 and 1995 Surveys of Consumer Finances, Black and Morgan (1999) reported that lenders are granting credit cards to riskier borrowers who have more liberal attitudes toward debt, carry higher debt burdens, and work in cyclical industries with low job security.

Education seems to be an elusive factor for predicting bankruptcies. According to Sullivan, Warren and Westbrook (2000), the people most likely to file for bankruptcy had some college experience, however those who graduated with degrees were far less likely to file. Surprisingly, those who graduated from high school but did not attend college were also less likely to file, and those who didn't graduate from high school at all were even less likely to file.

Geographic Nature of Variables Associated with Bankruptcy

Intuitively, research on the geographic distribution of filings could offer evidence as to the location trends of bankruptcy filings, however, academic studies which discuss the location and concentration of bankruptcy filings on a micro-geographic level are virtually non-existent (American Bankruptcy Institute 2004b; Troxell, Abholi, and Boldin 2001). Taken a step further, literature on the geographic variation of underlying causes of bankruptcy which were discussed previously is also limited, but could possibly offer key insights for predicting geographic variation in bankruptcy.

Inner suburbs of metropolitan areas are currently experiencing economic decline, and consequently are becoming inhabited by lower income families (Madden 2003). Conversely, Nissan and Carter (1999) have found evidence that former income disparities between metropolitan and non-metropolitan residents is decreasing. Remaining neighborhood income disparities can largely be explained by racial disparities according to Mayer (1996). A study on the geography of unemployment found that a permanent change in an area's unemployment rate had a strong and persistent impact on unemployment rates in labor markets within 250 miles of the initial shock (Bronars and Jansen 1987). Therefore, high bankruptcy rates can be expected in areas with sudden drops in income due to unemployment, but are less likely to vary between metropolitan and non-metropolitan areas.

Considerable spatial variation in self-employment rates and self-employment earnings among minorities were found by Black, Holtz-Eakin, and Rosenthal (2000). Urban areas are more likely than rural areas to support a self-employed minority because of economies of scale[4].

Avery, Beeson and Sniderman (1996) found that the low number of applications for conventional loans taken by individual lenders from specific low-income and minority neighborhoods does contribute to the relatively high denial rates in these neighborhoods and that households in these situations will often turn to subprime lending. More recent research found that subprime lenders target their marketing in neighborhoods that cannot be justified on

the basis of borrower risk, and that higher proportions of foreclosures also persist in these neighborhoods, typically low- to moderate-income minority neighborhoods (Newman and Wyly 2002; Zimmerman, Wyly and Botein 2002).

Neighborhood location appears to be correlated with the incidence of divorce (Barlow 2001; South 2001). A separate study by South, Trent, and Shen (2001), revealed that the risk of divorce is highest in geographically defined marriage markets where either husbands or wives encounter numerous alternatives to their current partner. This supports the notion that metropolitan areas are likely to have higher divorce rates and consequently more single female-headed households.

Lichter, Cornwell, and Eggebeen (1993) found that those who grew up in non-metropolitan areas had lower educational attainment than those from metropolitan areas. Similarly, Roscigno, and Crowley (2001) reported that students living in rural areas exhibited relatively lower academic achievement and higher rates of school drop out than their non-rural peers. Also, according to Overman (2002), a teenager's likelihood of dropping out of school is affected by the educational composition of the larger neighborhood in which he resides.

Summary

According to the literature, bankruptcy rates are likely to be higher in areas with: low to moderate income levels, high medical costs, vulnerability to layoffs and other sudden losses in income, high unemployment, low wages, high rates of self employment; high divorce rates; high rates of single female-headed households especially with children, high levels of mortgage and consumer debt, areas with high rates of subprime lending and foreclosures, and areas with lower education levels. Additionally, metropolitan areas are suspect for high rates of bankruptcy because they support higher levels of self employment, higher levels of divorce, and higher levels of home equity credit, all which have been positively correlated with bankruptcy. The following research questions are derived from the literature review implications previously mentioned.

Research Questions
1.	Are there systematic differences in bankruptcy filing rates between metropolitan and non-metropolitan census tracts in Utah? (Troxell, Abholi, and Boldin 2001)
2. Is there a relationship between bankruptcy filings and household income of the
census tract? (Sullivan, Warren, and Westbrook: 1989, 2000).
3. Is there an association between the number of bankruptcy filers and the number of owner occupied housing units with second mortgages in a census tract? (Black and Morgan 1999; Newman and Wyly 2002; Zimmerman, Wyly, and Botein 2002).
4. Is there an association between the number of bankruptcy filers and the number of owner occupied housing units with equity loans in a census tract? (Canner, Durkin and Luckett 1998; Sullivan, Warren, and Westbrook 2000)
5. Is there an association between the number of bankruptcy filers and the number of female headed households in the census tract? (*Reference omitted* 2003; Barlow 2000; South 2001).

Methods and Procedures

Conveniently, the state of Utah comprises one bankruptcy district. A sample of 2,000 consumer bankruptcy files from 2003, which represents approximate 10% of filings, is randomly drawn from the public record files of the Federal District Court of Utah. Bankruptcy filers' addresses were geo-coded and the appropriate census tract number were matched to addresses. Debtor addresses are listed in the public bankruptcy files which are available to the researchers on the internet via the Web-Pacer system. Chief bankruptcy judge Glen E. Clark granted the researchers free access to the bankruptcy files for this research. Census tract codes were then derived according to the filers' addresses using the FFIEC Census Report CD for 2003 (FFIEC Census Report 2003). In the geo-coding process, 21 cases were dropped because the bankruptcy filers did not provide a physical address on their application, only a P.O. box address.

For purposes of this study census tracts are considered equivalent to neighborhoods/communities. Census tracts are designed to be relatively homogeneous units with respect to population characteristics, economic status, and living conditions. Census tracts average about 4,000 residents and range between 1,500-8,000 residents (Introduction to Census 2000 Data Products 2001). To keep the path analysis as parsimonious possible, neighborhood are described by seven demographic and financial variables: a) household income, b) proportion of households that report self-employment, c) proportion of households with second mortgages, d) proportion of households with home equity line of credits, e) proportion of households with single female heads of household, f) proportion of males with bachelor's degree, and g) proportion of male with no bachelor's degree.

Description of Variables

Dependent Variable.

Proportion of bankruptcy filings - For this study, proportion of bankruptcy files was computed as the number of filings in each census tract divided by number of households in each census tract.

Independent Variables.

Tract household income - Fourteen categories of income grouped in three categories (proportion of households with income < 29,999; proportion of households with income between $30,000-100,000; proportion of households with income > $100,000).

Self employed - This is recorded as the proportion of households that report any income from self employment.

Home equity loans - The Census provides information on households that report having home equity loans. No distinction is made between a household with a home equity loan or a home equity line of credit, though these home loan products have fundamentally different terms. Therefore, for the purposes of this study they are treated collectively as one product and one variable.

Second mortgages - This variable is expressed as a proportion of households with second mortgages per census tract.

Males with bachelors' degree and *males with no schooling* - These variables were divided by census tract total population to get proportion of males with a bachelor's degree and proportion of males without a bachelor's.

Single female-headed households - This variable is reported as the proportion of households in the neighborhood which have a single female as the head of the household.

This exploratory study used descriptive statistics, correlations, and path analysis to answer the research questions. The unit of analysis is not the individual filer but individual census tracts. The census tract is arguably the smallest definable geographic unit available for analysis aside from individual households. The purpose of this study is to assess the importance of the neighborhood characteristics on corresponding bankruptcy filing rates.

Results

Research Question #1

Are there any systematic differences in the filing of bankruptcies between metropolitan and non-metropolitan census tracts in Utah? Of the 29 Utah counties, only four counties are considered metropolitan by the U.S. Census Bureau, while the remaining 25 are considered non-metropolitan (U.S. Census Bureau 2004). Almost 80% of the census tracts in Utah are located within these four counties. Figure 1 is a preliminary depiction of the distribution of bankruptcies across Utah by county using data from SMR research (2004). The average percentage of households that filed between March 2003-2004 from metropolitan counties was 2.9%, which exceeds the state average of 2.6%. The average percentage of households that filed in non-metropolitan counties was 1.5%, well below the state average of 2.6%. Comparing absolute numbers, the total number of households from metropolitan counties who filed was 17,429, while the total number from non-metropolitan counties was 3,723.

Because county level data contains fairly wide ranges of variable values particularly for income and wealth, the county data was disaggregated into census tracts. Table 1 reports the census tracts with the highest and lowest bankruptcy rates as well as the mean rate for all tracts in each county. The results of the previous county metropolitan-non-metropolitan comparison mirror the findings from our own data; the four metropolitan counties in the state, with one exception, have a higher mean percentage of bankruptcy filings across census tracts than all non-metropolitan counties, ranging from .00 to 6.67 percent and a mean of .32 percent (SD=.4425). The census tract with the highest number of bankruptcy filings for the state was located in Salt Lake County with a rate of 6.67, or nearly seven out of every 100 households filing for bankruptcy in 2003.

As expected, the non-metropolitan counties in the state in general showed lower rates of filing than metropolitan counties (.00 to .69) with the average percent of households filing being .16 (SD=0.152). The highest rates among the non-metropolitan areas were census tracts found in five counties: Box Elder County, Cache County, Morgan County, Tooele County, and Washington County.

The data in this study provide evidence that there is a systematic difference between the filings in metropolitan and non-metropolitan census tracts. A t-test statistic showed that the difference in mean filings for non-metropolitan v. metropolitan counties was statistically significant at the 0.01 level. Households in non-metropolitan areas are less likely to file than in metropolitan areas.

Table 1
Average Filings Per Census Tract by County per 100 Households.

COUNTY	MEAN	MINIMUM	MAXIMUM	SD
Urban counties	.32	.00	6.67	.44
Davis	.26	.00	.75	.16
Salt Lake City	.36	.00	6.67	.57
Utah	.25	.00	1.3	.23
Weber	.32	.00	.94	.17
Rural counties	.16	.00	.69	.15
Beaver	.05	.00	.11	.07
Box Elder	.25	.00	.46	.15
Cache	.15	.00	.42	.29
Carbon	.20	.06	.30	.09
Daggett	.00	.00	.00	.00
Duchesne	.13	.00	.36	.17
Emery	.12	.00	.25	.10
Garfield	.13	.00	.26	.13
Grand	.23	.23	.23	-
Iron	.11	.06	.21	.05
Juab	.00	.00	.00	.00
Kane	.06	.00	.13	.09
Millard	.03	.00	.10	.06
Morgan	.30	.12	.48	.25
Piute	.00	.00	.00	-
Rich	.00	.00	.00	-
San Juan	.08	.00	.17	.07
Sanpete	.04	.00	.10	.05
Sevier	.16	.07	.25	.07
Summit	.05	.00	.13	.05
Tooele	.42	.09	.69	.25
Uintah	.11	.00	.27	.10
Wasatch	.12	.00	.22	.11
Washington	.23	.00	.48	.13
Wayne	.00	.00	.00	-

Research Questions #2-5

To answer research questions 2-5, path analyses were used and were estimated with SAS, Proc Calis. All variables included in the models are manifest, with no latent variables, hence path models, not structural equation models, were estimated. The models are recursive, which is the usual default and implies that all causal effects specified in the model are "unidirectional" in nature, i.e., that no two variables in the model are reciprocally related, with each affecting the other (Berry 1984).

Two saturated path models containing all the theoretically relevant relationships stated in the research questions were estimated first. These initial models were modified with the removal of statistically insignificant paths. As a result, more parsimonious models are presented for discussion. In Model I, which answers research questions 2-4, self-employment and three income level categories were used as exogenous variables with the proportion of households with second mortgages and home equity lines of credit as intermediate mediating endogenous variables, and bankruptcy rate (the dependent variable) as the final endogenous variable. All variables were converted to corresponding proportions by dividing each by the number of households in the respective census tract in the same way the dependent variable was calculated. In Model II, which corresponds to research question 5, the proportion of males with bachelor's degrees and the proportion of males with no schooling were used as exogenous variables, and the proportion of female heads of household as the mediating variable.

Path Model I. The simplified version of Model I (see Figure 2) delivers strong fit indices with values above .90 on the Bentler's Comparative Fit Index (CFI), and the Bentler-Bonnex Normal Fit Index (NFI) as well as on the Adjusted Goodness of Fit Index (AGFI). The chi-square statistic (chi square = 7.66 with 4 degrees of freedom) suggest that the model is a plausible representation of the observed co-variances in the data.
Figure 2

Path Model I.

Self-employment rate

Proportion income (<$30,000)

Proportion income ($30-100,000)

Proportion income (>$100,000)

2nd mortgage rate

Home-equity rate

Bankruptcy rate

0.11**   -0.15**   -0.34**

-0.38**

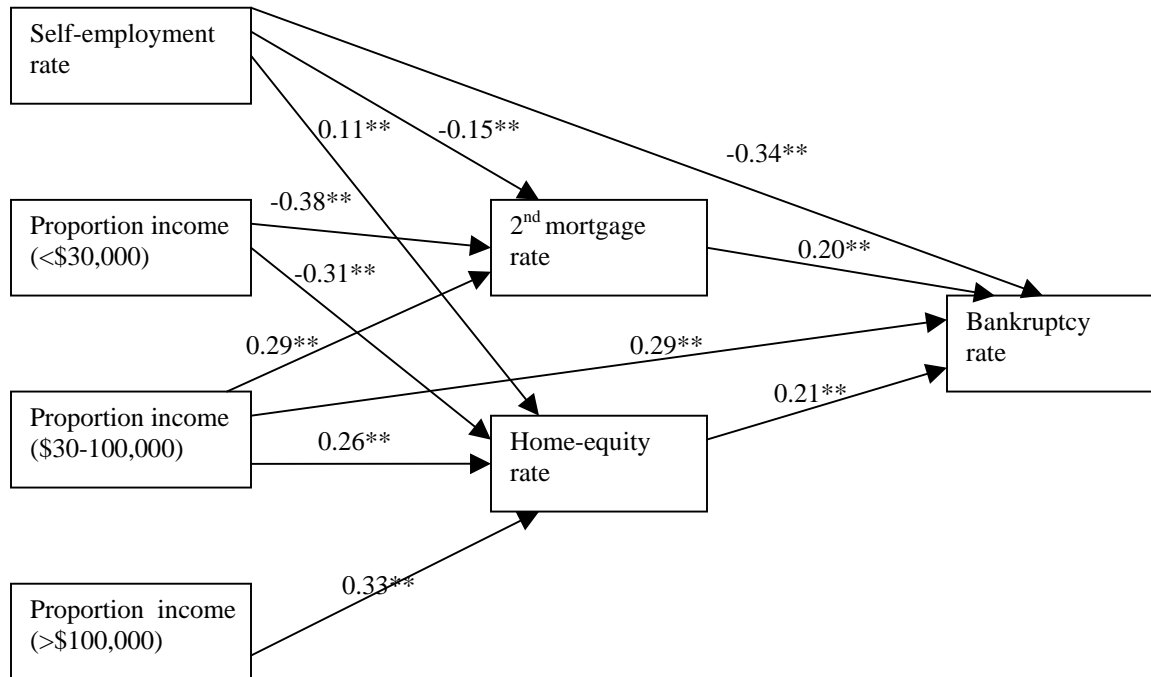-0.31**

0.29**

0.26**

0.29**

0.20**

0.21**

0.33**

Table 2 summarizes the path coefficient for each path with their corresponding expected and observed direction. The tabled path coefficients are standardized, which allows an interpretation in terms of standard deviation units, in the same way we would interpret beta-weights in multiple regression analyses. An estimated path coefficient for an exploratory variable on the dependent variable could be interpreted as a measure of the direct effect of that variable on the dependent variable while the values of the other explanatory variables are held constant. For instance, in Model I, the path from the proportion with second mortgages to the dependent variable means that one standard deviation increase in the proportion of households with second mortgages in the census tract would produce an increase of about 20% in the rate of bankruptcy in that particular census tract. Similarly, for such a standardized change in the proportion of households reporting self-employment, the model estimates about a one-third standard deviation (-0.34) decrease in bankruptcy filing in the census tract.

It is evident from Model I that self-employment rate has a direct negative effect on bankruptcy rates, and an indirect positive effect on bankruptcy filings through second mortgages. It is also found that census tracts with higher proportions of households with income less than $29,999 were likely to have lower proportion of households having second mortgages or home equity line of credit than the census tracts with proportion of households with income between $30,000 and $100,000 or income > $100,000. The path diagram shows that as the proportion of households with income between $30,000 and $100,000 increases, so too does the home equity line rate increase. There is also a direct positive path between proportion of households with home equity loans and the proportion of households with second mortgages.

Path Model II. The more parsimonious Model II shown in Figure 3 was clearly superior to the fully elaborated one which initially included a path to the dependent variable from the proportion of males over 25 with no bachelor's degree. Model II also delivers strong fit indices (NFI = 0.9949; AGFI = 0.9887; CFI = 0.9995) and a statistically non-significant chi square statistic (chi square = 1.1025 with 1 degree of freedom).

As expected, the presence of a high proportion of female heads of households in a census tract is associated with an increase in the bankruptcy filing rate. Furthermore, this model provides support for the assumption that female heads of households are more likely to be in the same census tract as males with no bachelors degree. The model also provides an interesting portrait of a negative direct effect between the proportion of males with bachelor's degrees and the likelihood of bankruptcy filings in a census tract. A one standard deviation change in the proportion of males over 25 with bachelor's degree in a census tract will decrease the bankruptcy filing rate by 12%

in that census tract, but a one standard deviation increase in the proportion of female heads of households will increase the bankruptcy filing by 18%.

Table 2
Path Model I and II Coefficients.

Description of path	Hypothesized direction	Observed direction	Path coefficient
MODEL I[a]			
Second mortgages to bankruptcy	+	+	0.20**
Self-employment rate to bankruptcy	+/-	-	-0.34**
Income ($30-100,000) to bankruptcy	+	+	0.29**
Home equity to second mortgages	+	+	0.21**
Self-employment to second mortgages	+	-	-0.15**
Self-employment to home equity	+	+	0.11**
Income (< 29.999 K) to 2nd mortgage	-	-	-0.38**
Income (< 29.999 K) to home equity	-	-	-0.31**
Income ($30-100,000)to second mortgage	+	+	0.29**
Income ($30-100,000)to bankruptcy	+	+	0.26**
Income ($> 100,000$) to home equity	+	+	0.29**
Income ($> 100,000$) to bankruptcy	-	n.s	0.33**
MODEL II[b]			
Prop. Female head to bankruptcy	+	+	0.18**
Male > 25 with bachelor's to bankruptcy	-	-	-0.12**
Male > 25 with bachelor's to female head	-	-	-0.23**
Male > 25 no schooling to female head	+	+	0.32**
Male > 25 no schooling to bankruptcy	+	n.s.	n.s.

a. **Model I**: Model Chi-square 7.66, DF=4, $p > 0.05$, CFI: 0.9986, NFI: 0.9971, AGFI: 0.9691.
b. **Model II**: Model Chi-square 1.1025, DF=1, $p > 0.05$, CFI: 0.9995, NFI: 0.9949, AGFI: 0.9887.
**$p < 0.01$, n.s= non-significant path.

Figure 3
Path Model II
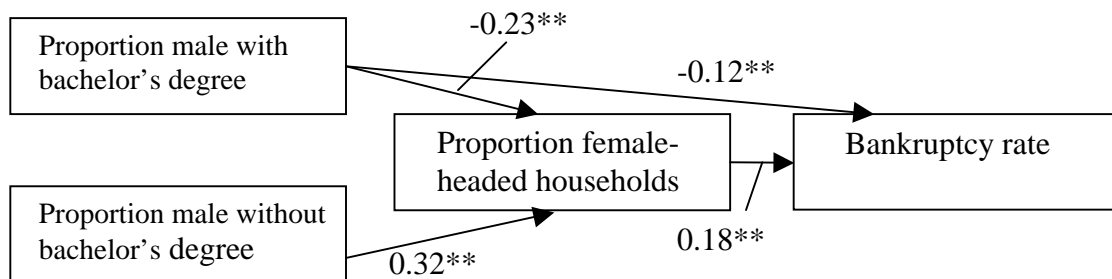
Discussion and Implications

This study provided evidence that there are systematic differences in consumer bankruptcy rates across census tracts in Utah. In summary, it was found that census tracts with high proportions of bankruptcy filings: (1) have lower proportions of self-employed households unless those self-employed households have second mortgages; (2) are more likely to have incomes between $30-100,000; (3) are more likely to have households with both second mortgages and home equity loans; (4) have higher proportions of female headed households; and (5) have lower proportions of males over 25 with bachelor's degrees. Additional studies could add detail to these results by describing the specific nature of self employment and bankruptcy, dividing the income categories into smaller units,

exploring the underlying factors associated with single female-headed households, and level of schooling for females.

Another result of this study was that census tracts in metropolitan counties in Utah generally have higher rates of bankruptcy than non-metropolitan areas, with some notable exceptions. The collective census tracts in Tooele County, a non-metropolitan area and bedroom community for Salt Lake City commuters, average a higher rate of bankruptcy than in any other county in Utah. Several additional non-metropolitan counties also reported unusually high filing rates including Morgan and Box Elder counties.

The common denominator for the high rate of filing in these three non-metropolitan counties was a high rate of unemployment. This was particularly the case for Box Elder and Tooele counties that reported unemployment rates of 6.3% and 9.10% respectively in 2003. This finding is consistent with Getter (2003) who concluded that bankruptcy is mainly a result of unanticipated negative events rather than heavy debt burdens. Aside from outright layoffs, income is likely to be affected by cuts in overtime, reduced commissions, and reduction in benefits, though these factors are not as easily measured.

The Utah Foundation (2004) reported that the average Utah resident is more dependent on wage and salary income than his or her national counterpart. In 2003 approximately 73% of Utah's personal income was derived from wages and salaries as compared to 68% nationally. Greater dependence on wages and salaries ultimately makes Utahns more dependent on the job market, causing normal economic fluctuations to have potentially serious affects on a household's economic well being (Utah Foundation 2004).

Non-wage income could include money earned from investments or self employment. As reported by the U.S. Census Bureau (2000), only 5.8% of the Utah population is considered self-employed. These facts also resonate with the results of the path analysis in which the variable "self-employment" is inversely related to bankruptcy filing (except when those self-employed also have second mortgages). Unfortunately, the data used in this study do not reveal how many years the household has been self-employed or whether the household used a second mortgage or home equity to start up a business.

An additional indicator of insufficient income is the high bankruptcy filing rate in tracts with high concentrations of female headed households. Recent estimates indicate that Utah females are at a tremendous disadvantage in the workforce by earning only 70.3% of male wages, and ranking in the bottom five of all states on the female composite employment and earnings score (Institute for Women's Policy Research 2004). Female-headed households have always struggled to meet their needs. This is also the case in Utah in spite of having higher than average female labor force participation rates (Institute for Women's Policy Research 2004), and higher than average number of households receiving child support, 45% in Utah versus 35% in the rest of the county (Annie E. Casey Foundation 2006).

With the exception of the three previously mentioned non-metropolitan counties with high bankruptcy rates, communities located in non-metropolitan areas experience relatively lower levels of bankruptcy. Small non-metropolitan counties, such as Piute County, with a population of only 1,380 (Quick Facts, U.S. Census Bureau 2004) may possess peculiarities that are absent in metropolitan counties such as strong social stigma about bankruptcies because of relatively closer social, familial and religious ties. The predominant religion in the state, The Church of Jesus Christ of Latter-Day Saints (LDS), teaches frugality and self sufficiency, and is more predominant in non-metropolitan counties than in metropolitan counties. For instance, Salt Lake and Weber counties, the two biggest metropolitan counties in the state, report the percentage of population claiming membership in the LDS church at 56% and 59% respectively. In 21 out of 24 non-metropolitan counties the percentage of LDS population can range from 62-89% (Arave and Hardy 2003).

Though many factors are present, it seems that the consistent underlying factor among the communities with high rates of bankruptcy filings was the combined effect of unstable or drop in income plus home equity debt. While this research is neither generalizable to other states with high bankruptcy rates, nor offers explicit extrapolations from the unit of analysis (census tracts) to individual filers in the state, the results present a model for profiling communities most in need of bankruptcy prevention, education, and counseling.

Implications for Researchers

The most notable implication for researchers is that this is the first and only project in which geographic and path analyses were used to identify concentrations of bankruptcy filers by communities and their common characteristics. Although the results of this study are limited to one state and are not directly applicable to other geographic regions, the unique methodology and statistical model employed in this project can be easily replicated in studies of other geographical areas in the U.S.

The second implication relates directly to the findings of the study, specifically the self-employed population and the single female headed households. There is a need for further research to better understand the

relationship between self-employed households and bankruptcy filings. While it is tempting to simply characterize self-employed individuals as one group, there are many variations of self-employment. There are small businesses, home-based business, successful self-employed and unsuccessful self-employed. A profile of self-employed households would help determine whether or not the primary reason for filing was a failure in their business, and would provide valuable extensions of this analysis. Likewise, this study found evidence of a strong association between female headed households and bankruptcy. Utah has the highest married rate in the nation with 58.8% of adults currently married, compared to the national average of 54.4% (Adams 2003), so relative to the other states Utah ranks among the lowest 10% percent of female headed households (9.2%) (U.S. Census Bureau 2006). The results of this study may be valuable to the states of Georgia, Alabama, Louisiana, Mississippi, and D.C area which, according to the U.S. Census (2000), are the five top states with percentage of female headed households.

<u>Implications for Consumers and Communities</u>

One implication for consumers and communities emerges from the fact that bankruptcy serves as a negative indicator for communities. Studying the characteristics of neighborhoods with high rates of bankruptcy has shed additional light on several community financial and economic issues. Some of these associations were found in the path analysis and discussed previously; however the path model provided only partial evidence because of conceptual restrictions and data limitations. A clearer picture of how high bankruptcy rates do not exist in isolation but are tied to other financial problems is seen in Table 3. This table lists the census tract with the highest bankruptcy rate in Utah counties. Observe from the table that census tract (2011) located in a metropolitan area (Ogden City, Weber County) not only has a high rate of bankruptcy filings -- one in every 100 residents filed for bankruptcy in 2003-- but also has other economic and financial issues affecting the community. This census tract, for example, had an unemployment rate of 19.8%, almost 40% of the households were paying over 30% of their income toward housing, 61% of homeowners had refinanced their mortgage loans with subprime loans, 10% of the households were headed by single parents, and only 4% of the male population 25 or older had a bachelors' degree. Median household income ($20,179) was the sixth lowest of all Utah census tracts, yet residents also pay more for basic goods and services. Historically, large-scale retailers and discount outlets have avoided low-income neighborhoods. As a result, "residents of low-income urban and rural communities pay 20% more on average for a basket of groceries than a typical surburban family" (Nelson 2005). Just recently an article published at the Salt Lake Tribune newspaper reported that *Utahns against Hunger* has labeled a 3.2-square-mile area of Ogden as a "food desert," devoid of a supermarket where people without transportation can get reasonably priced, fresh, nutritious food. The group says the situation may contribute to poverty and health issues, with people sometimes forced to purchase more expensive or less nutritious food at places like convenience stores (Associated Press 2006). Low income families not only pay more for every day goods like food, clothing, and sundries but also they pay more for housing. A homeowner paying a subprime mortgage at 11 percent interest on a loan of $107,500 will owe $379 a month more than the homebuyer with a prime mortgage at six percent. Over the life of a 30 year mortgage, the subprime borrower will pay $124,295 more in interest.

The census tract with the lowest median income (1003.02) in Salt Lake County was also the tract with the highest bankruptcy rate of 6.67 filings per 100 households. At the other end of the income spectrum, the census tract (1307.00) with the highest median household income ($56,814) was in Tooele County, the county with the highest overall bankruptcy rate. Another census tract with high median income ($50,821) was Eagle Mountain (101.02) in Utah County which was distinguished by the high percentage (73.1%) of households experiencing housing hardship. Eagle Mountain is a new development of expensive, upscale homes, providing further evidence that bankruptcy affects households with a wide range of socio-economic status. The broad range of median incomes is evidence to support Sullivan Warren and Westbrook's (1989) contention that bankruptcy affects Americans at all income levels.

A fourth implication of this study is in direct relation to the third: limited resources can be directly and efficiently applied to neighborhoods that possess high rates of these vulnerable characteristics. Census tract (2011) in Ogden City has 1,344 residents. Realistic efforts to specifically address unemployment, housing cost burdens, mortgage refinancing options, and education programs in this neighborhood are feasible due to the relatively small number in the target population. The state Department of Workforce Services, housing and financial counselors, and Extension educators could set up temporary offices in these locations where accessibility by the population would not be an issue. This method of targeting and addressing the needs of specific neighborhoods, one by one, is a far more realistic goal than addressing the financial and societal maladies of an entire state all at once.

Table 3
Characteristic of the Census Tract with the Highest Bankruptcy Rate in Each County.

County	Census tract	Bankruptcy filings per 100 households	City	Non-hispanic white (%)	Average house-hold size (%)	Married with children (%)	Single parent (%)	Persons 25+ with bachelors (%)	Median house-hold income	Unemploy-ment rate (%)	Vacancy rate (%)	Housing hardship (%)	Homes purchased by subprime lenders (%)	Refinanced by subprime lenders (%)
Metro														
Davis	1253.03	.75	West Point	89.6	3.6	57.5	4.7	21.0	$53,048	2.2	3.5	63.6	23.1	11.5
Salt Lake	1003.02	6.67	Salt Lake City	65.0	2.3	--	10.0	7.7	$13,750	--	1.2	15.4	9.61	4.3
Utah	101.02	1.33	Eagle Mountain	94.3	4.1	67.8	3.4	24.2	$50,821	1.8	10.1	73.1	34.4	12.5
Weber	2011.00	.94	Ogden	57.7	1.9	5.4	10.1	4.0	$20,179	19.8	16.1	38.8	46.2	61.1
Non-metro[a]														
Beaver	1002.00	.11	Milford	89.5	3.0	37.7	7.6	11.5	$35,847	1.5	16.5	44.4	15.8	6.0
Box Elder	9607.01	.46	Brigham City	90.1	3.3	44.2	7.6	19.1	$45,526	7.8	7.8	54.0	46.2	11.2
Cache	4.03	.42	North Logan	95.2	3.7	52.7	8.3	36.3	$48,197	3.8	2.5	46.2	10.5	9.7
	15.00	.42	Paradise	97.4	3.6	50.7	2.1	28.1	$46,518	2.3	6.2	59.8	5.9	9.0
Carbon	2.00	.30	Price	84.7	2.6	27.6	7.6	12.4	$35,595	4.2	8.9	34.2	6.7	15.4
Duchesne	9405.00	.36	Roosevelt	87.1	3.2	40.0	13.5	18.0	$30,929	8.2	11.9	44.3	5.1	13.5
Emery	9764.00	.25	Emery	98.2	3.0	34.4	7.9	13.8	$37,128	7.9	13.4	44.5	--	14.6
Garfield	2.00	.26	Panguitch	94.3	3.1	35.1	5.5	23.7	$37,039	10.7	32.0	24.2	--	--
Grand	1.00	.23	Thompson	92.0	2.4	21.0	8.6	25.1	$32,500	7.5	20.1	43.6	18.0	8.6
Iron	1102.00	.21	Cedar City	93.8	3.4	47.7	6.1	20.3	$36,023	5.1	9.0	53.0	14.7	10.0
Kane	1301.00	.13	Kanab	94.2	2.7	31.2	4.6	16.4	$31,741	6.9	63.4	32.3	3.1	4.8
Millard	9742.00	.10	Millard Co. West	92.9	3.3	42.6	3.8	14.7	$38,242	6.2	17.1	32.7	9.5	16.3
Morgan	9702.00	.48	Morgan	93.6	3.2	36.5	5.3	13.1	$43,409	1.8	7.3	26.7	27.3	10.9
San Juan	9421.00	.17	Monument Valley	1.6	4.1	38.0	17.1	7.3	$20,625	23.6	39.2	21.9	--	--
Sanpete	9722.00	.10	Fountain Green	84.8	3.3	41.6	5.6	11.8	$34,500	5.2	14.5	43.3	17.9	4.2
	9723.00	.10	Fayette	88.7	3.2	38.8	6.0	12.3	$32,401	4.8	10.1	49.2	21.7	5.3
Sevier	9752.00	.25	Monroe	96.9	3.1	38.2	3.9	15.4	$36,481	4.6	29.2	46.8	16.7	5.5
Summit	9942.00	.13	Tabiona	95.7	3.1	38.2	6.2	21.2	$50,352	3.5	54.0	43.2	12.6	9.9
Tooele	1307.00	.69	Tooele/ Grantsville	92.0	3.4	48.1	4.4	20.7	$56,814	4.4	5.9	55.8	26.4	11.4
Uintah	9884.00	.27	Vernal	91.4	2.8	30.0	10.2	12.9	$30,650	6.8	9.8	38.9	22.8	12.3
Wasatch	9924.00	.22	Heber	91.1	3.2	42.1	8.0	24.2	$45,542	4.7	6.2	47.6	19.9	12.5
Washington	2701.00	.48	La Verkin	94.6	3.4	30.8	4.5	21.4	$36,908	5.8	26.1	40.9	17.6	8.2
	2711.00	.48	St. George	91.1	3.0	38.6	8.1	17.9	$36,398	5.8	15.2	55.8	17.7	8.6

a. Based on our sample Daggett, Juab, Piute, Rich and Wayne counties reported 0% filings and are excluded from this table. (--) indicates an unreported value
Source. http://www.dataplace.org/

Bankruptcy becomes a problem both for individual consumers trying to stabilize their finances and build assets, and for communities striving to create attractive, supportive environments for residents. The collective bankruptcy drain can pull down entire communities. The thrust here is on repairing communities to make them more stable and healthy. This is the only way to truly reduce the need for bankruptcy and will likely help prevent the development of other social issues as well as foreclosures and unemployment. While bankruptcy prevention education may help some consumers avoid taking on too much debt or the wrong kind of debt, problems like unemployment and lack of health insurance or affordable health care need to be addressed at the community or state level. By identifying at risk census tracts, this study can help policy makers focus limited resources in areas where the need is greatest.

Primarily because of low population density, consumers in non-metropolitan areas face special challenges. Three-fourths of Utah's population is concentrated in four metropolitan counties along the Wasatch Front. Low density areas are often overlooked or underserved due to limited resources. Extension educators, who are a source of financial education, are stretched thin in non-metropolitan counties that require spending a lot of time on the road to reach audiences. Further, providing financial education is only one small part of the broad range of programs provided by Extension. Many non-metropolitan residents must drive long distances to visit their county Extension office for counseling, educational programs, or financial literature. Thus, improving internet access to rural areas should be a priority. Employment opportunities are few in non-metropolitan areas which were hit hard by the latest recession and "jobless recovery." Utah's non-metropolitan counties fall in the bottom half of counties for average wages (Langston 2002). Incomes are lower and family size is larger in non-metropolitan counties than in metropolitan areas, resulting in very low per capita incomes.

<u>Implications for Consumer Educators and Advocates</u>

If reduction in bankruptcy filings is the goal, what solutions are likely to be most effective? One potential solution is to actively involve consumer educators and consumer advocates in this endeavor. Consumer educators, in this context, can provide financial management skills, knowledge, and an understanding of the complex marketplace so that consumers and the public can make financially sound choices. Consumer advocates, on the other hand, are also consumer educators but they inform a different type of audience. Consumer advocates may want to target community leaders, activists, concerned citizens, political actors and legislators at the municipal and state level. Consumer advocates can facilitate the process of understanding that bankruptcy is not an isolated problem, and as such, it takes a comprehensive treatment to cure an illness which, in many cases, goes beyond debtor irresponsibility or bad luck. Political actors are the ones with powerful means to set consumer issues on the policy agenda. Bankruptcies can have an immediate negative impact on neighborhoods (census tracts) and on businesses in the community. Consumer advocates should be encouraged to promote educational and job training programs, protection of vulnerable communities from volatile state economies, provision of affordable housing and health care, and employment opportunities. Lastly, another possible solution to reduce personal bankruptcy rates in higher-filing tracts in Utah is to develop community partnerships between private and public organizations, for example, by encouraging employers to provide financial management education to their workers. This is a model that, although, limited in implementation has the potential to be effective and profitable for employers (Garman 1999).

<u>Implications for Policy Makers</u>

Legislators from the districts containing these vulnerable census tracts need to be informed of the risk to their constituents. The current political climate at the national and state level is not friendly to consumer protection legislation. However, many of the problems and challenges these debtors face could be ameliorated through skillfully crafted consumer protection legislation to reign in some of the lending abuses such as predatory lending and usurious consumer lending. Bankruptcy prevention education can reduce the demand for high cost consumer credit but the seemingly endless supply and aggressive advertising are powerful factors in the bankruptcy puzzle.

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Endnotes

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[4]The authors prefer to use the terms metropolitan and non-metropolitan. However when citing an article in the literature review the terms rural and urban may be used to accurately paraphrase the original studies.