**Rural Small Business Finance -
Evidence from the 1998 Survey of Small Business Finances**

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Agricultural Finance Markets in Transition
Proceedings of The Annual Meeting of NCT-194 Hosted by the Center for the Study of Rural America,
Federal Reserve Bank of Kansas City
October 6 - 7, 2003

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Abstract

The 1998 Survey of Small Business Finances provides robust information on the financing of small businesses including an overview of their firm's organization, financial characteristics, and credit use. Information from the survey is used in this study to compare the financial characteristics of metro and rural small businesses. While many financial characteristics are similar, rural small businesses do own more land and depreciable assets, and have lower inventory and other current assets when compared with urban firms. Rural firms have relatively similar access to technology and financial services, although utilization varies. Both metro and rural small businesses rely on a wide variety of sources for financing, although rural small businesses have significantly more mortgages, loans from shareholders, and other types of loans, but fewer credit cards. Nonparametric rank order statistical methods were required because normality assumptions were violated due to asymmetric distribution of small firms.

Keywords: business, finances, rural, small, survey

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During revision of North Central Regional Research Project NC221, committee members identified rural business finance as one of four high priority areas of future research. In the past, agricultural economists have emphasized agricultural finance from farm, agribusiness, and financial institution perspectives (Barry and Robison). Economists have explored many aspects of small business finance, in general (Petersen and Rajan). Western Regional Research Project W167 was organized to explore rural finance issues from the development perspective. However, those studies did not provide in-depth analyses of rural small business financial management as their specific focus was on development finance and the appropriate role of public support programs. Moreover, the project was not renewed. Drabenstott and Meeker state, "Rural capital markets have not been widely studied, but many analysts believe that rural borrowers face less competitive markets, with fewer capital suppliers, and fewer financial products and services." Thus, a gap in rural small business finance research appears to exist at the present.

The purpose of this article is two-fold. A primary goal is to introduce newly available data from the 1998 Survey of Small Business Finances. This periodic Federal Reserve Bank survey provides robust information on the financing of small businesses including an overview of the firms' organization, financial characteristics, and credit use. The survey is the most comprehensive source of such information; no other source provides the breadth and detail of information for a nationally representative sample of small businesses (Bitler, Robb, and Wolken). An appealing feature of this survey is the delineation of rural and metro respondents. [1]Research on rural small business finance has been difficult in the past due to data limitations. Hopefully, ready access to rural small business financial data will stimulate additional investigation on the performance of rural capital markets and small business finance.

A second goal of this study is to present an overview of rural small business finance and delineate comparisons with metro small business firms. Counter to conventional wisdom, anecdotal evidence and the results of several case studies, rural small businesses are found to face equally competitive financial markets, have ready access to modern financial products and services, and possess similar capital structures relative to their metro counterparts.

Following sections of this article describe the 1998 Survey of Small Business Finances including the survey's history, content, sampling procedure utilized, and procedures for access. An overview of rural small business finance is then presented with comparisons made to metro

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[1]Documentation of the Survey refers to the distinction as urban and rural. However, the actual screening is on Census Metropolitan Statistical Areas (MSAs) which are defined as an area with more than 50,000 inhabitants. The term urban is generally reserved for places exceeding 2,500. Thus, the term metro is more exact and used in this article. Less inhabited areas will be referred to as rural as a synonym of non-metro since it is widely recognized within the profession. I am grateful to an anonymous reviewer who provided this clarification.

small business peers. Finally, an overview of rural small business finance and selected comparisons with metro small business peers are derived from the 1998 Survey of Small Business Finances.

The Survey of Small Business Finances

The Survey of Small Business Finances (SSBF) is conducted by the Federal Reserve Bank and collects demographic and financial information from 3,561 for-profit, nonfinancial, nonfarm small businesses (less than 500 employees) who were in business in the United States at the end of 1998. Similar surveys have been conducted in 1987 and 1993. Working papers, methodological documentation, codebooks, and full public datasets (SAS or PDF) are available online:

http://www.federalreserve.gov/pubs/oss/oss3/nssbftoc.htm

Information collected in the survey includes:

- Demographic information on the owners and characteristics of the firm including SIC, MSA, and Dun & Bradstreet industry classifications;
- Inventory of firm's deposit and savings accounts, leases, credit lines, mortgages, loans and other financial services. For each financial service, the supplier is identified;
- Characteristics of financial service suppliers including type (e.g., bank, individual), method of conducting business, patronage, and reasons for choosing source;
- Experience in applying for credit in the past 3 years;
- Experience with trade credit and equity injections;
- Firm's income and balance sheet; and
- Credit history, credit scores for both firm and owners, and Herfindahl index of concentration.

The sample for the survey was drawn from the Dun & Bradstreet Market Identifier file which represents approximately 93 percent of full-time business activity. Sampling was done according to a two-stage stratified random sample. In the second stage, small businesses with more than 20 employees and minority-owned firms were oversampled to ensure their numbers would be sufficient for statistical testing. An overall response rate of 33 percent was obtained. Appropriate sample weights are included in the public dataset.

Bitler, Robb, and Wolken summarize key survey findings. Over 83 percent of the small businesses had less than 10 employees and over one-half were organized as sole-proprietorships. The primary activity for 43 percent of the firms was business or professional services. Commercial banks were the primary supplier of financial services and 55 percent reported having loans, capital leases, or lines of credit at year end. Trade credit was used by 60 percent of small businesses in 1998, but interest rates were quite high; 2 percent a month was not uncommon. Three-fourths of the firms used computers, primarily to access the internet, inventory management, and bookkeeping.

Data from this survey have been used to explore lending practices of rural banks involved in mergers (Walraven) and portfolio decisions of small agribusinesses (Holmes and Park). Walraven presents a table of summary statistics that compares demographic and financial characteristics of rural and metro small businesses. He concludes that rural small businesses are older, have greater sales and assets, experienced fewer business and personal bankruptcies, and have been denied trade credit less frequently.

Rural Small Business Finance

Historically, the financial performance of credit markets and small businesses in rural areas has been a topic of active professional discourse. At the center of the debate is whether or not gaps exist in rural financial markets. Edelman notes that: 1) rapid concentration of bank assets due to merger activity may limit lending to rural businesses, 2) financial market regulations impose greater costs to smaller lenders that are characteristic of rural communities, 3) rural borrowers with unique credit needs (large amount, start-up, unfamiliar venture) face greater difficulty obtaining credit, 4) rural equity markets are unorganized and virtually nonexistent, 5) rural infrastructure is difficult to finance, and 6) financing of housing construction and ownership is more difficult in rural areas. Barkema and Drabenstott expand on the difficulties rural areas have maintaining fundamental physical and social infrastructure including roads, utilities, and educational and health services. They proceed to highlight the impending need to invest in digital communication infrastructure. Markley and McGee conducted several detailed case studies in Arkansas, Massachusetts, Michigan, and North Carolina and found that credit gaps exist in all regions of the country, but are especially acute in rural areas. They proceed to offer several recommendations for improving the effectiveness of development finance programs that utilize public funds.

Other studies have not found significant shortfalls in rural small business financial markets. Surveys of small businesses in Arkansas and Illinois found adequate availability of debt and equity capital (Gruidl, Lamberson and Johnson). Shaffer and Pulver (1985) compared capital market performance in thinly and densely populated areas of Wisconsin and concluded they functioned relatively well for small businesses in both locations. In a later study, Shaffer and Pulver (1990) found that availability of capital is not a widespread problem and no one type or stage of business had difficulty acquiring capital.

Two comprehensive assessments of rural small business finance was undertaken in 1997. First, USDA published its assessment, *Credit in Rural America*. The report concluded that rural financial markets work reasonably well but those with low incomes, low skills, and lack of collateral have particular problems with access to credit and financial services. The report goes on to state that any public financial market failures are neither endemic to nor epidemic in rural America. Therefore, policies which provide untargeted subsidies to a broad range of rural lenders or borrowers are unlikely to be cost effective. A conference organized by the Federal Reserve Bank of Kansas City came to a similar conclusion (Drabenstott and Meeker). Conference participants reviewed the importance of capital to the rural economy, discussed shortcomings in those markets, and identified opportunities to improve access to capital for rural borrowers. A consensus was that rural businesses have a smaller menu of products and often pay more for access to capital. This is due in part to the limited and declining supply of loanable funds, bank consolidation, and undeveloped equity markets in rural areas. Expanded secondary markets were identified as a source of increased liquidity, but development has been slow. Technology and globalization will likely diminish the geographical impediments in rural financial markets.

Also in 1997, the Rural Policy Research Institute (RUPRI) convened a rural finance taskforce. The taskforce found most rural borrowers with relatively routine credit needs are well served by existing lenders. However, borrowers with large debt capital needs, borrowers needing debt capital for start-up businesses, and borrowers needing debt capital for businesses unfamiliar to their lenders can expect difficulties in obtaining the credit they request.

Past studies evaluating the performance of rural financial markets have not provided definitive assessments primarily because they relied on selected localized information, case studies, and anecdotal observations. Comprehensive financial survey information may alleviate these past shortcomings and provide the necessary quantitative data for statistical testing and extrapolation.

Financial Characteristics of Rural Small Businesses

In general, both metro and rural small businesses in the sample were strong financially (Table 1). On average, they were profitable, liquid, and solvent. Accounts receivable and inventory comprise nearly a third of total assets. Roughly 10 percent of assets are held in the form of cash. Land is a minor asset for most small businesses, whereas the average small business has a large investment in equipment. Trade financing in the form of accounts payable represents nearly a fourth of small business total financing.

An appealing feature of the SSBF for purposes of this study is the ability to distinguish between metro and rural small businesses who participated in the survey. Screening firms using the MSA/non-MSA variable yielded 2,782 metro and 779 rural firms, respectively. This sort formed the basis for the following comparative analyses in this article.

Traditional parametric statistical analyses that compare the financial characteristics of metro and rural small businesses proved futile because the data violated assumptions of normality. A common feature of small business financial data is the presence of many small firms. The majority of firms contained in the dataset are of relatively small size (as measured by either sales, total assets, or number of employees). However, larger firms are also present, but fewer in number, thus creating a long right tail when modeling the distribution function. Classifying the largest firms as outliers failed to restore normality. Further, no clear demarcation for selecting outliers was evident.

Initial t-tests of mean financial characteristics found few significant differences between metro and rural firms, despite high statistical power as evidenced by a large number of observations and a sizable difference in mean values. Using Shapiro-Wilk and Kolmogorov-Smirnov tests, normality of the probability distribution function was readily rejected (SAS Institute Inc.). Efforts to transform the data into a normal distribution were unsuccessful. Therefore, the nonparametric Wilcoxon rank order method was used for statistical testing. Essentially, the Wilcoxon method determines whether two samples of financial data (metro vs. rural) have arisen from the same probability distribution function. Among linear rank statistics, Wilcoxon scores are locally most powerful for identifying location shifts of the distribution (SAS Institute Inc.). Standard deviations are reported in the following tables, but readers are advised against using traditional t-test's for significance tests due to non-normality of data.

Even with the more general Wilcoxon statistical test, rural and metro small business firms were found to have few differences in financial characteristics. As shown in Table 1, rural small businesses were found to have statistically lower levels of inventory and other current assets and higher levels of land and depreciable assets. All other financial characteristics, including sales, costs of doing business, corporate taxes paid, and liabilities were not statistically different between metro and rural small businesses.

With respect to financial organization, the majority of firms are organized as sole proprietorships. Surprisingly, less than 6 percent of small businesses were organized as partnerships. Rural firms are significantly more likely to be organized as sole proprietorships as opposed to corporations. Rural firms may have access to fewer sources of equity capital.

Financial Accounts

Metro and rural small businesses both rely on a wide variety of sources for financing (Table 2). Surprisingly, rural firms utilize each source just as frequently and to the same degree as their metro counterparts.

Just about all metro and rural firms have a checking account with an average balance of $30,000. Savings accounts are far less frequent with only 22 percent of firms using one. Nearly half of metro and rural firms use an owner's or business credit card for transaction financing, although statistically, rural firms use both credit cards less frequently.

Firms in poor financial condition and those with limited access to capital often have multiple (split) credit lines to bridge their financial needs. The vast majority of metro and rural firms (over 80 percent) in this survey patronize one creditor. The average credit limit ranges from $144,470 for rural firms to $377,316 for metro firms, but the difference is not statistically significant. The actual amount borrowed on both lines is approximately one-half. The majority of these lines do require a guaranty, but not collateral.

Rural small businesses do rely more on mortgage financing as a source of capital than metro small businesses. The average balance of mortgages supporting rural small businesses is $160,686. Rural and metro small businesses utilize vehicle loans as a source of capital to the same extent (20 percent of firms). The average vehicle loan balance exceeds $25,000.

Neither metro nor rural small businesses utilize equipment financing extensively. Small business equipment is often so specialized with minimal salvage value that financing is difficult to obtain. Moreover, many small business equipment manufacturers may not have the financial capacity to offer financing programs.

Over one-fourth of rural and metro small businesses received loans from stockholders. Average loan size ranged from $108,523 for metro firms to $150,313 for rural firms. Rural firms do statistically utilize other types of loans to a greater extent than metro firms do. This may be related to rural firm's relatively greater investment in land and depreciable assets. Moreover, the majority of rural firms are organized as sole proprietorships, and transactions costs associated with personal forms of credit (e.g. home equity loans, loans from relatives, etc.) maybe lower for sole proprietors.

In addition though, credit options in rural areas may be more limited. Thus, rural firms would be expected to rely more heavily on mortgages, other loans, and larger stockholder loans than shorter-term financing such as credit cards, that metro small businesses do. When financial services are limited, small business owners often draw on personal forms of credit to finance either investment or operations. Thus, reliance on mortgage, shareholder and other loan types by rural small businesses could be construed as an indicator of inefficient financial markets in rural areas. If rural financial markets were as efficient as metro markets, rural small businesses would be provided with and optimally use a full range of financial products.

Financial markets are presumed to be most efficient when a large number of financial institutions compete against each other. A common measure of financial market competition is the Herfindal index which is created by taking the percentage market shares of each firm in the market, squaring them, and summing.. In this survey, rural small businesses operated in regions of statistically lower bank concentration as compared with metro small businesses. With less competition, banks have less incentive to supply a breadth of financial products to risky small businesses. However, this lower concentration does not apparently lead to lower frequency or amounts of credit as rural firms appear to utilize loan products equal to or even to a greater degree than metro firms. As described in the next section, access to financial services is also on par with metro small businesses.

Use of Technology and Financial Services

The majority of small businesses do use computers frequently for business purposes (Table 3). Most popular uses of a computer are for accounting/bookkeeping, email, and general administration. However, use of computers for financial services such as PC banking and online credit applications is limited.

Computer usage among rural small businesses significantly lags behind metro firms. Rural firms are less likely to use computers for banking, email, internet sales, and administrative functions. Interestingly, rural firms utilize computers for inventory management more frequently than metro firms. Greater distance may preclude vendors from performing that function for them.

Rural and metro firms are frequent users of trade credit and periodic users of transactions services. However, few small businesses use other financial services for cash management, credit, trusts, or brokerage. Rural firms use a statistically higher rate of credit services and lower rate of trust services, although both are infrequent.

With respect to trade credit, metro and rural small businesses purchase over two-thirds of their supplies on trade credit. Consequently, it is not surprising that they report an average number of twenty trade credit suppliers. Rural firms are offered more frequent cash discounts (28 percent). Almost a third of both metro and rural small businesses report repayment of trade credit after the due date. The average length of discount is 14 days and the average discount is 2.41 percent for rural firms and 1.46 percent for metro firms, although the difference is not statistically significant.

Creditworthiness

As measured by the Dun & Bradstreet credit score, rural small businesses possess statistically higher creditworthiness (Table 4). Metro and rural firms appear to have similar frequency of being denied trade credit and bankruptcy. Moreover, rural small businesses are statistically less likely to be delinquent on business obligations, but more reluctant to apply for mortgage loans for fear of being denied. Over 25 percent of rural small businesses reported being delinquent on business obligations.

Conclusions

The 1998 Survey of Small Business Finances provides robust information on the financing of small businesses including an overview of their firm's organization, financial characteristics, and credit use. Information from the survey is used in this study to compare the financial characteristics of metro and rural small businesses. Nonparametric rank order statistical methods were required when comparing dollar values of metro and rural small businesses because normality assumptions were violated due to the high concentration of small firms.

On average, rural and metro small businesses were strong financially and profitable. Accounts receivable and inventory comprise nearly a third of total assets. Rural small businesses tended to have lower inventory and other current assets but higher levels of depreciable assets and land. Most small businesses utilized computers, primarily for accounting/bookkeeping, administration, and email. Primary financial services are used for transactions and trade credit. Two-thirds of purchases involve trade credit from more than twenty trade credit suppliers, on average.

Both metro and rural small businesses rely on a wide variety of sources for financing, although rural small businesses have significantly more mortgages and other types of loans, but fewer credit cards. Whereas most metro small businesses were organized as either sole proprietorships or corporations, significantly more rural firms were organized as sole proprietorships. This, and their larger investment in fixed assets, may partially explain rural small business's greater reliance on mortgage, stockholder, and other types of loans for financial capital. Lack of bank concentration in rural areas does not appear to stymie rural small business access to either loans or financial services. Rural small businesses possess higher creditworthiness, but nearly one-fourth still report being delinquent on business obligations.

Preliminary results of the survey leave a number of unanswered researchable questions. First, it is unknown whether the lack of statistical difference between metro and rural firms is in fact due to few differences between the two groups or whether high variation and non-normal distributions of firm size within each group limits statistical power. Second, the results reflect only one observation in time, a period of relatively strong economic prosperity. Additional study utilizing either past or future survey results could provide more robust conclusions. Finally, a number of interesting financial differences characterizing rural small businesses (emphasis on longer term assets, more personal forms of finance, greater numbers organized as sole proprietorships, and higher use of computers for inventory management and administration) could be delineated with multivariate analysis and resolve unexplained relationships raised in this preliminary review of the dataset.

References

Barkema, A.D., and M. Drabenstott. *Rural Credit Markets of the Future: Obstacles and Opportunities*. Paper presented at the Agricultural Outlook Forum 2000, Washington, DC, Feb. 24, 2000, 15pg.

Barry, P., and L. Robison. "Chapter 10: Agricultural Finance." *Handbook of Agricultural Economics*, B.L. Gardner and G.C. Rausser, eds., Elsevier, Amsterdam, 1a (2002):513-561.

Bitler, M.P., A.M. Robb, and J.D. Wolken. "Financial Services Used by Small Businesses: Evidence from the 1998 Survey of Small Businesses." *Federal Reserve Bulletin* Washington, DC, 87,4(April, 2001):183-205.

Credit in Rural America, Agricultural Economics Report #749, Rural Economy Division, Economic Research Service, U.S. Dept. of Agriculture. Washington, DC, April 1997, 128pg. http://www.ers.usda.gov/publications/AER749/.

Drabenstott, M., and L. Meeker. "A Conference Summary." *Financing Rural America*, Federal Reserve Bank of Kansas City, April, 1997, p1-10.

Edelman, M.A. "The Adequacy of Rural Capital Markets: Public Purpose and Policy Options." Economics Staff Paper 292, Department of Economics, Iowa State University, Ames, Sept. 1997, 9pg.

Gruidl, J.S. *New Businesses in Downstate Illinois*. Illinois Institute for Rural Affairs, Western Illinois University, Macomb, 1991, 60pg.

Holmes, M., and T.A. Park. *Portfolio Decisions of Small Agribusinesses: Evidence from the 1993 National Survey of Small Business Finance*. Selected paper, 2000 AAEA Annual Meetings, Tampa, FL, July 30-August 2, 2000, 23pg.

Lamberson, M., and C. Johnson "Financing Experiences of Small Manufacturers in Arkansas: Survey and Analysis." *Econ. Dev. Review* 10,2 (1992):62-66.

Markley, D.M., and K. McGee. *Business Finance as a Tool for Development*. The Aspen Institute, Washington, DC, 1992, 92pg.

Petersen, M., and R. Rajan. "The Benefits of Lending Relationships: Evidence From Small Business Data." *J. of Finance* 45 (1994):3-37.

RUPRI Rural Finance Taskforce. "The Adequacy of Rural Financial Markets: Rural Economic Development Impacts of Seven Key Policy Issues. A Background White Paper," P97-1, Rural Policy Research Institute, University of Missouri, Columbia, Jan. 3, 1997.

SAS Institute Inc. *SAS OnlineDoc, Version 8*, Cray, NC, 1999.

Schaffer, R., and G.C. Pulver. “Regional Variations in Capital Structure of New Small Businesses: The Wisconsin Case.” *Small Firms in Regional Economic Development: Britain, Ireland, and the United States*. D.J. Storey, ed., Cambridge University Press, Cambridge, England, 1985, p. 101-134.

Shaffer, R., and G.C. Pulver. “Rural Nonfarm Business’ Access to Debt and Equity Capital.” *Financial Markets Intervention as a Rural Development Strategy*. ERS Staff Report AGES 900, Economic Research Service, U.S. Dept. of Agriculture, 1990, p. 39-58.

Walraven, N.A. “Lending by Rural Banks Involved in Mergers.” *J. of Agr. and Appl. Econ.* 31,2 (August 1999):201-214.

Table 1. Financial Characteristics

Item	Metro		Rural	
	(Weighted Mean)	(Std.Dev.)	(Weighted Mean)	(Std.Dev.)
Income:				
Total sales	$1,064,665	2.74 E8	$664,088	8.71E7
Other income	14,764	5.88 E6	10,967	7.72E6
Cost of doing business	944,250	2.56E8	561,093	
Corp. tax	18,494	5.54E6	23,730	8.00E7
				5.46E6
Assets:				
Cash on hand	44,212	1.16E7	30,497	1.12E7
A/R	104,155	2.54E7	49,470	8.93E6
Inventory	79,803	3.06E7	69,438**	2.06E7
Other current assets	32,734	1.40E7	21,076*	9.66E6
Investments	14,441	6.03E6	19,529	2.13E7
Land, book value	30,799	1.31E7	39,947*	1.15E7
Depreciable assets	115,259	3.05E7	122,520*	3.17E7
Total assets	426,710	8.05E7	356,711	6.44E7
Liabilities:				
Accounts payable	66,306	1.40E7	43,465	1.60E7
Current liabilities	38,431	1.29E7	20,710	7.50E7
Total liabilities	261,456	5.90E7	194,199	4.50E7
	-------------percent-------------			
Organization:				
Sole proprietor	47	N/A	58**	N/A
Partnership	5	N/A	5	N/A
Corporation	45	N/A	33**	N/A

*Statistically significant based on Wilcoxon nonparametric linear rank test @ p < .05
**Statistically significant based on Wilcoxon nonparametric linear rank rest @ p< .01

Table 2. Source of Financing

Item	Metro		Rural	
	(Weighted Mean)	(Std. Dev.)	(Weighted Mean)	(Std. Dev.)
Have checking account (1 = yes, 2 = no)	1.05	9.01	1.07	9.51
If yes, average balance	$31,400	6.98E6	$29,096	7.77E6
Have savings account (1 = yes, 2 = no)	1.77	16.23	1.78	15.27
If yes, average balance	$63,230	1.03E7	$35,819	3.32E6
Use owner's credit card for business (1 = yes, 2 = no)	1.53	19.46	1.57*	18.28
If yes, average balance	$1,649	4.43E5	$1,011	3.11E5
Use business credit card (1 = yes, 2 = no)	1.65	18.59	1.69*	17.03
If yes, average balance	$2,558	3.43E5	$1,255*	1.09E5
Number of credit lines	1.19	17.94	1.10	17.33
If yes, credit limit	$377,316	8.03E7	$140,470	1.73E7
amount owed	$144,224	2.94E7	68,834	1.16E7
collateral required (1 = yes, 2 = no)	1.57	17.03	1.54	15.78
guaranty required (1 = yes, 2 = no)	1.39	16.81	1.44	15.74
Any mortgages? (1 = yes, 2 = no)	1.89	12.21	1.78**	15.25
If yes, principal owed	$279,887	2.56E7	160,686	2.34E7
Motor vehicle loan? (1 = yes, 2 = no)	1.80	15.70	1.79	15.07
If yes, principal owed	$25,254	6.10E6	29,310	2.40E6
Equipment loan? (1 = yes, 2 = no)	1.91	11.31	1.88	12.19
If yes, principal owed	$81,480	1.20E7	$90,253	2.37E7
Any loans from stockholders? (1 = yes, 2 = no)	1.72	15.94	1.74	16.31
If yes, principal owed	$108,573	1.32E7	$150,313	2.57E7
Any other loans? (1 = yes, 2 = no)	1.91	11.46	1.86*	11.09
If yes, principal owed	$118,499	1.94E7	$82,275	1.12E7
Herfindahl index		23.38	2.38**	13.47
1 = 0 < herfindahl < 1000				
2 = 1000 < = herfindahl < 1800				
3 = 1800 < herfindahl				

*Statistically significant based on Wilcoxon nonparametric linear rank test @ p< .05
**Statistically significant based on Wilcoxon nonparametric linear rank test @ p< .01

Table 3. Use of Technology and Financial Services

Item	Metro		Rural	
	Weighted Mean)	(Std. Dev.)	(Weighted Mean)	(Std. Dev.)
Computer use (1 = yes, 2 = no)				
Used computer for business	1.21	15.86	1.35**	17.67
If yes, computer used for:				
PC banking	1.84	13.39	1.89*	14.00
Email	1.24	16.34	1.28	15.57
Internet sales	1.63	18.46	1.68	16.10
Credit applications on line	1.94	8.55	1.95	7.66
Inventory management	1.60	18.71	1.54**	17.20
Administration	1.17	14.29	1.23**	14.42
Accounting/bookkeeping	1.17	14.30	1.18	14.31
Financial service use (1 = yes, 2 = no)				
Transaction services	1.58	19.23	1.62	17.98
Cash management services	1.94	8.82	1.96	7.58
Credit services	1.97	6.38	1.96*	7.58
Trade services	1.86	13.33	1.91	10.64
Brokerage services	1.95	8.21	1.97	6.42
Used trade credit	1.38	18.97	1.37	17.83
If yes: % of purchases	69.11	1,226	71.14	1,160
Number of trade credit suppliers	25.37	4,442	19.06	2,832
% offering cash discount	20.51	1,199	28.00*	1,338
% balance paid after due date	31.67	1,622	29.02	1,504
Length of discount period	13.97	537	14.20	606
Amount of discount	1.46	125	2.41	70.5

*Statistically significant based on Wilcoxon nonparametric linear rank test @ p< .05
**Statistically significant based on Wilcoxon nonparametric linear rank test @ p< .01

Table 4. Creditworthiness

Item	Metro		Rural	
	(Weighted Mean)	(Std. Dev.)	(Weighted Mean)	(Std. Dev.)
Dun & Bradstreet score (1 = low risk, 5 = high risk)	3.01	38.72	2.93*	36.04
Denied trade credit (1 = yes, 2 = no)	1.94	9.12	1.96	6.93
Bankrupt in past seven years (1 = yes, 2 = no)	1.95	6.07	1.97	5.69
Delinquent on business obligations (1 = yes, 2 = no)	1.32	34.15	1.26*	27.62
Didn't apply for mortgage loan fearing denial (1 = yes, 2 = no)	1.76	16.65	1.79*	14.96

*Statistically significant based on Wilcoxon nonparametric linear rank test @ $p < .05$