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**The Response of Commercial Banks**  
**to Rate Ceilings and Restrictions on**  
**Remedies on Consumer Credit Contracts**

**THE RESPONSE OF COMMERCIAL BANKS TO RATE CEILINGS  
AND RESTRICTIONS ON REMEDIES ON CONSUMER CREDIT CONTRACTS**  
**A. Charlene Sullivan\***

**Abstract**

In this paper, a discussion of the theory of loan pricing is presented from which a series of hypotheses are drawn relative to the predicted response of commercial banks to binding rate ceilings and collection remedy restrictions. The hypotheses are then tested using data collected in four local markets which were selected in order to maximize the differences in rate and remedy restrictions under which credit grantors in the local markets operate.

The analysis led to the following conclusions about the operating policies of banks in states with restrictive rate ceilings compared to banks in states with non-restrictive rate ceilings:

1. In Arkansas, where the rate ceiling is severely restrictive, the data indicate that banks do not require more collateral, serve a less risky segment of the market, or have a lower relative investment in consumer credit. Since all types of loans are covered by the usury ceiling, there was little incentive to divert funds from consumer credit during the period covered by the study.
2. Banks in Arkansas have a larger minimum size unsecured loan and purchase a larger percentage of used car loans from dealers.

In response to restrictive remedies:

3. Banks operating under non-restrictive rate ceilings charged higher rates on consumer loans than banks operating under less restrictive remedy legislation.
4. Banks in restrictive-remedy states required a higher down payment or used cosigners more frequently than banks operating under less restrictive remedy legislation.

In response to restrictive rates and remedies:

1. Banks in Wisconsin serve a significantly less risky segment of the consumer population and require higher down payments on auto contracts.
2. The usury law in Wisconsin applies to consumer credit only and banks in Wisconsin hold a significantly smaller percentage of their total investment portfolio in consumer credit.

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# THE RESPONSE OF COMMERCIAL BANKS TO RATE CEILINGS AND RESTRICTIONS ON REMEDIES ON CONSUMER CREDIT CONTRACTS

## A. Charlene Sullivan

The stated intent of legislation concerning rate ceilings and creditors' collection remedies is to protect consumers. Specifically, rate ceilings are intended to protect borrowers from having to pay unconscionable rates of interest on consumer loans. Restrictions on remedies are intended to protect consumers from unconscionable collection practices. Whether consumers demand such protective legislation is not a question that will be addressed in this paper. The purpose of this paper is to provide evidence of the adjustments in the terms of consumer credit contracts that are made by commercial banks in response to that legislation. By knowing how the suppliers of credit respond one can better evaluate the unintended effects of such legislation on the balance sheets of consumers.

### I. The Theory of Loan Pricing

The market price or rate of return required from a loan in an unregulated environment is a function of the riskless rate of interest, a risk premium, and the costs of creating, administering, and monitoring the contract until its maturity. Merton [11] developed a model to show that the risk premium (the difference between the yield-to-maturity of a risky debt security with a particular maturity and the yield on a riskless security with the same maturity) for a firm's pure discount bond is a function of two variables: (1) the variance or volatility of the firm's operations, and (2) the ratio of the present value (at the riskless rate) of the promised payment to the current value of the firm.

Black and Cox [3] used the Black-Scholes model to evaluate the effects of Indenture provisions on the value of corporate securities. They concluded that in a world with no taxes, indivisibilities, bankruptcy costs, transactions costs or agency costs, the value of pure discount debt issued by a firm is an increasing function of the reorganization value of the debt as specified in safety covenants relative to the present value of the promised final payment.<sup>1</sup>

In sum, these theoretical developments require that the required rate of return on a loan be a positive function of (1) the riskless rate (2) the variance of the income stream of the debtor; (3) the discounted value of the payment stream necessary to retire the loan relative to the wealth position of the debtor; (4) the present value of the restrictive covenants in the contract relative to the present value of the promised loan repayment stream; and (5) the cost of administering and enforcing the contract.

Every credit grantor will attempt to estimate these values in order to price a loan correctly. The riskless rate can be determined quite easily, as the market for U.S. Treasury securities is one of the most active of secondary markets. In the case of consumer debt, the variance or the volatility of cash flows of the borrower can be approximated by the variance in the borrower's income, the type of job held and the industry in which the borrower is employed. To estimate the present value of promised payments relative to the current value of the debtor's assets the credit grantor may relate the expected payment stream to the market value of collateral specified in the loan agreement. As was pointed out by Benston and Smith, "if collateral is included in a credit agreement, then the information costs imposed on the lender may be significantly lowered... if the lender can base the rate (risk premium) on his estimate of the risk associated with the collateral." ([2], p. 221) The credit

<sup>1</sup> Specifying  $Ce^{-y(T-t)}$  as the value of the debt in the event of bankruptcy and  $Pe^{-r(T-t)}$  as the present value of the promised final payment on the debt, Black and Cox formulated the reorganization value of the debt specified in the safety covenants as a constant function of the present value of the promised final payment  $Ce^{-y(T-t)} = \rho Pe^{-r(T-t)}, 0 \leq \rho \leq 1$ .

grantor will specify safety provisions or creditors' remedies in the contract to raise the expected value of the contract in the event of default to an acceptable level, given the risk characteristics of the debtor.

When binding restrictions are placed on the rate that a credit grantor may charge or the types of restrictive covenants that he may use to protect his own interest in the contract, a present-value maximizing credit grantor will still price the loan according to the values of the variables mentioned above. To achieve a new equilibrium when the rate that can be charged on a loan is restricted by law, the credit grantor would be expected to adjust other terms of the contract to reduce risk, serve a more creditworthy segment of the consumer applicant population or divert funds to investments with a "fair" expected rate of return. Consequently, we expect to find the following differences in consumer credit contracts of banks operating under binding rate ceilings compared to those of banks operating in states with unrestrictive rate ceilings:

- 1) A greater amount of collateral required for a standardized loan;
- 2) More restrictive covenants or greater use of available creditors' remedies;
- 3) Higher credit standards in order to serve a smaller, more creditworthy segment of the consumer population.
- 4) A higher minimum dollar amount for the smallest size loan the bank will grant;
- 5) A greater percentage of total consumer loans bought in the secondary market.

In response to collection remedy restrictions, we hypothesize that the credit grantor will make the following adjustments:

- 1) In areas where the rate ceilings are not binding, a higher average annual percentage rate (APR) will be charged on a standardized loan, as the remedy restrictions increase the creditor's costs of using collateral to reduce default risk.
- 2) In areas where rate ceilings are binding, holding all other things constant, a higher amount of collateral will be required.

## **II. The Empirical Data Base: The Local Market Study**

Personal interviews of consumers and credit grantors were conducted in one local market in each of four states in late 1978 and early 1979. Local markets were chosen as a basis for research for two reasons. First, local markets are where most consumer financial services are delivered. Second, using a local market database eliminates many of the biases found in studies that employ aggregate economic data. Most previous research on consumers' assets and liabilities and behavior of credit grantors has been at the macro level, or at best, at the state level, as in the case of the studies of the National Commission on Consumer Finance. Although aggregate economic studies may include many variables in their analyses, it is virtually impossible to control adequately for differences in market structure. This research will thus supplement and complement earlier studies.

The four market areas selected for personal interviews for credit grantors are identified in the grid below:

**Creditors' Remedies**

	More Restrictive	Less Restrictive
Low	I. Racine/Kenosha, Wisconsin	II. Little Rock/North Little Rock, Arkansas
High	IV. Lake Charles, Louisiana	III Waukegan/North Chicago, Illinois

The four local markets were chosen for empirical study on the basis of the following criteria:

(1) The relevant state laws allowed extremely different rates and sets of remedies. Our hypotheses suggest that the impact of differences in rate ceilings and creditors' remedies may be diffuse.<sup>2</sup> Consequently, it was necessary to select states with substantial differences in legislation in order to find measurable effects of legislation.

(2) Markets were chosen to minimize differences in socio-economic characteristics of the residents especially in the case of the northern "paired" cities. By matching cities, insofar as possible in terms of the nature of the industrial base and socio-economic characteristics of the residents, the need for multivariate empirical work to adjust for these differences is reduced.

When states were selected for the study, emphasis was placed on the rate ceilings most particularly applicable to high-risk consumers--rates permitted on personal loans made by licensed lenders. Consideration was also given to rate ceilings on revolving credit, since this form of credit (particularly retail revolving credit) is generally available to high-risk consumers. The two states that provide the setting for the analysis of the effects of restrictive rate ceilings are Arkansas and Wisconsin.

It is much more difficult to assess the "restrictiveness" of creditors' remedies, since the package of remedies available to creditors differs among states. A remedy-by-remedy comparison would not reveal the overall impact, of the entire set, since some remedies are more effective than others, taken alone or in conjunction with others. Consequently, the approach taken was to interview personnel associated with finance companies to identify states in which collections are fostered ("less restrictive") or hindered ("restrictive") by laws governing collection remedies.

On the basis of those responses, the two states that provide a setting for the analysis of the effects of differences in the restrictiveness of remedies are Louisiana and Illinois, both states with relatively high rate ceilings. Creditors surveyed generally regard Louisiana as restrictive, in part because of what they may see as cumbersome legislation, and in part because remedies are more difficult and costly to execute. For example, because self-help repossession is not available in Louisiana, the more costly process of replevin involving state legal action must be used. Illinois is generally regarded as a much more lenient state for collections, except with respect to foreclosure on residential property. (See Appendix A for a summary of legal remedies and rate ceilings for the four states.)

In December 1978 and January 1979, all commercial banks and savings and loan associations and a representative sample of finance companies, retailers, and credit unions within each of the four local markets

<sup>2</sup> Because lenders have many margins along which to make adjustments to the restrictions or to evade the restrictions.

were contacted for personal interviews. This paper is a report on the results of personal interviews of consumer credit managers of the commercial banks in the four local markets. Exhibit I contains information on the percentage of assets held by banks surveyed in each market area.

### III. Hypotheses and Evidence

According to the Federal Reserve Statistical Release G.10, the average rate of 36-month new auto loans during 1977 was 10.83 percent. For 24-month loans for other consumer goods the average rate in 1977 was 12.99 percent. Thus, during the period of study, the rate ceiling in Arkansas was binding on all types of consumer loans. In Wisconsin, the ceiling was binding only for certain types of loans. Variations in behavior between banks operating under binding rate ceilings and banks operating under unrestrictive rate ceilings are attributable to differences in the ceilings. Similarly, variations between banks operating under restrictive and unrestrictive remedy legislation are attributable to differences in that legislation. The cumulative effects of restrictions on rates and legal remedies are assessed by comparing bank behavior in the Wisconsin local market to bank behavior in the Illinois local market.

#### Evidence of Adjustments to Rate Ceilings

Rate ceilings arbitrarily limit the interest that a creditor can charge on a consumer credit contract. When the rate ceiling is above the market-clearing rate of interest for the risk class of customers served by the creditor, the legislation has little effect. However, when the rate ceiling is below the market-clearing rate, the creditor will have to make adjustments in operating policies or go out of business.

**Exhibit 1. Commercial Bank Response Rate**

Market	Total Number in Sample	Response Rate	% of Total Market Area Bank Assets
I. Racine/Kenosha, Wisconsin	15	80%	71.5%
II. Little Rock/North Little, Arkansas	8	88	98
III. Waukegan/North Chicago, Illinois	7	100	100
IV. Lake Charles, Louisiana	5	100	100

Credit Grantor Survey, 1979  
Credit Research Center, Purdue University

The adjustments hypothesized are that banks will reduce risk by changing other characteristics of credit contracts (collateral, creditors, remedies); serve a smaller, more creditworthy segment of the consumer population in their market area; reduce relative administrative costs by increasing loan size or buying more contracts on the secondary market where higher yields are available; or divert investment funds to unregulated loan activities offering a "fair" expected return. These hypotheses will be tested by using analysis of variance and dummy variable regression techniques to estimate the effects of the restrictions on characteristics of the portfolios and policies of banks operating under the restrictions.

**Collateral Requirements.** Theory suggests that the riskiness of a loan increases as the face value of the debt increases relative to the market value of the collateral, holding everything else constant. Thus, a credit grantor can reduce risk by reducing the loan-to-value ratio required on a credit sales contract. Not only does this action reduce the risk of the contract per se, but it also causes high-risk applicants to drop out of the credit grantor's applicant pool.

Data were collected in the survey concerning the "usual loan-to-dealer-cost ratios" that would be required on direct and indirect sales credit contracts with 36- and 48-month maturities on new and used automobiles. (See Appendix B for a listing of the questions from the questionnaire that gave rise to responses used in the analysis reviewed in this paper.)

To test the hypothesis that bank managers operating under binding rate ceilings required more collateral for a standardized auto loan than bank managers operating under unrestrictive ceilings the ratios are regressed against the "most likely" APR quoted on the contract with dummy variables for the effects of binding rate ceilings, remedy restrictions, maturity, new versus used auto, and direct versus purchased contracts. We expected that the coefficient on the rate ceiling variable would be negative. The data in Exhibit 2 show that the coefficient of the low-rate dummy variable is positive but not significant. Thus, the data do not support the hypothesis that banks operating under binding rate ceilings usually require a greater amount of collateral on a credit extension secured by an automobile than banks operating under unrestrictive rate ceilings.

Another type of collateral that creditors may use to decrease risk is creditors' remedies. Although the set of legal creditors' remedies differs by state, the state laws in each of the four market areas allow the use of a cosigner on consumer credit contracts. We tested the hypothesis that banks operating under binding rate ceilings use cosigners more frequently than banks in high-rate states on direct auto contracts. The results of the analysis shown in Exhibit 3 indicates that there is not a significant rate ceiling effect on the frequency with which cosigners are required for direct auto loans.

The rate ceiling in Wisconsin for unsecured personal loans less than \$1000 is 18 percent. Therefore, to test whether binding rate ceilings was associated with a greater use of cosigners for unsecured personal loans, we used only the Arkansas-Illinois data. The results of that analysis indicates that although cosigners are used more frequently in Arkansas, the relationship is not significant.

**Risk of Customers Served.** As we rejected both hypotheses that banks operating under binding rate ceilings would require more collateral or use cosigners more frequently, we tested the hypothesis that banks in restrictive rate states reduce risk by raising credit standards instead of adjusting contract terms. Presumably, a bank serving a more creditworthy clientele will report a lower incidence of delinquencies than a bank serving a less creditworthy clientele. We analyzed monthly delinquency statistics for the period 1976-1978 reported by a sample of banks in each of the four states. The delinquency statistics are calculated by the American Bankers Association (ABA) as a weighted average of the number of loans delinquent for eight different types of consumer loans (mobile home, home appliance, personal installment, direct auto, indirect auto, FHA title I, recreational vehicle, and home improvement).

The tests of difference in means shown in Exhibit 4 of the delinquencies for banks in Arkansas versus banks in Illinois and delinquencies for banks in Wisconsin versus those of banks in Louisiana suggest that banks in Arkansas have not reduced risk by serving a less risky customer group than banks in Illinois. However, the data suggest that banks in Wisconsin do serve a significantly less risky segment of the consumer population than banks in Louisiana.

The results of this analysis along with those of the previous tests suggest that the consumer credit investments of banks in Arkansas should be dominated by alternative investments offering a "fair" return. Thus, we would expect to find that banks in Arkansas have diverted funds from consumer credit to more profitable investment alternatives.

Exhibit 2. Analysis of Loan-to-Dealer-Cost Ratios

Regression:  $L/D_i = \alpha + \beta_1 D_1 + \beta_2 D_2 + \beta_3 D_3 + \beta_4 D_4 + \beta_5 D_5 + \beta_6 D_6 + \beta_7 R_i$   
 (N = 128)

$L/D_i$  = usual ratio of loan-to-dealer-cost required on loan i

$D_1$  = 0-1 dummy variable taking value of 1 for banks operating under binding rate ceilings

$D_2$  = 0-1 dummy variable taking value of 1 for restrictive-remedy states

$D_3$  = 0-1 dummy variable taking value of 1 for banks operating under binding rate, restrictive remedy laws

$D_4$  = 0-1 dummy variable taking value of 1 for purchased auto paper

$D_5$  = 0-1 dummy variable taking value of 1 for 48-month contract

$D_6$  = 0-1 dummy variable taking value of 1 for used auto contract

$R_i$  = most likely rate (APR) charged on loan i

Equation	$\alpha$	$\beta_1$	$\beta_2$	$\beta_3$	$\beta_4$	$\beta_5$	$\beta_6$	$\beta_7$
	92.55	.51	+7.31*	-16.43*	+2.10	-.21	-2.98	-.297
		(.22)	(2.74)	(-6.19)	(1.12)	(-.11)	(-1.29)	(-.31)

Overall F = 7.79\*

(t-value in parenthesis)

\* Significant at .05 level of confidence

Exhibit 3. Frequency of Use of Cosigners

Type of Credit: Direct Auto  
Analysis of Variance

Means of Variables					Sources of Variation	Mean Square	Df	F
Rates	Remedies		Unre-strictive					
	Restrictive							
	$\bar{X}$	N	$\bar{X}$	N				
Low	6.17	12	16.57	7	Rate Ceilings	208	1	.28
					Remedy Restrictions	7630	1	10.20*
High	59.0		8.86	7	Interaction	5715	1	7.64*

Type of Credit: Unsecured Personal  
Regression Analysis

$\alpha$	$D_1$	$D_2$
11.29	+6.14 (.36)	+18.64 (1.24)

$D_1$  = 0-1 dummy variable taking value of 1 for banks in Arkansas (binding rate state)

$D_2$  = 0-1 dummy variable taking value of 1 for banks in restrictive-remedy states.

Means of Variables

Low	7.0	12	17.43	7
High	61.0	5	11.29	7

\*Significant at .05 level of confidence

Statistics tabulated from responses to the question: "About what percentage of the time do you require a cosigner when a consumer applies for the first time for the following types of credit?"

Credit Grantors Survey, 1979; Credit Research Center, Purdue University

An analysis of variance of the ratio of consumer credit to total assets of banks in the sample (Exhibit 5) indicates that banks in the two low-rate states do not have a significantly lower percentage of total assets invested in consumer credit than banks in high-rate states. Because the ten percent rate ceiling applies to all types of credit in Arkansas, there is little incentive to divert loanable funds from consumer credit. However, in Wisconsin the rate ceiling applies to consumer credit only. The data suggest that the interaction of low rates and restrictive remedies in Wisconsin results in a significant reduction in investment in consumer credit as a percent of total bank assets. Wisconsin banks have an average of about 14 percent of total assets invested in consumer credit compared to 17 percent for banks in Arkansas, 18 percent in Illinois and 25 percent in Louisiana. In another paper, we will evaluate the extent to which consumers of asset services of banks in binding-rate states subsidize the consumers of liability services through higher service charges and less service and convenience.

**Size of Minimum Unsecured Loans Granted.** A method of reducing relative expenses of administering a loan is to eliminate the more costly types of credit, specifically small short-term loans. A large portion of the direct costs of making and collecting a loan are fixed. Hence, small short-term loans are relatively more costly than larger long-term loans. To illustrate, the most recent Federal Reserve System's Functional Cost Analysis shows that for banks with deposits ranging from \$50 million to \$200 million, the breakeven loan size for 24 months

would be \$1,681 at an effective rate of 11.0 percent, but would be only \$755 if the loan had an 18.0 percent rate.<sup>3</sup>

Exhibit 4. Average Number of Loans Delinquent as Percent of Total Number of Loans Outstanding,\* 1976-1978 (Monthly)

Rates Ceilings	Remedies	
	Restrictive	Unrestrictive
Low	<u>Wisconsin</u>	<u>Arkansas</u>
	$\bar{x}_4 = 2.01$	$\bar{x}_1 = 2.29$
	$\sigma = .26$	$\sigma = .32$
	$n = 36$	$n = 36$
High	<u>Louisiana</u>	<u>Illinois</u>
	$\bar{x}_3 = 2.35$	$\bar{x}_2 = 2.42$
	$\sigma = .32$	$\sigma = .26$
	$n = 36$	$n = 36$

Difference in Means Test

$$Z = \frac{\bar{x}_3 - \bar{x}_4}{s_{\Delta x}} = \frac{.34}{.1470} = 2.31^{**}$$

$$Z = \frac{\bar{x}_2 - \bar{x}_1}{s_{\Delta x}} = \frac{.13}{.1470} = .88$$

$$Z = \frac{\bar{x}_1 - \bar{x}_4}{s_{\Delta x}} = \frac{.28}{.1470} = 1.90^{**}$$

$$Z = \frac{\bar{x}_4 - \bar{x}_2}{s_{\Delta x}} = \frac{.41}{.1470} = 2.79^{**}$$

\*\* Significant at .05 confidence level

\*Source: Delinquency Rates on Bank Instalment Loans, American Bankers Association, 1976, 1977, 1978.

<sup>3</sup> Federal Reserve System, Functional Cost Analysis - 1977 Average Banks, pp. 12-28.

**Exhibit 5. Consumer Credit as Percent of Total Assets**

**Variable Means  
Remedies**

<b>Rate Ceiling</b>	<b>Restrictive</b>		<b>Unrestrictive</b>	
Low	$\bar{x}$	N	$\bar{x}$	N
	13.74	12	17.12	7
High	25.27	5	17.94	7

<b>Analysis of Variance</b>	<b>Mean Square</b>	<b>Df</b>	<b>F</b>
Sources of Variation			
Rate Ceilings	1406.6	1	.033
Remedy Restrictions	170073	1	3.99
Interaction	208435	1	4.89*
Explained	156876.9	3	3.68*
Error	42624.9	26	

\*Significant at .05 level of confidence.

Credit Grantors Survey, 1979  
Credit Research Center, Purdue University

The cost structure of providing consumer installment credit would suggest that lenders in states with binding rate ceilings would set higher minimums on cash loans than lenders in states with more lenient rates. As shown in Exhibit 6, the "smallest size of unsecured personal loan" that bank managers in Arkansas reported they would be willing to make was \$928.57 higher than the minimum loan in the unrestrictive rate state.

**Secondary Market Activities.** It was noted above that rate ceilings apply only to the finance charges assessed consumers. For example, in Arkansas automobile dealers and banks may not directly charge credit buyers more than ten percent per annum. But a bank may buy installment notes from dealers at a price that effectively yields the bank more than ten percent. The dealer covers that cost by charging a higher retail price on the automobile. Thus, in states with a binding rate ceiling we expect to find fewer direct auto loans being made by commercial banks in relation to purchased paper. An examination of the percentage of total auto loans that were made directly to the consumer (Exhibit 7) shows that banks operating under binding ceilings did not have a significantly lower percentage of direct new auto contracts than banks in high rate states. However, the mean percentage of direct used auto contracts was 41.69 percent points lower for banks operating under binding rate ceilings than for banks in high-rate states.

**Exhibit 6. Average Minimum Size Direct Unsecured Loan  
(Dollars)**

**Variable Means  
Remedies**

<b>Rate Ceiling</b>	<b>Restrictive</b>		<b>Unrestrictive</b>	
Low	$\bar{x}$	N	$\bar{x}$	N
	587.50	12	1571.43	6
High	400.00	5	642.86	6

## Regression Analysis

$D_1$  = 0-1 dummy variable taking value of 1 for banks in Arkansas (binding rate state)

$D_2$  = 0-1 dummy variable taking value of 1 for banks in restrictive remedy states

Coefficients on:

642.86	$D_1$	$D_2$
	924.57*	-92.86
	(6.21)	(-.72)

\*Significant at .05 level of confidence (one-tailed test)

Credit Grantor Survey, 1979

Credit Research Center, Purdue University

## Exhibit 7. Percent of Auto Loans That Are Direct Loans

### Variable Means Remedies

Loan Type	Rates	Restrictive		Unrestrictive	
		$\bar{x}$	N	$\bar{x}$	N
New Auto	Low	70.43	7	53.83	3
New Auto	High	87.98	4	75.63	4
Used Auto	Low	71.30	7	18.57	3
Used Auto	High	93.75	4	73.63	4

Analysis of Variance	Mean Square	Df	F
Sources of Variation			
Rate Ceilings	67157	1	.669
Remedy Restrictions	61636	1	.614
Interaction	25297	1	.252
Explained	97238	3	.96
Error	100384	14	
Rate Ceilings (A)	519425	1	7.12*
Remedy Restrictions (B)	100675	1	1.38
Interaction (AB)	75142	1	1.03
Explained	369587	3	5.06*
Error	72953	14	
Mean Rate Effect	41.69%		

\*Significant at .05 level of confidence

Credit Grantors Survey, 1979

Credit Research Center, Purdue University

## Evidence of Effect of Restrictions on Creditors' Remedies

The effects of restrictions on creditors' remedies are likely to be less pervasive than the impact of restrictive rate ceilings because a smaller volume of consumer credit is affected. Current data are not available showing the frequency of consumers' problems with debt, but a study made in 1967 based on personal interviews of debtors indicated that only seven percent of consumers admitted to some credit trouble in the

past.<sup>4</sup> More recent data from a sample of consumer finance companies show that 3.93 percent of accounts were delinquent with no payments being received for 60 days or more, or only partial payments having been received during the previous 60 days.<sup>5</sup> These data suggest that only a small portion of consumer debtors are subject to creditors' collection remedies, although the availability of the remedies undoubtedly acts as a deterrent to delinquency.

Creditors' remedies increase the costs of contract violation to the borrower, like other forms of collateral. In the absence of all remedies the only cost of default to the debtor is the loss of the present value of future dealings with creditors.<sup>6</sup> It is reasonable to say that the presence of creditors' remedies will not change the behavior of some borrowers, because they have a strong preference for current consumption and therefore place a high value on their ability to obtain credit in the future. For debtors not in this group, the presence of creditors' remedies in the contract raises the cost of default and thus serves to decrease the risk of default. Therefore, in response to the imposition of restrictive remedy regulation, we hypothesize that banks will charge a higher rate on consumer credit contracts to offset higher expected collection costs and use other types of collateral more frequently than banks operating in states with nonrestrictive remedies.

**Raise Price of Credit.** A past study of the effects of restrictions on remedies used in consumer credit contracts found that in those states where rate ceilings are not binding, the restriction of remedies results in an increase in the price of credit.<sup>7</sup> Other things being equal, we would expect rates on standardized personal loans made by commercial banks in Louisiana, the high-rate, restrictive-remedy state to be somewhat higher than in Illinois, the high-rate unrestricted-remedy state, because of the differences in legal creditors' collection remedies. An analysis of the "most likely rate of interest" (APR) charged on four standardized types of personal loans in Louisiana and Illinois suggests that for each type of loan except the mobile home loan, the average rate in the restrictive-remedy state is significantly higher than the rate in the unrestricted-remedy state (Exhibit 8).

**Increase Collateral Requirements.** One would expect that in states with unrestricted rate ceilings, banks would respond to restrictions on remedies by using other available types of collateral more frequently. In the analysis of loan-to-dealer-cost ratios (Exhibit 2), the restrictive remedy dummy variable has a significant positive coefficient, which indicates that a larger down payment is not usually required. However, in the analysis of use of cosigners (Exhibit 3) banks in the higher rate state with remedy restrictions use cosigners significantly more frequently than banks in the high-rate, unrestricted-remedy state for direct auto loans. In Louisiana, the creditor has to go to court to get permission to repossess an auto thus making the auto in an auto loan contract a less preferred type of collateral. In contrast, the banker in Louisiana can demand immediate payment from a cosigner without court action.

### **Evidence of the Cumulative Effect of Rate Ceilings and Restrictions on Creditors' Remedies**

In states where rate ceilings are binding, one would expect the credit grantor to respond to remedy restrictions by making greater use of alternative forms of collateral. In the analysis of the loan-to-dealer-cost ratios (Exhibit 2) the coefficient of the restrictive-remedy, restrictive-rate dummy variable has a significantly negative sign, as expected. But, in contrast to Louisiana bankers, data in Exhibit 3 indicate that bankers in

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<sup>4</sup> See David Caplovitz, Debtors in Default, Volume 1, New York: Bureau of Applied Social Research, Columbia University, 1970, pp. 2-38.

<sup>5</sup> The First National Bank of Chicago, "Consumer Finance (Direct Cash Lending) Consumer Ratios," June 30, 1978.

<sup>6</sup> See John Umbeck and Robert Chatfield, [13].

<sup>7</sup> See Douglas Greer, "An Econometric Analyses of the Personal Loan Credit Market," Volume IV, Technical Studies, National Commission on Consumer Finance, Washington, D.C., 1973.

Wisconsin use cosigners significantly less frequently on direct auto contracts than the bankers in the other markets.

This evidence in conjunction with the analysis of loan delinquency rates (Exhibit 4) suggests that banks operating under the twin burden of rate ceilings and remedy restrictions not only reduce risk by serving a more creditworthy clientele but also make contract terms more restrictive.<sup>8</sup> On average, Wisconsin banks are serving a smaller segment of the relevant local market than banks in the other test areas. Confirmation of this is found in the examination of the proportion of each banks' total portfolio invested in consumer credit (Exhibit 4). In Wisconsin, banks divert a significant percentage of funds from consumer credit to less regulated investment opportunities.

**Exhibit 8. Analysis of Average "Most Likely" Rates on Consumer Loans (APR)**

**Variable Means Remedies**

<b>Loan Type</b>	<b>Restrictive x</b>	<b>Restrictive N</b>	<b>Unrestrictive x</b>	<b>Unrestrictive N</b>
12-month direct unsecured personal loan for \$1000	15.6	5	13.46	7

**Mean Remedy Effect 214 basis points**

<b>Loan Type</b>	<b>Restrictive x</b>	<b>Restrictive N</b>	<b>Unrestrictive x</b>	<b>Unrestrictive N</b>
24-month direct unsecured personal loan for \$2000	15.29	5	13.62	7

**Mean Remedy Effect 167 basis points**

<b>Loan Type</b>	<b>Restrictive x</b>	<b>Restrictive N</b>	<b>Unrestrictive x</b>	<b>Unrestrictive N</b>
24-month direct secured personal loan for \$2000	15.85	5	13.31	6

**Mean Remedy Effect 254 basis points**

<b>Loan Type</b>	<b>Restrictive x</b>	<b>Restrictive N</b>	<b>Unrestrictive x</b>	<b>Unrestrictive N</b>
10-year mobile home loan with 40-90%	12.51	3	11.57	4

**Mean Remedy Effect 94 basis points**

<b>Sources of Variance</b>	<b>Mean Square</b>	<b>Df</b>	<b>F</b>
Remedy Restrictions	84235	1	5.81*
Error	14488	10	
Remedy Restrictions	81065	1	5.89*
Error	13748		
Remedy Restrictions	175169	1	10.94*
Error	16012	9	
Remedy Restrictions	15336	1	2.04
Error	7501		

\*Significant at .05 level of confidence. Credit Grantors Survey, 1979. Credit Research Center, Purdue University

<sup>8</sup> In a study of banks' lending response to restricted creditors' remedies, Dunkelberg [7] found that changes in bank policies made in response to remedy restrictions includes reductions in credit availability, reduction in borrowing options available to consumers, and higher rates and charges.

#### IV. Conclusions

In this paper, we have discussed how credit grantors would theoretically respond to restrictions on rate ceilings and creditors' remedies. Then survey data collected in states with extreme differences in regulation concerning rate ceilings and creditors' remedies were analyzed. The results of that analysis led to the conclusion that it is difficult to generalize about the effects of restrictive rate ceilings and creditors' remedy restrictions. In Arkansas, where the rate ceiling is severely restrictive, the data do not indicate that banks have adjusted credit-granting policies to reduce the risk of their consumer credit portfolio nor have they reduced investment in consumer credit. In another paper we evaluate the pricing of bank asset services to consumers in Arkansas to determine the extent to which demand deposit customers are subsidizing liability service customers.

The data do support the hypothesis that restrictions on creditors' remedies will result in a significant increase in the cost (APR) and collateral requirements on loans made in areas where rate ceilings are not binding.

The analysis of the effect of the double burden of restrictive rate ceilings and restrictive remedies is especially interesting in light of the fact that when the data were collected, the rate ceiling in Wisconsin was not binding for all types of consumer loans. Nevertheless, the data suggest that banks will adjust to rate and remedy restrictions on consumer credit by reducing investment and having more restrictive credit standards and contract terms. The burden of rate and remedy regulation is much more severe than the effect of either regulation taken by itself especially when readily available alternative investments are not affected by the restrictions. In light of the fact that there were no unregulated types of loans in Arkansas, the rate ceiling does not have a measurable impact on banks' policies concerning consumer credit. Where rate ceilings are not binding, remedy restrictions taken by themselves can be adjusted for through rate increases and the use of alternative forms of collateral.

The research reported here represents a unique effort to measure the effects of different regulatory environments upon the behavior of commercial banks. Because credit grantors may respond to different regulatory climates in a great variety of ways, states were chosen for study that had wide variations in regulations. In this manner, the direction of behavior would be more clearly revealed than if the test states had narrow differences in the restrictiveness of their laws. It follows that the variations in operating policies observed here would be less in states with less extreme differences in their laws. Given the small sample and the complex measurement problems, it is not possible to provide precise measurements of the effects of regulation; e.g., a four percentage point increase in rate ceilings will yield a 17 percent increase in amounts of credit extended. Instead, the study is intended to show the direction of the effect and to serve as a model for similar studies of other forms of regulation of consumer products and services.

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**APPENDIX A: DATA ON LOAN RATES & CREDITOR'S REMEDIES FOR SELECTED STATES**

	<b>Ark.</b>	<b>Ill</b>	<b>La.</b>	<b>Wisc.</b>
I. Remedies				
1. Fees clauses allowed	Yes	Yes		Yes
2. Conf. judgment allowed		Yes	No for small loans and after maturity	No
3. Blanket security	Yes	Yes	Requires notarized list of security	Restricted
4. Waiver of exemption	Yes	Yes	Yes	Yes
5. Repossession	Yes, UCC	Yes, UCC	No self-help	Judicial
6. Deficiency judgment	Yes, under UCC	Limited election	No UCC	Limited election
7. Garnishment (exemptions)	\$200/person \$900 HH head & 25/week	\$65/\$50 week or 85% or Federal	\$70 or prohibited	75% or 40 x min. wage + \$15/dependent
8. Wage assignments	Yes but restricted	Restricted	Yes but restricted	Restricted
9. Late charges	No provision	5% or \$10	Deemed interest must be less than max. rate 3% or \$5	3% or \$3
10. Collection charges	No provision	Attorney's & court fees	Attorney's fees up to 25% of balance due	Severely limited No attorney's fees
Rate Ceilings				
1. Retail revolving: rates and point where lower rate is effective	10%	1.8% monthly, 70 ¢ min bank 1.5% monthly	1.5% A.D.B., monthly 50¢ min	1.5%, 1% above \$500
2. \$3,600 3 yr. new auto loan	10%	14.55	15.00	12.83
3. \$1,000 1 yr. small loan	10%	25.67% small loan or 18.57%, CI Loan Act refin. Charge	35.45%	18.52% DLA or 16.31% WCA

Appendix B

1a. Looking at this card, please give me the dollar amounts of your consumer credit portfolio for year-end 1977. Let's start with new car loans. RECORD ON GRID.

FOR EACH TYPE LOAN NOT "D.P." IN Q1a, IMMEDIATELY ASK:

1b. What percentage of these dollar amounts is in direct loans rather than purchased paper? CONTINUE WITH REST OF LIST.

	Q1a.			Q1b.	
	D.P.	EST.	1977 OUTSTANDING	EST.	% DIRECT LOANS
1. New Auto Loans	( )	( )	\$ _____	( )	_____ %
2. Used Auto Loans	( )	( )	\$ _____	( )	_____ %
3. Total Auto Loans	( )	( )	\$ _____	( )	_____ %

2. Please tell me what terms you would most likely apply today on the transactions on this card.\* ASK FOR NEW CAR AND THEN USED FOR 36 MONTHS... ETC. IF USED CAR LOANS NOT PROVIDED BY RESPONDENT, CHECK D.P. BOX AND CONTINUE WITH NEXT ITEM.

	Consumer Loans Secured By:				
	New Car		D.P.	Late Model Used Car	
	Most likely rate	Usual ratio of loan to dealer cost		Most likely rate	Usual ratio of loan to dealer cost
(a) Direct loans:					
(1) 36-month	_____	_____	( )	_____	_____
(2) 48-month	_____	_____	( )	_____	_____
(3) NO DIRECT LOANS					
(b) Purchased Paper:					
(1) 36-month	_____	_____	( )	_____	_____
(2) 48-month	_____	_____	( )	_____	_____
(3) NO PURCHASED PAPER			NO PAPER		

\*The rate typically charged by dealer to customer as shown in the truth-in-lending disclosure statement.

3. Please tell me what rates you would most likely charge today on the transactions on this card. By this I mean the rate as shown in the truth-in-lending statement.

	RATE
(a) A 12-month direct, unsecured personal loan for \$1,000	_____
(b) A 24-month direct, unsecured personal loan for \$2,000	_____
(c) A 24-month personal loan for \$2,000, secured by household goods or other consumer durables	_____
(d) A 10-year direct loan for \$12,000 on a new mobile home, with a loan-to-dealer-cost ratio of 90%	_____

4. About what percentage of the time do you require a cosigner on direct auto loans and unsecured personal loans? (ASK FOR ONLY THESE 2 TYPES AND RECORD ON GRID BELOW UNDER Q.4).

	<u>D.P.</u>	<u>Check with other creditors</u>	<u>Obtain a credit report</u>	<u>Q.4 Cosigner</u>
a. Purchased auto paper	( )	% _____	% _____	XXX
b. Direct auto loans	( )	% _____	% _____	% _____
c. Unsecured personal loans	( )	% _____	% _____	% _____