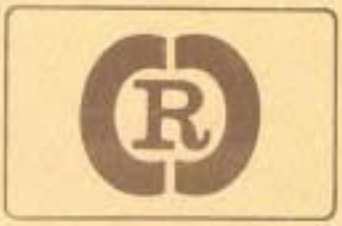

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WORKING PAPER No. 3

The Impact of General Credit Restraint on Consumer Instalment Credit Flows

1975

Krannert Graduate School of Industrial Administration - Purdue University

THE IMPACT OF GENERAL CREDIT RESTRAINT ON CONSUMER INSTALMENT CREDIT FLOWS

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While most economists would agree that changes in monetary policy impact significantly on the economy, many have taken the view that the supply of consumer credit is not responsive to changes in such policy. This point.of view was taken by the majority of economists who contributed to the extensive study of the consumer credit market sponsored by the Federal Reserve Board [2] in 1957 and summarized by Warren Smith [10] in 1958. Such a viewpoint leads to the conclusion that direct regulation of the consumer credit markets is necessary if regulators wish to influence the rate of expansion of consumer credit. It also suggests that the consumer credit markets do not channel the effect of changes in monetary policy into the economy as a whole.[1]

The majority view is not unanimous, however, as several economists have written papers suggesting that monetary policy may affect the consumer credit markets significantly. This paper first examines those papers and points out deficiencies that may have weakened the authors' arguments. It then goes on to present a body of evidence that avoids the deficiencies noted in the earlier papers and that strongly supports the hypothesis that changes in monetary policy--as measured by changes in commercial bank net borrowed reserve positions--impact both significantly and quickly on the consumer credit markets by changing commercial banks' willingness to extend consumer credit.

The data presented in this paper apply to the 1965-74 period. That period was selected for intensive study because aggregate credit conditions fluctuated frequently and sharply during that interval.

Previous Studies

In an article designed to challenge arguments favoring direct credit controls, Thomas Mayer [4] used data on the relationship of consumer credit outstanding to disposable income in attempting to refute the assumption that consumer credit is insensitive to changes in monetary policy. To buttress his position, he presented a number of theoretical arguments suggesting consumer credit should be directly responsive to monetary policy, and he cited a cross-section study by Paul Smith [9] that showed that some banks experiencing slow growth in deposits cut back disproportionately on the rate of expansion of their consumer loan holdings.[2]

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[1] For instance in Consumer Spending and Monetary Policy: The Linkages, Selden [7], has suggested that the observed lagged effect of changes in monetary policy--as measured by altered rates expansion in M 2—on the rate of growth of consumer instalment credit outstandings, probably results from the impact which changes in monetary balances have had on consumer demand for durable goods via general portfolio balance effects. Other papers in the same study [5], [6], [11], did not explicitly explore the operation of the consumer credit markets, but instead used interest rate, liquidity, stock price, and other wealth and asset variables to explain the impact which changes in monetary policy have on consumption.

[2] Smith found the speed and degree of cutback in the growth rate of individual banks' consumer loan holdings, for banks with slow growing deposits, depended on the importance of consumer lending to the bank. In another study of inter-temporal bank Call Report data, Kresge [3] showed that, in the aggregate, large urban banks, which typically do not hold a large portion of their portfolios in consumer loans, disproportionately restricted the availability of funds to the consumer loan market during the tight money phase of the 1965-1967 period.

What Mayer's paper did not thoroughly document is the mechanism by which a change in monetary policy might affect changes in consumer credit supplies. In particular, his investigation was hampered by the fact that he could not unequivocally separate consumer credit supply and demand phenomena. Given his data, he could merely suggest that one year subsequent to altered rates of growth in the money stock, observed changes in consumer credit outstanding to income ratios were greater than would be implied solely by short-run changes in the income-related demand for consumer durables. However, he did not establish a direct linkage between the money stock, consumer durables expenditures, and consumer credit outstanding.

Smith's findings were limited in their applicability because they applied only to selected individual banks and hence were not necessarily applicable to the entire consumer credit market. Thus, while they provided a basis for believing that monetary policies that affected individual commercial bank reserve positions could affect the rate of bank consumer credit expansion, they did not demonstrate that such an effect existed in the aggregate.

The interpretation of both Mayer's and Smith's results is further complicated by the fact that they used only data on consumer credit outstanding in their analyses. Since credit outstandings may change as a result of shifts in either credit extensions by credit grantors or in credit payments by consumers, such data are not necessarily appropriate for documenting the mechanism by which changes in general credit conditions may affect consumer credit supplies.

Finally, because Mayer and Smith used only data on outstandings, neither one recognized that changes in general credit conditions may affect creditor participation in the credit markets and the growth rate of credit extensions considerably faster than they affect the growth rate of consumer credit outstandings.[3]

This paper attempts to remedy the deficiencies in the studies noted above.

Bank Consumer Lending During Periods of General Credit Restraint

Indices of general credit restraint policies are difficult to obtain because most measures of credit market conditions are affected by both credit demand and credit supply phenomena. In the short run the monetary authorities have less than complete control over the monetary aggregates. In addition, interest rates may vary according to a variety of influences. Furthermore, interest rate and monetary aggregate growth rate measures can be affected by current or anticipated rates of inflation. Thus, it was not possible to obtain a single interest rate or monetary aggregate growth rate criterion that would effectively denote periods of policy restraint and non-restraint over the 1965-74 period. Instead, periods of general credit restraint were defined according to the aggregate commercial bank net borrowed reserve position.

Commercial bank net borrowed reserves were considered to be appropriate for measuring periods of monetary restraint because they can be increased by a monetary policy which either subtracts reserves from the banking system or increases bank reserves at a rate lower than the expected rate of deposit expansion. In such an event, some individual commercial banks could be expected to hold more net borrowed reserves than they would otherwise consider desirable and, thus, would be likely to sell securities or make fewer new loans or investments in an attempt to restore their reserve positions to a more desirable level. If banks in general were to

[3] It should be noted, however, that in a later paper, Smith [8] noted that the use of consumer credit extensions rather than consumer credit outstandings data was not only preferable but also gave a different picture of the impact which consumer credit expansion had over the course of the business cycle--with credit extensions leading changes in the cycle as a whole and credit outstandings moving coincidently with, or even lagging, broader cyclical changes.

undertake policies designed to reduce their rate of expansion of loans and investments, the economy as a whole would find short-term credit less readily available. Thus, we define periods in which commercial bank net free reserves are significantly negative as periods of general credit restraint.

A definition of general credit restraint based on bank-borrowed reserves has several limitations, however. For one thing, strong rates of expansion in the demand for bank credit can increase bank deposits and net borrowed reserve positions unless, or before, the monetary authorities take steps to prevent aggregate net borrowed reserves from becoming large. In addition, the monetary authorities may change their attitude toward commercial banks at the discount window from time to time. Finally, over time, and particularly as relative interest rates change, banks may alter their willingness to use the discount window as a source of funds. Nonetheless, by defining periods of general credit restraint as periods of two or more quarters in which average bank net borrowed reserves exceed 3/4 of 1 per cent of total member bank reserves, an uncomplicated measure of general credit restraint was obtained for use in this paper which, with only three major exceptions, was highly correlated with other indices of credit restraint.[4] When the "exceptional" quarters were excluded, periods of

[4] The three exceptions were: 19681V, 1970III, and 1972IV. Although the net borrowed reserve criterion for restrictive credit conditions was met in all three periods, extraordinarily rapid growth in monetary aggregates, coupled with special situations made it appear that, on balance, those periods did not represent periods of restraint. In both 1968IV and 1972IV, strong demands for credit increased pressures on bank reserves and, while the supply of bank reserves appeared to be restricted toward the end of each period, expansion in the money supply proceeded at an extraordinarily rapid rate in both quarters. Since indications of credit supply restraint appeared only toward the end of each quarter and monetary aggregates grew rapidly throughout each quarter, neither quarter was considered a period of restraint. The 1972IV case was further complicated by changes in regulations D and J which simultaneously appeared to increase Federal Reserve willingness to lend at the discount window and the desire of many banks to borrow at the window. Because it was assumed that the increased demand for discount window credit was accommodated more readily during that period, 1972IV was not deemed a period of restraint. Similarly, in 1970III, Federal Reserve willingness to lend also appeared to be elevated as bank borrowing at the discount window grew rapidly subsequent to the Penn-Central crisis. In addition, the bank credit proxy grew at an extraordinarily rapid rate. Because other measures did not indicate a restrictive credit policy during that quarter and bank net borrowed reserve positions fell sharply from the beginning to the end of the period, it too was not judged to be a period of restraint.

In addition, it should be noted that 196811 and 197III qualified as "periods of restraint" by the net borrowed reserve criterion but not by the consecutive quarters criterion.

restraint were defined as 19661-IV, 19691-197011, and 19731-1974IV-- [5] albeit, in the last period the monetary aggregates moved erratically from quarter to quarter even though interest rates and net borrowed reserves were generally high.

Over the 1965-1974 period banks became relatively less willing to acquire consumer credit during periods of general credit restraint (Table 1). Column 1 of Table I covers the years 1967-1974 and was prepared from data gathered in a quarterly Federal Reserve survey of approximately 125 large banks that is published annually in the Federal Reserve Bulletin [1]. The net percentage of banks replying in those surveys that they presently were more, rather than less, willing to make consumer installment loans than 3 months previously shows a substantial decline during periods of credit restraint and a substantial rise during other periods. Of particular interest is the fact that this statistic tends to decline sharply, by 13 to 20 per cent, during the first quarter of each period of restraint.

[5] These periods may slightly lag actual policy reversals, as they measure periods of restraint only from the first full quarter of restraint to the first full quarter of non-restraint-even though, based on monthly data, bank reserve positions may have moved into our "restraint" range in the last month or two of the previous quarter. In addition, bank reserve positions may not swing immediately into or out of our 11restraint" range once a policy reversal occurs.

Table I: Consumer Instalment Credit Extension Attitudes and Market Shares--1965I-1974II

Period	Bank net willingness to increase consumer lending	Bank instalment credit extensions relative to other lender credit extensions: --total bank extensions	Bank instalment credit extensions relative to other lender credit extensions: --discretionary bank extensions	Bank credit card and check credit extensions relative to all other extensions	Bank discretionary credit extensions relative to total credit extensions by other credit grantors for credit of the same type: auto credit	discretionary other consumer goods credit	discretionary personal loans
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1965 - I		61.1			126.0		
II		60.3			135.6		
III		58.3			127.1		
IV		60.6			141.1		
1966 - Ir		58.7			141.1		
IIr		57.6			137.4		
IIIr		55.7			133.7		
IVr		55.3			126.1		
1967 - I	23.5	55.4			135.1		
II	31.2	55.5			139.9		
III	16.1	57.0			146.4		
IV	16.1	57.7			143.5		
1968 - I	22.6	59.0	58.1	1.1	147.6	16.6	41.9
II	5.0	59.4	53.2	5.4	145.0	16.8	41.2
III	11.3	61.1	55.3	5.7	145.4	16.2	40.9
IV	16.1	60.7	56.2	4.2	149.2	17.1	41.2
1969 - Ir	-4.7	61.8	53.9	5.9	148.9	16.1	40.3
IIr	-18.7	60.8	52.4	6.5	144.7	16.0	40.7
IIIr	-26.9	57.5	48.1	6.4	139.1	15.4	38.8
IVr	-24.2	58.9	48.7	7.3	137.2	13.7	37.0
1970 - Ir	-17.7	60.0	48.9	8.0	142.4	14.6	36.0
IIr	4.1	60.5	48.8	7.9	135.7	13.5	36.4
III	5.0	62.7	49.8	8.6	144.2	17.1	35.2
IV	24.2	64.2	50.4	9.2	156.5	18.3	39.3
1971 - I	14.1	70.0	56.9	8.9	166.9	24.0	42.8
II	14.7	69.7	55.5	9.2	161.7	22.3	37.4
III	22.3	69.2	52.8	9.3	152.2	21.2	34.3
IV	24.0	70.0	56.3	9.3	159.7	23.6	38.7
1972 - I	42.0	66.9	53.0	9.1	159.3	20.2	37.0
II	27.4	70.3	55.4	9.9	160.7	21.1	36.7
III	16.3	73.5	56.9	10.3	164.5	22.5	40.4
IV	21.3	72.9	56.6	10.3	168.7	21.6	39.0
1973 - Ir	6.1	74.1	57.2	10.8	168.3	20.3	38.5
IIr	6.5	72.3	54.5	11.1	172.8	18.9	37.0
IIIr	-6.5	73.2	55.2	11.7	165.9	22.1	36.0
IVr	12.1	73.1	53.7	12.9	166.4	20.7	37.1
1974 - Ir	11.0	72.2	51.9	13.4	167.6	18.5	38.0
IIr	-14.5	70.5	50.7	13.4	156.6	19.0	36.9
IIIr	-26.9	73.1	50.8	14.8	145.8	19.0	35.9
IVr	-16.2	69.8	46.9	16.3	128.0	16.4	34.2
Average Value	9.5	64.1	53.0	9.0	147.0	19.2	38.6
Average Value in 66[- 66IV	--	57.1	--	--	130.1	--	--
69I - 70II[	-14.6	60.1	50.1	6.7	140.7	16.5	37.0
73I - 74IV	-2.8	72.1	52.5	13.1	159.0	19.4	37.8
All periods of restraint	-7.0	66.9	61.5	10.3	147.6	18.2	37.5
All other periods	29.3	63.4	54.5	7.7	148.0	20.2	39.7
T-statistic to test for differences in average values during periods of non-restraint and restraint	10.0	-1.9	7.0	-5.2	1.0	5.9	9.7
Average Quarterly Changes 66[- 66II	--	-1.4	--	--	-5.3	--	--
69I - 70III[	-2.0	-0.3	-0.9	0.6	-1.6	0.4	-0.6
73I - 74IV	-4.7	-0.4	-1.3	0.7	-4.8	-0.7	-0.1
All periods of restraint	-2.5	-0.5	-1.2	0.7	-3.4	-0.2	-0.4
All other periods	2.0	0.2	0.6	0.3	2.6	0.2	0.1
T-statistic to test for differences in quarterly changes during periods of non-restraint vs. restraint	2.7	0.3	5.1	-7.9	0.8	1.4	2.1

r denotes periods of general credit restraint

The data in column 2 suggest that banks as a whole limit their total participation in the consumer credit markets during periods of general credit restraint. Column 2 shows the ratio of bank consumer instalment credit extensions to consumer instalment credit extensions made by other credit grantors from 1965I to 1974IV. During the period indicated banks tended to stabilize or reduce their share of the market during periods of general credit restraint and increase it rapidly at other times. Because the aggregate demand for consumer credit is likely to be relatively neutral with respect to its impact on bank sources of consumer instalment credit versus other sources of similar credit, changes in the bank market share presumably reflect changes in bank's relative willingness to supply consumer credit.

The third column in Table I shows even more strongly that banks' relative willingness to supply consumer credit has tended to decline during recent periods of credit restraint and expand at other times. The data in column 3 were calculated from column 2 by excluding bank credit card and check credit extensions, which are usually activated solely by consumer demand, from total bank credit extensions. Thus, the numerator in the ratio roughly depicts the discretionary portion of bank consumer lending, and the ratio shows how discretionary bank lending has varied relative to credit extensions made by other credit grantors. From the data shown it is clear

that the discretionary bank share of consumer instalment lending has moved down sharply during periods of aggregate credit restraint and moved back up at other times.[6]

The summary t-statistics at the bottom of the table show that quarter-to-quarter changes in the bank share of consumer instalment credit extensions were significantly lower during periods of restraint than during periods of non-restraint over the period studied.[7] Analysis of individual quarterly data suggests that, in some cases, the bank share of the market continued to expand during the first quarter of restraint. Consequently, additional t-tests (not shown) indicate that a highly significant, but slightly lower, response of the bank share of the credit market to periods of general restraint occurs with a one-quarter lag.

All differences in behavior between the data shown in columns 2 and 3 in Table 1 are accounted for by movements in bank credit card and check credit extensions. As can be seen, those credit forms have both grown extremely rapidly in percentage terms in recent years, particularly during periods when general credit conditions have been restrictive. As a consequence, even though bank discretionary lending has declined sharply during recent periods of general credit restraint, the total bank share of aggregate instalment credit extensions (as shown in column 2) has tended to level off or decline only modestly during periods of general credit restraint and to grow rapidly at other times.

Accelerated growth in the relative importance of bank credit card and check credit to the total instalment credit markets during periods of monetary restraint is documented in column 4. Since the types of credit featured in column 4 are generally extended on credit lines activated at consumer discretion, the data suggest that consumers use their open-end credit lines with greater relative intensity during periods when consumer credit is less readily available at reasonable cost from other sources.[8]

The last three columns of Table 1 present strong evidence that the systematic changes in the commercial bank market share noted in columns 2 and 3 are caused by credit supply rather than credit demand effects. Those columns show that in recent, years discretionary bank participation in the auto credit market, the non-bankcard "other consumer goods" credit market, and the personal loan credit market has tended to stabilize or decline in each sub market during periods of restrictive general credit conditions and to expand at other times.[9] Such coincidental changes in market shares cannot be explained by credit demand phenomena, but are consistent with the hypothesis that general credit conditions affect bank willingness to supply consumer instalment credit.

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[6] Although data on discretionary bank lending are not available before 1968, the non-discretionary share was sufficiently small at that time that fluctuations in the total bank share of instalment credit extensions are a good proxy for fluctuations in the discretionary bank share of instalment credit extensions prior to 1968.

[7] Where market share ratios show a strong upward trend, as is the case with total bank instalment credit and bank automobile credit, t-tests indicate that differences in mean market shares during periods of restraint and non-restraint are not statistically significant. However, t-tests of differential quarterly rates of change in market shares between periods of restraint and non-restraint eliminate the influence of general trends and indicate that highly significant differences exist between changes in market shares during periods of restraint and non-restraint. The latter results hold both coincidentally and with an one-quarter lag.

[8] Additional evidence that consumers use their credit lines relatively more intensively as a source of credit during periods of general credit restraint is provided by data on the share of total consumer instalment credit extensions made by retailers which hold consumer instalment credit. Those data show that the retail share of consumer instalment credit extensions tends to expand during periods of general credit restraint and contract at other times. Furthermore, t-tests show that the rate of expansion of the retail credit share during periods of restraint is statistically significantly greater than its rate of expansion at other times. Since credit extensions by retailers are predominantly made on open-end credit lines, these findings also suggest that consumers use their credit lines relatively more intensively as a source of credit during periods of aggregate credit restraint.
This conclusion must be qualified, however, by noting that credit line credit accounts for a relatively small and specialized portion of the consumer credit markets. Thus changes in the composition of consumer credit demand (such as a decline in the demand for auto loans) could affect the "credit-line" credit market share in such a way that its relative importance would rise when total credit demand was weak.

[9] In particular, columns 5 to 7 indicate that quarter-to-quarter changes in the bank share of automobile credit extensions were consistently and significantly lower during recent periods of restraint than during periods of nonrestraint. Due to the strong secular increase in the bank auto credit market share, however, the average ratio of auto credit extensions to total credit extensions was not significantly different during periods of restraint and non-restraint. For the bank share of discretionary personal loan credit extensions, which was basically trendless, t-tests indicate that both the ratio and quarter-to-quarter changes in the ratio of bank to non-bank discretionary personal loans were significantly lower during periods of general credit restraint. Finally, t-tests indicate that the ratio of discretionary bank to non-bank other-consumer-goods credit extensions was significantly lower during recent periods of general credit restraint. However, the average quarter-to-quarter change in the ratio of discretionary bank to non-bank other consumer goods credit extensions was not significantly lower during recent periods of restraint by conventional standards. The lack of significance appears to result from the fact that the discretionary bank share of the other-consumer-goods credit market rose extremely rapidly in the first half of 1970. Since that period was characterized by high commercial paper rates and also included the "Penn-Central crisis," it is possible that bank other-consumer-goods credit extensions could have been inflated at that time by accelerated commercial bank purchases of retail paper during a period of depressed commercial paper market conditions.

Finally, additional tests indicate that banks sharply and significantly reduced their participation relative to finance companies in the mobile-home credit market beginning in the fourth quarter of 1973. While data are available on both bank and finance company mobile-home lending only from 1971111 on, the sharp and significant decline in the formerly stable bank share of the market, suggests that bank mobile-home lending may also be affected by general credit conditions--albeit with a lag.

Relationship to Changes in the Bank Share of Consumer Installment Credit Extensions to Installment Credit Growth Rates

Because banks provide relatively low cost credit and hold nearly half of total consumer instalment credit outstanding, it is logical to expect that the growth rate of total instalment credit extensions will slacken when banks reduce their willingness to acquire consumer credit[10] and, as a consequence, consumers either reduce the quantity of consumer credit that they acquire or shift to less preferred sources of credit. Indeed, when quarterly changes in the bank share of the consumer instalment credit market from 196511-1974IV were used as an independent variable in regressions to explain the growth rate of total instalment credit extensions, it was found that changes in the bank share of instalment credit extensions are contemporaneously positively related to growth rates in both bank credit extensions and total credit extensions.[11] These results held when growth rates in instalment credit and changes in the bank share of the instalment credit market were calculated over coincident intervals of one, two, three or four quarters.

Changes in the Growth Rate of Credit Extensions and Credit Outstandings

If changes in aggregate credit conditions do indeed quickly affect the supply of bank consumer credit, one would expect that changes in aggregate credit conditions would have a significant impact on the rate of growth in bank instalment credit extensions and outstandings in the short-run. In addition, if general credit restraint were to act adversely, either on other lender willingness to supply consumer credit[12] or on consumer demand for credit, one would expect the rate of growth of non-bank credit extensions and outstandings to be reduced (possibly with a lag) during periods of aggregate credit restraint. Such effects, of course, could not be unequivocally ascribed to credit supply rather than to credit demand effects.

To test these hypotheses Table 2 presents quarterly growth rates for consumer instalment credit extensions and outstandings, both for banks and for the total consumer credit market, from 196511 through 19741V. All growth rates are expressed on an annual rate basis, and all quarters in which the observed growth rate was below seven per cent are starred. In the subsequent analysis, annual credit extensions and outstandings growth rates below seven per cent are arbitrarily considered to be "low" while those equal to or greater than seven per cent are considered to be "high."

Analysis of the data presented in Table 2 indicates that after each sustained change in general credit conditions--starting, respectively, in 19661, 19671, 19691, 1970111, and 19731--the growth rate in bank credit extensions first changed from "low" to "high", or vice versa, in the expected manner from zero to two quarters after the change in policy. The average lag was less than one quarter. The growth rate for total credit extensions responded in a like manner, but not quite so quickly, with an average lag of exactly one quarter Because credit repayments do not move in phase with credit extensions and can be varied to some degree by consumer discretion, the growth rate in credit outstandings (which is affected both by changes in credit extensions and credit repayments) did not respond nearly as quickly to changes in aggregate credit conditions in the 1965-74 period as the growth rate in credit extensions.[13] The average lag before the appearance of the expected response was nearly 3 quarters for bank instalment credit outstandings and exactly 4 quarters for the growth rate in total instalment credit outstandings.

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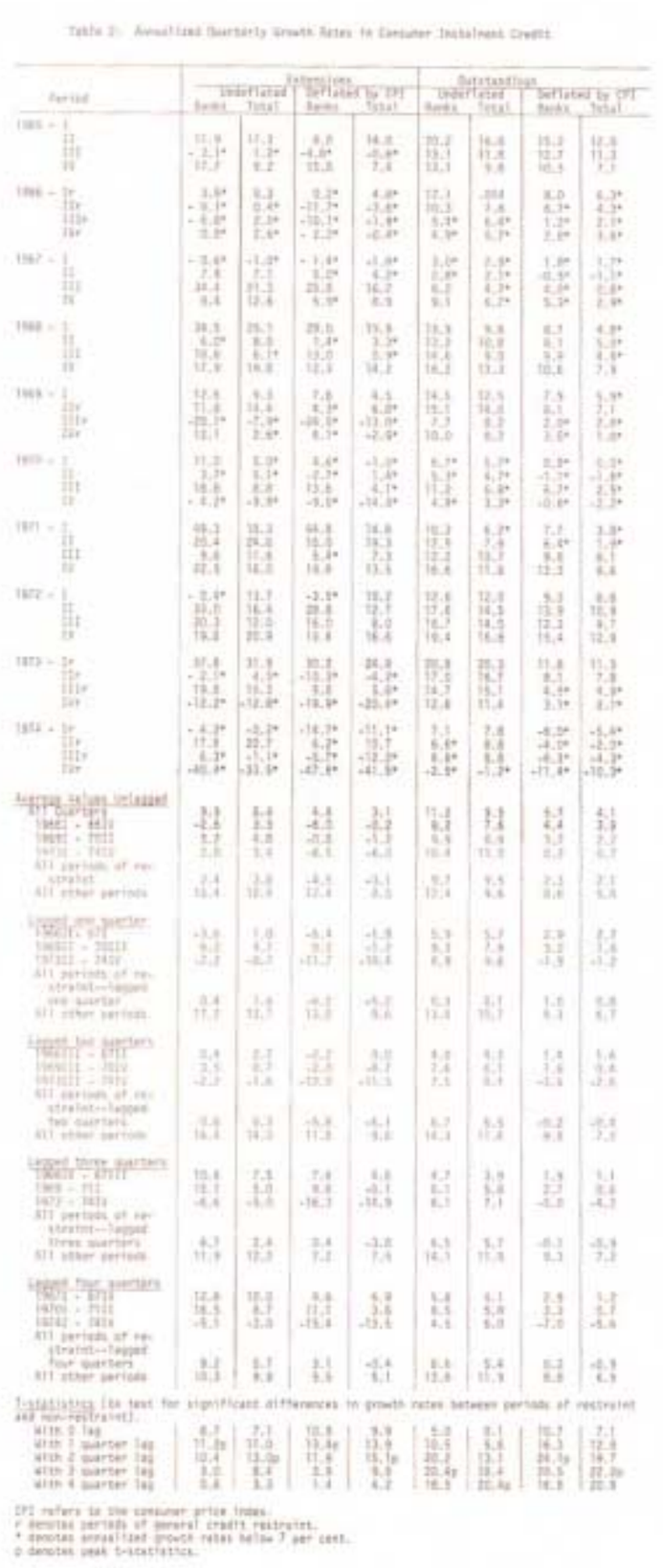
[10] A decline in bank willingness to acquire consumer credit may manifest itself in various ways. The usual expectation is that banks will tighten lending standards, ration credit only to their "best" customers, or make credit terms more restrictive by raising down payments, shortening loan maturities, or raising interest rates. An additional method by which banks may attempt to reduce their consumer lending is by discontinuing or sharply reducing credit advertising. While this mechanism is often unrecognized, it is potentially important, as reduced credit advertising may subliminally reduce either consumer demand for credit, per se, or consumer demand for credit-related expenditures featured in bank credit advertising.

[11] Additional regressions showed that changes in the bank share of the instalment credit market were not contemporaneously significantly related to the growth rate of credit extensions at finance companies and credit unions. However, they were contemporaneously negatively related to the growth rate of credit held by retailers. Furthermore, when changes in the bank credit market share were lagged by two quarters, they were significantly positively associated with growth rates in credit union and finance company credit extensions, as well as with bank, non-bank, and total credit extension growth rates. This suggests that the same forces that affect the bank share of consumer instalment credit market also directly or indirectly affect (with a lag) either other financial lenders' willingness to supply consumer credit or general consumer demand for consumer credit.

[12] For instance, changes in market interest rates in general could affect public asset holding preferences which, in turn might either stimulate or impede flows of funds to credit unions or other consumer lenders. Furthermore, changes in general market interest rates will affect the cost of funds for finance companies. Since the lending rates of finance companies are usually constrained to some degree by state usury laws, changes in finance companies' cost of funds will have a strong impact on their profitability and thus may affect their willingness to make consumer loans at prevailing rates.

[13] One reason that credit outstandings might continue to grow more rapidly than credit extensions during the initial period of general credit restraint is that consumers may be deferring debt repayments in order to enhance their liquidity. Conversely, when general credit conditions ease consumers may accelerate their credit repayments. This hypothesis is not certain, however, as the observed slowing of credit repayment rates during the initial periods of credit restraint could also result from relatively low customer repayment rates on debt recently acquired during the preceding boom.



Since the lag calculations appeared to be affected by inflation in some cases, the data on credit extensions and outstandings were deflated by the consumer price index and growth rates were recalculated. Based on this comparison, using the same "high" and "low" growth criterion as before, the average response lags for credit extensions growth rates lengthened somewhat, to 1.0 and 1.2 quarters for bank credit extensions and total instalment credit extensions, respectively, while the average lags for credit outstandings growth rates fell somewhat, to 2.2 and 2.6 quarters for bank credit outstanding and total instalment credit outstanding, respectively. In summary, using either deflated or undeflated data two basic relationships can be discerned: (1) the response of consumer instalment credit extensions to changes in general credit conditions is substantially faster than the response in consumer instalment credit outstandings, and (2) the response of bank consumer instalment credit extensions and outstandings to changes in general credit conditions is faster than the response of total credit extensions and outstandings.

Supplementary statistics presented in Table 2 document the observations noted above and indicate that highly significant differences exist in the rate of growth of consumer instalment credit between periods of general credit restraint and periods of non-restraint. Peak correlations, as indicated by maximal t-statistics, occur

between bank credit extensions and periods of general credit restraint with a one-quarter lag. For total credit extensions the lag is two quarters, and for total credit outstanding the lag is three or four quarters--one quarter longer than the peak lag response for bank credit outstandings for both the deflated and undeflated series. Additional data indicate that the growth rates of total credit extensions and outstandings have peak lags longer than bank credit extensions and outstandings because, as determined by t-statistics, peak correlations between periods of restraint and total non-bank consumer instalment credit extensions and outstandings growth rates occur with lags of two and four quarters, respectively. This pattern holds for all non-bank groups of credit grantors with only limited exceptions. While the finance company data show no exceptions, the data for retail credit holders show one-quarter longer lags for peak correlations between credit restraint and growth rates in the two undeflated retail credit series. In addition, the peak correlation between growth rates in deflated credit union outstandings and general credit restraint occurs with only a three-quarter lag.[14]

Summary and Conclusions

The data presented in this paper strongly suggest that changes in general credit conditions impact quickly and directly both on the relative quantity of consumer instalment credit supplied by different lenders and on the total amount of consumer instalment credit supplied.

During recent periods of general credit restraint it was shown that commercial bank willingness to make consumer instalment loans fell sharply in the first quarter of each period of restraint. Additionally, banks significantly contracted their share of total consumer instalment credit extensions within the first or second quarter of restraint by reducing their share of discretionary lending in all major segments of the consumer instalment credit markets. Because of rapid growth in consumer use of open-end revolving credit lines during such periods, however, the sharpness of the overall cutback in bank consumer lending became most readily apparent only when the bank discretionary share of consumer instalment credit markets was analyzed.

Subsequent to observed contractions in the bank share of the consumer credit market, the growth rate of consumer instalment credit extensions also slackens for other credit grantors. As a result, the growth rates of credit extensions for both non-bank consumer creditors and total instalment credit extensions move similarly to the growth rate in bank credit extensions, but with a slight lag. While this latter result could be due either to credit supply or demand effects, it is clear that the growth rate of total consumer instalment credit extensions slows significantly during periods of general credit restraint.

Finally, it was shown that the growth rate of consumer credit extensions responds more quickly to altered general credit conditions than growth rates in consumer credit outstandings.

In conclusion, since it is highly unlikely that credit demand effects could explain the systematic shifts in bank consumer instalment credit extension market shares observed during the initial periods of general credit restraint, a strong case can be made that the supplies of consumer credit extended by commercial banks, and possibly other creditor groups, are significantly affected by general credit market conditions. This implies that direct consumer credit controls are not necessary in order for the actions of the monetary authorities to have an impact on the consumer credit markets.[15] It also suggests, but does not demonstrate, that consumer credit extensions, particularly credit extensions by commercial banks, may be one of the avenues through which monetary policies that impact on commercial bank reserve positions may affect the economy.

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[14] As previously noted, Selden [7] ascribed the observed response of consumer credit to changes in monetary policy to credit demand effects. His primary reason for doing so was because he found that movements in the growth rate of credit outstandings for various creditor groups tended to be coincident even though the different groups were each uniquely related to the credit markets as a whole. In contrast, our observations, which apply to a different period, indicate that some diversity exists in the timing of the response of consumer credit extension and consumer credit outstanding growth rates for various creditor groups--with commercial bank consumer credit consistently responding more promptly to altered credit conditions than credit extended by the other groups. Such findings are consistent with the hypothesis that general credit conditions affect the volume of consumer credit supplied by commercial banks and, possibly other creditor groups.

[15] This is not to say, however, that direct credit controls might not have a stronger impact on consumer credit extensions than more general monetary policies--as previous experiences with Regulation W reported in the Federal Reserve Consumer Instalment Credit study [2] document strong reductions in consumer credit grants during the periods when Regulation W was in effect. In addition, some economists may favor direct credit controls because they can be used to channel or impede credit flows to particular classes of individuals or particular segments of the economy.

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