Selective Credit Policies: a Survey*

Introduction

The increased attention paid to reordering national priorities in recent years has been paralleled by renewed interest in selective credit controls or in more general terms, selective credit policies (policies and controls will be used interchangeably throughout the paper). In the United States, the Congress has launched an investigation into the activities of foreign central banks aimed at promoting social welfare programs (10), members of the Board of Governors of the Federal Reserve System have discussed the use of specific tools to direct credit to specific social purposes, Brimmer (5) and Maisel (28), and other government sponsored agencies have expressed renewed determination to aim their policies towards social goals, Martin (29). Academic economists have also directed their efforts to analyzing selective credit policies. At least one general survey paper has been written, Hodgman (18) and a number of analytical works have been presented defining and explaining the conditions under which selective credit policies work, such as the papers by Davis (12), Rao and Kaminow (36), and Penner and Silber (34). Finally, a number of empirical studies have been conducted which bear directly on the issue of whether selective credit policies have an impact either in the aggregate or on various sectors of the economy, such as Andersen (1), Anderson (2), Cohen (7) (8), Huang (20), Jaffee (21), Arcelus and Meltzer (42) and Fair and Jaffee (43).

This survey is directed at reviewing both the theoretical and empirical literature on selective credit policies. The major concern with most of the researchers in this area has been the range of conditions under which selective policies are effective. Our objective will be, in part, to determine where in this spectrum the real world

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fits. Before examining that question below, two other issues will be discussed, namely, what are selective credit policies and the real versus financial effects of such policies. A section on the costs, efficiency and equity of credit controls will conclude the paper. The institutional structure of the United States is used throughout.

What are Selective Credit Policies?

Selective credit policies usually refer to one of two things: (*a*) The attempt to influence general credit conditions by a policy tool other than changes in the magnitude of claims against the central bank (Hodgman, 18); (*b*) The use of a policy tool to channel credit into a particular financial market, hence (although, not necessarily) into a particular real market, (Rao and Kaminow, 36). Many tools are classified as selective according to both definitions, such as the real estate and consumer credit controls of the Korean War. On the other hand, there are differences in the practical application of each definition. For example, varying the maximum rate payable on savings accounts at bank and non-bank financial institutions would clearly be a selective policy according to definition (*a*) but not necessarily according to definition (*b*). In particular, if varying (or failure to vary) the ceiling rates were undertaken primarily for their possible aggregative effects (as might be said of 1966) then this would not qualify as a selective credit policy.

The first issue is, therefore, what one means or should mean by the term selective credit policies. Definition (*a*) is probably the implicit definition most often used when economists talk of selective credit policies. The reason for this is that changes in the liabilities of the central bank (changes in high-powered money) are considered neutral, i.e not explicitly favoring one use of credit or real resources over some other use. Mayer (30) has pointed out, however, that what non-economists frequently mean by neutrality is proportionality, i.e. each type of credit or real resource is expanded or contracted proportionately by expansionary or contractionary monetary policy. By this definition, varying the claims against the central bank does not possess the quality of neutrality. Most economists recognize that there are differential or selective impacts of changes in monetary policy, such as the evidence presented by Maisel (27). The problem is to establish a normative standard by which to judge the impact of a contracyclical stabilization policy. There does not seem to be any such standard.

It is tempting to argue that, since changes in high-powered money have a stable and predictable impact on what we conventionally define as money (see Brunner, 6) and since money presumably has a stable and predictable impact on GNP (Hamburger, 17), the appropriate standard is, in fact, changes in high-powered money. Such an argument clearly begs the question, namely, what makes changes in money, however defined, neutral in the sense of producing the appropriate incidence of a contracyclical stabilization program? We will return to this topic, i.e., the normative aspects of stabilization policy, and monetary policy in particular, in the last section of the paper.

A possible reconciliation of definitions (*a*) and (*b*) can be developed along the lines of aggregative effects versus differential (or selective) effects of a particular policy. In the absence of a normative standard against which to judge selective versus general credit policies all that may be possible is a ranking of different policies according to their relative aggregate versus selective impacts. For each policy one would calculate the impact on some economic aggregate, say, GNP, and one would also calculate its impact on the redistribution of real resources (or funds) into different sectors. The ratio of aggregate effects to redistribution effects would be the basis on which to rank a policy as primarily a selective credit policy or primarily a general credit policy. This measure varies between zero and infinity and the larger the number the more general (as opposed to selective) is the particular credit policy. For example, a change in high powered money which produces a significant change in GNP but produces only a small redistribution of GNP among different sectors would have a high ratio while controls over real estate credit which *might* have an impact on the proportion of GNP going to housing but only negligible aggregate effects would have a very low ratio. Regulation Q could be ranked by the same criterion. It would then be possible to see if regulation Q is more like a general credit policy or resembles more closely a selective credit policy.

The measure just suggested for identifying selective versus general credit policies requires at least one theoretical clarification before it can have empirical relevance. While the aggregate impact of a policy can be defined in a relatively straightforward manner the selective impact is more difficult to isolate. A key problem is whether the ultimate objective of a selective credit policy is the redistribution of real resources or financial flows. The next section discusses these alternative impacts of general and selective credit policies.

It must also be recognized that it is not possible to measure aggregate and selective impacts of policies without a macro-econometric model with a highly detailed financial sector. We can, however, identify the factors which determine the rankings of different policies according to whether the aggregate or selective impacts dominate. This requires an analysis of the conditions which determine the effectiveness of selective credit policies. This will be presented in a subsequent section of the paper.

"Financial" Versus "Real" Effects of Selective Credit Controls

Current discussion of selective credit policies has centered about their potential usefulness in redirecting the allocation of real resources in the economy. If selective credit controls are to reallocate the uses of real resources a clear prerequisite is that they also have a redistribution effect on credit flows and hence (before any real sector reaction) on relative rates of interest on various financial instruments. The changed flows of funds may be either to different financial institutions and/or changed flows of funds in different financial instruments.

Selective credit policies need not and, indeed, have not been used exclusively to implement resource reallocation objectives in the real sector of the economy. The objective of some selective credit policies stops with the impact on financial markets. A good example is margin requirements in the stock market which seeks to prevent "unhealthy" speculation in the stock market. It is probably true that unhealthy speculation in the stock market is considered worth preventing because of the dangers that financial crises pose for the real sector. Minksy (33), Culbertson (11), and Meltzer (31) have all discussed the use of selective credit controls to implement financial market objectives because of the potential dangers of financial market irregularities for the real sector. Other examples of such use of selective credit policies are compulsory deposit insurance for banks and other deposit-type intermediaries and the differential application of ceilings on deposit rates (which seeks to shelter some financial institutions from completely free competition).

We can now turn our attention to the conditions which determine the effectiveness of selective credit controls and the related empirical evidence. A list of the major types of selective policies used in the United States and the general categories into which they fall will also be presented.

Determinants of the Effectiveness of Selective Credit Policies: The Theory

A simple classification of selective credit policies can be developed along the same lines as that of taxation. In particular, policies can be classified according to the initial incidence of the credit policy, much in the same way as we classify taxes into direct and indirect groups. This, of course, leads directly to the key question of shifting and incidence of credit controls just as one analyzes shifting and incidence of taxes. Credit policies can, therefore, be categorized as being imposed on the lender, the borrower, or on a particular financial market instrument. Table I provides such a listing. It is meant to be illustrative rather than exhaustive.

While most of the examples are self-explanatory, some require further elaboration. Item (Ib) lists differential reserve requirements for different categories of assets held by financial institutions (banks in particular), as has been proposed by Brimmer (5). Entry (Ic) is a general category of subsidies to lenders who make (or refrain from making) certain types of loans. In this context the word subsidy is to be considered in its broadest sense. An extreme example is the September 1, 1966 "letter" from the Federal Reserve (15) indicating that favorable treatment at the discount window (read: subsidy) would be accorded to those banks that refrained from excessive expansion in business loans. Item (IIb) is a capital issuing committee which has the power to approve or disapprove new corporate stock or bond issues. While no such institution operates in the United States, certain foreign countries, such as Sweden (see Elliasson, 13) have a capital committee. Item (IIIa) includes controls on interest rates and other terms of credit, such as minimum downpayment, that are levied on a particular financial instrument rather than on borrowers or lenders. While Regulation Q or other time deposit ceilings are often thought of as being imposed on institutions, such is not the case, since other types of liabilities can be (and are) issued by these institutions without being

TABLE I

CLASSIFYING CREDIT POLICIES

Classifications	*Examples*
I. *On Lenders*	
(a) Portfolio Restrictions	(Ia) Savings and loan associations can hold only Governments and mortgages
(b) Differential Reserve Requirements	(Ib) Not in use
(c) Other Subsidies to Lenders who make certain types of loans	(Ic) September 1966 "letter" of Federal Reserve System
II. *On Borrowers*	
(a) Interest Rate Subsidy	(IIa) HUD 235 and 236 mortgage interest subsidies
(b) Capital Issuing Committee	(IIb) Not in use
III. *On Instruments*	
(a) Interest Rate Ceilings and Controls over other terms of credit	(IIIa) Regulation Q; FHA-VA ceilings; usury laws; minimum downpayment requirements
(b) Policies aimed at changing certain characteristics of an instrument	(IIIb) FHA-VA insurance; operating a secondary market; e.g., FNMA

subject to ceilings. Item IIIb is another catch-all category which incorporates all policies aimed at altering the characteristics of a financial market instrument, thereby making it more desirable from either the lender's standpoint and/or the borrower's.

The effectiveness of each type of selective credit policy depends, of course, on its objectives, e.g., a reallocation of financial market flows from one institution to another or real resource reallocation. There is a common characteristic which determines whether a credit policy can impinge on real resource allocation or redirect financial flows. The common characteristic is the degree of substitutability between financial market instruments by borrowers and lenders. The degree of substitutability between securities determines the shifting and incidence of the credit policy much in the same way as the shifting and incidence of taxes is determined by the elasticities of the supply and demand curves.

The clearest formal statement of the substitutability conditions determining the effectiveness of selective credit policies is contained in Rao and Kaminow (36). Cohen (7), Davis (12), Hodgman (18),

and Penner and Silber (34) also discuss the general substitutability conditions influencing the efficacy of selective credit policies. Most of the authors have restricted their analysis to type I selective controls, i.e., those imposed on lenders. It turns out that in order for type I selective controls to have an impact on relative interest rates, lenders must view the different categories of securities as poor substitutes for each other. A simple example is sufficient to demonstrate this point. If a particular group of lenders, say one category of financial institution, is constrained to hold a particular asset, say mortgages, and is thereby forced to increase its demand for mortgages and sell the other assets, say corporates, from its pre-constrained diversified porfolio, then the decline in yield on mortgages relative to corporates will be larger the less responsive is the demand for securities (in lender portfolios) to changes in relative rates, i.e., the poorer is the degree of substitutability between mortgages and corporates. In the extreme case, if mortgages and corporates were perfect substitutes for each other then as the demand for mortgages rises (due to the portfolio restriction) driving mortgage rates down relative to the yield on corporates, other institutions will respond by increasing their demand for corporates and decreasing their demand for mortgages until the relative yield between the two instruments is restored to its original level.

In order for type I controls to have an impact on real resource allocation, in addition to imperfect substitutability in lender portfolios, borrowers (the final spenders) must view different categories of securities as poor substitutes for any particular type of expenditure. For example, in order to finance the purchase of a home borrowers must be unable to substitute freely between mortgage credit and, say, banks loans, consumer credit or security credit. To the extent that borrowers can easily finance real expenditures with different types of credit the change in relative rates of interest on securities (induced by selective credit policies) will result only in changes in the type of funds borrowed with little or no effect on the composition of real spending. This ability to substitute one type of credit for another in making a particular real expenditure, need not be true for everyone. As long as it is true for a significant number of marginal investors there might be no impact on real spending.

Type I selective credit policies can have an impact on aggregate economic activity if all the conditions heretofore set forth are satisfied plus the additional condition that the interest elasticities of different categories of expenditure be different. For example, a selective policy which raises the mortgage rate and lowers the corporate bond rate will lower GNP if the interest elasticity of corporate investment spending is less than the interest elasticity of residential construction.

Before turning to the conditions determining the effectiveness of the other types of credit policies and the related empirical evidence it is important to note that our analysis until now suggests quite clearly that the larger is the set of lenders affected by selective controls the greater is the impact of such policies. As Cotula and Padoa-Schioppa (9) argue, this follows from the fact that under such circumstances there is less of an offset to the direct effects of the selective control. Two related points should also be noted: (1) While extending selective controls to all lenders increases their effectiveness, this also implies an increase in the administrative costs of selective policies, a subject to which we will return later in the paper. (2) Even if selective credit controls were extended to all institutionalized lenders this would still leave direct lending between surplus and deficit units as a potential offset to controls. This leads directly to a consideration of controls over borrowers, as say, via a capital issuing committee (IIb).

The conditions determining the effectiveness of type II selective controls, i.e. those imposed on borrowers, are quite different from those determining the efficacy of type I controls. In fact, it has been shown by Penner and Silber (34) that an interest subsidy (type IIa) is more effective in reallocating financial flows (and real resources under the conditions spelled out above) if there is a *high* degree of substitutability between different securities in lender portfolios. This is clear once it is recognized that an interest rate subsidy produces an increased demand for that category of funds. If the elasticity of supply is great (i.e. if the elasticity of substitution on the part of lenders is large) then the increased demand for funds elicits a large increase in supply and a large decline in the rate charged to the borrower (the upper limit occurs where the supply of funds is infinitely elastic so that the decline in the rate is equal to the subsidy).

The effectiveness of the capital-issuing committee in changing the flows of funds to different firms and hence altering the allocation of resources depends on the elasticity of substitution between different sources of funds in borrower portfolios. For example, if

control over long term bond issues by the committee leads to complete and easy substitution of trade credit or bank loans in the financing of real resources, then the impact of the control will be very small. Once again, the greater the number of sectors covered, i.e. the number of financial instruments requiring committee approval, the less is the offset to the direct control. Furthermore, the capital committee will be more effective in the presence of type I controls, since under such circumstances replacing capital issues with bank loans could also be circumscribed.

Type III selective policies refer to controls or policies directed at particular financial market instruments. The two sub-categories under type III policies are quite different, both in terms of the determinants of their effectiveness and their objectives. Controls over the interest rate on particular financial instruments (type IIIa) have been among the most popular types of selective credit controls. Regulation Q as applied to commercial bank time deposits and the FHA-VA ceiling on mortgage rates are the two best-known examples. Each of these controls represents a different form of ceiling on an interest rate: the FHA-VA ceiling applies to a primary security, i.e. issued by a deficit unit, while Regulation Q applies to an indirect security, i.e. issued by a financial intermediary. Accordingly, each control has different objectives.

Lindsay, in an interesting study (26), has applied the analysis of the price control literature to determine the effects of Regulation Q ceilings and FHA-VA ceilings. The objective of usury laws, of which FHA-VA ceilings are but one example, is to lower the rate charged to borrowers. If such ceilings are imposed on one security, then the ability of lenders to substitute away from that security will make the ceiling counterproductive. In the extreme case, if the elasticity of supply of that security were infinite the imposition of a ceiling below the market equilibrium rate results in a decline of funds flowing to that market to zero. The greater the elasticity of supply the greater is the reduction in the flow of funds. Hence, while the ceiling may indeed reduce the rate charged to a subset of borrowers there will be a decrease in supply to such favored borrowers. If these borrowers are driven to other markets (in this case to the market for conventional mortgages) the rate charged to borrowers in the uncontrolled market rises. The total supply of funds (mortgages) to the controlled and uncontrolled market

will, under certain conditions, be greater than in the absence of ceilings (Lindsay, 26, p. 12).

Ceilings on deposit rates, such as Regulation Q, have a less straight-forward justification. Holding down rates paid to depositors is not an objective in and of itself especially if it is assumed that the small unsophisticated saver is most adversely affected. The use of Regulation Q before 1966 is best explained in terms of its favorable implications for the position of non-bank financial institutions, especially savings and loan associations (S & L's), in the competition for savers' deposits. In some sense, Regulation Q shifted the burden of the portfolio restriction on S & L's from the owners (in the case of stock companies) to commercial bank depositors (see Penner an Silber, 34). Regulation Q tried to prevent the restricted industry, S & L's, from losing deposits to banks, in order to prevent a loss in mortgage funds. Here is a perfect example of a selective credit policy whose primary objective is a redirection of financial flows.

Once again, the condition of substitutability between securities is a determinant of the effectiveness of such policies. If the primary source of competition for deposits at non-bank financial institutions comes from commercial bank time deposits, then a ceiling on the rate of interest paid on such deposits will prevent the loss of funds. On the other hand, if open market securities are also good substitutes for such deposits, then the ceiling on rates paid by deposit type institutions will divert credit directly into the capital markets rather than through financial institutions.

The aggregate impact of Regulation Q has been analyzed in numerous articles, including Lindsay (26) and Tobin (40). It has been shown that an increase in the ceiling rate is likely to be marginally expansionary since it encourages intermediation, Tobin (40, p. 6), and given the lower reserve requirement on time deposits compared with demand deposits it also releases reserves within the banking system.

The last category of selective credit policies is type IIIb, policies aimed at changing certain characteristics of a financial market instrument, such as FHA-VA mortgage insurance and the operation of a secondary market in mortgages by the Federal National Mortgage Association (FNMA) and the Federal Home Loan Mortgage Corporation (FHLMC). The objective of such policies is to increase the demand for these securities by lenders, increasing the flow of funds to that market and lowering the yields to borrowers. It has been shown,

Penner and Silber (34), that the effectiveness of such policies is independent of the degree of substitutability between securities. It is also interesting to note that the implementation of such policies alters the degree of substitutability between securities and hence changes the relative effectiveness of different credit policies. The magnitude of the impact of type IIIb selective policies is determined by the impact of changes in risk on the demands for securities by lenders. If lenders are very sensitive to slight changes in the underlying risks of securities then type IIIb policies will have a significant impact on flows of funds and interest rates.

We can now turn to the empirical work done on the various elasticities of substitution and elasticities of supply. This will help in evaluating the real world effectiveness of selective credit policies.

The Effectiveness of Selective Credit Policies: Empirical Evidence

The empirical work bearing on the effectiveness of selective credit policies can be divided into a number of categories. One group of studies has examined the degree of substitutability between securities in lender portfolios, such as Huang (20), Jaffee (21) and Silber (37). These studies have implications for selective credit policies of type Ia, b, c, IIa, and IIIa. Some of these authors, Jaffee (21), Silber (37), Fair and Jaffee (43) and others such as Swamy (39) have gone one step further and analyzed the impact of very specific selective policies (regulation Q, Federal Home Loan Bank advances, FNMA mortgage purchases) by calculating the impact multipliers of such policies within the context of econometric models of the financial sector. Direct estimates of reduced forms or semi-reduced forms have also been set forth with similar objectives in mind, e.g. Huang (19), and Arcelus and Meltzer (42).

Substitutability on the parts of borrowers has received much less attention. Bosworth (3) has estimated equations for corporate financing decisions but he was not particularly concerned with the question of selective credit policies. Cohen (7), (8) in a more grandiose effort, was directly concerned with the efficacy of selective credit policies. He examined the linkages between particular credit flows and various categories of real expenditures. There have also been a number of crude attempts at examining the aggregate effects of changes in portfolio composition by banks, such as Andersen (1), Anderson (2), and Silber (38).

Before presenting a more detailed review of these studies, there is one general conclusion that emerges. All of the studies examining the degree of substitutability between securities in lender portfolios, e.g., Silber (37), Swamy (39), have found that the short-run elasticities are significantly smaller than long-run elasticities. This follows from the familiar stock adjustment models which have been applied to portfolio behavior. This suggests that the initial impact of a selective credit policy will be larger than the long-run impact. The short-run response to a sudden change in relative interest rates brought on by the imposition of a selective control is muted by institutional rigidities and other transactions costs. In the long-run, institutional portfolios respond in greater magnitude to rate differentials, thereby partially offsetting the initial impact.

This type of portfolio behavior together with the more casual observation that the free market responds to constraints in one area by creating new instruments or institutions to circumvent the restrictions suggests that selective credit policies have their greatest potential usefulness within a cyclical context rather than secularly. Once a selective credit policy is implemented, time tends to erode the impact of such policies by providing an opportunity for extensive portfolio adjustments and the creation of means for evading the controls.

We can now turn to a more detailed examination of some of the empirical studies listed above. The studies by Silber (37) and Swamy (39) present structural models of the portfolio behavior of financial institutions. The equations estimated for security demands by individual institutions suggest rather small cross-elasticities of demand.

The elasticity of substitution for the market as a whole must take into account at least two other factors, namely the reaction of other participants in the securities markets not formally incorporated in the models and the portfolio adjustment of the public especially with respect to the allocation of funds among different institutions and the securities market. Simulations or impact multipliers are reported by both authors and these do take into account the impact of the latter on the market's cross-elasticities of demand. Silber (37) reports the impact of changes in regulation Q and changes in the FHLB rate on the endogenous variables of the model and Swamy (39) provides simulations of changes in regulation Q. As far as regulation Q is concerned, the impact on relative rates of interest of a one percent increase in the maximum time

deposit rate is negligible and the impact on different categories of real investment is also negligible. On the other hand there are significant impacts on flows of deposits between S & L's and commercial banks. According to Swamy one year after a one percent increase in regulation Q, deposits at S & L's decline by $.71 billion and commercial bank time deposits increase by $1.2 billion. According to Silber one year after a one percent increase in regulation Q, total commercial bank deposits rise by $4.4 billion while S & L deposits decline by $1.5 billion.

The simulations of the FMP model by Fair and Jaffee (43) were carried out with a view towards evaluating the impact of the "Hunt Commission" proposals on the financial sector and Housing. With this in mind, they distinguish between the effects of removing deposit ceilings that constrain just commercial banks versus the effect of removing ceilings that have constrained both banks and other thrift institutions. If only commercial banks were constrained then removal of regulations Q seems to have a significant impact on financial flows, the mortgage rate and housing investment. If all thrift institutions were constrained the impact of removing Q is negligible on all of these variables. Fair and Jaffee argue that their results suggest a very modest effect of changes in regulation Q.

The impact of an increase in the lending rate at the Federal Home Loan Bank System is also rather small, at least as reported by Silber (37, pp. 82-89). A one percent increase in the rate charged on advances raises the mortgage rate by nearly 5 basis points after one quarter and then declines to an increase of 3 basis points after one year. Jaffee (21) using a detailed model of the mortgage market found a significant impact of changes in the FHLB lending rate on mortgage flows. An increase of one percent lowers S & L holdings of mortgages by $2 billion after one year with little or no offset from other mortgage lenders even after 32 quarters of simulation. Jaffee finds similar results for an exogenous increase in FHLB advances. On the other hand, he finds that an exogenous purchase by FNMA raises mortgage demand initially but after 7 quarters other participants in the market have fully offset the impact on mortgage flows (but not on the mortgage rate). This asymmetry in response to FHLB and FNMA policy is puzzling to Jaffee and he provides no justification.

There are a number of problems common to all of these structural models which limit their usefulness and, perhaps, credibility

in evaluating the impact of selective credit policies. None of these models fully articulates the linkages between real and financial markets, hence the impact of such policies on the real sector cannot be properly measured by the reported simulations. Second, all of the models leave out sectors and market interrelationships that would affect the overall elasticities of substitution between different securities. Hence, while Silber (37, Table VII, p. 108), for example, reports very significant initial impacts of exogenous changes in the demand for particular catagories of securities (mortgages and corporates) on relative rates of interest, this must be taken with considerable reservation.

In an attempt at circumventing the problem of "omitted sectors", Huang (20) estimated the elasticity of substitution between different categories of mortgages and corporate bonds directly, i.e., via a reduced form approach. In general, he finds rather high elasticities of substitution between government-insured mortgages and corporate bonds and very little substitutability between conventional mortgages and corporates. Huang also estimates aggregate supply and demand equations for mortgages. The supply equation includes both FHLB advances and FNMA purchases. The impact of FHLB advances is quite large while FNMA's effect seems to be zero. This asymmetry appears once again in Huang's estimates (19) of the impact of FNMA and FHLB activity on residential construction (others, such as Brady (4) and Fair (14) produced similar results). However, until these reduced form equations take explicit account of the endogenous countercyclical behavior of these government-sponsored agencies these results cannot be accepted at face value.

A related empirical question is raised by Kwon and Thornton (23), (24). They show that the financing side of FHLB advances, i.e., the issuance of FHLB bonds, produces a direct offset to the impact of FHLB advances on mortgages since there seems to be a high degree of substitutability between FHLB securities and S & L deposits. While their explicit test of substitutability is plagued by multicollinearity among interest rates (which they seek to avoid by using only one rate at a time to see which produces the highest R^2 — a doubtful procedure at best) their empirical findings cast further doubt on the asymmetrical response of the mortgage market to FHLB and FNMA activity.

The question of whether mortgage credit in general (not just FHLB or FNMA credit) affects housing expenditure was tested by

Arcelus and Meltzer (42). They estimated demand equations for housing services and new houses and included mortgage credit as an explanatory variable. Their regression equations show that the stock of mortgages is *negatively* related to housing demand. They also argue that the flow of mortgage credit is not an appropriate variable in the estimated equations. Rather than evaluating their surprising findings here, you can judge for yourself by reading a comment by Swan (44) and a reply by Arcelus and Meltzer (45) which summarize the pluses and minuses of the Arcelus-Meltzer findings.

The most comprehensive grandiose attempt at an empirical test of the potential usefulness of selective credit policies is by Jacob Cohen (7). Cohen's model was constructed with the explicit objective of integrating financial flows and real resource allocation. Evaluating the potential effectiveness of selective credit policies was a key objective. It is not surprising, therefore, that his model bears most closely on the efficacy of selective policies. Had some of the formal structural models of the financial sector discussed above been constructed with a similar objective the results would have been of greater use.

Cohen uses regression analysis to see if there is a more significant relationship between different categories of real expenditures (e.g., residential construction, consumer durable expenditures, corporate plant and equipment expenditures and inventories) and *particular* categories of financial flows (e.g., mortgage flows, consumer credit, corporate stock and corporate bonds) or whether aggregate financial flows do as well as specific categories. This is a crude procedure but certainly gets at the issue at hand, namely, is there a significant relationship between particular financial market flows and specific real expenditures. Cohen finds that except for consumer durable expenditures there is a stronger relationship between a narrowly-defined financial flow and a specific category of expenditure, e.g., residential construction and mortgage flows than between the real expenditure and a broader category of financial flow, e.g., total financial liabilities. Cohen concludes that his results make a reasonable case for the efficacy of selective credit policies.

As with all empirical studies, Cohen's approach and empirical tests are subject to qualification. While Cohen argues in favor of measuring substitutability by using credit flows rather than interest rates, his confrontation between these two groups of variables is extremely oversimplified. Substitutability is best measured from a

theoretical standpoint by responses to relative interest rates not different financial flows (unless credit rationing is dominant and interest rates have no relevance). Furthermore, Cohen does not include the many other variables that ought to enter expenditure equations in addition to financial flows. Hence the ceteris paribus conditions are not satisfied and the true partial effects of altering credit flows has not been captured. Finally, no attempt is made at incorporating lagged variables in the estimated equations to test for the existence of offsetting effects over time, as discussed above. Despite these criticisms, however, Cohen's attempt at an empirical evaluation of the effectiveness of selective credit controls is a step in the right direction. Additional effort along these lines, in light of the criticisms set forth here would be worthwhile.

The last group of empirical studies bearing on the issue of the efficacy of selective policies is the work by Paul Anderson (2), Leonall Andersen (1) and Silber (38) on the importance of bank portfolio composition in the determination of GNP or money velocity. This bears directly on the question of whether there is an aggregate impact of different types of financial flows. Regression equations reported by Paul Anderson (2) and Silber (38) show that changes in the money supply associated with bank loans (on the asset side) have a larger impact on GNP (hence a larger velocity) than changes in the money supply associated with other asset acquisitions by commercial banks. In a comment on Paul Anderson, Leonall Andersen (1) produces results suggesting that such differences between "loan money" and "bill money" last for only one quarter. Such an amendment is consistent with the arguments set forth above regarding the offsetting effects brought on after credit flows have their initial impact. On the other hand, the one quarter reversal found by Andersen seems rather arbitrary and requires further investigation, especially by trying more gradual distributed lagged relationships.

Selective Credit Policies: Costs, Efficiency and Equity

In the section above entitled "What are Selective Credit Controls?" we raised the issue of the appropriateness of an offset to the incidence of monetary policy via selective credit policies. We deferred such a discussion until this point so that this question of

the equity or normative aspects of selective credit policies could be examined along with an analysis of costs and efficiency.

It was noted above that some economists, such as Mayer (30) have used the neutrality of money (in the sense of no explicitly designed favoritism to any particular sector of the economy) as an argument against the use of selective credit controls. This assumes that the incidence of stabilization policy is optimal when implemented by monetary policy. There is little justification for such a position. Rao (35) argues rather convincingly as follows: "Since different stabilization policies which would have the same impact on aggregate output would have different sectoral impacts, it is not possible even for an ardent purist (non-interventionist) to avoid having to make a judgment about the relative merits of the allocational effects of alternative stabilization policies".

The only possible argument for the optimality of the allocational impacts of monetary policy lies along the following lines: since the problem of eliminating inflation or recession can be reduced to one of altering the timing of expenditures, i.e. postponing expenditures in the case of inflation and moving to the present future expenditures in the case of recession, and since the interest rate is the variable which influences the intertemporal allocation of resources, this suggests that stabilizing expenditures over time by using monetary policy to influence the interest rate has the advantage of operating through the market's intertemporal allocation mechanism. While this approach is appealing it seems that one must explain more rigorously the reasons for needing countercyclical stabilization policy in any particular situation before concluding that, in general, monetary policy is optimal from an equity standpoint. Furthermore, taxation can also be used to influence the intertemporal allocation of resources so that the case presented for the incidence of monetary policy, even in this context, is far from definitive.

The more fundamental economic justification for selective credit policies aimed at real resource reallocation rests on the existence of externalities in particular types of expenditures; hence the free market would either underinvest (where there are social benefits) or overinvest (in the presence of social costs) if there were no government intervention. Given the need for government intervention to direct resources to a particular sector, the case for using selective credit policies must be made on the grounds that credit policies accomplish the objective more efficiently, i.e., they cost less

or the benefits per unit cost are higher, than other means of reallocating real resources. The simplest alternative to selective credit policies is a system of taxes and subsidies favoring certain categories of expenditures. Note also that within the category of selective credit policies there are different types of policies which also must be evaluated along similar lines.

In this context, a strong case against selective credit policies has been made by a number of economists. Meltzer (32), for example, argues that if there are externalities then the appropriate method for subsidization is direct subsidies rather than credit-type subsidies since the latter subsidize only one of the inputs, i.e., credit while the former subsidizes all inputs equally. In other words, credit policies impose welfare costs by distorting the use of inputs in the production process, i.e., favoring credit. This assumes that the credit markets are efficient. If there are imperfections in the capital market, then subsidization of output X via selective credit policies would be extremely efficient; it would offset the imperfections in the capital market as well as subsidizing output X in light of the externalities involved. Government subsidies to stimulate housing are almost completely of the credit policy variety. One justification for such an approach (as pointed out by Penner and Silber, 34) is the existence of imperfections in the mortgage market.

Measuring the costs of selective credit policies and comparing them with the costs of direct subsidies is quite difficult. A recent study by the Joint Economic Committee (22) as well as the supporting paper by Weidenbaum (41) are the first steps in that direction. One trap to be avoided is the use of budget costs as recorded by the federal budget. Many selective credit policies, e.g., portfolio restrictions, interest ceilings, etc., have no budget costs, while direct subsidies or tax benefits clearly have budget costs. Using just budget costs ignores the social costs of selective credit policies. While the ability to keep the costs of selective credit policies outside the budget may have strong political advantages, an economist cannot ignore the true costs of such policies, which clearly include non-budget social costs. There is one real cost, however, that is, in fact, avoided by keeping down the budget costs of a policy, namely, one avoids the excess burden associated with the imposition of taxes to finance the budget expenditure.

The budget cost of direct subsidies, i.e. the amount of money the government pays out as a subsidy has been referred to as the net

income transfer cost (22, p. 69). This is not a cost to society, but rather a transfer of funds from one sector (taxpayers) to another group (recipients of the subsidy). While credit controls do not give rise to such transfer costs within the budget, they do produce such transfers outside the budget. The case of portfolio restrictions is a perfect example. Portfolio restrictions produce a subsidy to mortgage borrowers and home buyers under conditions outlined above. The cost of such restrictions is the reduced return per unit of risk to those institutions subjected to restrictions (see Penner and Silber, 34). This cost is also shifted to the depositors of such institutions in the form of lower returns (interest rates) on their deposits, (or in the case of regulation Q, the cost is shifted to the depositors of other institutions). A full discussion of such complementary cost-shifting policies is found in (34). The main point is that such income transfers occur in all selective credit policies, only in some cases it occurs within the budget and in others outside the budget. While there is an advantage in terms of excess burden of taxation in keeping it outside the budget, the uncertainty of the incidence of the cost of such selective credit policies may itself be a drawback.

The real social costs imposed by selective credit policies include: (*a*) administrative costs of the regulatory agency charged with implementing the credit policy and supervising compliance, (*b*) costs to the regulated in complying with the credit controls, (*c*) resources of the private sector devoted to evading credit controls, and (*d*) welfare costs associated with the inefficiencies imposed by the selective credit policy. We will examine each category of costs from two aspects: whether there is a counterpart to such costs in direct subsidies and the method of measuring such costs, if that is possible.

The administrative costs of the regulating agency is the simplest to analyze. There is a straightforward measure of costs, i.e. the actual costs of the agency charged with administering the program or the controls. There is also a counterpart in direct subsidies, namely the cost of the agency running the program. There is no reason to expect one type of program to be more costly to administer than the other.

The costs to the regulated, in terms of record-keeping, etc., is not as easy to measure. It should be possible to get at such numbers by asking the affected institutions for the man hours, etc., devoted to such tasks. There is also a counterpart to such

costs in direct subisidies as long as criteria are established by the government defining eligibility for particular subsidies.

These first two categories of costs are not usually stressed by those presenting the drawbacks of selective credit policies. Rather, the latter two categories, cost of evasion and the welfare costs, (in terms of capital market efficiency) are seen as the major problems with selective credit policies. Meltzer (32) and Friedman (16), for example, are most concerned with these aspects of the cost of selective controls. Both authors cite under costs of evasion the structural readjustments imposed on financial institutions in an effort to evade selective credit controls. Key examples are the emergence of the Eurodollar market and the payment of interest-in-kind (free deposit services, gifts and other promotional gimmicks) in response to ceilings on deposit rates. While there is no estimate of such costs it is quite possible that they are non-negligible.

Are there analogous costs in the case of direct subisidies? As long as there are criteria for eligibility for direct subsidies the counterpart to costs of evasion are the costs associated with feigning eligibility. A direct subsidy to homebuyers, for example, to replace the myriad of selective housing credit policies may very well generate a very active secondary market in houses — e.g., "I buy yours and you buy mine" — in order to qualify for the subsidy.

Interference with the efficiency of the capital market is viewed as a major cost of selective credit policies by Meltzer (32), Friedman (16) and others. Capital mobility is impaired by portfolio restrictions and the regulation of interest rates eliminates their usefulness in the intertemporal allocation of resources. Such welfare costs of these regulation-type selective credit policies do have a counterpart in the excess burdens associated with all types of subsidies (credit and non-credit) that are financed via taxation. Aside from that the only justification for such market interference lies in the existence of imperfections in the capital market which these selective controls are correcting. In addition, applying the second-best criterion (25), if some regulations must be imposed for other reasons, e.g., deposit insurance or reserve requirements for financial market stability, then reallocating resources via selective credit policies might be optimal given the existence of these and other types of interference (monopolies, imperfections) in the capital market.

One general conclusion that emerges with respect to the relative

welfare costs of different types of selective credit policies is that control over interest rates directly is less efficient than other types of selective credit policies. It seems that it is better to let the market determine the interest rate (price) so that it retains its value as an allocator of funds subject to the constraint imposed by government credit policies. As long as the ultimate objective is quantity of resources in a particular use, it is best to retain price as determined by the market (both in the input and output market) so that consumers and producers and borrowers and lenders are using funds and resources efficiently once the externalities and imperfections have been taken into account by government subsidy.

Future Research

This survey of the literature on selective credit policies points to at least three areas needing major research efforts. The need for a normative theory of the incidence of stabilization policy is an obvious requirement. Unless such an analysis is available, policymakers will have no standard by which to judge whether the incidence of countercyclical policy should or should not be offset by selective policies of one type or another.

On the empirical front, two topics require major additional work. An econometric model integrating the structural approach to financial institution portfolio behavior with a model of real resource utilization (along the lines of Cohen, 7) is a prerequisite for an accurate evaluation of selective credit policies. Accepting the results of existing models, not especially designed for evaluating the efficacy of selective credit policies simply will not do. Finally, additional effort along the lines of the JEC's approach to measuring the costs of federal subsidies (22) as well as an evaluation of the benefits per unit of cost of each subsidy is a prerequisite for formal policy recommendations.

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