

Direct Credit Controls as a Monetary Policy Tool*

1. Introduction

Direct quantitative controls of credit (*encadrement du crédit*)¹ have often been used throughout the sixties within the framework of restrictive monetary policies aimed at curbing inflationary tendencies. Different as such controls may have been in different countries as regards their object, the duration of the enforcement period and the frequency of ceiling revisions, they have had one common characteristic: the inclusion of ceilings on commercial bank loans.

Generally speaking, the application of credit ceilings confronts the monetary authorities with a number of political and technical problems, such as the acceptability of distortions of and limits to market forces, the difficulty of administrative controls, and so on. Moreover, a systematic analysis of the economic implications of credit ceilings still has to be made, probably because of the novelty of these policy instruments.²

The intention of the following notes is to study the effects and scope of the application of credit ceilings, whether they be considered

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¹ Credit ceilings have been introduced in France, the United Kingdom, Belgium, Spain, Switzerland, Sweden, Japan and the Netherlands; they have not been used in the United States, Canada, Germany and Italy.

² The Bank for International Settlements, Basle, has since published, in a volume on *Quantitative Credit Restrictions*, the proceedings of a meeting on the subject held at the B.I.S. on 5th-6th November 1970. At that meeting central-bank economists of the major industrial countries either reported on the experiences of their countries with credit ceilings, or gave the reasons why these policy instruments had not been resorted to.

as a substitute for monetary base management or as an additional tool.

We shall assume that the monetary authorities:

- (a) do not change their monetary base supply policy;
- (b) do not attempt to influence rates of interest directly through a change in the official discount rate;
- (c) intend to implement a restrictive policy through the introduction of direct controls.

Given these assumptions, we shall analyse the effects of credit ceilings on:

- (a) interest rates;
- (b) the total volume of financing;
- (c) aggregate demand and its composition.

The analysis will be developed on the assumption that the banking system is made of a single large bank with many branches. In reality, a banking system is generally made of many banks with very different dynamics, so that the rate of growth of the system as a whole is a weighted average of the individual banks' rates of expansion.³

2. Ceilings on commercial bank loans

Let us first consider the case of ceilings on the expansion of bank commercial loans, and assume that banks are free to increase

³ This assumption disposes of some of the difficulties that credit ceilings may create as to their feasibility and the predictability of their effects. If the ceiling is set on each individual bank, the resulting growth of the system (quite apart from cases of non-observance) will be somewhat below the permitted rate of growth insofar as redistribution of funds and customers from faster to slower growing banks is difficult to obtain. The margin between the allowed and the actual rate of growth is difficult to forecast and is likely to shrink as time goes on after the introduction of the ceiling.

If, on the other hand, the ceiling is imposed on total credit and sanctions are applied to individual banks which exceed the ceiling only when the system as a whole exceeds it, other difficulties arise. First, planning the expansion of credit by banks becomes a gamble since its cost depends on how fast other banks grow. Second, it is no less difficult for the monetary authorities to predict the actual rate of growth of total credit. Third, banks will be pushed to collude through exchange of informations and customers. In any event this technique is feasible only in a highly concentrated system.

Thus in either case bank competition suffers and the actual rate of growth of total credit is likely to be both different from the ceiling and difficult to forecast.

their holdings of securities (both private and Government securities), and that issues of securities are unrestricted.

The ceiling is effective if, at the ruling rate, it creates an excess demand for commercial loans that banks could, and would be willing to satisfy if no quantitative controls existed. Thus, banks find themselves with an excess of liquid assets. As a consequence of that excess demand, the rate on loans will rise. How much it will rise depends both on the elasticity of the demand for loans and on how fast banks adjust their rates.⁴

As a first approximation we shall assume that the deposit multiplier (i.e. the increase in deposits brought about by a given increase in the monetary base) is a constant.⁵ In this case banks will change only the composition and not the volume of their assets. They will shift from commercial loans to securities, and in the new equilibrium the share of securities out of total assets will rise. If the monetary authorities do not undertake any offsetting action, the price of bonds will have to rise to the extent necessary to induce the public to sell them to the banks.

A result of this twist in the rates (rise in the loans rate, fall in the bond rate) and of the non-availability of bank credit is that business firms will try to get funds either from non-bank financial intermediaries or from bond issues. This will stop, or possibly invert, the movement of the rates and bring the system to a new equilibrium. If such alternative sources of funds were perfect substitutes for bank loans, no final effects on investment and economic activity would occur. Moreover, rates would not change. Since, however, this is presumably not the case, the effect of the ceilings, even in the new equilibrium, will be a twist in the structure of the interest rates and, for a given monetary base supply, a reduced expansion of total financing.

⁴ An important difference between credit ceilings and credit rationing should be stressed here. Rationing occurs when, at the ruling rate, a bank cannot satisfy the demand for loans but does not increase the rate up to the equilibrium level. By contrast, in the case of a ceiling the bank could expand the supply of loans, and would do so if the ceiling were removed. Rationing can be regarded as a consequence of a monetary base restriction, the ceiling as a substitute for it. Thus, it is reasonable to presume that the stimulus to increase the rate on loans will be stronger when there is a ceiling than when there is rationing. One can also expect the increase in the average loan rate to be limited both by a shift of banks to the more creditworthy customers and by some market imperfections.

⁵ This assumption will be dropped in section 3. It will be shown that the results established here do not change under the assumption of a variable multiplier.

3. Changes in the deposits multiplier

Up to this point, we have assumed a constant deposits multiplier. In fact, however, the multiplier can change if:

- (a) the interest rate on deposits is free to move and can influence the public's preferences between currency and deposits;
- (b) the banks' free reserves ratio is variable.

If, with a given supply of the monetary base, the introduction of ceilings on commercial loans induces a change in the deposits multiplier, not only will the relative proportions of loans and securities be affected, but also the level of banks' total assets. However, this cannot change the direction of the final effect, because as long as the ceiling remains effective, there must be some replacement of loans by securities; and this cannot but twist the rate structure (see section 2). It is only the magnitude of the effect that can be altered by a change in the multiplier.

Let us consider case (a) first. Competition among banks in obtaining deposits might diminish, as a consequence of the more limited freedom to choose the composition of assets; this could cause deposit rates to fall or to rise less. The stronger this effect, the smaller the proportion of the public's monetary base banks can attract and, hence, the lower the banks' investments in bonds and their total assets. The magnitude of the multiplier's decrease depends on two factors: the extent to which the banks can replace commercial loans by securities, and the elasticity of the public's demand for currency (or other forms of the monetary base) with respect to interest rates on deposits.⁶ Thus, lower rates on deposits can prevent a drastic fall in bond rates.

The dimension of the twist in the rate structure depends, therefore, on the above mentioned parameters, which modify the

⁶ It is quite possible that a new equilibrium will be established, with a smaller differential between the market bond rate and the deposits rate: this result depends essentially on the value of the two parameters mentioned in the text. Should it materialize, the public would be in equilibrium with a higher share of deposits and a lower share of bonds on its total financial wealth. For this to be consistent with a lower multiplier and, hence, with a lower total amount of deposits (for a given monetary base), a necessary condition is that, in the adjustment process, the public should give up part of its bonds to the banks. The amount of substitution, by the public, between bonds and deposits, depends on another parameter, namely, the elasticity of the demands for deposits and for bonds with respect to the yields differential of these two financial assets.

value of the multiplier, for a given level of the ceiling placed on commercial loans and of banks' excess reserves.

In case (b), the deposits multiplier will vary if banks decide to change their free reserves ratio, following the introduction of limits to the expansion of loans and the ensuing shift from loans to greater investment in bonds. As a first approximation, it can be argued that the free reserves ratio will decrease or increase according to whether bonds are considered by the banks to be more or less liquid than loans.⁷ The final effect will follow, with a process similar to the one described under case (a).

4. Non-bank financial intermediaries and the control of security issues.

When non-bank financial intermediaries are not controlled and the issue of securities by business firms is unrestricted, the final effect of credit ceilings on rates and on the control of total financing will depend, as we said in section 2, on whether substitutability of bank credit by alternative sources of financing is imperfect. Well developed non-bank intermediaries can limit the restrictive effects of credit ceilings insofar as they help to increase this substitutability. It follows that, to be really effective, quantitative credit controls should be extended to all sources of finance, not just to one of them.

In Italy, three major sources of finance exist as alternatives to bank credit: loans by the so-called "special credit institutions", direct recourse to capital markets, and borrowing abroad. Special credit institutions raise funds essentially through bond issues. Since these issues must be authorized by the monetary authorities, the expansion of the special credit institutions' intermediation can be controlled by limiting the issues.⁸ The monetary authorities can also control the two other sources of non-bank financing.

⁷ It is impossible to say which way the ratio will move unless one has some particular institutional and cyclical context in mind. Broadly speaking, however, it seems more likely that the ratio will increase. In effect, commercial loans are a shorter term investment than bonds. Furthermore, they are often granted for particular reasons — such as the banks' desire to maintain their share of the market — which are totally irrelevant in the case of investment in bonds.

⁸ We may add that a large proportion of loans granted by the Special Credit Institutions takes the form of subsidized credit. The determination of the supply conditions of this kind of credit is an additional instrument of official economic policy. The

In addition to these direct controls, the Italian Central Bank can indirectly control the expansion of total finance through changes in its monetary base policy. A reduction in the monetary base brings about a reduction in the amount of liquid assets held by both the public and the banking system. As a result of this reduction, the latter will reduce its financing of non-bank financial intermediaries, and both it and the public will absorb less securities.

Let us assume, first, that neither credit ceilings nor rationing of security issues are introduced by the central bank, and that there is a restrictive monetary policy which relies exclusively on the management of the monetary base. In this case, non-bank financial intermediaries and business enterprises can attempt to alter the composition of the public's financial wealth by increasing the rates of interest paid on the securities they issue. The larger the spread between the rate on securities and the rate on bank deposits, the smaller is the share of deposits in total financial wealth which the public needs to preserve equilibrium. The process of substitution determined by an increase in the spread will cause the velocity of circulation of money to rise. Since, however, for a given yield from capital, the rise in rates reduces aggregate demand for goods and services and therefore also demand for credit, this process should gradually fade out.

When this kind of indirect control is used, the effects of monetary policy are transmitted to the economy essentially through increases in interest rates (or, possibly, through temporary credit rationing). In countries where deposits and other financial assets (such as commercial paper) are highly developed — the latter escaping the control of the monetary authorities and providing good substitutes for bank deposits — the central bank will be mostly relying on such a technique of control.⁹ Against such policy one can

Government can, in fact, decide not only the level of subsidized rates, but also the categories of firms, the sectors of economic activity, and the geographical areas eligible for subsidized credit. This discretionary power can be used to implement a selective control of credit.

⁹ The report of the United States delegates to the B.I.S. meeting (see B.I.S. *Quantitative Credit Restrictions*, p. 109; *op. cit.*) indicates the two major reasons why the monetary authorities in the United States were reluctant to apply quantitative credit restrictions.

First, it is said, such restrictions are rather difficult to manage in a banking system which, like the American one, is very decentralized and diversified as to the rate of growth of individual banks. This difficulty is increased by the large number of non-bank

raise the objection that the increase in interest rates necessary to bring about the desired reduction in the demand for funds may well be too high, and too slow in producing its effects.

Suppose, now, that in addition to limiting the monetary base supply (which determines the total amount of the public's holdings of liquid assets), the monetary authorities ration the issue of securities, but do not impose any ceilings on commercial loans. In order to satisfy a high demand for commercial loans, the banking system will presumably try to increase the spread between bond rates and deposit rates in order to induce the public to buy bonds. Thus, rationing of bond issues, added to a restriction in the monetary base, can prove insufficient to avoid pressures on long-term bonds.

We can conclude, therefore, that a reduction in the monetary base supply has some direct effects on the long-term bond market, particularly if a large share of such bonds is held by the banking system.

5. Credit ceilings and control of bond issues

An appropriate use of credit ceilings, in addition to the other monetary policy tools, can enable the monetary authorities to contain the expansion of credit, without pushing up bond interest rates too much.

We have already seen that ceilings applied only to commercial loans will cause a shift from loans to bonds in banks' demands, and consequently a twist in the rates structure (section 2). With a given monetary base and multiplier, and therefore with a given total of banks' assets, the introduction of ceilings on commercial loans can prevent a shift from bonds to loans (section 4) because it leaves the

financial intermediaries and by the existence of particular markets (like the market for "commercial paper") to which the control should be extended.

Second, the effectiveness of the traditional instrument of policy, that is, the control of the "money supply", in influencing the level of expenditure through changes in interest rates, is regarded as satisfactory in the U.S.A. The report recognizes that in such a system the monetary authorities must sometimes be prepared to accept very sizable increases in the rates. But it argues that it is difficult to forecast the effect of credit ceilings on the average level of interest rates, because they could produce variations of opposite sign in different rates. Apart from this remark, the report does not analyze the effects of credit ceilings on the relationship between money market and bond market. Instead, it points out that quantitative controls may have distributional effects when they are confined to specific sectors of the economy.

banks with only the possibility of investing their excess reserves in bonds. Thus, the management of the monetary base and the control of new bond issues, when accompanied by credit ceilings, can provide a better regulation of the market rate, since banks would never be led to selling their bonds, quite apart from any fear of capital losses.¹⁰

To sum up, by introducing ceilings on bank commercial loans and rationing new issues, the monetary authorities would be able to attain the two targets of keeping total financing down to the desired level and of checking the tendency of long-term bond rates to rise. Even the rate on deposits could decrease or increase less. Finally, ceilings would discourage capital inflows from abroad, which may be a desirable objective when the central bank seeks to reduce total financing in order to curb the expansion of aggregate demand. Of course, keeping down long-term rates would not be considered among the goals of monetary policy if its very purpose were to create a credit squeeze and to raise interest rates so as to stop outflows of capital abroad.

6. Credit ceilings and alternative means of controlling bank credit in Italy

In Italy the banking system does not have automatic access to central bank credit, and the Bank of Italy has the power to refuse rediscount and advances at its discretion. It follows that a monetary restriction can be implemented more easily than elsewhere without recourse to an increase in the official discount rate (as a matter of fact, the rate remained unchanged from 1958 to 1969).

Monetary base policy affects the liquidity of the banking system and this liquidity of course, plays a crucial role in determining

¹⁰ As an alternative to credit ceilings in a policy aimed at discouraging banks from altering their portfolio composition at the expense of bonds, one could imagine the introduction of a compulsory reserve on commercial loans. This, however, would be a type of indirect control, to be implemented by means of the monetary base, since it would leave the banks free to use their liquidity to increase loans. Should the compulsory reserve on loans be considered as additional to the one on deposits, only the more restrictive of the two constraints would operate. The central bank, in its attempt to check the expansion of loans, might then find that deposits were lower than desired. To sum up, it does not seem possible to control both the volume and the composition of banks' assets by means of the monetary base and the imposition of compulsory reserves on deposits and loans.

credit supply. Compared with credit ceilings, this form of control is less direct, but is no less effective. If banks have no excess reserves the refusal of the central bank to grant them credit immediately affects their ability to expand assets. But even if they have excess reserves, the control of bank deposits through the monetary base can be very tight if it is accompanied by a change in the ratio and/or the composition of compulsory reserves. This latter kind of policy, however, affects neither existing stocks of assets nor their composition, since the banking system could endeavour to expand commercial loans by selling bonds. From this point of view, it seems that the introduction of ceilings should bring about the desired restrictive effects more rapidly.

As was suggested in section 5, ceilings on commercial loans can enable the authorities to reach some additional monetary policy targets, such as an easing of the upward pressure of capital market rates for a given monetary base supply. This effect will be stronger when credit ceilings are combined with restrictions on the supply of securities and other credit instruments.

It should be noted that banks may sometimes expand credit, even if their liquidity is already low, because they count on being able to borrow from the central bank. But in this case the impact of a restriction may be sharper, and the adjustment process more painful than in the case of credit ceilings, because with the latter the maximum possible expansion is known from the outset. This could be regarded as an advantage offered by credit ceilings over alternative means of control. The monetary authorities, however, can obtain a similar result by announcing their forecast of the major flows of funds for the coming year, so as to indicate the basic trends of monetary policy.¹¹

To sum up our examination of the role of credit ceilings within the Italian institutional framework, on the one hand, it does not seem that credit ceilings imposed on non-bank financial intermediaries increase the effectiveness of monetary policy. Such intermediaries, in fact, are already subject to a direct control through the required authorization to issue bonds and to grant subsidized

¹¹ By contrast with credit ceiling imposed on each individual bank, however, this way of avoiding the disadvantages of a "stop-go" policy does not discourage commercial banks from trying to enlarge their shares of the market. Such an attempt could create strong upward pressures on deposit rates.

credit, and to an indirect control through the management of the monetary base. Nor do ceilings seem to help in reaching additional objectives. On the other hand, ceilings on commercial banks, if applied on a *temporary* basis, can be an independent means of control which may be useful for strengthening the effectiveness of a monetary policy (e.g. by reducing the lag of a restrictive policy) or for reaching additional objectives (e.g. the control of market rates during a credit squeeze).¹²

7. Effect on aggregate demand

One corollary that can be drawn from what has previously been said is that credit ceilings interfere with the redistribution of funds between surplus sectors and deficit sectors. This happens even when sources of finance different from bank credit are not controlled, since alternative means of financing are only imperfect substitutes. As far as the real sector of the economy is concerned, it follows that the component of aggregate demand which is financed with credit will shrink. This effect will depend not only on the level of the ceiling, but still more on its range. If the ceilings were imposed on some sources of finance only, the economy would be able to turn to other channels of intermediation not subject to control and thus partly avoid the restrictive effect.¹³ This possibility does not exist, of course, in the extreme case where all channels of financial intermediation are controlled, either through ceilings or through administrative controls. It should be pointed out, however, that if ceilings and other generalized controls are not to stimulate the creation of new forms of intermediation, they must be adopted for short periods of time only.

Besides the quantitative effects on aggregate demand just described, some selective (qualitative) effects should be mentioned.

¹² We are making here the reasonable assumption that the central bank is not engaged, during the credit squeeze, in a pegging policy through open market operations.

¹³ If this substitution between different sources of financing is very large, the twist in the rate structure will be very small, as we have seen in section 2. In this case it is more difficult for a policy which squeezes bank credits to keep, without limiting issues of securities and controlling the supply of credit by non-bank financial intermediaries, the long-term rate at a stable level. It is still true, however, that the ceiling on bank loans helps to prevent banks from mobilizing their stock of securities, and therefore reduces the upward pressure on long-term bond rates.

For example, investments and businesses will be favoured which, because of their size or sector of production, have easier access to sources of funds not subject to control or not rationed by banks. Finally, by imposing ceilings on bank credit to the private sector alone, the monetary authorities can moreover alter the composition of aggregate demand by channelling the excess liquidity of the banking system towards the public sector alone, for instance, by encouraging purchases of Government bonds.

8. Conclusions

The results of the preceding discussion can be summarized as follows.

(a) On the one hand, *ceilings on commercial bank loans alone* will cause a twist in the structure of interest rates: bond rates will fall while rates on commercial loans will rise. This kind of ceiling, therefore, allows the monetary authorities to avoid large fluctuations of long-term rates when they resort to a monetary restriction by means of the monetary base supply. By preventing banks from expanding loans, the ceiling freezes the holdings of securities in banks' portfolios, and banks may even be led to invest their excess liquidity in securities. The ceiling is, therefore, an independent instrument of monetary control and can enable the central bank to reach an additional objective.

If, on the other hand, *ceilings are extended to total assets*, the effect is a generalized upward pressure on market rates, partly equivalent to the effect of an increase in the ratio of compulsory reserves. There are, however, important differences. First, when the ratio is increased, some banks can continue to expand their assets, while others may experience a liquidity crisis, which can happen when excess reserves are unevenly distributed among banks. With the introduction of credit ceilings this possibility cannot occur. Second, in contrast to the ceiling, a change in the ratio causes a change in the deposits multiplier which structurally alters the link between changes in the monetary base and changes in the volume of bank intermediation.

(b) Ceilings on commercial bank loans alone, if used together with monetary base policy, may speed the effect of a restrictive policy. Where bank credit and alternative sources of finance prove

to be imperfect substitutes, this instrument can therefore increase the effectiveness of monetary policy, insofar as it helps to reduce total financing of the economy. From this point of view, credit ceilings are the more effective the more they are extended to non-bank financial intermediaries, and their effectiveness can be increased by limiting the possibility for such intermediaries to raise funds (through, for example, a rationing of the authorization to issue new bonds). The financial system will presumably try to evade the restrictive effects of ceilings by creating new channels of intermediation which do not fall under official control, so to prevent this from happening, credit ceilings must be used for limited periods of time only. This temporary nature is also consistent with their use as a tool aimed at hastening the effects of monetary base policy.¹⁴

(c) To the extent that they hinder the redistribution of funds between ultimate borrowers and ultimate lenders, credit ceilings reduce aggregate demand. The size of the reduction depends on the extent of indirect financing of investments. The same effects could, however, be obtained by controlling both the monetary base, which indirectly limits the expansion of bank assets, and the alternative sources of financing. Moreover, credit ceilings can be used to change the composition of aggregate demand when, for instance, they are imposed on bank credits to the private sector. In this case they can be regarded as an independent tool to implement a particular economic policy.

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¹⁴ In this study we have analyzed the effect of credit ceilings as instruments of monetary policy. We have also pointed out some possible side effects, such as distortions in the process of financial intermediation and inefficiencies in the allocation of financial resources. In the introduction we have also mentioned some other reasons why the monetary authorities should be cautious in imposing credit ceilings. Some of these are: distributional effects, the practical difficulty of enforcing the constraints, and the tendency shown by most of the countries which adopted them to use the ceilings for long periods.

For a detailed exposition of the pros and cons of credit ceilings see J. DUHAMEL and R. LAB, "L'encadrement du crédit", *Revue d'Economie Politique*, Sept.-Oct. 1970, pp. 795-811. This paper, however, does not work out the economic effects of the ceiling in a systematic way and under an explicit set of assumptions. In particular, DUHAMEL and LAB seem to overlook the effects of credit ceilings on interest rates (p. 802).