MONETARY POLICY AND REGIONAL DISPARITIES IN CANADA

by

Bertram A. Somers

ABSTRACT

In their efforts to deal with the high unemployment and low per capita income which is characteristic of certain regions of Canada, federal and provincial governments have devised a number of schemes such as incentives to industry, the building up of infra-structure, and even the establishment of a new federal Department of Regional Economic Expansion. Indeed, all levels of government have expressed a growing concern over Canada's regional problems. However, no attempt has been made to see how monetary policy may be effectively used for regional purposes.

If a regional monetary policy were implemented with a break-up of the banking system and the granting of regionally-tied loans, then we could exempt the depressed region from tight money policies and stimulate its economy. This is not to say that monetary policy implemented in this manner would be a cure-all for Canada's regional problems, but rather it would be a valuable complement to regional policies carried out by the federal and provincial governments.

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THE EFFECTIVENESS OF MONETARY POLICY IN DEALING WITH REGIONAL DISPARITIES IN CANADA

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PREFACE

Very little study has been done on how monetary policy can deal with regional disparities in Canada. It seems to be generally accepted that monetary policy should concern itself primarily with the national economy and leave the onus on the federal and provincial governments to cope with regional problems. The purpose of this thesis is to show how monetary authorities may make allowances for the depressed regions in their policy measures.

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INTRODUCTION

In the last couple of years the problem of regional disparities has become the subject of much discussion. Various agencies and development boards have been set up by both federal and provincial governments with the expressed purpose of dealing with this problem. The latest attempt to do something about the problem of regional disparities has been the creation of the new federal Department of Regional Economic Expansion.

Under the different provincial and federal schemes tax allowances have been made, government boards have either extended or guaranteed loans, and there have also been tax-free grants. What should be pointed out, however, is that monetary policy is not given any explicit role to play in dealing with the problem at hand. The idea of using monetary policy to comply with regional needs is quickly dismissed on the grounds that it should deal with the aggregate economy and not concern itself with regional problems. This thesis explores how monetary authorities may allow for depressed regions in their policy measures while at the same time promoting the stability of the economy as a whole.

Chapter One is a discussion of what we mean by regional disparities in Canada. By looking at the dimensions of this problem we come to the realization that a regional monetary policy is only one of the ways that we can deal with this problem and that by no means should it be looked upon as a cure-all. Other methods must be used to eliminate

the slack in the depressed regions on a long term basis and thereby secure an even pressure of demand across the country.

Chapter Two discusses how credit may be made more readily available in a depressed region through changes in the present monetary tools we have at our disposal. We are interested in the present institutional framework and how changes may be made within it to assist the depressed regions.

In Chapter Three we venture outside the institutional setting and discuss a more effective use of monetary policy. Such a policy might simply stipulate that banks make a certain percentage of their loans in the depressed region or it may entail a regional break-up of the banking system with restrictions in the flow of funds between regions. Having concluded that such schemes would be feasible, these ideas are presented in later chapters.

Chapter Four takes a look at the type of banking structure which would be most useful for achieving our regional goals under the present institutional framework. Brief mention is also made of the structure that would be most advantageous under the type of regional policies we propose in Chapter Three.

The last two chapters deal with specific financing problems. In Chapter Five we discuss public and private financing of industry and what further changes should be made to make our regional monetary policy more effective. In Chapter Six we will turn to the problem of provincial and local government financing and what can be done to assist them within our regional framework.

CHAPTER I

THE PROBLEM STATED

Before we examine monetary policy, it is important that we take a look at some of the regional problems with which Canada is faced. In this way we can come to a better understanding of the role that monetary policy will play in dealing with regional disparities.

The regionally poor areas of Canada are characterized by low per capita income and high unemployment. These disparities have been rather large and have persisted with only slight narrowing for over 40 years.[1] Neither strong national economic growth, the depression, nor even war have had any lasting impact on them. The narrowing of regional differentials in income between 1939 and 1946 can largely be attributed to government action. Government wage stabilization policies were implemented whereby flat-rate or uniform cents-per-hour increases were used. A compression of inter-occupational gaps reduced area differentials too. Moreover, under the National Selective Service regulations, workers were shifted into war industries. This had the effect of relieving shortages in expanding sectors and lessening the pressure of excess labour in depressed industries and areas. Government spending for war purposes was a fourth significant factor. The bulk of these expenditures was made in Quebec and Ontario, but all the provinces benefited from the expansion in invest-

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[1]Economic Council of Canada, Fifth Annual Review (Ottawa: Queen's Printer, 1968), p. 141.

ment and production. Quebec's wages rose quickly, narrowing the gap between itself and Ontario, and in the Maritimes there was a rapid growth in the level of industrial activity as employment in war industries, munitions, shipbuilding, and aircraft assembly and repairs, increased substantially. The reconversion period, however, brought with it a gradual widening of the gaps between relative regional wages in manufacturing and other industries until by the late fifties pre-war relationships once again were re-established.

The narrowing of regional wage differentials during the war was more or less a temporary phenomenon brought about by vastly expanded government activity and production for war purposes. We must then realize that there are persistent underlying economic and non-economic forces that we must contend with.[2] In certain areas, market and institutional forces appear to be mutually reinforcing, so that there is a tendency for self-perpetuating patterns of growth or stagnation to develop. Such patterns seem to be highly resistant to change except under unusual circumstances such as a major war.

In low-wage regions of Canada, especially the Atlantic provinces, the relatively high natural rates of population growth tend to depress wages as there are limited job opportunities. The extent of out-migration has not been sufficient to prevent high levels of chronic unemployment as shown in Table 1.

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[2]See H.D. Woods and Sylvia Ostry, Labour Policy and Labour Economics in Canada (Toronto: The Macmillan Company of Canada Ltd., 1962), Ch. XVII.

TABLE 1

Unemployment Rates by Region

	1964	1965	1966	1967	1968	1969
Atlantic Region	7.8	7.4	6.4	6.6	7.3	7.6
Quebec	6.4	5.4	4.7	5.3	6.5	6.9
Ontario	3.2	2.5	2.5	3.1	3.5	3.1
Prairie Region	3.1	2.6	2.1	2.4	3.0	2.9
British Columbia	5.3	4.1	4.5	5.1	5.9	5.0
Canada	4.7	3.9	3.6	4.1	4.8	4.7

Source: D.B.S., Canadian Statistical Review (11-003), 1967 and 1970.

In the 1960's unemployment has followed a pattern similar to previous years in that it increases very quickly in the low-income regions of Eastern Canada whenever the Canadian average rises, and remains well above the national average, even when the latter is relatively low. Out-migration might aggravate the situation in that the more highly skilled and educated workers leave. We must also realize that as surplus labour affects the general wage level, these lower wage levels tend to reduce the incentive of management to invest in labour-saving devices which increase worker productivity.[3] There is a sort of cause and effect relationship here. Investment per capita in the Maritimes over the post-war years has been well below the national average. This in turn is partly the cause and consequence of depressed labour-market conditions. Now one would assume that low wage costs would prompt the movement of labour-intensive industry into the region, consequently raising the price of labour. The Atlantic provinces, however, are impeded by their rela-

[3] There are, of course, other factors which would determine the adoption of new techniques. For example, the structure of industry in a particular region might be an important factor.

tively small local markets and by the tariff barriers which shut off U.S. markets.

Another important factor is seasonal influences. Because of severe and prolonged winters in Eastern Canada, the seasonal trough is both deeper and longer than the more western parts of Canada. If, as in British Columbia, the off-season is fairly short (three or four months) and the wages that can be earned during the rest of the year rather high, the worker is inclined to leave the labour force during the winter. If, on the other hand, the off-season is long, as it is in Eastern Canada, and the wages low, then the worker is more likely to seek work and a large pool of seasonally unemployed will accumulate during the winter. Moreover, in the Atlantic provinces the economy is far less diversified. Unlike Ontario, their seasonal industries such as fishing, fish processing, forestry, and agriculture, along with construction, are not counterbalanced by a large manufacturing sector. This is shown in Table 2. In addition, much of the labour force in Eastern Quebec and the Atlantic provinces is dispersed throughout rural areas where there may be no alternative employment in the winter.

TABLE 2

Manufacturing Industries by Province

1966

	Establishments
Newfoundland	262
Prince Edward Island	152
Nova Scotia	931
New Brunswick	690
Quebec	10,877
Ontario	12,986
Manitoba	1,456
Saskatchewan	774
Alberta	1,784
British Columbia	3,444

Source: D.B.S., Manufacturing Industries of Canada (31-203), 1966.

Rural and agricultural poverty in Canada is quite prevalent. With reference to Table 3 we find that in 1961, 41 per cent of all farms in Canada had annual sales of less than $2,500. Of this 41 per cent, 10 per cent had sales of between $250 and $1,199. This revenue exceeds any income that the farmer or his family might have received from off-farm jobs. In Quebec 54 per cent of all farms had sales of less than $2,500 as compared with Ontario with only 36 per cent of its farms in this category. Also, it is interesting to note that in 1961 the percentage of poor farms in the Atlantic provinces is much higher than that of the rest of Canada—65 per cent of all farms in the Atlantic provinces have sales less than $2,500 as compared with the national average of 41 per cent.

There are many reasons for this high incidence of agricultural poverty: poor managerial practices, deficiencies arising from inadequate farm size and the fact that much of the land presently being used (especially in Eastern Canada) is unsuitable for farming. It has been suggested that such land be used for forestry and water conservation. We must realize too that the best opportunities for many farmers can be found outside agriculture because technological changes have allowed large increases in agricultural output per farmer and thereby reduce manpower requirements on farms. The movement out of farming can be facilitated and the standard of living of the remaining farmers improved by a number of measures such as better land use, technical training for farmers, training and mobility programs for those who wish to leave rural areas and the creation of jobs for these people. Above all, the main objective should be to give agriculture an equitable share of national income, not

so much through welfare as through measures to enable the farmer to help himself.

TABLE 3

Rural Poverty in 1961

	Percentage of Commercial farms with sales less than $2,500	Percentage of rural non-farm families with annual incomes of $3,000 or less
	1961	1961
Newfoundland	74	70
Prince Edward Island	55	58
Nova Scotia	68	52
New Brunswick	67	54
Atlantic Provinces	65	58
Quebec	54	47
Ontario	36	31
Manitoba	40	47
Saskatchewan	30	50
Alberta	34	39
Prairie Provinces	33	45
British Columbia	48	29
Canada	41	42

Source: D.B.S., 1961 Census of Canada, Vol. V (96-530) and Vol. IV (98-503).

Over the post-war years Canada has experienced a marked reduction in farm population. This is important in that the farm population is a source of labour supply for industrial employment. Young people leaving the farm go either to large urban areas or to small towns and villages. In these small towns, wages tend to be substantially lower than in the city.

The Maritime provinces have an above-average proportion of their population living in these small communities. Most of these people work in subsistence occupations such as fishing and logging or in small-scale processing plants. Therefore, even among the non-farm population, there is a high incidence of poverty. As indicated in Table 3, over 40 per cent of the rural non-farm families had annual incomes below $3,000 in 1961.

As shown in Table 4, the rural-urban distribution differs greatly across the country. Ontario and Quebec are the most urbanized, whereas Prince Edward Island, New Brunswick, and Saskatchewan are predominantly rural. Moreover, the urban population has tended to concentrate in the large centres such as metropolitan Toronto and Montreal. It has been forecast that these centres may soon have a population equal to the total rural population. Presently over one-half of Canada's population lives within a radius of 150 miles of Montreal, Toronto, and Vancouver.

The urban centres also account for most of the manufacturing. In his book, Regional Economic Policies in Canada, Professor T.N. Brewis[4] points out that between 1950 and 1960 the metropolitan areas of Montreal, Toronto, Hamilton, Windsor, Vancouver, and Winnipeg gained 1,287 establishments, whereas the rest of the country showed a decline of 547. In 1961 these areas with 32 per cent of the population accounted for 48 per cent of the selling value of factory shipments in Canada. In 1962, the total of all factory shipments could be broken down as follows: Ontario 50%, Quebec 30%, the Prairies 8%, British Columbia 8%, and the Atlantic prov-

[4] T.N. Brewis, Regional Economic Policies in Canada (Toronto: The Macmillan Company of Canada Ltd., 1969), pp. 15-16.

TABLE 4

Rural-Urban Distribution
Among Provinces in 1961
In thousands

	Rural Population	Urban Population	Ratio of Rural to Urban
Newfoundland	226	232	.97
Prince Edward Island	71	34	2.09
Nova Scotia	336	401	.84
New Brunswick	320	278	1.15
Quebec	1,353	3,906	.35
Ontario	1,413	4,824	.29
Manitoba	333	589	.62
Saskatchewan	527	398	1.32
Alberta	489	843	.58
British Columbia	447	1,182	.38

Source: D.B.S., Canada Year Book, 1967.

inces a meagre 4%. If primary manufacturing and manufacturing for a local market is left out, manufacturing for markets outside the Atlantic region in 1961 comes out to less than 3 per cent as compared with over 50 per cent for Ontario.

With regard to income differentials, we must distinguish between gross income and disposable income. Less income tax is paid by people in the poorer provinces on the whole and transfer payments constitute a larger proportion of income in these provinces. The results we get when using these two measures of income are shown in Table 5.

TABLE 5

Income Distribution
by Province, 1966
$ per capita

	Earned income	% of national average	Personal disposable income	% of national average
Newfoundland	1,059	62	1,241	65
Prince Edward Island	972	57	1,303	68
Nova Scotia	1,181	69	1,471	77
New Brunswick	1,154	67	1,391	73
Quebec	1,499	87	1,670	87
Ontario	1,969	115	2,145	112
Manitoba	1,629	95	1,856	97
Saskatchewan	1,826	106	2,054	107
Alberta	1,796	105	2,040	107
British Columbia	1,970	115	2,184	114

Source: D.B.S., National Accounts, Income and Expenditure (13-201).

And finally, there are wide differences in educational attainment between the provinces.

TABLE 6

Educational Level of Population Ten Years of Age and Over

1961

	No School	Elementary 1-5	Secondary 1-5	University 1+
Newfoundland	5.6	53.0	38.3	3.2
Prince Edward Island	1.0	47.2	47.4	4.4
Nova Scotia	1.5	41.0	52.3	5.1
New Brunswick	2.8	54.0	38.6	4.6
Quebec	1.1	54.3	39.1	5.6
Ontario	1.2	42.8	49.8	6.2
Manitoba	3.0	40.5	50.3	6.2
Saskatchewan	3.1	46.9	44.9	5.1
Alberta	2.0	37.6	53.1	7.1
British Columbia	1.6	32.2	57.8	8.4
Canada	1.7	45.3	47.0	6.0

Source: D.B.S., 1961 Census of Canada, Vol. 1 (92-557)

The percentages of the rural non-farm and farm population without any secondary school education are much higher than for the urban population. This is true for all provinces. This fact is especially significant in that it is the Atlantic provinces and Eastern Quebec which have a large rural population. In Table 6 we find that it is provinces such as Newfoundland, New Brunswick, and Quebec which lag behind the rest of the country in terms of education. This data is important in our discussion of regional disparities as there has been a notable shift to more skilled occupations over the years.

One reason for differences in educational attainment across Canada is the difference in expenditures per child on education from one province to another. In 1961 the expenditures per child varied from $141 in Newfoundland to $396 in Alberta.[5] The difference between Quebec and Ontario in the amount spent was over eighty dollars.

If we compare provincial incomes for comparable educational levels, there are still large differences. Taking the two extremes, we find that the average income of male graduates in 1961 was $6,823 in Prince Edward Island and $9,370 in Ontario.[6] Indeed, for all educational levels, incomes in the Atlantic provinces are lower than the country's average. This is one of the main reasons why some of the more highly skilled and educated workers leave the depressed areas and go to other provinces.

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[5] Ibid., p. 68.

[6] Ibid., p. 69.

To summarize, the lack of educational attainment and skills in the Atlantic provinces and Eastern Quebec is one of the factors accounting for low incomes in these areas, as it has prevented change to other occupations and closed the door to better-paying employment opportunities. This factor, however, should not be isolated but must be studied in its relationship with other related factors such as the failure of demand for labour in primary occupations to grow and the absence of a large manufacturing and service sector to employ those coming out of primary employment. Again we cannot view the problem of regional disparities without taking into consideration a host of interrelated factors.

CHAPTER II

MONETARY POLICY IN CANADA

A. MONETARY POLICY DEFINED

The importance of monetary policy when we are discussing regional disparities depends on our definition of monetary policy and who is responsible for its implementation. Monetary policy may be defined as the use of specific instruments by the central bank to influence the cost and availability of credit in the country. Here we are referring to the use of the reserve ratio, the discount rate, open market operations, and moral suasion. When we define monetary policy this way we can only be pessimistic as to the merits of applying it on a regional basis.[1] However, if we broaden our definition to include the actions of government and private non-bank financial institutions designed to affect the cost and availability of credit, then action may be taken to make certain forms of credit cheaper or more plentiful in certain regions.

In its Second Annual Review, the Economic Council of Canada suggests two main interrelated considerations involved in moving towards a better regional balance. The first was the importance of reducing the relative disparities in average levels of income as they presently existed among the regions and the second consideration was the need to assure that each region contributed to total national output, and to the sustained,

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[1]Here we are referring to the present institutional framework. In Chapter Three we shall see how monetary authorities can use these tools in affecting the cost and availability of credit in a specific region.

long-run growth of that output, on the basis of the fullest and most efficient use of the human and material resources available to the region.[2] Therefore, making credit more easily attainable is only one of the policies which must be used. Special government agencies must be established and development plans formulated with the purpose of building up those areas of the depressed regions which have the greatest potential for growth. Within this framework, better credit conditions would be a valuable complementary measure.

Initially, the Bank of Canada's position was that of an independent body carrying out national policy. The Bank was responsible for the day-to-day money management policy that would be in keeping with the government's long-run monetary policy. The government was responsible for overall monetary policy but implementation of it was left to the Bank. In the 1967 amendments to the Bank of Canada Act the relationship between the government and the Bank with regard to monetary policy was stated. According to the act the government and the Bank must always be in close contact with each other. Should there be a difference of opinion over monetary policy between the Minister of Finance and the Bank, "the Minister may, after consultation with the Governor of the Bank and with the approval of the Cabinet, give the Governor a written directive on the policy to be followed."[3] This directive must be followed

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[2]Economic Council of Canada, Second Annual Review (Ottawa: Queen's Printer, 1965), pp. 98-99.

[3]H.H. Binhammer, Money, Banking & The Canadian Financial System (Toronto: Methuen Publications, 1968), p. 205.

by the Bank.

The power to alter the stock of money and therefore the supply of loanable funds is not a function solely performed by the Bank of Canada. The financial transactions of the federal government affect the monetary system and credit situation almost as much as the operations of the central bank. Management of the government's cash deposits indirectly affects credit availability by altering the cash reserves of commercial banks. Direct influence on credit availability may be caused by the management of government assets and of government debt. In any case, the government, having empowered the Bank of Canada to control the money supply, will in all likelihood coordinate its monetary measures with the Bank of Canada's measures.

The private sector, however, is not as easily dealt with. Financial institutions, including the banks, may vary their cash reserves or securities they hold within limits set by any legal requirements and non-financial businesses and the public may alter their cash balances for transactions, precautionary, or speculative motives. Therefore, there are alternative sources of credit through changes in the demand for money balances by non-bank lenders and cash holders.

There are many ways in which the money supply within a region may be changed:

> 1) By the banking system, usually in response to central bank actions; 2) By other financial intermediaries which may advance credit by amounts greater or less than the sale of their own debt in the region; 3) By private credit arrangements which may obtain funds from outside the region by amounts greater or less than current repayments

> on past borrowing; 4) By an excess or deficit of government spending over tax collections in the region, financed either by transfers to or from tax payers in other regions or by sales of government debt by amounts greater or less than purchases of government debt in the region; 5) By government credit agencies, which may advance credit in the region by amounts greater or less than the funds collected for their support in the region.[4]

Now let us examine each of these methods of altering the money supply in a particular region and see if alternative solutions may be proposed.

The purpose of central bank policies is to change the lending capacity of chartered banks or to influence their willingness to extend loans and in this manner affect the availability and terms of credit. The most common measure for achieving this goal is open market operations. The purchase and sale of securities is the main method the central bank employs to affect the level of cash reserves. The characteristics of such open market operations make it rather unfeasible to use them for regional goals.

The Bank of Canada makes it clear that its main function is to regulate the total quantity of money and sees open market operations as the main instrument to be used for this purpose. The Bank has the responsibility of regulating through open market operations the liquid assets of the chartered banks and thereby controlling total bank assets and liabilities. It does not have any powers over the distribution of these assets. When it increases the money supply, it cannot say how

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[4]R.L. Comeau, "Some Problems of Monetary Policy in a Regionally Differentiated Economy with Particular Reference to the Atlantic Provinces of Canada" (prepared for the Atlantic Development Board, 1967), pp. 19-20.

or in what region of the country the persons who acquire the money will spend, save, lend, or invest it. Similarly, it cannot determine to what extent banks will expand loans or investments in particular regions.

Most of the major participants in Canada's money market are national in character (Caisses Populaires being a notable exception) and the chartered banks (except the Montreal City and District Savings Bank, the Quebec Savings Bank, Banque Canadienne Nationale, and Banque Provinciale) have branches in all areas of the country. Therefore, open market operations will affect all branches and not just those concentrated in any one region. Most of the financial intermediaries which may be affected by open market operations as well as many of the major borrowers, the firms which the Atlantic provinces might hope to attract, are also national. Hence, it is unlikely that we would obtain differential regional results through operations on the nationally structured money and financial markets.

The second instrument that the central bank may have the power to employ, the reserve ratio, has the same drawback—its use changes the national lending capacity of banks and makes no allowance for regional needs.[5] However, a system of reserve ratios or of special deposits varying with regions might encourage banks in the Atlantic region to maintain their lending during tight money periods.

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[5]According to the Bank Act, banks must hold cash reserves in the form of Bank of Canada notes and deposits with the Bank of Canada equal to 12 per cent of demand deposits and 4 per cent of notice deposits. Although the Bank of Canada cannot vary cash reserve requirements it can impose on the chartered banks a minimum secondary reserve requirement up to 12 per cent of Canadian dollar deposits. Secondary reserves may consist of Treasury bills, day-to-day loans to investment dealers and excess cash reserves.

The other two instruments employed by the central bank are the bank rate and moral suasion. The bank rate will, for the most part, have a general rather than a regional effect. The fourth instrument, however, may be used for regional goals. In the past the central bank has made free use of moral suasion in its dealings with the commercial banks. For example, the banks have been persuaded to make funds available for some purposes such as house mortgages when hesitant to do so and to restrict them for other purposes such as instalment finance and term loans. There is no reason why the banks should not be invited to discriminate between one region of the country and another.

There are, of course, other avenues open to central bank authorities to discriminate in favour of the Atlantic region.[6] The use of credit ceilings to restrict bank credit allows the authorities to exempt certain regions so that the bank can transfer any excess lending capacity out of the region where restrictions are imposed and into the region where there are idle resources. Credit ceilings were used in 1950-51. The banks did not allow further expansion in their loans, restricted term loans and purchases of corporate securities, required a 50 per cent margin for loans to carry corporate stock, and did not allow any further increases in total loans to finance companies. However, no regional exemptions from the ceiling were allowed.

In a free market such as ours, it is improbable that the commercial interests of private financial institutions will lead them to discriminate in the investment of their funds in favour of the depressed regions of a country and a period of tight money will tend to make finance more diffi-

[6]See D.W. Slater, "Balancing Payments Between Regions," Canadian Banker, Vol. 73, 1966.

cult in all regions of the country. However, the institutions concerned are not all private. Much of the credit that flows into private investment originates with public institutions. For example, housing finance has been increasingly dominated by the Central Mortgage and Housing Corporation. The Industrial Development Bank, another government institution, extends medium and long-term credit. The provinces also have their own agencies which lend money to agriculture, fishing and industry. There is no regulation which says that these institutions must charge a uniform rate of interest on loans or make credit available on the same terms to all borrowers. In a later chapter we shall discuss the operations of these various institutions.

It is extremely important that we do not think of tight money only in terms of the banking system.[7] As we know, the banks cannot escape involvement in a credit restriction because they control such a large proportion of the total flow of credit and because they are the main target of central bank operations.

In times of prosperity there will be heavy demands made on the banks for credit. If a tight money policy is implemented by the central bank, the banks can satisfy these demands by selling government bonds. What will happen is the banks' holdings of bonds will decline and there will be a fall in the value of these bonds, all of which will make the banks reluctant to continue with their present lending policies. They must restrict their loans to prevent serious liquidity problems or accept a heavy capital loss by further sales. We will then have a general re-

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[7]See A.K. Cairncross, Economic Development and the Atlantic Provinces, Sponsored by Atlantic Provinces Research Board, Fredericton, New Brunswick, February, 1961. pp. 3-6.

striction in the extension of bank credit and loans are refused which, given additional resources, the banks would be willing to make. This action taken by the banks, however, is not necessarily the first sign of monetary pressure nor does it necessarily prevent the expansion of other forms of credit.

The banks are the largest institutional source of short-term credit and when business is having a hard time securing short-term funds, there is a reluctance to engage in long-term commitments and some difficulty in financing the early stages of such commitments. However, as we have said, bank credit is only part of the total credit available. Even though the banks might have to hold a constant total of assets or of lines of credit or of outstanding loans, there may be large changes in the flow of money between other financial institutions and there may be tight or easy money conditions without any change in the banks' lending policies. For example, money may become tight because customers take a long time to pay their bills or because revenue from sales is lagging behind expenditures on factors of production or because business prospects make it wise to remain more liquid. Assuming that the business outlook is unchanged, the result of a restriction of bank credit is to divert the demand for credit into other areas and spread the initial contraction over a wider area so that it becomes a smaller proportionate reduction in the total flow of credit. In order to avert the squeeze on bank credit businesses may borrow from other financial institutions, usually at a higher rate of interest, or credit may be extended through an expansion of trade credit in the form of accounts receivable.

It would be very difficult, therefore, to determine the effects of a credit squeeze initiated by the central bank on employment and activity in the regional economy as there can be a diffusion of a credit squeeze. Nor does exemption from a credit squeeze caused by central bank authorities mean exemption from tight money. If money is tight in Canada, the depressed regions cannot be completely protected from the consequences merely by a decision by the bank to go on lending in those regions as before. We have shown that tight money may be caused by factors other than the restriction of bank credit. Moreover, if such a decision were made by the banks, it would not mean that the actual number of loans extended by the banks would remain unchanged. If there were a credit squeeze in the rest of Canada, this would affect the Atlantic provinces. First of all, their sales outside the region would be reduced. Second, borrowers would be faced with higher interest rates. Third, the credit rating of borrowers whose prospects were related to the business atmosphere in the rest of Canada would be changed. This simply points out the need for special regional allowances made by the central bank.

B. THE OBJECTIVES OF MONETARY POLICY

It is necessary that we have a clear conception of the objectives of monetary policy as they remain a source of misunderstanding and confusion in the exercise and discussion of monetary policy in Canada.

The ultimate objectives of monetary policy are full employment, stable prices, and economic growth. The goal of full employment reflects

the view that the economy will be able to satisfy more wants if its resources are more fully used. "Fully used" in a market orientated economy means that owners of productive services including labour services are able to sell the desired amount of services at the prevailing market price. Involuntary unemployment occurs when inputs being offered at the prevailing price are not being purchased. The efficiency of the economy will be improved if this involuntary unemployment is eliminated.

The second generally accepted objective for monetary policy is price level stability. Price stability is relevant to the performance of the economy because price level changes change the real value of money balances which in turn affects the efficiency of the economy and the distribution of income and wealth. In considering price stability we refer to the general level of prices and not to relative prices since the flexibility of relative prices is necessary for the most effective allocation of resources in the economy.

The argument in favour of reasonable price stability is based upon the effects of inflation. These include the impairment of international competitiveness, the destabilizing effects on the economy, and the reduced usefulness of money.

The third goal of monetary policy is economic growth. This may be considered as essentially a matter of resource allocation. Given the level of unemployment and the degree of price stability, the rate of economic growth is determined by changes in productivity (the output of

goods and services per unit of factor input). Higher productivity means that available resources can produce greater output. Economic growth also implies a high level of employment of resources on a sustained and stable basis. Therefore economic policy must be so oriented as to maintain a steady expansion of final demand for goods and services as well as maintaining the supply capabilities of the economy.

The level of employment, changes in price levels, and changes in economic growth all have distributive effects and therefore need to be reconciled with concepts of social justice and an equitable distribution of income and wealth. What the ideal policy is and what deviations from this ideal are tolerable in order to achieve other objectives is a political question. It has been argued, however, that it is total income and wealth that is in question and that pursuit of some other objective generates distributive effects which may conflict with the main goals.

The preamble to the Bank of Canada Act states that the Bank of Canada is charged "to regulate credit and currency in the best interests of the economic life of the nation, to control and protect the external value of the national monetary unit, and to mitigate by its influence fluctuations in the general level of production, trade, prices, and employment, so far as may be possible within the scope of monetary action, and generally to promote the economic and financial welfare of the Dominion."

Although this statement seems a little vague, it nevertheless seems to suggest fairly clearly that the Bank of Canada is supposed to

control the money supply in order to promote price stability and stable employment, presumably at a high level. The status of economic growth is rather ambiguous but nonetheless seems to be implied. What is important to notice is that nowhere in the Act is the Bank of Canada given any explicit responsibility for achieving national political objectives or for promoting an equitable distribution of income.

In view of the belief that monetary policy must necessarily be used to ease or tighten credit conditions in the national economy, it is not at all surprising that efforts to deal with regional disparity have been almost exclusively fiscal. Equalization payments, regional development agencies, and now Jean Marchand's Department of Regional Economic Expansion have all been attempts to divert money and resources from Canada's prosperous far West and centre towards its poorer areas, particularly Eastern Quebec and the Atlantic region.

It is believed by many that monetary policy should concern itself primarily with the national economy as a whole. Louis Rasminsky, governor of the Bank of Canada, made this point clear in a speech given to the Halifax Board of Trade in 1966. "It is in the nature of monetary policy that its effects cannot be directed towards particular areas on a pinpointed basis. Its impact and the criteria on which it is based are necessarily nation-wide. There is no escape from this."[8] On the basis of this statement it would seem that the goals of monetary policy conflict

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[8]Louis Rasminsky, "Remarks of Louis Rasminsky, Governor of the Bank of Canada, Before a Meeting of the Halifax Board of Trade," February 7, 1966, p. 14.

with the goals of provincial growth.

We have already mentioned that the main concern in regional economics should be to maintain an even pressure of demand across the country so as to fully employ our labour force. From examining the objectives of monetary policy we have found that it is mainly used to adjust the pressure of demand on available resources so as to keep the economy in balance. When demand pressure mounts up, it makes itself felt, not in additional employment and output, but in competitive bidding for scarce supplies of man-power, materials, and equipment with all the accompanying inflation of costs and prices which appear in such situations. Unless inflation gets completely out of control, however, the pressure does not build up equally but becomes serious in particular regions and industries, while other regions and industries are still operating at well below full capacity. Monetary authorities may also feel that they should pursue a restrictive policy when activity is expanding strongly but has not reached its effective limits because they feel that monetary policy must be given sufficient time to take effect. In any case, the effects of such action will be to hinder the economic development of the depressed regions.

We can illustrate the inflationary process by means of a simple example.[9] Let us assume that the nation is composed of two regions, a buoyant one and a depressed one. The buoyant region, experiencing high levels of demand and resources employed near capacity, may attract inflows of capital from the depressed region because of its more lucrative investment opportunities and export its debt to this region. Theoreti-

[9]See Comeau, op. cit., pp. 7-8.

cally, as the liquidity and indebtedness position of the prosperous region worsens and that of the depressed region improves, short-term capital movements might slow down or reverse. One might also expect that demand pressures would push up prices in the prosperous region and excess capacity hold down prices in the depressed region with the result that real balance effects would work in opposite directions in the two regions. Ultimately, inflation would be restrained in the prosperous region and some of the favourable employment effects would be transmitted to the depressed region.

In reality, however, inflation will be shared by both regions because of the close relationship of capital markets and price setting forces. We then have an inflationary high employment region and an inflationary low employment region. In the depressed region, prices of traded goods will be drawn up by the increase in prices in the prosperous region and prices of non-traded goods will be forced to rise by cost-push forces and trend influences. This would mean that for the most part our real balance effects would be negated and the unity of capital markets would prevent interest rate adjustments. These inflationary pressures are then likely to cause authorities to implement a restrictive monetary policy. It is unlikely that too much attention will be given to the fact that the depressed region does not suffer from excess demands and requires expansive policies to meet its employment and growth goals.

Therefore, I think that the main problem is that there are two economies in Canada and the monetary authorities can effectively deal with only one of them. In 1969 the national economy realized both

serious unemployment and large price increases. The consumer price index rose 4.5 per cent and unemployment averaged 4.7 per cent.

One might ask how an economy could realize such high figures for both its rise in prices and unemployment. The answer is quite simple. The Ontario economy is expanding rapidly. Unemployment in 1969 was only 3.1 per cent and as one would expect this province has the highest consumer price indexes. Using 1961 as the base year, Toronto was highest in the nation at 124.1, while Ottawa was second at 123.1.[10]

The Atlantic provinces, on the other hand, had an unemployment rate of 7.6% in 1969. Newfoundland was highest at 10.3% followed by New Brunswick with 8.5%, Nova Scotia 5.4%, and Prince Edward Island 5.3%. Also, prices in the Maritimes are rising more slowly. In 1969 the consumer price index was 119.3 at St. John's, 119.5 at Halifax and 119.8 at Saint John.

It is only when we combine both of these economic extremes into the national economy that inflation and unemployment appear side by side.

C. HOW MONETARY POLICY DISCRIMINATES

We have found that the criteria for monetary policy action is in all likelihood the level of economic activity in that region which is the nucleus of economic activity in the nation while indicators of need in the less significant regions are overlooked. Such policy measures have given rise to charges of discrimination against the Atlantic region where high levels of unemployment have called for almost constant expansionary policy. The use of monetary policy to secure the desired restraint in

[10] D.B.S., Prices and Price Indexes (62-002), January, 1970.

the central provinces have added to the woes of the Atlantic provinces.

It seems that when the central bank employs a policy of restraint there is a tighter credit squeeze in the Atlantic region. Monetary policy effects will be felt mainly by those who depend on the banks as a source of financing. Only the bigger companies can market their own bonds but these larger companies are not concentrated in the Atlantic region. Also, changes in credit standards or direct credit rationing may favour big versus small borrowers in tight money periods. And finally, the reaction of spenders to a given change in the cost or availability of credit may vary between regions.

The charge of discrimination is further substantiated if we just look at the growth rate of total wages and salaries paid from 1965 through 1967. In 1965, federal authorities felt that demand was exerting too much pressure on prices and so they applied monetary and fiscal restraints. From January 1965 to June 1966, total wages and salaries paid increased by 17.2 per cent in Canada. Over the next period from July 1966 to December 1967, monetary and fiscal restraint helped to slow the growth to 12.1 per cent.

If we compare the growth of total wages in the Atlantic provinces in these two periods with that of Ontario, we find that the Atlantic provinces reacted more sharply to the federal policies than Ontario. In Ontario, growth in the second period was about 28 per cent lower than in the first period. In the Atlantic provinces it was about 48 per cent lower.[11]

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[11]Calculated from D.B.S., Canadian Statistical Review (11-003), May, 1968.

We have already looked at some of the ways monetary policy may be used to discriminate in favour of the depressed regions. Yet other solutions have been proposed. The 1964 Commission on Banking and Finance suggested a set of regional committees to supplement the role of the board of governors of the Bank of Canada. These committees would increase the bank's knowledge of general developments and public reactions in different regions. No such committees were established.

A more drastic solution would be to break up the banking system on a regional basis. If banks attracted deposits and rationed credit on a regional basis, interest rates could vary with the economic conditions of the region. If yields could vary, the banks could encourage new investment in the Atlantic region while discouraging it in Ontario.

There are, however, several factors which would make such a scheme difficult to operate. The fact that there are no barriers to the flow of money and goods among the provinces complicates the problem. It has been argued that different interest rates charged in different regions would probably lead to some form of arbitrage where funds would flow from regions of low interest rates to regions of high rates. We would have borrowers in Toronto, where interest rates may be high, borrowing funds in Halifax where interest rates might be low, and this would very quickly cancel out any advantage. Indeed, very often major projects are financed where companies' head offices are located with the funds being spent in other areas. For example, one of the major mines in the Yukon has been financed by bank loans in Toronto. In Chapter

Three we shall look at this problem in more detail and see how monetary policy may be regionally differentiated.

In summary, monetary and credit policies within the present institutional framework are designed to affect aggregate demand and to do so without regard to regional disparities. This is due to the high degree of perfection found in the financial markets. As we shall see, a regionally discriminating monetary policy would be possible if lenders offered terms that depended upon the borrower's location and made sure that the funds were not re-lent elsewhere.

CHAPTER III

A MORE EFFECTIVE USE OF MONETARY POLICY

So far we have been discussing how monetary policy may be made more effective in dealing with regional problems within the present institutional framework. By developing a rather simple model of a two-region economy and examining the effects of an increase in the money supply on both regions, we shall be able to discover the conditions under which monetary policy actions might be made more effective for the achievement of regional goals. Following this, we shall discuss the concept of the optimum currency area.

A. A TWO-REGION ECONOMY

For purposes of our analysis regions will be defined as "areas within which there is factor mobility, but between which there is factor immobility."[1] However, because such an ideal situation is rather unrealistic, perhaps we should interpret this definition in terms of relative degrees of factor mobility.

Let us assume that the country is composed of two regions, the West and the East. The West is characterized by a very high utilization of resources, exports greater than imports, inflationary pressures, and a low marginal propensity to import. The East, on the other hand, is

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[1]R.A. Mundell, "A Theory of Optimum Currency Areas," American Economic Review, Vol. 51, 1961, p. 658.

suffering from high unemployment, it has excess capacity, imports greater than exports, and a high marginal propensity to import. Because there is one common national currency the exchange rate is fixed with free trade existing between the two regions. We shall also assume that we have a perfectly capital mobile economy. For purposes of simplification a rest of the world sector will be omitted.

We may now express our model in terms of the following equations:

$$Y_E = C_E + I_E + G_E + X_E - M_E$$

$$Y_W = C_W + I_W + G_W + X_W - M_W$$

$$Y = Y_E + Y_W$$

$$C_E = C_E (Y_E) \qquad C_W = C_W (Y_W)$$

$$I_E = I_E (r) \qquad I_W = I_W (r)$$

$$G_E = G_{E_0} \qquad G_W = G_{W_0}$$

$$X_E = X_E (Y_W) \qquad X_W = X_W (Y_E)$$

$$M_E = M_E (Y_E) \qquad M_W = M_W (Y_W)$$

$$L_D = L_1 + L_2$$

$$L_1 = L_1 (Y)$$

$$L_2 = L_2 (r)$$

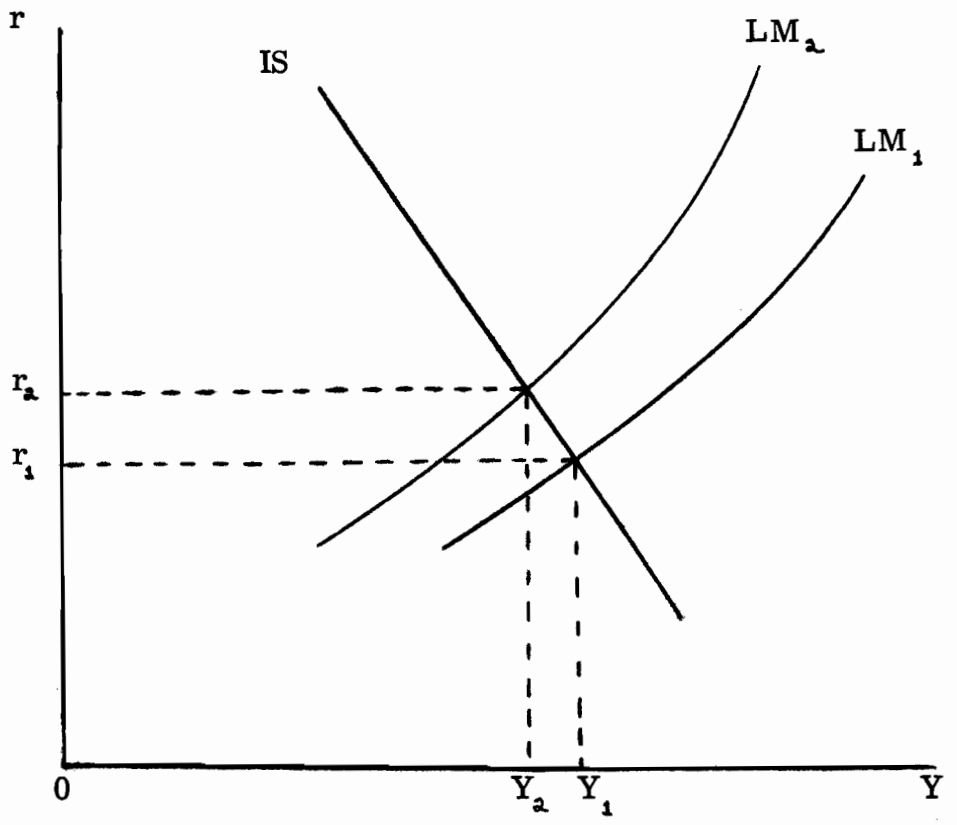
$$L_D = L_S$$

where

W = West
E = East
Y = income
C = consumption
I = investment
G = government spending
X = exports
M = imports
r = interest rate
L_D = total demand for money
L_1 = transactions demand for money
L_2 = speculative demand for money
L_S = total money supply

Now let us imagine that the monetary authorities wishing to curtail inflation in the West decrease the money supply by selling securities. With regard to our diagram of the national economy (Figure 1) the L M curve will shift to the left causing an increase in the interest rate. Because of our assumption that capital is perfectly mobile between regions, the interest rate in both the West and East is r_1 before the monetary policy act and r_2 after it. The direct result of this will be a reduction of investment in both regions. But there will also be indirect effects as a result of this policy. The restriction in aggregate demand will cause a reduction in the imports and exports of both regions. However, if the East has a high marginal propensity to import while the West does not, the decline in imports will be greater than the decline in exports in the East, all of which will improve the East's balance of trade on current account. Because the West has a low marginal propensity to import from

Figure 1



the East, its imports will not have declined by that much and therefore the East's export industries are not too badly affected.

What is most important to note is that this monetary policy act reduces aggregate demand in the East where there was already high unemployment and excess capacity.

With regard to this restrictive monetary policy act, we might also consider wealth effects. A change in the money supply will cause a change in aggregate demand through wealth effects, that is, the impact the changes in the level of real balances, $\frac{M}{P}$, have on the demand functions for commodities and financial assets. Let us assume that households and firms do not have money illusion. A restrictive monetary policy for the country as a whole will mean that real balances will be reduced in the East as well as in the West. This in turn will cause aggregate demand to be restricted in both regions. Here again a case can be made for a selective credit policy.

A regional monetary policy may take several forms, two of which we shall now discuss. The first type of policy might be one where the central bank engages in its normal open market operations, rediscount rate and reserve ratio policies to stabilize the national economy while requiring banks to make a certain percentage of their loans in the depressed region. In order to make such loans attractive to prospective borrowers, interest rates could be subsidized by the federal government. As we suggest in a later chapter, the government could also guarantee a greater variety of loans as well as increase the amount of the guarantee on these loans so as to protect the banks' interests.

The second type of regional monetary policy and the one to which we shall devote most of our attention would be made possible through a regional break-up of the banking system. An expansionary monetary policy could then be implemented in the East while a tight money policy was pursued in the West. The difference in interest rates which would result could be sustained if we introduced a system of regionally-tied loans. Banks in the East could be required to make a certain percentage of their total loans in that region and make sure that the funds were spent there. A special government supervisory agency could assist the banks in this regard. Essentially this would mean that there would be a reduction in the flow of capital from one region to another. The banks in the East might also be obliged to hold a certain percentage of their assets in the form of bonds and securities of provinces and municipalities within the depressed region.

This kind of solution would necessitate a substantial change in Canada's branch banking system. Banks situated in the depressed region would be subject to different reserve requirements and the purpose of any monetary policy implemented in this region would be to affect the reserves of these banks and consequently their lending capacity. Having increased the reserves of these banks through an expansionary monetary policy, we would require them to make a certain percentage of their loans regionally-tied. The percentage of loans that must be regionally-tied could be set according to the demand for loans in the depressed region. In this way, if there were not enough demand for loans in the depressed region, then the branch banking system could still be operative

in that it would transfer the excess reserves to regions requiring them. If demand were very high then this percentage could conceivably reach 100%. In any case, the percentage would have to be flexible so that excess reserves could be fully utilized.

Let us now see what will happen when we are able to pursue a regionally differentiated monetary policy. A reduction in the money supply in the West will increase the interest rate and reduce investment, thereby impeding the growth in aggregate demand and countering inflationary tendencies. The indirect effects would constitute a reduction in the West's imports from the East but because the marginal propensity to import is low, income in the East would not be affected too greatly. In the East the money supply would be increased, causing the interest rate to decline and encouraging investment.[2] This would cause aggregate demand to increase and unemployment to decline. However, we must not forget the indirect effects. Because of the East's high marginal propensity to import from the West, some of the effects of the expansion would be transferred to the West. There would be an increase in the demand for the West's products and consequently, some rise in business activity there. There would, of course, be some effect from the increase in aggregate demand in the West on imports from the East; however, as argued above, the West's marginal propensity to import from the East is low and this effect would be rather small.

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[2]For a static analysis of the effect on Y_e from an increase in the regional money supply, all other things being equal, see Appendix A. Also see Appendix B for a discussion of how an increase in the regional money supply may be brought about.

If monetary policy were implemented in the manner we have suggested with regionally-tied loans being made, then the initial change in expenditures or the initial impact of an expansionary policy in the East would predominate over any undesirable effects and thereby be beneficial to the region. Should the transfer effects be undesirably large, then we could simply pursue a tighter monetary policy in the West while expanding more in the East.

The question arises as to what criteria should be used to govern the intensity of any regional monetary policy. The type of credit conditions appropriate in the West could be determined by the seriousness of inflationary tendencies. In other words we would be using the same criteria as at present. However, it would be more difficult to determine the type of credit conditions which should prevail in the East. As we mentioned earlier, we could possibly use the demand for loans as a measure. We must remember that monetary authorities would work in close cooperation with regional governmental policies in developing the depressed region. With a well coordinated development plan, an estimation of total credit needs could be made to determine the amount of funds which would be required for the depressed region.

The main reason that we should employ some sort of regional monetary policy to deal with regional disparities is that if we are to make a sincere attempt to cope with this problem, then we should use all the tools at our disposal. There would be four advantages from implementing a regional monetary policy. First of all, because of the increase in loans that banks would now be making in the depressed region,

there would be less work for regional development boards with a consequent reduction in administrative costs.

Secondly, it might also be argued that bankers are more familiar with their area than, let us say, some provincial or federal government agency. Bankers are, in a sense, ready-made experts on the regional scene. Of necessity they must familiarize themselves with the surrounding district's needs and lend to those businesses which they consider most viable. This not only means that they will be minimizing the risk they assume but also they are contributing to the long-term growth of the region in that they are supporting ventures which have good prospects for the future. One need only look at the inefficiency of past development programs of the federal government to see how valuable the banks' more active participation in regional development would be.

Thirdly, our regional monetary policy would also be more flexible than present policies. Because government regional development programs usually work with a fixed budget, they may not be able to react fast enough to a sudden increase in the demand for loans in the depressed region. A regional monetary policy provides the means to adjust more quickly to such a situation.

And finally, a regional monetary policy would be a more subtle way of subsidizing the depressed region. It might be argued that the government could simply increase its taxes in the prosperous inflationary region and supply the depressed region with more funds. Such an explicit tax, however, would be less acceptable than the type of implicit tax which we would have under a regional monetary policy.

B. THE OPTIMUM CURRENCY AREA

Perhaps we could take a different approach to our problem by suggesting that a different currency be created for each region. Again we define regions as areas within which factors are mobile but between which there is factor immobility. It might be argued that without this factor mobility for purposes of adjustment it is necessary to have a compensating measure such as exchange rate variability. A separate currency for each region would then be called for. The region may constitute an area larger than a country such as the European Economic Community or be smaller than a country such as the Maritime provinces.

Earlier we discussed the rather awkward situation which monetary authorities face. With regard to our model, if monetary authorities were to pursue an expansionary policy, they would be encouraging inflation in the West and if they should pursue a tight money policy, they would only add to the unemployment problem in the East. This predicament is very aptly described by Mundell when he says, "In a currency area comprising many regions and a single currency, the pace of inflation is set by the willingness of central authorities to allow unemployment in deficit regions."[3] If each region were to have its own currency with a flexible exchange rate between the regions, then maybe the problem of the depressed regions could be more effectively dealt with.

This idea can be best illustrated by means of a simple example from international trade. Let us assume that there are two countries, A and B, and that demand shifts from the goods of country B to those

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[3]Mundell, op. cit., p. 659.

of country A. B could depreciate the value of its dollar or A could appreciate its dollar so as to correct the external imbalance and also relieve unemployment in B and counter inflationary pressures in A.

It is very important then that the exchange rate be flexible in our two region model, for if it were pegged, monetary authorities would still be confronted with the problem of allowing inflation to go unchecked in the West or worsen the unemployment situation in the East. With a flexible exchange rate excess demand pressures in the West may be effectively dealt with without causing unemployment in the East. The Western dollar could appreciate in terms of the Eastern dollar, providing for balance-of-payments equilibrium while the central banks in the respective regions implement policies to maintain constancy of effective demand in terms of the regional currencies and achieve stable prices and employment.

In order for such a scheme to work, however, several changes would have to be made. Firstly, there would have to be a separation of capital markets with a consequent reduction in the flow of capital funds from one region to another. Secondly, there would have to be a regional break-up of the banking system. In part A we have shown that to a certain extent such changes could be made.

The question also arises as to whether we are correct in making the comparison of establishing optimum currency areas on an international basis and then on an intranational basis. Because of common price setting forces within a country the purchasing power of the East's dollar

would be rather low unless its value were pegged to the West's dollar. Therefore the free movement of goods between regions might make it necessary to have a fixed exchange rate. We have seen earlier that without a flexible exchange rate we would be unable to achieve our goals.

In conclusion, a different currency for each region would be rather unfeasible and at the same time unnecessary for a regionally differentiated monetary policy. If we restrict the flow of funds from one region to another through regionally-tied loans while at the same time adapting our banking structure to a regionally differentiated policy, then different currencies for each region would not be called for.

CHAPTER IV

THE IMPORTANCE OF BANKING STRUCTURE

The commercial banking system in Canada provides a rather flexible means of dealing with regional problems. In the first place, commercial banks are very cooperative in different government plans. For instance, under the Small Business Loans Act loans may be made by the commercial banks under a federal government guarantee to assist small business enterprises engaged in manufacturing, wholesale trade, retail trade, and most service businesses in the improvement and modernization of equipment and premises. Moreover, most banks co-operate fully with provincial development agencies and regional boards in establishing new businesses in less prosperous areas. In cases where the finances of the company involved do not warrant the amount of credit required, some banks have provided additional operating credits against the guarantee of the agency or board involved.

Next, the commercial banks are an invaluable source of information. The banks' international operations work closely with government officials in promoting and introducing business into Canada. The banks' awareness of tax incentives, labour availability, and possible provincial government support, enables them to maintain departments which give information to persons considering the establishment of industrial or commercial undertakings in Canada. These departments answer questions related to business financing as well as other matters.

What we would like to know, however, is whether our present structure of banking is the most suitable to deal with regional credit needs. There was a time when it was argued that branch banking was more efficient than unit banking because it could fully employ excess reserves. However, with the sophistication that has been achieved in our financial markets today, any banking system would be able to avoid excess reserves. A unit bank with excess reserves can employ them in its own region, send them through the money market to another bank, or purchase securities. On the other hand, if unit banks require more funds, they can borrow from the money market centre which has collected the excess reserves of other regions. Nevertheless, there are three advantages that branch banking has over unit banking when we are dealing with interregional movements of funds. Branch banking's adjustment mechanism is less costly, it is smoother and faster working, and it avoids secondary effects.[1]

First of all we shall look at the cost involved of fully utilizing cash reserves in the two systems. Let us suppose that there is pressure on cash reserves in one region offset by little pressure on reserves in another region. A unit banking system will have to incur the cost of transferring reserves from the region where there are excess reserves to where there is a deficiency. To avoid excess reserves, unit banks will often carry reserves with other banks or invest in the money market at lower rates than they would obtain on loans and unit banks requiring

[1]J. A. Galbraith, The Economics of Banking Operations, A Canadian Study (Montreal: McGill University Press, 1963), pp. 165-214.

reserves must pay the cost of drawing them from other banks. Branch banking is able to avoid some of this cost by placing a larger amount of cash reserves under the ownership of one bank.

The effects of such costs on unit banks may be that they will charge higher lending rates or accept fewer loan applications than a branch bank. This would suggest that under branch banking lending rates are likely to be more uniform across the country than under unit banking. With the branch banking system excess reserves may be employed to increase deposits in a number of regions at no extra cost, but under the unit banking system the excess reserves may result in the same increase in deposits but only at extra costs. If unit banks charge higher lending rates to make up for these extra costs, then there will probably be a greater difference in lending rates among regions with unit banking as compared with branch banking.[2]

What might happen is that there could be a greater volume of bank loans under the branch system than under unit banking although both systems create and maintain the same amount of deposits. This would mean that the unit system would hold more open market securities than the branch system. We would expect the same results if unit banks

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[2]In my correspondence with the various commercial banks in Canada, I found that there does not seem to be any regional loan interest rate policies but rather an interest rate policy for the country as a whole. It would seem that these banks try to set uniform lending procedures across the country so that each loan will be treated solely on its own merits regardless of the region from which it comes, with the same interest rates charged dependent on risk and term. Moreover, in some banks credit administrative positions have been established in the head office on a functional rather than geographical basis.

refused more loans rather than charge higher rates to make up for the adjustment costs. The adjustment cost may be high enough in certain cases that some loan applications are unprofitable in the unit system but worthwhile granting in a branch system.

Next, we find that the period of adjustment is shorter when we are dealing with a branch banking structure rather than a unit system. This is an important point especially when we consider short run demand for loans.

For example, let us suppose that there is a seasonal increase in the demand for loans in one region and a seasonal decline in another region. Branch banking will automatically adjust to this situation. Deposits will fall in the region where the demand for loans has declined and rise in the region where there has been an increase in the demand for loans. If the seasonal increase in loans in one region is just compensated for by the seasonal decrease in others, total deposits in the banking system remain unchanged and total loans are also stable. The branch system then provides a stable reserve ratio under compensating seasonal variations in loans and deposits. On the other hand, a unit system must go through a more complicated adjustment process to transfer seasonally excess reserves from banks holding them to banks having a need for them. If the unit system cannot bring about the necessary transfer in time, then excess reserves will remain idle in one region while there is a deficiency in others.

The second example we might look at is where there is an increase in the demand for loans in a region without a compensating

decrease in other regions. The number of such loans that will be made will depend upon the excess reserves that the banking offices in the region in question can utilize. If the excess capacity for making loans is the same for both the unit and branch banks, then the type of structure would not have any bearing on the outcome. That is, if the unit bank is as large as the branch bank with all of its offices, the unit bank will be just as capable of increasing its loans as the branch bank provided that both banks are equally loaned up. But when the branch bank is larger than the unit bank, then the branch bank will have more excess reserves to draw upon than the unit bank and, as such, it will be in a better position to deal with an increase in the demand for loans in the region. Again, unit banking in a region might cause a smaller number of loans and maybe higher interest rates.

We find then, that in the short run, the pattern of loans in the country may vary with the banking structure. If the transfer of cash reserves from one region to the next is not easily achieved, then regions with excess reserves will exist while others have deficient reserves. It would seem that when there must be a movement of cash reserves among banks necessitated by a regional shift in the demand for loans, branch banks provide a much smoother and faster means of employing these reserves. Unit banks must trade securities, hold balances with other banks, or if they require reserves, draw them from other banks so as to redistribute existing cash reserves to meet the changed geographical conditions. A branch bank's adjustment would

be much easier than this.

Finally, let us discuss the secondary effects which different banking systems experience when there is an interregional movement of deposits. What will happen is that there will be a fall in deposits in one region and an increase in other regions. If all bank offices were branches of one bank, the deposit shift would not require the bank to make any external adjustments. The branches whose deposits increase do not expand on the basis of deposits obtained nor do the losing branches contract. Cash reserves and total deposits in such a structure would be constant as would the cash reserve ratio. As a result there would be no secondary effects.

On the other hand, where a unit system exists, the interregional movement of funds may cause a redistribution of cash reserves among the respective banks. The banks which acquire deposits are now able to expand. If these banks were formerly rationing credit, then we might expect that they would now expand their loans and this expansion would likely be local. If they were not rationing credit before, they would probably purchase securities.

The manner in which the banks that lose deposits contract will also depend on what kind of situation they faced earlier. If they had excess lending capacity, they can now sell securities, with little or no change in security prices if the deposit gaining banks are purchasing securities simultaneously. But if the contracting banks sell securities at the same time that the expanding banks are increasing their loans, security prices will fall for the contracting banks causing a loss for

them. They will sell less securities than otherwise and decrease loans.

Under this unit system secondary repercussions will occur. In all likelihood deposits will increase further in the regions to which deposits shifted as banks expand on the basis of their new reserves and deposits will probably decline further in the regions from which deposits shifted. What might conceivably happen, however, is that the banks that gain reserves may lend them to the banks losing reserves. We would then get the same results as we did with branch banking and there would be no secondary repercussions. But something like this happening is rather unlikely.

Therefore, branch banking avoids secondary repercussions by substituting branch indebtedness for transfers of cash reserves. With the branch system, then, there is a smoother adjustment to imbalance in interregional payments.

One of the main criticisms made of branch banking is that it drains funds from a local area to send elsewhere. A branch system, it is argued, may be more interested in making large loans and investments from the main office rather than supporting local development. Accordingly, when a unit bank acquires excess cash reserves, it will use them to expand its loans in its own area, whereas a branch bank may not. By looking at the other way in which deposits are increased in a region, that is, through a regional increase in cash reserves caused by central banking authorities, we shall see if there is any truth to this statement.

Assuming that unit and branch systems have the same reserve ratios and reserve policies, the total increase in bank deposits as a result of this policy will be the same for both systems. The important question is how the geographical distribution of these deposits will differ. If banks formerly were restricting loans because of insufficient cash reserves or because of high costs involved in selling their securities to satisfy loan demands, branch banking may cause a different geographical distribution of loans and deposits than unit banking when this increase in cash reserves takes place. Branch banking will tend to increase loans in the region where the demand is greatest which may not be in the region where the cash reserves increased. Unit banks, on the other hand, will tend to increase loans in the region whose cash reserves increased. This is a very important point. For if central banking authorities should decide to expand cash reserves in a depressed region to aid in its development, they would want to make sure that these reserves do not find their way into another region. Under our assumption that the banks were restricting loans before the increase in cash reserves, a unit system would be more advantageous than a branch system.

However, if banks were making all the loans they wanted to previous to the increase in cash reserves, then we will probably get the same result with both systems. Both unit and branch banks would purchase securities and perhaps increase loans. Securities would be purchased in central markets so that the regional effect could not differ much between the two systems in this respect and if loans were increased,

branch banks would be just as willing to increase loans in the excess deposit region as unit banks.

In conclusion, branch banking has cost and operating advantages over unit banking. The cost involved in being fully loaned up will be greater in a unit system than in a branch system. Unit banks may have difficulty expanding loans in the surrounding area and as a result they may have to purchase securities whose rate of return is less or engage in other transactions involving a cost. The branch system is also less costly because of the economies of scale that large banks are able to realize in their operations. A good example is electronic equipment which may be used for routine tasks. Also, a branch does not stand alone in that it is able to benefit from the broadest financial experience and know-how and bring to its district a wide range of specialized financial services. Because of this cost advantage that branch banking has over unit banking, it might be argued that branch banks will establish in new areas before it would be advantageous for unit banks to do so.

Branch banking also provides a very smooth and easy adjustment to interregional movements of deposits. The branch bank's contribution in this regard lies not in its ability to transfer excess funds in one region to regions which are deficient in reserves, but in its ability to adjust to this movement of deposits with as little trouble as possible and to perhaps satisfy an increase in the demand for loans in a region more quickly than a unit system.

The main advantage that a unit system would have is that it can identify with the community more so than a branch bank. This may

cause unit banks to extend loans more in their own region than a branch bank when there is an increase in cash reserves in the region caused by central bank authorities. We must, however, make the special assumption that the banks were restricting their loans before this increase in cash reserves took place.

With reference to the kind of regional monetary policy which we envisioned in Chapter Three, it would be easier to make the necessary changes in the banking structure if a unit system existed rather than if we had a branch system. Nevertheless, when the banking system is broken up on a regional basis, the branch structure would still maintain some of the advantages it had previous to the change.

CHAPTER V

SOURCES OF FINANCING FOR INDUSTRY IN CANADA

Traditionally Canada has placed great emphasis on a free enterprise type of system and this is reflected in the kind of development policies employed to encourage economic growth in the depressed regions. Instead of engaging in the actual production of goods and services, federal and provincial governments have provided incentives to encourage the development of private industry in these regions. The question then arises that if government authorities believe that private industries are more capable of promoting economic growth in the depressed regions then why should not private financial institutions be more efficient in extending credit to these industries than the various public agencies which have been established for this purpose? Following is a discussion of private and public sources of financing for industry and what changes could possibly be made so that we might achieve our regional goals.

A. PRIVATE FINANCING OF INDUSTRY

There are basically two ways that medium and long-term business credit may be extended—open-market loans and direct loans. Open-market loans are a rather low-cost and effective means of raising capital for large businesses. But because only the larger firms are able to make a bond issue, most business enterprises must negotiate medium and long-term direct loans with a financial institution, an affiliated company, or one or more individuals.

Life insurance, trust and mortgage loan companies are the main sources of medium and long-term loans for Canadian business. Because of the nature of the funds which they have for investment, these companies play a greater part in financing the expansion of established businesses than in financing the creation of new ones. However, life insurance companies occasionally make loans to new businesses, especially if they are backed by substantial equity capital and technical knowledge. These financial institutions usually provide funds by purchasing corporate bonds and debentures which are covered by a mortgage on real estate, plant or equipment. In some instances these bonds and debentures may be bought by them even when not backed by a mortgage if the firm's dividend record or earnings record meets certain requirements according to the law.

The short-term credit needs of businesses may be satisfied by recourse to a commercial bank. Term loans are also made by the banks. Generally speaking, however, bank loans are granted for working capital purposes and provision is made for repayment from the ordinary seasonal operations of the borrower. Usually borrowers must provide security for bank loans, but where their financial position is strong enough and their business firmly established, unsecured credit may also be given.

Industrial and commercial finance companies play an increasingly important role in financing facilities for industrial development and manufacturing growth. They provide an intermediate type of financing which lies between the commercial bank's short-term credit and the long-term equity and bond financing offered by investment houses. Such financing

is made available for all revenue-producing machinery on reasonable terms and conditions. The requirements made by such companies are that the equipment they finance be revenue-producing and that the applicant's business venture be a sound one so that he can cover the cost of the equipment.

And finally, development corporations are also to be found in the private sector. The purposes of such corporations are to provide medium and long-term loans and to create or acquire businesses. Roynat Limited is a good example of this type of corporation. It was established in 1962 and is a joint undertaking of the Royal Bank of Canada, La Banque Canadienne Nationale, and three trust companies. Canadian Enterprise Development Corporation Limited (C.E.D.) provides another example.

B. PUBLIC FINANCING OF INDUSTRY

Every province in Canada has an Industrial Loan Board which either makes or guarantees loans to industrial enterprises. Such boards have played a major role in encouraging the development of new industry. They usually work in close cooperation with lending institutions in encouraging sound industrial undertakings. In this way they supplement rather than compete with commercial banks and other lending institutions. Term loans are the most popular type of loan which is granted or guaranteed by such boards.

At the federal level there are a variety of schemes designed to aid in the development of industry. Under the Small Loans Business Act, help is given to small businesses to finance the purchase of equip-

ment and the improvement or extension of their premises through medium-term government-guaranteed loans from the commercial banks. The Act defines a small business as a business enterprise whose annual gross revenue is not greater than $250,000. The enterprises which qualify for a loan under the Act are those which are doing business in Canada for profit and whose main undertaking is manufacturing, wholesale or retail trade, or the provision of services. Loans under the Act may not exceed $25,000. They may be made for the purpose of financing the purchase, installation, renovation, improvement, or modernization of fixed or movable equipment; for the improvement, or in some instances, relocation of plants. It is important to note that working capital loans are not made.

Under the Department of Regional Economic Expansion, various incentives are offered to secondary industry to locate or expand in the areas designated by the Department. The incentives are applicable when a new plant is established or when existing plants expand to make additional products that the plant cannot at present produce. Such plants are eligible for three different types of tax-free grants: 1) A primary development incentive based on 20% of approved capital costs to a maximum of $6,000,000. 2) A secondary development incentive based on the approved capital costs of establishing or expanding a plant where 5% of approved capital cost plus $5,000 for every new job directly created will be allowed. 3) A maximum grant of $12,000,000 when primary and secondary grants are combined.

The most significant contribution that central bank authorities are making towards solving the problem of regional disparities is the operation of the Industrial Development Bank (I.D.B.). This Bank was established in 1944 as a subsidiary of the Bank of Canada. Its purpose is to help finance small and medium-sized Canadian businesses where required financing is not available from other sources on reasonable terms and conditions.

Where large corporations are able to issue stocks and bonds to obtain their capital funds, small and new businesses find it extremely hard to do so, first of all because their securities are not easy to market and second, because the costs of floating a small issue are prohibitive. In this respect the I.D.B. is a very important source of financing.

Loans can be granted to almost every kind of new or existing commercial enterprise in Canada. Most of its loans are for purchasing land and buildings, altering or extending existing buildings, constructing new buildings, or obtaining machinery and equipment. Term loans are therefore the most common type of loan made by the I.D.B. and these are secured by a mortgage on the fixed assets of the borrower. On occasion, I.D.B. may grant a loan to improve the working capital position of a business or to finance a change of ownership. In certain cases it may also engage in equity financing.

Up until the end of the last fiscal year, September 30, 1969, the I.D.B. sanctioned over 24,000 term loans amounting to about $1,200 million to promote the growth and expansion of more than 18,000 small

and medium-sized business enterprises. It now makes approximately 3,000 loans per year. Last year, total loans amounted to over $150 million with an average loan of about $51,000.

The I.D.B. gets its funds from its capital, from reserves, and through bond issue. The Bank of Canada furnishes the capital in the amount of $75 million. The reserves consist of the accumulated profits and since 1951 the I.D.B. has been acquiring additional funds through bond issues.

With the advent of the private development corporations and the more diversified lending activities of other financial institutions, the day may come when the I.D.B. will have outlived its usefulness, but until such time, the I.D.B. fills a gap in the financial structure and is an important source of financing for small and medium-sized businesses.

C. CONCLUDING REMARKS

We have already made reference to some of the ways that commercial banks might take a more active part in helping depressed regions. Through a regional break-up of the banking system and the granting of regionally-tied loans, we have found that it is possible to carry out an expansionary monetary policy in one region while pursuing a restrictive policy in another. Those banks situated in the expansionary region will then make loans at lower interest rates than prevail elsewhere. However, we might run into the problem that these interest rates might not be sufficiently low to induce the desired level of investment. In this case the government could possibly subsidize commercial banks for giving

below market rates to borrowers in the depressed regions.

Up to now we have not said anything about the risk involved in making loans. Risk is a very important factor in that it plays a part in determining the number of loans made as well as the rate of interest charged. It is for this reason that the federal government as well as provincial governments have devised a number of guaranteed loan plans for various borrowers. On the federal level, the Farm Improvement Loans Act states that when medium-term credit is extended to farmers, the government may guarantee each bank against a loss up to an amount of 10 per cent of the total principal amount of such loans. A guarantee of 10 per cent is also made for term loans made under the Small Business Loans Act. Other such federal loan acts are: the Veterans' Business and Professional Loans Act, the Fisheries Improvement Loans Act, and the Canada Student Loans Plan. We also find that mortgages which come under the National Housing Act are more easily negotiable than conventional mortgages because they are insured and guaranteed by the government. Provincial governments either make or guarantee loans made to businesses through their development agencies. These loans are usually of the term variety. Within our regional framework, then, the federal government could possibly guarantee a greater variety of loans as well as increase the amount of the guarantee on these loans. In this way we would be reducing the risk that commercial banks assume and encourage them to make more loans.

Similarly we could guarantee certain loans made by non-bank financial intermediaries as well as subsidize their interest rates. However, to the extent that we believe monetary policy is still effective despite the increase in near-money substitutes, we should centre our attention on the activities of the commercial banks.

The point being made here is that perhaps we can eliminate the need for some of the provincial and federal government financing schemes through a regionally differentiated monetary policy which would include interest subsidization and the guaranteeing of certain loans made by the private financial intermediaries.

CHAPTER VI

PROVINCIAL AND LOCAL GOVERNMENT FINANCING

It has been suggested that monetary policy affects certain sectors of the economy more so than others. The sectors which seem to be hardest hit by restrictive monetary policy acts are residential construction, small businesses, and provincial and local governments.

Provincial and local governments, unlike corporate enterprises, are not able to adjust as easily to changing credit conditions.[1] For almost all local governments, most major capital expenditures are made possible by borrowing and, in the short run at least, public agencies are not able to resort to temporary internal financing when reacting to congested bond markets or high interest rates. Public agencies are also limited in the type of securities they may use. They are not able to resort to equity issues or convertible borrowings to take advantage of booming markets for equities when prospects may be poor in the bond markets. On the whole, their ability to finance at short term, whether through open-market instruments or through direct borrowing from banks or other financial intermediaries, is greatly restricted.

Because many lenders and investors are hindered by law, convention, or the economic nature of their own operations from securing certain types of securities, dependence on a limited number of financing methods means dependence on a few classes of lenders. As such, provincial and local governments are unable to find funds in a period of tight money to the same extent as many private borrowers. Part of the prob-

[1]See Dick Netzer, "State-Local Response to Changing Credit Conditions: The Institutional Obstacles," Journal of Finance, Vol. 14, 1960.

lem is that there are certain institutional barriers which can be removed, but, to a large extent, the lack of financial alternatives is inherent in the nature of governments.

The provincial and local governments are especially sensitive to a tight money policy because of the numerous restrictions on the prerequisites, amount, and terms of borrowing imposed by voters, legislators, opposition leaders, etc. These institutional barriers prevent provincial and local governments from acting quickly to take advantage of favourable market conditions and sometimes may prevent them from acting at all.

Finally, we find that the financing activities of the public sector will be affected by tight money more so than other sectors because new revenue-producing projects will be frequently wholly financed through a bond issue.[2] A new project which must be self-liquidating entirely on the basis of its own performance has no equity backing, that is, no cash investment of the owner's own funds as will be found in the financing of private ventures, and no associated partially debt-free revenue-producing facilities to help lighten the debt-service load. Such projects may not be undertaken unless expected earnings are substantially larger than debt-service requirements. With a tight money policy, interest rates will rise and conceivably make some revenue-bond projects unfeasible.

It might be argued that if a project is thought to be suitable for revenue financing but is not worthwhile undertaking at market interest

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[2]A toll-highway would be a good example of such a project.

rates, then maybe this would be an indication that resources were being misallocated. It is true that monetary policy is helpful in that it prevents many worthless undertakings from getting started. Nevertheless, the "one-shot" self-liquidating projects of public agencies are especially sensitive to interest rate movements. We can find examples of public projects protected from the market because they are assisted by debt-free facilities or facilities whose receipts more than cover debt-service requirements. Indeed the opportunity costs of such public projects or of the investment projects of private firms with equity backing may be just as high as the "one shot" self-liquidating project.[3] The point is that it may take much larger increases in market interest rates to have an impact on the former than to affect the latter.

The question arises as to what may be done to assist provincial and local governments in financing their projects in times of tight money or simply when they are having difficulty in securing the proper terms of finance. To be more specific, we would like to know what steps could be taken to help the poorer provinces and regions finance the various worthwhile projects which they would like to undertake.

Why is it that capital development money for provincial-local government expenditures does not find its source in the Bank of Canada rather than, to a large extent, in foreign markets? In 1969, the Bank of Canada held over $4 billion worth of federal government securities.

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[3] The attempted entry of Kaiser-Frazer into the automobile industry after the Second World War provides an example of a private firm engaging in an investment project with high opportunity costs.

These are the result of net purchases made by the Bank for the purpose of providing for growth in the money circulation and in the cash reserves of the banks in accordance with monetary policy. The Bank adds to its holdings over the years as the economy grows but it is restricted by monetary policy considerations. For if the Bank were to purchase securities at a rate in excess of what is required for the growth of the economy, the cash reserves of the banks would expand by an undesirable amount and inflationary pressures would result.

The type of regional monetary policy which we described in Chapter Three would definitely be helpful not only because the interest rate would be lower in the depressed region, but also because we could require the banks to hold a certain percentage of their assets in the form of bonds and securities of provinces and municipalities within the depressed region. It might also be possible for the Bank of Canada to establish an agency, somewhat like the Industrial Development Bank, to purchase bond issues of provincial and local governments in times when other means of financing are not available or when the terms of financing are unreasonable. The purchase of bonds could be restricted to those issues which are meant to finance worthwhile projects in areas designated by the Department of Regional Economic Expansion. In this way monetary policy may act in unison with the federal government in dealing with regional disparities.

One of the main problems encountered in this country is to find sufficient funds to pay for the tremendous capital development that is

taking place on municipal and provincial levels. It would seem that the Bank of Canada is neglecting its responsibility to the poorer regions of the country by not providing money that does not have to compete with the high cost of commercial capital, money that likewise has to pay rather high interest rates because a large portion of it is paid to the foreign markets. The normal development of projects necessary to overcome regional disparities is being retarded in view of the fact that we have the necessary labour and resources.

In establishing a subsidiary of the Bank of Canada to aid depressed regions, we would probably encounter two main problems. First of all, more prosperous provinces and regions might feel that they were being discriminated against. Second, the operation of such an agency might have to be so large that it would have undesirable repercussions on the economy as a whole. In 1969, the net new issues of provincial and municipal securities was $2,142 million. The amount of I.D.B. loans outstanding increased by $47.9 million for the fiscal year ending September 30th, 1969. Even if we allow for the fact that only securities financing projects in the depressed regions will be purchased by this special agency, the scale of operations required might still be too large.

In conclusion, if the monetary authorities wish to insulate the provincial and local sector in the depressed regions from the apparently superior position of other borrowers, it can do so by pursuing the type of regional monetary policy which we suggested in Chapter Three and possibly establishing a subsidiary of the Bank of Canada similar to the

I.D.B. which would purchase provincial and local securities in these regions. However, before such an agency is established, a special study should be made to determine how large its scale of operations would have to be and how it would affect the national economy.

CONCLUSION

Despite the fact that monetary policy discriminates against depressed regions, nothing has been done to alter the situation. To a large extent it is the economic conditions existing in the central part of the country which are used as a guide as to what measures should be taken to deal with the national economy. A number of regional policies have been implemented but nothing significant has been done on the monetary side.

We have found that we should not expect monetary policy to play a very important role in dealing with regional disparities with our present institutional arrangements. Of the four main tools employed by monetary authorities, moral suasion would perhaps be the only one that could be used for regional purposes. However, because it is rather imprecise, we should not expect its use to have much importance.

Outside of this institutional framework we have a much broader scope for action. Through a regional break-up of the banking system and the granting of regionally-tied loans, interest rates may vary among regions, providing us with a much more flexible monetary policy. Every sector of the economy of a depressed region could be assisted. In this manner monetary policy could play an important part in dealing with regional disparities and be a valuable complement to the regional measures taken by the federal and provincial governments.

APPENDIX A

THE EFFECT ON Y_E OF AN INCREASE IN THE REGIONAL MONEY SUPPLY

To begin with, let us restate our model of the regional economy.[1] For purposes of simplification we shall use linear relationships.

(1) $Y_E = C_E + I_E + G_E + (X_E - M_E)$

(2) $C_E = C_{E_0} + c_E Y_E$

(3) $I_E = I_{E_0} - v r_E$

(4) $G_E = G_{E_0}$

(5) $X_E = X_{E_0} + x_E Y_W$

(6) $M_E = M_{E_0} + m_E Y_E$

(7) $L_{D_E} = kY_E - br_E$

(8) $L_{S_E} = L_0$

(9) $L_{D_E} = L_{S_E}$

where L_{D_E} = the quantity of money demanded in the East

L_{S_E} = the supply of money in the East; it is equal to a constant, L_0, which is determined by monetary authorities.

r_E = the interest rate in the East.

Substituting for Y_E we obtain

(10) $Y_E = C_{E_0} + c_E Y_E + I_{E_0} - v r_E + G_{E_0} + X_{E_0} + x_E Y_W - M_{E_0} - m_E Y_E$

Solving for r_E in terms of Y_E

(11) $$r_E = \frac{C_{E_0} + I_{E_0} + G_{E_0} + X_{E_0} + x_E Y_W - M_{E_0}}{v} + \frac{Y_E (c_E - m_E - 1)}{v}$$

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[1] Note that this is a partial analysis. Y_W is taken as given and no interaction between Y_E and Y_W is studied. Further, the model assumes that X_E and M_E do not depend on prices.

Next we substitute (8) and (9) into (7) giving us

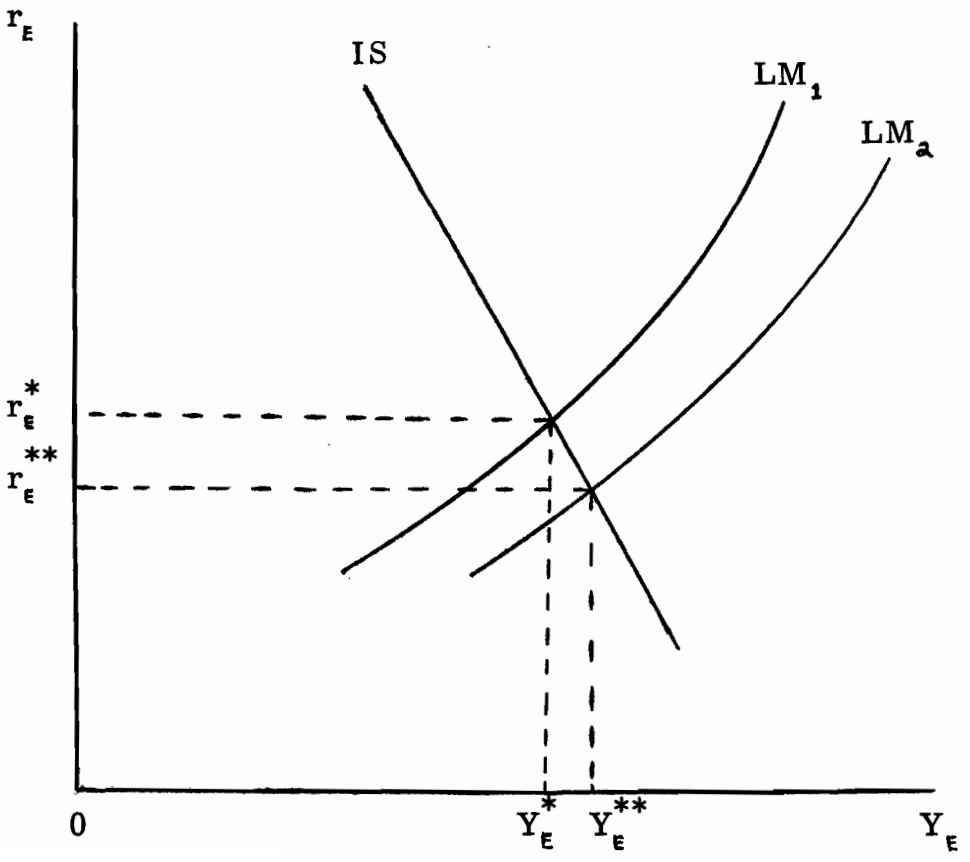
(12) $L_o = k\,Y_E - b\,r_E$

Solving for r_E in terms of Y_E ,

(13) $r_E = \frac{-L_o}{b} + \frac{k\,Y_E}{b}$

Equation (11) is the I S curve which shows the various combinations of Y_E and r_E that will give us equilibrium in the goods and services market (aggregate demand = total output). Equation (13) is the L M curve which shows the different combinations of Y_E and r_E that give us equilibrium in the money market ($L_{D_E} = L_{S_E}$). Equilibrium in both markets takes place when the I S and L M curves intersect. This is shown in Figure 2 with equilibrium values of income and the interest rate being Y_E^* and r_E^* .

Figure 2.



This equilibrium may be expressed mathematically by equating (11) and (13)

$$\frac{C_{E_o} + I_{E_o} + G_{E_o} + X_{E_o} + x_E Y_W - M_{E_o}}{v} + \frac{Y_E (c_E - m_E - 1)}{v}$$

$$= \frac{-L_o}{b} + \frac{k Y_E}{b}$$

$$(14) \quad Y_E = \frac{1}{1 - c_E + m_E + \frac{vk}{b}} \left[C_{E_o} + I_{E_o} + G_{E_o} + X_{E_o} + x_E Y_W - M_{E_o} + \frac{vL_o}{b} \right]$$

We can now find the multiplier for changes in the regional money supply. Let us suppose that the regional money supply is increased by ΔL_{S_E}. The new level of income would be

$$(15) \quad Y_E + \Delta Y_E = \frac{1}{1 - c_E + m_E + \frac{vk}{b}} \left[C_{E_o} + I_{E_o} + G_{E_o} + X_{E_o} + x_E Y_W - M_{E_o} + \frac{vL_o}{b} + \Delta L_{S_E} \frac{v}{b} \right]$$

Subtracting (14) from (15)

$$(16) \quad \Delta Y_E = \frac{1}{1 - c_E + m_E + \frac{vk}{b}} \left[\Delta L_{S_E} \frac{v}{b} \right]$$

Dividing by ΔL_{S_E}

$$(17) \quad \frac{\Delta Y_E}{\Delta L_{S_E}} = \frac{1}{(1 - c_E + m_E)\frac{b}{v} + k}$$

The effects of an increase in the regional money supply are shown in Figure 2 by the shift to the right of the L M curve, resulting in new equilibrium values of income and the interest rate of Y_E^{**} and r_E^{**}.

APPENDIX B

SOME COMMENTS ON INCREASING THE REGIONAL MONEY SUPPLY

Throughout our analysis we have assumed that the regional money supply could be increased, thereby providing a stimulus to the regional economy. We shall now discuss how such an increase could be brought about. Before we elaborate on this, however, we should repeat the two main assumptions made in Chapter Three: 1) There is a regional break-up of the banking system and 2) There are regionally-tied loans so as to prevent the flow of funds from a region with low interest rates to regions with high rates.

Keeping in mind these assumptions, the regional money supply may be increased in the following ways:

a) Banks situated in the depressed region could be required to hold less reserves against deposits. This would mean that the banks would have more excess reserves and could initiate a multiple expansion in the money supply.

We may express the money supply function as:

$$M_S = f\ (R,\ i,\ Z)$$ [1]

where R is the reserve base of the banking system (Bank of Canada notes and chartered bank deposits with the Bank of Canada), i is the rate of interest, and Z is all other factors which determine the money supply. If we assume that M_S is positively related to i and we take R as given,

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[1] Binhammer, op. cit., pp. 286-289.

then this relationship may be shown diagrammatically by the curve MM in Figure 3. MM is the money supply schedule which indicates that larger amounts of money accompany higher interest rates. It is positively sloped until interest rate i_1 is reached, whereupon it becomes vertical. At this interest rate the banks' excess reserves have been depleted preventing any further expansion of the money supply.

A lessening of reserve requirements will cause the MM curve to shift to the right, thereby increasing the maximum level of the money supply to $(M_s)_2$.

Figure 3

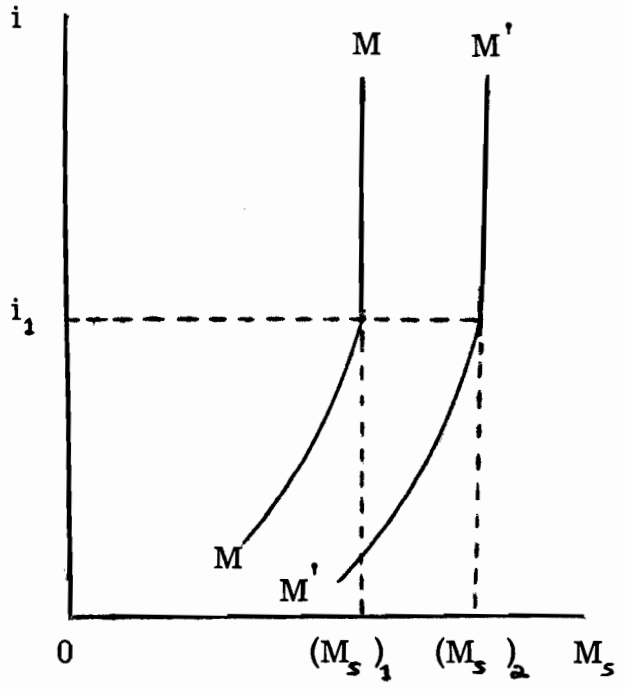
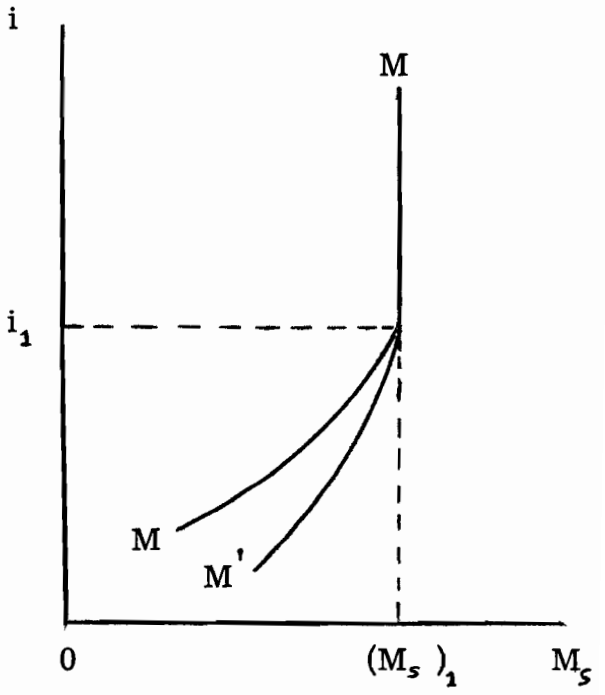


Figure 4



b) Banks situated in the depressed region could be charged with a lower bank rate when they borrow funds from the central bank. If the other factors in our money supply function remain constant, the maximum amount of money that can be created is not increased. What will

happen is that the banks will create a larger amount of money at any given interest rate up to i_1. This is shown in Figure 4 where the original money supply schedule MM shifts to the right to M'M.[2]

c) The Bank of Canada conducts its open market operations with a relatively small number of security dealers and with the banks. Within our regional framework, open market operations could be carried out with the banks on a regional basis. If the Bank were to purchase securities from the banks in the depressed region, this would mean that the banks' excess reserves would increase by the amount of the purchase and give rise to a multiple expansion in the money supply. If the maximum level of the money supply is increased, then this would mean that the MM curve would shift to the right as in Figure 3.

d) As we suggested in Chapter Six, a subsidiary of the Bank of Canada could be established to purchase provincial and local government securities in the depressed region. As the respective governments write cheques against their deposits with this subsidiary, the public's deposits in the banking system increase providing the banks with excess reserves. Again the maximum level of the money supply is increased causing the MM curve in Figure 3 to shift to the right.

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[2]One should note that if the central bank were to allow commercial banks to remain continuously in debt to it, central bank advances could serve as a continuing reserve base for the multiple expansion of deposits. In the United States, there are so many banks that the banking system as a whole is normally indebted to the Federal Reserve System at any given time. In Canada, however, advances are relatively few and relatively brief. For example, chartered banks had advances outstanding from the central bank on 35 business days in 1969 and only on 14 business days in 1968. The average amount outstanding on business days was $1.2 million in 1969 and $0.2 million in 1968. The normal procedure by which the private financial sector obtains funds from the Bank of Canada in times of stringency is that commercial banks recall day-to-day loans from the investment dealers who in turn are compelled to obtain additional funds from the Bank of Canada through purchase and resale agreements. Such excess to additional funds from the Bank of Canada normally takes the place of direct commercial bank borrowing from the central bank in other countries.

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