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A Post-Keynesian Perspective On The Relation Between Banking And Regional Development

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1. Introduction*

Economic development proceeds unevenly within, as between, nations. There is a wealth of literature which analyses regional development in real terms: in terms of factor endowments and movements, production patterns or market conditions. But the tendency in the literature is to ignore financial factors.

There is a reason, rooted in the development of regional economics, for treating monetary factors as unimportant in regional development: regional economics was first seen as a special case of international economics (Ohlin, 1933). Differences in rates of growth between regions were distinguished from international differences by not giving rise to overt balance of payments problems, since regions share the same currency. Money, therefore, caused no 'problems'.

A second feature of the regional development literature is a tendency to treat capital as a factor which is at once physical and financial, as in much pre-Keynesian theory. In post-Keynesian theory, financial and real capital, though interlinked, are quite distinct and a common currency is only a part of the story of money. Money and finance profoundly affect an economy's rate of growth, both through the effect of the supply and demand for money on the rate of interest and directly through the banks' willingness and ability to lend.

While we take it for granted that the essence of economic growth is capital accumulation and that investment and exports are the main sources of fluctuations in income and output, we argue in this paper, building on Chick's (1986, 1988) stages of banking development and Dow's (1987a, 1987b) work on finance and regional development, that financial factors, especially banking systems, have an important role in regional, as in national, growth.

Economic development is an historical process of change. Monetary systems too are constantly evolving, and the stage of their growth shapes economic possibilities and relationships. As the banking system of a country, viewed as a unit, progresses through different stages of development, changes in the theory of how that country's economy works become necessary. Similarly, banking relationships between regions may differ for different countries at the same time or the same country at different times, bringing different theories of regional development into play.

It is from that perspective that we review the relationship between stages of banking development and the main theories of regional development. For example, the ability to create credit independently of saving —

an ability crucial to Keynesian theory — is a property of banking systems only after they themselves have reached a certain stage of development and coherence. Theories of regional development coexist which differ as to the primacy of saving or of investment. We would argue that the choice between them depends on whether or not the relevant stage of banking development has been reached.[1]

Beyond the level of historical description and its importance to the choice of theory, we investigate the role of financial factors in setting up a particular dynamic of regional development which contributes to explaining uneven development independently of the current regional disposition of resources or of productivity. The following scenario outlines the operation of such a dynamic at a given stage of banking development.

In Keynesian theory, the desire to borrow to finance new investment arises jointly from optimism about returns to the real investment and a need for financial capital, while lenders' terms depend on the optimism of both potential lenders and wealth-holders. The ability to lend depends to some degree, but only partly, on the available stock of financial capital. How important that stock is depends on the stage of development of the region's financial institutions, especially that of the banks. The regional pattern of borrowing and lending thus depends on the valuation of resources in each region, the distribution of wealth, and the liquidity preference of wealth-holders. These factors in turn determine the future of regional wealth-creation and the structure and level of production: there is a potential vicious circle here.

The paper is organised as follows. In the next section we outline the central propositions of the main theories of regional development as they are usually presented, noting any treatment of monetary factors. In section 3 we outline the major stages in the evolution of the banking system, paying particular attention to the significance of each stage for the relationship between saving and investment and the determination of the rate of interest. Then, in section 4, we apply the approach of section 3 to show how regional financial problems alter in different stages of banking development, emphasising the two groups of regional theory most amenable to this addition: cumulative causation theory and dependency theory. Mainstream neoclassical regional development theory is shown to imply contradictory assumptions about the monetary-institutional context of development. Our account of uneven regional development, provided by the combination of post-Keynesian monetary theory with elements of cumulative causation theory and dependency theory, suggests some strong conclusions, which are outlined in the final section.

2. Theories of Regional Development

Underlying any perception of the process of regional development is a particular understanding of how the economy under scrutiny functions and how best to analyse it. Thus the general tenor of different theories of

regional development is consistent with the school of thought to which its expositors subscribe. The theories are bounded by neoclassical and Marxist theories, which, each in its own way, turn out to have little to say about persistent differences in regional development. The richest ground is where one expects to find it — in the middle, where the Keynesian theories of Regional Multipliers and Cumulative Causation and the neo-Marxist Dependency Theory are to be found.

2.1 Neoclassical theory

The orthodox, neoclassical theory of regional development (see Holland, 1976, Chapter 1, for a review) is set in a general equilibrium framework, continuing to follow along the same lines as the orthodox theory of international trade, as originally developed in a unified approach by Ohlin (1933). Full general equilibrium requires factor-price equalisation and full employment of factors. Thus in equilibrium, incomes may differ between regions only as a result of differing factor endowments (e.g. a higher skill level in the labour force) and no unemployment can persist for long. The work of Lipsey (1960) and Archibald (1969) focuses on regional differences in the trade-off between inflation and unemployment; these differences, however, are assumed to be short-run, that is, temporary. The dynamics of mainstream theories develop adjustment mechanisms by which regional equilibrium, once disturbed, is restored and regional disparities are eliminated. (In an extreme case, Courchene, 1981, denies even the possibility of regional disequilibrium; he regards an observed disparity in regional earned incomes as an equilibrium *response* to national government welfare or regional policy.)

In this mainstream theory, which to many, despite its disparity with observed fact, is identified with regional economics, investment finance is equated with saving. Financial institutions intermediate between savers and investors, and funds systematically flow to those projects with the highest perceived rate of return, wherever they may be. Hence if one region is growing more rapidly, implying a higher marginal efficiency of investment (mei) in that region, investment there will increase more rapidly for a time. The inflow of capital will lower rates of return in the receiving regions and raise the average return on remaining projects in the exporting regions, equalising the mei and the rate of return on financial capital and bringing both back into line with the rate of return in other regions (Mundell, 1976). Financial and real capital lose their separate identities in this theory.

Disequilibrium, in the form of different rates of growth between regions, may be the result of an inequality of saving and investment in each region. If exports from one region are low relatively to imports, there will be insufficient saving to finance investment locally. The resulting excess demand for funds will be met by an inflow of funds from the regions with high exports and thus excess saving (Scitovsky, 1957). Insofar as financial markets are considered separately, integrated national financial markets are assumed to exist and to contribute substantially to equalising rates of regional development.

Although financial flows are a key factor in adjustment, mainstream theorists argue that *regional* financial conditions are unimportant: there is a single, national cost of borrowing saving. Regions benefit from having extra-regional outlets for saving when the return on local investment is low and from extra-regional sources of saving when the return on local investment is high. Regional banks are also cushioned from variations in their balance sheets by a source of liquidity in the form of national financial assets, or 'generalised claims' (Ingram, 1959): financial instruments such as government bonds which are traded nationally. Faced with a reduction in deposits, banks can maintain their reserves by selling generalised claims rather than by calling in advances or restricting new lending.

It can be seen that mainstream theory relies on a capital market in which information is excellent if not perfect, and a financial system whch allows perfect mobility of capital. (See, for example, the fully specified general equilibrium model of regional portfolio behaviour in Goodhart, 1975, Chapter 14). The banking system is assimilated to the capital market, for it has the properties of a pure intermediary between saving and investment and so contributes nothing beyond the direct lending mechanisms of the capital market. As befits this institutional structure, a loanable-funds theory is used, equating finance with saving and giving saving causal priority over investment.

When investment must wait for saving to finance it, growth is likely to be slow. The slower-growing regions are spared the worst of this, in mainstream theory, by the flow of savings from other regions, though (appropriately for a timeless theory) the rate of adjustment is of little concern. Pfister (1960) and Whitman (1967) point out, however, that regional differences in export performance and ability to attract capital are in general neither temporary nor self-adjusting. Low export growth tends to mean poor investment prospects regardless of how much saving is available and is thus more likely to encourage continued outflows than inflows. By the time this process raises the return on the remaining capital to that of capital in other regions, there may be very little economic activity left.

2.2 Marxian theory

Orthodox Marxian theory also has had little to contribute to explanations of uneven regional development, although Marx did discuss particular regional questions and posited an antagonism between country and city. A variety of theories has been developed in an attempt to provide a Marxian interpretation of regional development — examples are applications of Lenin's theory (1916) of imperialism to regions and Mandel's theory (1973) of the regional disposition of the reserve army of

the unemployed. But spatial divisions cut across class divisions, so there has been a strong resistance amongst orthodox Marxists to probing regional questions for fear of fostering divisions within the working class. Edel *et. al.* (1978) punctuate an excellent review of the radical regional literature with the observation that none of these theories provides a satisfactory class-based analysis.

Marxian theory tends to concentrate on 'real' factors. As an exception, Lenin's theory (*op. cit.*) of imperialism emphasised portfolio investment governed by investors in the economic centre of power working in conjunction with the financial institutions, as in the German model. Money is important primarily in the sense that the bankers who lend it have a share of the surplus generated by the exploited regions. This for Lenin is the only significance of the distinction between financial and physical capital. That Marxian theory continues to suppress the significance of monetary factors is evidenced by the ambivalence of many Marxian theorists toward the possibility of independent financial causes of crisis (see e.g. Harvey, 1982, Chapter 10)[2].

2.3 Dependency theory

Dependency theory, a modern development of Lenin's approach, (Baran, 1957; Cardoso and Falletto, 1969) is most closely identified with the case of Latin America. (For a summary and critical review see Palma, 1981.) It accepts uneven regional development as an inherent feature of capitalist economies and provides a systematic explanation: the nature of a region's pattern of trade and investment exercises a formative influence on the region's economic structure and development.

A country's regions are divided into those constituting the Centre and those in the Periphery. 'Development' in the Periphery is dominated by the imperatives of growth in the Centre: it takes the form of investment projects decided by the Centre and designed to generate a surplus for the use of the Centre. As a result of this investment, the Peripheral regions become dependent on the Centre for markets for their products, for technology and for finance, resulting in the peripheral regions' continued dependency and relative underdevelopment.

Where Lenin had emphasised portfolio investment, modern dependency theorists focus on real, direct investment these days especially by multinational corporations. Investment is governed by the marginal efficiency of projects as perceived by the Centre and as they serve the needs of the Centre, rather than by the expected return to members of the Periphery or of the 'whole economy'. A cash crop is the classic example: by definition the crop exceeds the producer's own needs; its expanded production would have no value if there were no market. The producer here is a region; the crop is destined for export to the Centre.

The concept of regionally distinct mei's marks a sharp departure from neoclassical theory, where the interests of separate regional populations are not considered; a given project has a unique marginal efficiency, which depends on technology and the marketability of the product in the country as a whole. There is a kind of 'law of one price' for the mei in mainstream theory.

Not only can regional mei's diverge, but because of growth in the Centre the divergence can persist. Investment in the Periphery often concentrates on food and raw materials, to support the Centre's industrial progress. Continued growth in the Centre counteracts the tendency of the mei — viewed from the Centre — of these Periphery products to fall in the long run.[3]

The instability of earnings from primary products and the long-term adverse shift in the terms of trade of these products against manufactured goods is familiar from the international development literature. (For recent assessments see Spraos, 1980; Thirlwall and Bergevin, 1985). These factors contribute to market uncertainty, at times amounting to precariousness, in the Periphery, and help to perpetuate dependency. Fluctuating product prices may, but need not, add to uncertainty by inducing fluctuations in investment in the Periphery.

The way investment might be affected depends on precisely what role the Centre investors play. If they have taken ownership in Periphery land, mines or industry and seek profit, unstable and, *a fortiori,* declining markets should result in declining investment. If the Centre's involvement is merely to provide finance to Periphery entrepreneurs, the Centre's concern is to see that interest payments are covered, but fluctuations of profit over and above what is owing to them do not matter unless bankruptcy is threatened. Thus if the role of the Centre is purely that of rentier, investment may continue even when markets for Periphery products are poor; the Periphery bears the full burden of the fluctuations.

It can be seen that dependency theory has two essential features: the existence of Periphery products with a value to the Centre which is continually greater than their value to the Periphery, and as a corollary, a continued, if at times erratic, flow of funds directed by the Centre to investment in those products. That funds should flow to investments with an expected high rate of return is not surprising. From the point of view of mainstream theory what needs to be explained is the failure of the marginal efficiency of these investments to fall. This is perhaps explained at least at the beginning of the process by the roles of technology and economies of scale in encouraging ever more specialisation in manufacturing in the Centre, which continually maintains the value to the Centre of Periphery food and raw materials. The roots of dependency would seem to lie in the nature of the regions' resources, but the relative position of the two regions is reinforced by the financial power of the Centre.

The monetary aspect of the process of creating and maintaining dependency is not emphasised in the dependency-theory literature. We shall show in the next section however, that monetary factors can reinforce the real process. This will be done after we discuss neo-Keynesian theory, including cumulative causation, which also, though in a different way, plays down monetary factors but is amenable to their inclusion.

2.4 Keynesian theories

In common with dependency theory, Keynesian theories acknowledge and provide explanations for uneven development between regions.

Regional multiplier theory, which originated in the quite different real context of the British economy, applies the familiar idea of induced expenditure to the question of uneven regional growth and employment: those regions which get investment expenditure will be further favoured by the multiplier. (For a critical review see Wilson, 1968.) Economic success is thus to some extent self-reinforcing: investment in a region improves the level of activity in that region and attracts further investment. Depressed regions become unattractive to potential investors, lose income and become more depressed. If labour responds by moving to more prosperous regions, they deprive the depressed region of their unemployment benefit. These effects, it need hardly be said, are precisely the opposite of the evening-out of growth rates predicted by mainstream theory.

The theory of cumulative causation includes a dynamic interplay between investment and productivity growth to reinforce regional differences. The theory originates with Myrdal (1957) and has been taken up by Keynesians, notably Kaldor (1970) and Thirlwall (1980, 1986). Cumulative causation theory stresses the competitive advantages enjoyed by those regions which are already most developed. Growth itself generates dynamic economies of scale, by embodying new technology, expanding markets and the like. The faster-growing regions have faster productivity growth, making it progressively harder for the slower regions to compete. These negative, 'backwash' effects are to some extent compensated by the positive effects which spread from the faster-growing regions, for example the transfer of new technology from the advanced regions, an improvement in the market for their products resulting from growth in the advanced regions. (Myrdal, 1957, in fact argued that spread effects tended to dominate backwash effects amongst regions, though not amongst nations.)

Cumulative causation theory shares with dependency theory the idea of regional disparities in marginal efficiencies of investment. Indeed in the absence of balance of payments constraints, as is appropriate for regional analysis,[4] cumulative causation theory suggests that the disparities will tend to widen, until a growth ceiling or cyclical turning point is reached.

The disparities grow for reasons endogenous to the theory: cumulative causation theory does not appeal to disparities of power other than those generated by the regional economies themselves.

Not much has been made of the financial aspects of cumulative causation theory, except to argue that financial institutions share in the dynamic economies of scale which characterise businesses in the Centre (to carry over the language of dependency theory). This argument would suggest lower borrowing costs in the Centre, but this reinforcement of regional disparity is not made use of in cumulative causation theory. Quite the contrary: Kaldor's (1970) version of the theory parallels his closed-economy Keynesianism is explicitly assuming that the supply of money is endogenous at both the national and regional levels; banks are prepared to supply advances indefinitely at a set interest rate and acquire the necessary reserves to support the new deposits after the fact.

The banking behaviour Kaldor assumes is far from universal. We shall argue below that such behaviour emerged only rather recently. For a detailed examination of the institutional preconditions for an infinitely-elastic supply of finance see Chick (1988).

In Kaldor's theory, all potential borrowers face the same interest rate; there is a unified capital market. Given the interest rate (however determined) it is (in stark contrast to dependency theory) up to the *borrowers* to assess their expectations of rate of return in comparison to that rate. If they decide to invest, the money is forthcoming. Money plays no active role in promoting uneven development.

As they stand, in neither dependency theory nor cumulative causation theory are monetary factors given much scope to influence regional development. We attempt to rectify this after discussing, in the next section, the dynamics of monetary development against which real development takes place.

3. Stages of Banking Development

Economic development takes place in and interacts with a changing monetary environment. Changes in monetary institutions in turn influence both the course of development and the appropriateness of a given theory of development. Usually, however, the influence of institutional change is not acknowledged: indeed 'institution-free' theory tends to be valued as 'scientific' and an 'institutional' approach is seen as anti-theoretical. Thus although it has been argued that particularly in the monetary field it is necessary to connect theory with history (Hicks, 1967), we have the deposit multiplier theory of the supply of money both introduced (Crick, 1927; Phillips, 1920) and criticised (e.g. Tobin, 1963; Goodhart, 1973; Moore, 1985) without any reference to the stage of banking development which first gave rise to the theory and as the banking system developed beyond that stage, subsequently discredited it.[5]

Each stage of banking development has implications not only for the theory of money supply but also theories of saving, investment and interest, whether in the context of macroeconomics or in the theory of regional developent. In Chick (1986), five stages are identified, with the type of monetary theory relevant to each stage. A new stage emerged in the 1970s in many developed countries and it seems that the 1980s may bring further change (see *The Economist,* 1986).

3.1 Stage One

In the first stage of banking development, money is deposited in the banks as a relatively safe way to save, but claims on the banks are not widely used in transactions: bank liabilities are not yet a means of payment. In this stage, therefore, banks act purely as intermediaries between savers and the investors who borrow from them. Their lending is limited by their deposits: saving is necessarily prior to investment.

In the absence of usury laws, the interest rate in this Stage is determined by the availability of saving relatively to investment demand. Investment, the driving force in growth and development, is constrained by saving. When entrepreneurs' expectations are buoyant, justifying payment of a relatively high interest rate on borrowed funds, banks would be able to offer higher rates on deposits, thus attracting deposits and increasing the availability of investment finance. The new income would generate additional saving, which would tend to lower the interest rate and further encourage investment. There is growth, but it is slow: investment must wait for new saving.

3.2 Stage Two

In the second stage, when bank notes and/or claims on deposits are used as a means of payment, two things follow: (i) people's holdings of bank liabilities represent money used to support consumption as well as representing saving, and (ii) mainly for that reason, the redeposit ratio from bank lending will be high. Now, reserves are the constraint, rather than savings. Given an addition to reserves (whether from a deposit new to the banking system, called a 'primary deposit', from capital inflows or through open market operations) banks taken as a whole can lend out a multiple of this amount, creating 'secondary' deposits as they finance investment, which generates income and the required saving.

The willingness of an *individual* bank to lend beyond its reserves-in-hand depends on its forecast redeposit ratio but must perforce, be quite limited, the more so the more decentralised the banking system and the smaller the market share of the bank in question. The deposit multiplier may take quite some time to work itself out or may be only a theoretical limit to what the banks *can* do, while in practice they expand rather less.

Not only the deposit multiplier but also the Keynesian income multiplier comes into play at this Stage, as finance is separated from saving and the credit-creating ability of the banks allows investment to go ahead without the need for prior saving (Chick, 1983, Chapter 9, especially pp. 184–192). The rate of interest charged to borrowers may not even rise, if the optimism of entrepreneurs is shared by the bankers. Thus the cost and availability of finance are determined not only by bankers' expectations of the return to proposed investment projects but also their expectations, and the expectations of holders of financial assets, as to the returns on alternative assets. Keynesian liquidity preference comes into play, for alongside the development of the banks, markets for financial instruments such as government securities have also been developing.

3.3 Stages Three and Four

In stages three and four the banks are forged into a coherent system. Although the stages can be distinguished analytically, in practice the third stage is coterminous with, or in some countries even preceded by, the fourth stage.

In the third stage of banking development, inter-bank lending arises. Individual banks can now more readily lend in excess of the initial increase in reserves. The banking system increases in coherence. Though the final total of credit creation is still dependent on the stock of bank reserves available to the system as a whole, bank expansion is more likely to reach the limits of the deposit multiplier and the multiplier process is more rapid. Other things equal this lowers the cost and increases the availability of investment finance; growth speeds up.

In the fourth stage, a central monetary authority accepts the function of lender of last resort. The stock of bank reserves is now responsive to demand from the banks. Banks collectively expanding credit can now do so without risk of being caught short of reserves.

Reserves are still exogenous as long as the central bank is prepared to manipulate their availability and/or their price by open market operations. The effect of a lender-of-last-resort facility on banks' willingness to lend is greatest when the central bank has a stable interest policy and does not exact a penalty rate. In this set of circumstances the authorities are said to be acting as lender of *first* resort. Reserves are endogenous to the banking system, the volume of bank loans becomes fully demand determined, and the supply of deposits simply follows.

The net effect of a more elastic reserve supply is an expansionary bias. If the 'real' opportunities are there, growth can proceed faster in this stage. On the other hand, at the same time, markets in financial assets are becoming ever more sophisticated and active. More credit will be demanded to finance activity in these markets, and this can be at the expense of financing 'productive' schemes. The balance between financial support of productive investment and speculation will be

influenced by the judgement and behaviour of the monetary authorities.

3.4 Stage Five

The fifth stage has been characterised by 'liability management', in which reserves are endogenous for a different reason. Banks meet all their demands for loans and 'fund' them by actively bidding for deposits with higher interest rates. Some of these deposits will, indirectly, give rise to reserves. Banks may even be driven by competitive forces to seek an increased share of overall lending by actively seeking both lending opportunities *and* deposits. Banks determined to expand may compete with securities for holders' funds over the whole range of rates. (This contrasts with Keynesian theory, in which a strong preference for liquidity usually coincides with low rates.) This competition cannot continue for long without pushing up interest rates on both deposits and loans, as the experience of the 1980s is proving. This places great stress on bank liquidity and profit margins. The next stage seems to be the management of the liquidity of bank assets through devising ways of marketing loans (*The Economist*, 1986; for comment see Gardener, 1988; Chick, 1988).

One implication of Stage Five is that most loan requests which are considered credit-worthy will be met, irrespective of the will of the monetary authorities. The availability of finance, for investment or any other purpose, has become almost exclusively a market phenomenon, dependent on the cost of funds and on bankers' expectations.

On the face of it one might think this phase favourable to rapid income growth. In practice, interest rates rose to heights which would discourage all but the most spectacularly productive investments. This is not to be attributed solely to the banks' having reached the fifth stage of development: the overall climate was inflationary. But for whatever reason, it is likely that much bank lending in this phase will be seen to have gone into speculative activity: one could argue that bank lending and trade in financial assets have broken away from the cycle in real trade and output.

3.5 The capital market

Along with the progress through stages of banking development, the capital market moves toward unification. A unified capital market is one in which information about investment opportunities flows freely and funds seek out the projects which are believed to carry the highest potential rate of return.

Unification of the capital market need not run parallel to or depend upon the consolidation of the banking system. In, for example, the American banking system, where geographical separation was imposed by laws which have only recently been surmounted, the unification of the capital market was achieved at least in part by the nationwide spread of firms, which then borrowed in the cheapest capital market and spent in the fastest-growing areas. However, it is difficult to imagine a unified capital market during Stage One of banking development or the persistence of wide variations in interest rates across regions by the time the banking system has reached Stage Three or Four.

4. Monetary Aspects of Regional Development

The above outline of monetary development is amenable to regional interpretation and can be used to contribute to both dependency theory and cumulative causation theory.

4.1 Stage One of Banking Development

It is readily apparent from the material presented in sections 2 and 3 that regional multiplier and cumulative causation theories, both of which give causal priority to investment and assign an accommodating role to saving, are not consistent with a Stage One banking system. Perhaps the most useful aspect of the present approach is that the stage of banking development implied by a theory can offer a decisive test of relevance.

As we have seen in section 2, in the orthodox theory of regional development, saving is the constraint on growth and interest rates are set by a loanable-funds mechanism. These features are really only consistent with stage one of banking development.

Regional financial flows are the result of an excess supply of saving compared to investment opportunities in the region. The theory postulates that a region's investors will draw on extra-regional savings where regional savings fall short of investment needs. The larger the available pool of savings, the more investment there will be in regions short of local savings. The 'price' of savings will depend on competition for funds from other regions. But one might ask how the flow of funds takes place. It is natural to assume that the banks intermediate between savers in one region and investors in the other; but it is a feature of the first stage of banking development that banks are small and the geographical purview of each is limited. The banks cannot provide, at this stage of their development, the unified capital market on which the theory relies for its adjustment mechanism and its single, national cost of borrowing. A perfectly informed, unified capital market is most unlikely to coincide with a Stage One banking system.

A similar, though weaker, charge of inconsistency can be levelled at Ingram's (1959) appeal to a 'stock of generalised claims' to act as an equilibrating mechanism by mitigating reserve losses and the deposit multiplier. While it is plausible to assume that the market for government securities would be better-informed and more unified than markets for investment loans, and that most Stage One banks would hold them, the multiplier mechanism those holdings are supposed to ameliorate only comes into play in Stage Two and after; Ingram's point is a perfectly good

one, recognisably consistent with the asset management strategies of banks in the UK until they ran down their stocks of Government securities to a minimum, but it belongs to those theories which are consistent with those later stages, not to the loanable-funds theory within which it is presented. Banks used government securities markets as a reserve cushion before developing the interbank markets which characterise Stage Three.

Dependency theory is not subject to the same inconsistency: either the investment in Periphery is directed by Centre entrepreneurs with Centre funds, or Periphery entrepreneurs seek loans from Centre institutions, for the Centre is assumed to have sufficient funds to satisfy its own investment needs and still finance investment in the Periphery. The yield from capital exports to the Periphery adds to Centre wealth. Increased income in the Periphery is obtained at the cost of growing dependency on the Centre for export markets and for finance and a growing disparity in economic development between the two classes of region.

It is an open — and important — question whether the progressive relative immiseration of the Periphery would be made better or worse by a banking system which remains regionally distinct in this Stage. On the one hand, a separate banking system yields some measure of protection from 'take-over' by the Centre. On the other hand, if banking is regionally distinct, credit creation is constrained in each region by the region's deposits (in Stage One) or reserves (in Stage Two). The Periphery finds it more difficult than the Centre to attract and retain reserves and deposits, so the potential constraint is serious, especially if Periphery banks are in Stage One.[6]

4.2 Stage Two

Stage Two introduces features of interregional financial relationships which remain crucial throughout the subsequent stages. We shall accordingly devote full attention to them in this section.

It is likely that the use of bank money as means of payment will first become widespread in the Centre, and Centre banks will reach Stage Two while Periphery banks are still in Stage One. In mainstream theory the greater lending power of Stage Two banks speeds up the equalisation of returns to capital in the two types of region; in dependency theory the hegemony of the Centre over the Periphery is enhanced by its further development.

If by the time Centre banks reach Stage Two, banking is still regionally distinct, the banks' ability to extend credit depends both on the size of the deposit multiplier and on the multiplicand (reserves). These may both vary systematically by type of region; not surprisingly, the outlook for Periphery credit creation is not encouraging.

The multiplier is greater the lower the reserve/deposit and cash/deposit ratios and the propensities to import and to invest outside the region, while the multiplicand is determined, in Stage Two, chiefly by exports (Dow, 1982). If there is a high import content to investment expenditure, the income multiplier in the Periphery will be low, as will savings growth, and the redeposit ratio in Periphery financial institutions will also be low, as money returns to the Centre to pay for the imports. In addition, the stage of development and the level of income being lower, the use of cash rather than deposits is likely to be more widespread. Difficulty in retaining reserves is exacerbated by the greater fluctuations in deposits in Periphery banks, caused by the volatility of both investment in and export proceeds from the Periphery. Periphery banks will therefore at best need higher than average reserves (usually, Centre assets) and at worst are vulnerable to bankruptcy. Thus the competitive advantage lies with Centre banks: there will be pressure towards banking concentration and branch banking by the Centre banks in the Periphery.

It almost goes without saying that if the banks respond to pressures toward concentration, the banking centre and head offices will locate in the Centre (Kindleberger, 1974). This fact might be expected to limit investment in the Periphery because of limited information on Periphery projects in the Centre. Financial institutions will tend to have head offices in the Centre; this implies a remoteness from the business of the Periphery which will discriminate in favour of firms and projects in the Centre.

The more decision-making occurs in head offices or, *a fortiori,* in Centre banks without branches in the Periphery, the more likely it is, other things being equal, that information costs and transactions costs will bias investment toward the Centre instead of the Periphery. Bank managers' expectations of returns on investment, like the expectations of entrepreneurs, must rely significantly on group conventions. This conventional basis of expectations can contribute to instability in the Periphery. From time to time, convention may form an unduly optimistic view about potential gains from Periphery projects, generating excessive expansion of credit to Periphery. The eventual disappointment of expectations will then bring about excessive withdrawal of credit.

The more remote the group is from first-hand information, the less reliable conventional expectations are likely to be. The best information available to head offices of banks is likely to come from head offices of large corporations, also located in the Centre. (Personal contact amongst businessmen and bankers in the Centre adds an extra, sociological dimension to the formation of conventional expectations and the allocation of credit.) Business in the Periphery will tend to experience the same sort of difficulties in borrowing that beset small businesses, encouraging industrial concentration in parallel with the tendency to financial concentration.

A regional disparity in knowledge of potential investment projects creates a *de facto* separation of regional credit which persists even if in other respects the banks have reached a stage of integration, in this Stage through concentration or in later Stages by the pooling of reserves. Separation reinforces the cumulative causation explanation of disparities in regional growth and development. Differential knowledge is, of course, in strict contradiction to the unified and well-informed capital market of mainstream theory. Nor is there any suggestion of this factor in dependency theory. Centre bankers are either implicitly assumed to have good information about the Periphery and the markets for its products in the Centre, or Peripheral development is entirely governed not only by Centre lending policies but also by Centre entrepreneurship. The concentration of modern dependency theory on multinational corporations as the engines of development in both types of region would be compatible with information cost bias.

However it will be appreciated that the Centre's 'information' relates to its *own* evaluation of Periphery investments. Thus, even considering the factors noted earlier, the continued existence of separate Periphery banks might just be to the Periphery's advantage. The following considerations were, in effect, the rationale for imposing by law a separation of banks by state boundaries in the United States. First, in order to maintain their local deposit base, Periphery managers will have an incentive to consider local marketability and thus to evaluate potential projects according to their value to the Periphery, rather than the Centre. Second, local banks are more likely to retain the deposits of Periphery residents if Centre banks do not compete in the Periphery. It can be seen that the reasoning is even more cogent when one is dealing (as in the U.S.) with several peripheral regions; there is no guarantee that money drained away from one such region to the Centre will find its way back as investment to the same peripheral region. In effect the U.S. legislation, only recently rescinded, retains some Stage One features in a banking system whose natural course is to progress to subsequent Stages.

One can think of reasons why a regionally distinct banking system may not be an unmixed blessing to the Periphery; while such a system may guard against a monetary outflow to the Centre, Periphery banks are exposed to extra risk where Peripheral regions have, as they tend to do, quite specialised and strongly cyclical economies. Undiversified investment in these economies can amount to a particularly risky speculative venture which, as stated earlier, can leave the banks vulnerable to bankruptcy. Centre banks are better placed, by reason of their size and their better-diversified loan portfolios, to lend to the Periphery.

Their lending, however, may not be stable; indeed it may contribute to the Periphery's instability. The fluctuations of markets for Periphery products recommend Periphery assets as vehicles for speculation by wealth-holders in the Centre. Speculation tends to be characterised by swings of excessive optimism and pessimism which may exacerbate the markets' fluctuations. When speculators' expectations are shared by Centre bankers, cyclical variations in credit availability will add to the amplitude of the production cycle.

The instability of the typical Peripheral economy not only leads to cautious investment by local banks and unstable credit from Centre banks; it also suggests that the Periphery will exhibit greater liquidity preference than the Centre. Liquidity preference influences the terms and availability of investment finance, as well as the demand for finance. Liquidity preference is better satisfied by deposits in nationwide or Centre banks. This reason for capital outflows from the Periphery to the Centre is exacerbated by the greater development of Centre financial markets. (See Morgan, 1973, for an analysis of this phenomenon in Britain.) And higher liquidity preference which takes the form of unwillingness to acquire Periphery assets weakens the market for those assets and adds to other sources of pessimism on the part of potential Centre investors. Further predicted manifestations of the Periphery's higher liquidity preference are a higher cash/deposit ratio and a financial need, in addition to the need arising from a volatile real economy, for a higher reserve ratio for local banks.

Overall, to the extent that banking remains regionally distinct in Stage Two, Periphery banks will not be able to expand credit as readily as Centre banks. The countervailing force is the high overall returns perceived on Periphery investments which serve Centre interests, despite the greater variability of Periphery economies. These factors suggest that without a continued flow of funds from the Centre, income in the Periphery might even be lower than it is when dominated by Centre investment.

4.3 Stage Three

Once Stage Three is reached, banks extend credit to one another across regions; a shortage of reserves in one region's banks may be made up by banks in other regions with an excess of reserves, provided the borrowing banks are thought creditworthy. If by this time there is interregional branch banking, these flows will occur, even more smoothly, within banks.

Thus it may be thought that in Stage Three the question of whether banks retain their regional identity is irrelevant except for the question of differential knowledge explored above. However, while institutions become less regionally distinct, the regional distribution of reserves, which reflect both regional investment opportunities and the banks' willingness to finance them, remain of central importance. The cause of changes in regional reserves is rooted in the regional balance of payments, though the relationship is now more complex. If local banks' (or local branches') reserves are inadequate because of a deficit on the regional balance of payments caused by imports of capital goods and raw materials for new production, Centre bank credit will be attracted in. But if

the deficit is due to a declining value of exports and/or capital outflows, extra-regional loans are less likely to be forthcoming, and the Periphery's supply of reserves will be binding.

Stage Three provides yet another spur to bank concentration and a further shift of power to the Centre, for although bank reserves are lent amongst banks in this Stage, branch banks have a competitive edge, as reserve needs can be more easily balanced within a single bank. Even if banking in the Periphery is now done by branches of Centre banks, it is still the case that the perceived value of Periphery credit must be high enough to justify supporting it with reserves which might otherwise be used to expand credit to the Centre.

4.4 Stage Four

Once the banking system reaches Stage Four of its development, credit expansion is no longer necessarily constrained by a reserve base even at the level of the system as a whole: the central bank stands ready to meet reserve needs, at a price it sets. Aside from active monetary policy, the only limit to bank credit expansion is now the banks' willingness to meet the demand for credit at an interest rate whose general level is set by the monetary authorities.

Regional credit is no longer a matter of the allocation of a given national total of reserves. Credit-creation can now occur in regions with relatively high expected returns without inter-bank or inter-branch borrowing of reserves. Credit creation in regions usually short of reserves no longer necessarily displaces credit in the surplus regions. The terms of credit are related to national monetary policy rather than regional considerations. Kaldor's version of cumulative causation theory is compatible with this stage of banking development if the authorities are making reserves available at the going interest rate.

The availability of reserves from a central monetary authority does not however mean that the supply of credit to a region is unlimited. The regional pattern of credit-creation is based on the pattern of expectations about real and financial assets on the part of potential borrowers, existing wealth-holders and suppliers of new credit: the Keynesian speculative-demand mechanism. The resulting credit-creation and investment in turn influence future expectations.

The importance of the speculative-demand mechanism does not vary with the stages of banking development; it is the relative power of borrowers and lenders in the Centre and Periphery and the structure of real and financial assets which vary with the stage of banking. But it is easier for shared expectations to have their full effect in a higher Stage of banking development, and the expectational factors are also working with an ever-increasing capacity of the banking system to affect the aggregate amount of credit available. The more powerful credit multiplier in turn supports and intensifies the Keynesian income multiplier. Thus disparities in regional investment, income and employment are likely to be more marked over booms and slumps in the later stages of banking development.

4.5 Stage Five

The fifth stage of banking development has been reached in some — but by no means all — Western economies and in the international capital market. This stage is marked by the banks' actively seeking both lending opportunities and the deposits to balance their loans.

Initially, competition for deposits was satisfied without undue rises in deposit rates as the new wholesale deposits seemed to fill a gap in the demand for liquidity. But eventually deposit rates rose considerably and hence loan rates also rose. Investment projects had, therefore, to have higher and higher expected returns. In such circumstances, lending activity is concentrated in growth industries and in speculative assets. Increasing borrowing costs will discourage many investment projects which would otherwise have taken place; producers who have sufficient market power to pass higher borrowing costs on as higher prices are favoured. On the whole Periphery industries tend to be small and industries with market power located in the Centre; opportunities for financial speculation are also to be found in the Centre.

This stage of banking reinforces the pattern of more volatile credit creation in Peripheral regions, a higher liquidity preference in the Periphery satisfied by capital outflows to the Centre, and the favouring of large, national corporate investors with better access to credit lines in the Centre and greater market power to pass on credit costs. Although the regional pattern of bank reserves is now purely notional, the forces which lead to interregional payments imbalances — changes in regional reserves, however notional — are still of primary importance in determining the regional pattern of credit demand and its supply.

5. Conclusion

The stages of banking approach has allowed us to construct hypotheses about the impact of financial factors on regional economic development. The likely course of financial development of the Centre and Periphery suggests that the remark, attributed to Joan Robinson, that it is better to be exploited than not to be exploited at all, applies to some regions whose resources are particularly suited to the needs of a Centre against which it can erect no infant-industry tariff barriers to help it diversify its economy.

In the early stages of banking development the issue is the regional distribution of the basis of credit: first savings, later reserves. As those constraints permit, credit is directed to regions where expected returns on investment are high. At the early stages of financial development, regional

financial constraints on investment are a serious issue.

Credit-allocation decisions gravitate to the financial centre, generally the location of old wealth, progressively as financial institutions become more concentrated and attract the assets of those seeking liquidity. Financial concentration in turn normally goes hand in hand with concentration in production as credit-creation becomes increasingly centralised.

Branch banking, interbank lending and the availability of a lender of last resort remove the reserves constraint on regional credit creation. The factors which earlier would have determined the regional reserves constraint now determine the net deposit creation resulting from the pattern of credit creation for a given region. A deficit in the region's balance of payments may not adversely affect credit creation if the deficit is thought to be temporary, but if it is taken as an indication of economic stagnation, a reduction in credit will add to the region's difficulties.

As the financial sector in general becomes more developed, the tendency for Periphery deposits to be lost by capital outflows to the Centre will increase, particularly in periods of high liquidity preference. In general the Periphery experiences larger fluctuations in receipts for its products and closer financial constraints. For this reason, there tends to be a marked liquidity preference in the Periphery in times of recession, which tends, as banking becomes more centralised, to be satisfied by holding assets issued in the Centre. The regional pattern of liquidity preference becomes a progressively more important factor in regional credit creation as banks develop, especially as they enter the phase of liability management.

Although in the later stages of banking development the regional reserves constraint is no longer binding on regional credit creation, the other aspects of financial development which characterise disparate regional development — the tendency toward financial (and industrial) concentration, the growing importance of liquidity preference in regional money flows and credit allocation — ensure a continued asymmetry in regional credit creation and thus in regional development.

Thus as a matter of policy the analysis of this paper disputes the wisdom, from the point of view of Peripheral regions, of the current preference for unification of the capital market through deregulation. This preference is supported by neoclassical regional development theory, which we have shown to be based on internally inconsistent financial assumptions.

There may be a trade-off between efficiency and equity in segmented financial markets, though we tend to the belief that in financial matters, a move towards unification, which improves micro-efficiency, may be macro-inefficient: it may impede the relative development of Peripheral economies and encourage concentration which may benefit the Centre at the expense of the Periphery, but may not even serve the long-term interests of the Centre. Our analysis suggests that a policy of financial segmentation — if it is not already too late to consider — would need to be taken in conjunction with policies to encourage Periphery entrepreneurship and to discourage the wide fluctuations of the Periphery's product prices which result in generally pessimistic valuations of Periphery assets and projects.

FOOTNOTES

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1. The issues involved in choosing an approach to deal with a particular question are complex: general principles have been explored extensively elsewhere: Dow (1985), Whynes (1984).
2. Ironically, Marx gave full scope for such a possibility, even in an exchange, as opposed to production, economy (1867, Chapter 3, Section 2a).
3. If dependency theory seems unduly depressing, it should be remembered that there came a time when raising working-class incomes in order to bring workers into the market as consumers was perceived to be in the interest of entrepreneurs. The same principle may apply in the context of regional development.
4. For results applicable to the international context, with a balance of payments constraint, see Dixon and Thirlwall (1975).
5. But see Coghlan (1978) and Moore (1986) for a more historical approach.
6. In the international sphere, the Currency Board system kept colonial banking systems dependent on the Centre for funds, thus both inhibiting indigenous economic development by restricting domestic credit creation and enhancing the power of the Centre to direct the course and pace of colonial development.
7. American experience in the 1930s demonstrates this point, despite Federal Reserve System policy of discretionary support to Periphery banks in difficulty. However, Naylor (1975, Chapter 3), argues that the more balanced regional development in the United States as compared to Canada can be partly explained by the more segmented regulatory framework in the U.S.

REFERENCES

Archibald, G. C., (1969), "The Phillips Curve and the Distribution of Unemployment". *American Economic Review*, (May).

Baran, P., (1957), *La Economie Politica del Crecimiento*, (F.C.E.: Mexico).

Cardoso, F.H. and Faletto, E., (1969), Dependencia y desarollo en América Latina: ensayo de interpretación sociológica. (Siglo Veintiuno: Mexico).

Chick, V., (1983), *Macroeconomics After Keynes: A Reconsideration of The General Theory*, (Philip Allan: Oxford).

Chick, V., (1986), "The Evolution of the Banking System and the Theory of Saving, Investment and Interest", *Économies et Sociétés*, (Cahiers de l'ISMEA Série Monnaie et Production, No. 3).

Chick, V., (1988), "Sources of Finance, Recent Changes in Bank Behaviour and the Theory of Investment and Interest", in P. Arestis ed., *Contemporary Issues in Money and Banking: Essays in Honour of Stephen Frowen*, (Macmillan: London).

Coghlan, R., (1978), "A New View of Money", *Lloyds Bank Review*, (July).

Courchene, T., (1981), "A Market Perspective on Regional Disparity", *Canadian Public Policy*. (Autumn).

Crick, W.F., (1972), "The Genesis of Bank Deposits", *Economica* (No. 7). Reprinted in F.A. Lutz and L.W. Mints (eds.), *Readings in Monetary Theory*, (Blakiston for the American Economic Association: New York).

Dixon, R.J. and Thirlwall, A.P., (1975), "A Model of Regional Growth Rate Differentials", *Oxford Economic Papers*, (July).

Dow, S.C., (1982), "The Regional Composition of the Money Multiplier Process", *Scottish Journal of Political Economy*, (February).

Dow, S.C., (1985), *Macroeconomic Thought: A Methodological Approach*, (Basil Blackwell: Oxford).

Dow, S.C., (1987a), "The Treatment of Money in Regional Economics", *Journal of Regional Science*, (Vol. 27, No. 1).

Dow, S.C., (1987b) "Money and Regional Development", *Studies in Political Economy*, (Summer).

Economist, The, (1986), "Corporate Finance: A Survey", (7, June).

Edel, C., *et. al.* (1978), "Uneven Regional Development: An Introduction to the Issue", *Review of Radical Political Economy*, (Fall).

Gardener, E.P.M., (1988), "Innovation and New Structural Frontiers in Banking", in P. Arestis, ed., *Contemporary Issues in Money and Banking: Essays in Honour of Stephen Frowen*, (Macmillan: London).

Goodhart, C.A.E., (1973), "Analysis of the Determination of the Stock of Money", in M. Parkin (ed.), *Essays in Modern Economics*, Proceedings of the Conference of the Association of University Teachers, Aberystwyth, 1972. Reprinted in C.A.E. Goodhart, (1984), *Monetary Theory and Practice*, (Macmillan: London).

Goodhart, C.A.E., (1975), *Money, Information and Uncertainty*, (Macmillan: London).

Harvey, D., (1982), *The Limits to Capital*, (Chicago University Press: Chicago).

Hicks, J.R., (1967), "Monetary Theory and History — An Attempt at Perspective", in J.R. Hicks, *Critical Essays in Monetary Theory*, (The Clarendon Press: Oxford).

Holland, S., (1976), *Capital versus the Regions*, (St. Martin's Press: New York).

Ingram, J.C., (1959), "State and Regional Payments Mechanisms", *Quarterly Journal of Economics*, (November).

Kaldor, N., (1970), "The Case for Regional Policies", *Scottish Journal of Political Economy*, (November).

Kindleberger, C.P., (1974), "The Formation of Financial Centers: A Study in Comparative Economic History", *Princeton Studies in International Finance*, No. 36, (Princeton University Press: Princeton).

Lenin, V.I., (1916), *Imperialism, the Highest Stage of Capitalism*, (Foreign Languages Publishing House: Moscow, 1947).

Lipsey, R.G., (1960), "The Relation between Unemployment and the Rate of Change of Wage Rates in the U.K., 1862-1957: A Further Analysis", *Economica*, (February).

Mandel, E., (1973), *Capitalism and Regional Disparities*, (New Hogtown Press: Toronto).

Marx, K., (1867), *Capital*, Vol. I, (The Modern Library, Random House: New York, 1906).

Moore, B.J., (1985), "Wages, Bank Lending and the Endogeneity of Credit Money", in M. Jarsulic (ed.), *Money and Macro Policy*, (Kluwer-Nijhoff: Boston).

Moore, B.J., (1986), "How Credit Drives the Money Supply: The Significance of Institutional Developments", *Journal of Economic Issues*, (June).

Morgan E.V., (1973), "Regional Problems and Common Currencies", *Lloyds Bank Review*, (October).

Mundell, R.A., (1976), "The International Distribution of Money in a Growing World Economy", in J.A. Frenkel and H.G. Johnson, (eds.), *The Monetary Approach to the Balance of Payments,* (University of Toronto Press: Toronto).
Myrdal, G., (1957), *Economic Theory and Underdeveloped Regions,* (Duckworth: London).
Naylor, T., (1975), *The History of Canadian Business, 1867–1914: The Banks and Finance Capital,* (Lorimer: Toronto).
Ohlin, B., (1933) *Interregional and International Trade,* (Harvard University Press: Cambridge, MA.).
Palma, G., (1981), "Dependency: A Formal Theory or a Methodology for an Analysis of Concrete Situations of Underdevelopment?", in P. Streeten and R. Jolly (eds.), *Recent Issues in World Development,* (Pergamon Press: Oxford).
Pfister, R.L., (1960), "State and Regional Payments Mechanisms: A Comment", *Quarterly Journal of Economics,* (November).
Phillips, C.A., (1920), *Bank Credit,* (Macmillan: London).
Prebisch, R., (1950), *The Economic Development of Latin America and its Principal Problems.* (Economic Commission for Latin America, United Nations Departent of Economic Affairs: New York).
Scitovsky, T., (1957), "The Theory of the Balance of Payments and the Problem of a Common European Currency", *Kyklos,* (Vol. 10, No. 1).
Spraos, J., (1980), "The Statistical Debate on the Net Barter Terms of Trade between Primary Commodities and Manufacturers", *Economic Journal,* (March).
Thirlwall, A.P., (1980), "Regional Problems are Balance of Payments Problems", *Regional Studies,* (Vol. 14, No. 5).
Thirlwall, A.P., (1986), "A General Model of Growth Rate Development on Kaldorian Lines", *Oxford Economic Papers,* (July).
Thirlwall, A.P. and Bergevin, J., (1985), "Trends, Cycles and Asymmetries in the Terms of Trade of Primary Commodities for Developed and Less Developed Countries", *World Development,* (July).
Tobin, J. (1963), "Commercial Banks as Creators of 'Money'", in D. Carson (ed.), *Banking and Monetary Studies,* (Richard D. Irwin: Homewood, IL.).
Whynes, D., (ed.), (1984), *What is Political Economy? Eight Perspectives,* (Basil Blackwell: Oxford).
Wilson, T., (1968), "The Regional Multiplier — A Critique", *Oxford Economic Papers,* (November).
Whitman, M. v N. (1967), International and Interregional Payments Adjustment: A Synthetic View, *Princeton Studies in International Finance,* No. 19, (Princeton University Press: Princeton).

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