

Underdevelopment, international firms, and the international division of labour*

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International economic relations are still predominantly analysed in terms of a utilitarian model. In this model the primary elements of the international economy are nation states with utility functions. These states are self-determining units related to other states via serial economic channels (trade, portfolio investment, direct foreign investment, aid, labour flows, monetary agreements). The nature and degree of international economic interdependence is determined by each nation's exercise of its own utilitarian calculus in respect to these channels, taking them one by one. In such a model domestic corporations are subordinate structures, whose rate of expansion, direction and effects can be controlled where necessary by the state. The same holds for foreign corporations. The extent to which they will be allowed into a country will depend on the effects of such a flow of foreign investment on some supposed national utility (for underdeveloped countries this utility is translated into a somewhat teleological concept of 'development'). It is assessed in cost-benefit terms within a highly de-composed framework, in isolation from other forms of international economic and political relations. As Meier put it in his *Leading Issues*: 'From the standpoint of national economic benefit the essence of the case for encouraging an inflow of capital is that the increase in real income resulting from the act of investment is greater than the resultant increase in the income of the investor. If the value added to output by the foreign capital is greater than the amounts appropriated by the investor, social returns exceed private returns.'¹

The above model as applied to the import of foreign investment and/or foreign technology excludes or obscures a number of the most important long term questions. In particular it obscures the differing effects which foreign investments may have on different classes or subgroups within the importing economy. It thereby obscures the effects of foreign investment on the political power and the interests of these classes as they relate to the host's internal production relations, and the relations of the host economy to foreign capital. It obscures the impact of foreign investment on the structure of the importing economy and the latter's long term capability of particular types of development. It neglects the question of the power of foreign investors to counter disagreeable peripheral government demands or policies, by virtue of the firm's own or their home government's economic and political power, or by the power of uncoordinated market forces.

In other words it neglects the issue of dependence. Finally the model has little to say on the long term movement of the 'exogenous' variables, export demand, the supply of foreign capital, of technology, and so on.

It reveals both a 'misplaced aggregation' as far as the socio-economic consequences on the host economy of foreign investment is concerned; and an 'illegitimate isolation' of investment from other international economic relations, and of the host from the world economy.

This last point, the separation of the importing from the world economy, is particularly important, for it prevents us from asking to what extent the characteristic features of underdeveloped countries are the result of their incorporation into the world market economy, whether they are more properly underdeveloping rather than underdeveloped countries. To throw some light on this and the other wider questions, I want to suggest an alternative to the utilitarian international model. Rather than treating the international economy as a summation of national units, it is more helpful I think to see it as a single, predominantly capitalist system, in which the geographical distribution of particular structural features of a capitalist system will be governed by market determined laws of location and only secondarily by the action of nation states. Competitive firms, particularly international firms, become the dominant units of the system. States, which in part reflect the interests of these firms, are subordinate, modifying elements.

Let me explain more fully. Any model of capitalist development isolates certain significant relationships, the level and distribution of national income, rates of profit and re-investment, levels of technology and of skill, the degree of monopoly, the conditions of the labour market, the relative size of the primary, secondary and tertiary sectors, of the capital and consumer goods sectors and so on. These relationships may have different values between sectors, between classes, or races. But they also have different values over geographical space, within and between countries. Indeed these disparities are often the basis for calling some areas underdeveloped and others developed. Underdeveloped countries tend to have relatively lower levels of income, more unequal distributions of income between classes, between white and blue collar workers, and within the same categories of skilled worker; they tend to have higher rates of industrial profits, more unequal technological levels between sectors, lower levels of skill, a more concentrated industrial structure in many sectors, higher rates of unemployment, a high proportion of primary and tertiary activity, and of consumer rather than capital goods industry. They also tend to have significant precapitalist economic formations within their boundaries.

My argument is that, increasingly, we can only understand these

geographical differences in structural relations if we start from the laws governing the location of production and factor mobility in the international capitalist economy as a whole, modified but not determined by the organised power of states, firms, and labour. If one treats the national economy as the starting point of the analysis, there is a tendency to overestimate both the significance of the endogenous variables in the determination of the structural relations in question, and the possibilities of internally organised structural change within a capitalist economy integrated into the world market system. Even where exogenous influences and limits are given far more importance, there is a tendency, in underdevelopment literature at least, to voluntarism as far as the exogenous limits are concerned – more aid, lower import duties, global planning of industrial location – a voluntarism which stems in part I think from an inadequate structural analysis of the exogenous factors concerned. There is a tendency, too, in similar analyses which view the exogenous limits as much less flexible, to explain the existence of 'distorted' structures in underdeveloped countries by dependence on metropolitan economies. The point I would make is that dependence is a necessary but not a sufficient part of the explanation of underdevelopment. The question is why dependence leads to such distortions in the case of these areas. Other areas, regions, cities in advanced capitalist countries may be similarly dependent but far less depressed. It is therefore not merely that underdeveloped countries are dependent, but that they are dependent in an economic system subject to geographical inequality, and that for historical reasons this inequality works against them.

There are clear parallels between the analysis of geographical inequality and that of social and sectoral inequality. The specific form of social inequality found in capitalist society stems from the nature of capitalism as a system. Capitalism is a class society in which the dominant division is between those who sell their labour on the market and those who buy that labour (even if indirectly) to marry it to means of production. The fact that an unskilled worker earns low wages and lacks job security is not merely because he is dependent. Owners of capital are also dependent as a class. It is because he is dependent in a system whose structure requires social inequality as a condition for its functioning, and for historical reasons he has become a member of the subordinate class in that system. His dependence is not just a subordinate dependence, it is a particular type of subordinate dependence distinguishing the unskilled workers from a serf, a slave, a young man in a cultivating tribal society, or indeed a wage worker in an Eastern European economy.

The same argument holds for corporate inequality, or inequality between capitals. The development of large scale industry has a material basis in technological features of the process of production and distribution. These features may be interpreted as lowering costs by saving time either directly (as with a machine replacing handicraft production) or indirectly (by economising on the use of materials which themselves embody dated labour time.) They lead to the growth of large firms capable of realising the potential scale economies: corporate organisation comes to reflect indivisibilities and interdependencies in the material base of production and distribution. But this relation between techniques and organisational forms is not an immutable law. It is a feature of capitalist systems of economy. Capitalism, unlike other systems, is driven on by the laws of time economy, by the constant pressure from the market to speed up the turnover time of capital, to save time. The market will reflect time savings by lower costs and increased profits per period of time. If it is a necessary condition for the full realisation of new methods of saving time that there should be a more concentrated industrial structure, then the market system can be expected to bring it about. The relatively large firms, enjoying some scale economies, will gain at the expense of the relatively small. The point is that the reason for corporate inequality or the uneven growth of different productive units in the system is not merely that there are potential economies of scale reflecting technical interdependencies, but that firms are forced to try and realise these scale economies (to expand) because they are one of a number of competing capitals in a capitalist system of production. Business concentration must be understood both in terms of the material basis for that concentration and in terms of the system of social relations in which the economic process takes place.

I now come to the argument of this paper. I want to suggest that capitalism, like other economic systems, will have its own laws governing the geographical location of production; that these laws will generate sharp disparities in the type and quantity of productive activity found in the various regions of the system; and that these laws are increasingly applicable to the current distribution of economic activity in the world market. Further I shall propose that international firms are becoming the dominant institutions in the world economy, that their activity reflects and reinforces the relevance of the laws of location on a world-wide basis, and that their power provides a major obstacle to any attempts to redistribute quantities and types of productive activity world-wide.

I

In this section I shall outline the general features of the geographical distribution of economic activity under capitalism. I want to suggest that we should approach the question of geographical inequality, like corporate inequality, through an understanding of the material conditions of inequality within the context of a capitalist system of social relations. Indeed, I shall begin by arguing that a major part of geographical inequality is but the locational mapping of corporate inequality, or, put in another way, that many of the factors which lead to corporate inequality simultaneously determine geographical inequality.

Corporate inequality results, in the long run, from the existence of economies of scale, and these in turn are determined by three principles: specialisation, communication and control, and insurance. It is the first two, reflecting as they do time economy in a direct form, with which we are most concerned from the point of view of geographical location.

Specialisation leads to cost savings principally because it yields a saving of time. Degrees of skill, for example, can be defined in terms of the amount of time needed to do a job. There are of course questions of quality in handicraft industry, or of the fact that some people could not complete some jobs however long they tried or however long they were trained. But these I think are exceptions to the rule of measuring skills in terms of production time. Or take a machine. In a machine, the improvements in the quality of the tool, the power behind the tool, the transmission of material to the tool, and of output from the tool, all have speed (understood to include quality) as their end. The spinning jenny or the sewing machine, for example, maintain the same principle of operation as the handicraft methods which preceded them, but they speed up this operation, or conduct a number of the same operations simultaneously.

The principle does not apply solely to the individual machine or workman. Each piece of equipment, each workman is but part of a much larger process of production, extending from the raw material to the final sale. Time economy demands co-ordination of each man and each machine at every stage of this process. Hold ups, momentary idleness, all waste time. In the Fairfield's shipyard on the Upper Clyde, men were found to be working only 25% of their standard time, mainly because of hold ups and late deliveries. There was no standard sequence of work method, no

flow of materials. In shipbuilding, as in all industries facing these problems, the pressures are the same: towards standardisation of the product, the de-skilling or multiskilling of labour, and the planning and operation of the whole process as an indivisible unit. The conveyor belt materialises the principle. It submits each part of the production process, each machine, each worker to its own rhythm.

Whether it is a question of the individual worker or machine, or of the co-ordination of the total process, speed is only made possible with a greater initial investment. It is the relationship between time saving as an end and the indivisibility of the means to produce this time saving which is one material basis for scale economies.²

Labour, increasingly divided (individually), is increasingly indivisible (collectively). The advantages of specialisation can only be realised if specialisations are co-ordinated. Timing also is at the heart of time economy. This leads us to the second principle, that of communication and control. Any economy contains forces which determine what is produced and what materials, equipment and labour are required to produce it. Once in operation, the process of production has to be co-ordinated: inputs are fed in, materials transferred from machine to machine, output stored and distributed. The speed and accuracy of the communication of materials and information will have an evident effect on the direct time spent in production and distribution, and the indirect time embodied in productive inputs.

Where the production of any product is decentralised among a number of independent firms, the function of communication and control is partly played by the market. Prices indicate the intensity of demand for the product, the scarcity of the constituent productive factors, the relative efficiencies among producers and so on. On the basis of this information producers, consumers, holders of capital, skills and material resources allocate their property. Such allocations feed-back further information via the market, and so the process continues. The proponents of the market system of communication and control suggest that it has the added advantage of maintaining incentive in all parts of the system because of the guaranteed penalties (rewards) to those who fail (manage) to work/organise/expand. Indeed it has been argued that, whatever the advantages of size for other reasons (specialisation and insurance), the impossibility of developing a system of communications, control, and incentives equal to the market would provide a limit to the size of firms.³

Managerial, and more recently economic, literature now suggest that, far from providing a limit, organisation may itself be subject to scale economies. Part of the reason is the fuller utilisation of specialised high level manpower, another aspect of our first principle. But part is a matter of communications: the fact that information may flow more freely within rather than between organisations, particularly where that information commands a price in the external market; the fact that information may be standardised as with financial accounts so that the relative profitability of parts of the organisation can be more sensitively compared; the fact that internal pricing systems can be based on marginal cost principles and avoid some of the time, cost and distortions of open market transactions. The pressure for backward integration for the sake of quality control (as in the motor car industry for example) can be seen in large part as a matter of better information flows. So can the economics derived from rapid rerouting in an integrated distribution system (as in international oil shipping). These examples also bring out the point that it is not merely the flow of information but the promptness of the response which is important.

Similar arguments apply in the field of the physical movement of goods between one plant and another. A well-known example of technical conditions for vertical integration is iron and steel production where it is cheaper to transfer iron in its molten state to a nearby steel plant than to cool it, transport it some distance, and then reheat it. As it stands this is a reason for geographical concentration but not necessarily for sectoral concentration. The reason for it also leading to sectoral concentration is that, where operations are concentrated geographically, unified control can be exercised effectively because of the ease of information flow in a confined area. If we imagine different parts of a flow line process of production being under independent authorities co-ordinated by the market we may see how unified control will make redundant certain flows of information required by market exchange (quotations of price, haggling, delivery agreements and so on.) The economy of bulk transactions also has something of this minimisation of information exchange underlying it.

In the field of economic co-ordination, control and allocation, the speed, accuracy and cost of the communication of information and of goods may all be superior when the communication takes place within a single organisation than when it takes place between smaller, separate organisations covering the same economic space.⁴

The third principle underlying scale economies is that of insurance, sometimes referred to as the principle of massed reserves. The law of large numbers suggests that there will be economies of scale in maintaining reserves to guard against uncertain outcomes in the markets supplying inputs (raw materials, semi-finished materials, skilled labour, means of communication) and in the market receiving outputs. While this principle does have a bearing on geographical distribution, we will for the moment concentrate on the first two principles.

Both specialisation and communication and control have direct time saving as their rationale. I stress this aspect of time because I want to bring out the geographical consequences of the discussion. For these scale economies which lead to a concentrated industrial structure (through the minimisation of communication costs) also lead to a concentrated geographical structure for exactly the same reason. Distance is the enemy of time. To cross space takes time, direct and indirect. There will be a tendency therefore to concentrate economic activity geographically for the sake of cutting down communication costs.

Take specialisation to begin with. Specialisation leads to sectoral concentration because of indivisibilities. These may be indivisibilities in a machine or in a complex of machines that go to make up a plant. In either case they simultaneously lead to geographical concentration. The early workshops brought under one roof and under one command numerous operations which had been previously decentralised both in control and place. It might be that one machine replaced the work of many handicraft workers doing the same job. Or the multipart work of individual craftsmen might be broken down into specialised activities which were then concentrated in the workshop for the sake of co-ordination. Later, with the development of machinery, this co-ordination was often mechanised, rendering the previously independent machines part of a much larger machine. The indivisibility increased, and with it geographical concentration.

Between specialisation and communication and control economies the line is blurred, for indivisibility is something of a continuous concept. Certainly there are natural indivisibilities – the skilled worker cannot be physically subdivided. We might say that a machine is indivisible, though where it performs more than one process it usually could be subdivided, but it is not because of the savings in communication costs if it is mechanically linked to adjacent parts of the operation. There are also indivisibilities

in objects produced, perhaps most clearly revealed in assembly industries where large constructions are assembled in one place (a dam or factory) even if the final object is itself locationally mobile (a ship).

Many of those processes which we refer to as indivisible are physically divisible but appear indivisible because material and co-ordinational communication costs are minimised when different parts of the process are placed adjacent to each other. Plant size for example is commonly seen as reflecting indivisibility even though technically the items in the plant could be geographically scattered. Yet the economies of proximity are often so striking that they make the composite unit as if it were physically indivisible. This is true both of flow processes of production (think of the architecture of a textile factory where the product flows smoothly from process to process across the top floor, then down, floor by floor) and of bespoke assembly operations where parts may have to be carried between the specialised workshop and the node of assembly a number of times until the part fits.

Thus a good deal of the notion of indivisibility comes down to the second of our principles of scale, communications. We suggested above that a major reason for communications economies being a material basis for industrial concentration was that in certain cases the costs of communicating information might be minimised if they took place within rather than between firms. Some of these cases have locational implications. Much of the effectiveness of co-ordination and control relies on frequent, clear, two-way information flows. Geographical proximity facilitates such flows, particularly where information can be received by eye and communication by mouth. The positioning of the supervisory office at the top of an open plan factory characterises the point in economic organisation as clearly as the shouting range unit size and bright desertion-revealing uniforms in 18th century armies do in military organisation.

Research and development is another area to which the above applies. The scale economies in R & D are partly a question of specialisation of men and equipment, and partly one of ease of communication, the possibility of talking to other specialists, free access to privileged information within the firm and so on. As with organisation, face-to-face contact is particularly important in R & D, and is a major reason for the fact that R & D, like overall administration, tends to be geographically concentrated.

The above advantages of proximity in the flow of goods and information within a firm serve to concentrate the activities of that firm in a given area, a country, region, city, or in the limiting case, a single building, a factory, central office or laboratory. Many of the same advantages apply too, of course, between firms as much as within them. A great deal of the literature on external economies and diseconomies can be reduced to a discussion of the advantages and disadvantages of proximity, to the economies of communication. Location theory emphasises this by referring to economies of agglomeration, distinguishing between internal agglomeration economies, Marshallian external agglomeration economies (external to the firm but internal to the industry) and economies of urban concentration (external to the firm and to the industry). These are based, however, on institutional distinctions, whereas at this point I want to continue to emphasise the material base for geographical concentration.

Thus Marshallian externalities, and the economies of urban concentration all derive from the principles of specialisation and communication. The concentration of jute manufacture in Dundee, of cutlery in Sheffield, of guns or jewellery in Birmingham results from the same causes that concentrate head offices in London. It is a matter of being near specialised (and geographically concentrated) markets, a pool of skilled labour, specialist equipment repairers, local training facilities; in the case of urban concentration of being near banks, transport terminals, centres of mass communication, governments, industrial consultants, and, for the co-ordinators of capital, near theatres, sherry parties, restaurants and arenas: in short of being near the suppliers of inputs and the buyers of outputs, as well as in some cases being near one's competitors for the sake of observation and collusion.

Some of these are relations which are not usually internalised in any one firm, those with governments, the mass media, or indeed the skilled labour market. Others, particularly face to face meetings for the purpose of buying and selling, are specific to inter-firm relations. But many of the external agglomerative factors of location theory are no more than those we have already met with inside the firm, proximity to neighbouring parts of the production process, to maintenance facilities, to the functional departments of a large firm, finance, marketing, or production specialists. Even the inter-firm commercial transactions have some parallels within the large firm, particularly where arms length transfer pricing operates between sub-units of the firm. The difference between these parallel internal and external economies is that in the latter case the additional advantages of scale, communication and insurance from co-ordinating

the independent units under a single authority have not been shown to outweigh the disadvantages of replacing a market system of co-ordination by an administrative one.

Not all economies of proximity are reasons for industrial concentration, just as industrial scale economies do not themselves all lead to geographical concentration. Our argument has been that there is a significant overlap between the two (which we may visualise as the intersection of two sets in a Venn diagram) and that this overlap reflects the same material base. In both the ruling concern is economy of time, and in both the material conditions for time saving lead to concentration. Capitalism, with its discontinuous development of the division of labour and of the instruments of labour, led to the concentration of capital, to the joint stock company, and now to the multinational firm. Simultaneously and as another dimension to these developments, it increased the inequality of the geographical distribution of productive activity. The division of town and country was not initiated by capitalism, but capitalism developed it to its current state. It did this because of its tendency towards locational agglomeration, a tendency based on the search for the economy of time.

II

The above discussion suggests reasons why geographical polarisation takes place. It does not identify where the agglomeration will be located. There will be a number of poles of attraction: sources of raw materials, power supplies, market outlets, transport nodes, or military bases. But the strongest attractions for agglomerative tendencies are agglomerations themselves. There is a continual reinforcement. The existing centres will already be terminals for communications, and enjoy the benefits of scale economies in services, distribution networks, public utilities and specialised business services. They will house a large market with consequent marketing economies. They will offer a wide range of suppliers and customers with an attendant reduction in the costs of face to face contact. For any business already located in the centre there will be economies in expanding near existing plant. New capacity attracted by the economies of agglomeration will serve to increase them. There will be counteracting diseconomies, most noticeably in terms of rent and congestion, but there are likely to be areas within the agglomeration region (within the local transport network or local telephone call range) where the diseconomies

become less significant while the economies of proximity remain discontinuously strong.

Given these agglomeration tendencies, the question then becomes, why should any capitalist activity be located outside the agglomeration? There are six main reasons:

- i. to exploit fixed resources which cannot be moved to the agglomeration, and whose output can be produced and transported to the agglomeration at a lower cost than can be achieved within the agglomeration; this applies to land, raw materials, energy sources, or climatic conditions (heat, clear skies);
- ii. to enjoy fixed resources as a consumer, notably in terms of residence for those from the agglomeration. Such residence may be temporary (tourism), sporadic (week-ending retreats) or permanent (long distance commuters, retirement);
- iii. as a site for activities concerned with inter-agglomeration relations, as a staging post for instance, or a military base;
- iv. to exploit mobile resources which have remained outside the agglomeration for reasons of inadequate information about the economic advantages of agglomeration, traditional attachment to an area, or political restrictions on mobility: capital and labour are the objects of attraction for these reasons;
- v. to supply a consumer demand which is restricted from going to or receiving goods from the agglomeration legally or for reasons of communications costs.
- vi. to productively exploit, realise capital values, or to consume in areas of legal privilege outside the agglomeration, (tax havens, flag havens, pollution havens).

These all constitute counter-tendencies to agglomeration. Their intensity again depends heavily on costs of communication (defined to include political influence on the costs of mobility), though the physical distribution of natural resources is also important. Given, then, the elements whose interplay determines geographical location, are there any generalisations we can make about the two sets of counteracting forces in the development of capitalism? I want to suggest five such points.

First capitalism develops a geographical hierarchy determined principally by the relative agglomeration requirements of the activity concerned. This point has been well developed in location literature, particularly in central place theory. The latter, in Christaller's version, is concerned principally

with the service sector and argues that services are subject to varying degrees of indivisibility. Different services require different sizes of catchment area: for some a town of 150,000, for others a village. Each service has a threshold which allows it to be ranked. On the basis of the ranking, and assuming an even geographical distribution of demand, one can establish a hierarchy of centres, with the upper centres providing the lower ones with services for which economies of scale are important. The principle is ranking according to scale economies. Empirical evidence has confirmed that there is a strong correlation between settlement size and the range of service functions performed, as well as a significant relation between the size of settlement and the size of hinterland.

In terms of manufacturing industry (examined theoretically by Lösch) there is a more flexible hierarchy. There may be no all-functional centre, but rather a series of specialised sub-centres serving each other, as well as smaller centres in the hierarchy. The image is one of a pyramid without its apex. Relating to this, Alexandersson has suggested a distinction between ubiquitous and sporadic industries on the basis of a study of 864 US cities with populations of 10,000 or more. Ubiquitous industries were those present in all the cities and consisted of 20 service and 3 manufacturing industries (construction, printing and publishing, and food processing). The sporadic industries occurred unevenly over the urban system: the most extreme cases such as the motor industry being absent from some towns and dominant in others. In spite of deviations from a strict ordering, a clear hierarchy remains. Again on the basis of US data, Borgue has shown that manufacturing declines in importance the farther one gets from the nearest metropolis. Plant size is also correlated with degrees of dispersion, dispersed industries tending to be those with small plants, or, put another way, those in which plant scale advantages do not outweigh the cost of transport of the goods and materials to and from dispersed locations, (bricks, beverages, newspaper printing, timber, bread-making). This correlation is supported by evidence from the US, the UK and Portugal. Thus a geographical hierarchy is established for manufacturing industry on the basis of scale economy ranking, and this hierarchy closely overlaps the population and service hierarchies for reasons of externalities.⁵

Central place theory and the literature which it has inspired has established the importance of scale factors as a material base for unequal distribution in geographical space. But, as presented above, the model remains static. We would clearly like to know a good deal more about the relations of the levels in the hierarchy and how these change over time.

Capitals at every level will expand; re-investing their profit net of dividends. But such re-investment need not take place at the same level or in the same place. It will be reinvested on profit maximising criteria, so that at each point of re-investment the logic of geographical distribution will be brought into play. Let us take the case of a substantial investment in the periphery. According to the laws governing location, this investment is likely to lead to further investment, from suppliers of market oriented services, from manufacturers of consumption goods for the workers on the operation, goods which we have mentioned above as being commonly produced near the market (bread, drinks, houses, milk).⁸ For any activity there will be in short some minimum requirement of locally produced inputs. Every, activity, large or small, will tend to be a development pole to some degree.

But to what degree? This is the question. Is it not possible for sub-agglomerations to form round a large investment in the periphery, sub-agglomerations which may even develop to challenge the central agglomeration itself? How stable is the ranking in the hierarchy? This is the subject of my second point.

Certainly in the past there have been substantial changes in the hierarchy both within and between countries. In terms of development of peripheral areas, the staple theory of growth (a product mainly of Canadian economic historians) suggests conditions for significant local diversification round an export product. In a successful staple economy, an increase in demand for exports will stimulate local industry through external economies and the multiplier-accelerator process. Income differentials will be relatively narrow and average income large enough to provide a significant market for manufactured goods. On the supply side, an entrepreneurial culture, the existence of skills, and the re-investment of surplus extracted from the export sector will mean that effective domestic demand will not meet a rigidly inelastic supply curve. Perhaps even more important, these supply factors will make it easier for the area to respond to a decline in the economic fortunes of the principle staple. There will be a greater 'capacity to transform', to develop new staples.

A main emphasis in the staple theory is on production functions in the staple products. These will determine relative factor utilisation and the nature of returns to scale. Thus while some products will encourage conditions for local growth, others will not. In the latter backward and forward linkages will be low, total wage payments small and unevenly distributed, there will be low entrepreneurial spin-offs, and the staple owners (from outside the area because of the large capital requirements of the operation) may be reluctant to re-invest the surplus in domestic

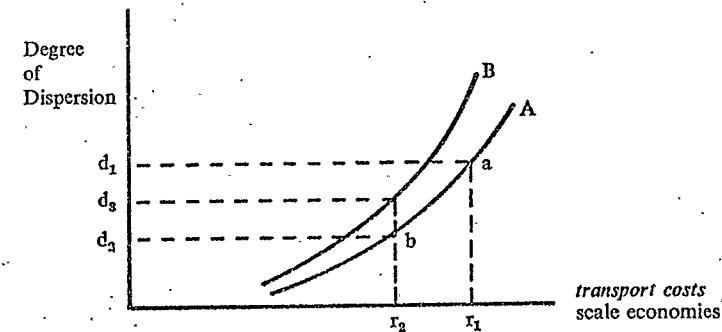
industry.⁷ Even where the export product has a more favourable production function, cultural and political factors may limit the local effects.⁸

Those areas where the staple theory was a theory of growth, were the so-called regions of recent settlement (North America, South Africa, Australasia) areas with favourable man/land ratios and dominated by colonisers without 'inhibiting traditions'. Since then, man/land ratios have risen, export staples have tended to increase their degree of capital intensity, and improved communications networks have served to decrease the locational protection of peripheral areas as far as transport costs are concerned. Each of these factors has meant that the analytical approach of the staple theory is now primarily useful as a theory of peripheral underdevelopment rather than as a theory of growth, as an explanation of continued agglomeration rather than dispersion.

My argument is that technical change in the process of production and communication will raise the potential benefits from scale economy (the production process will become increasingly indivisible with consequences for both corporate and locational concentration) and lower the unit costs of transporting raw materials and final products from and to dispersed locations. The result will be an increase in the relative strength of the agglomerative forces.

Figure 1 illustrates the point. The vertical axis represents a measure of dispersion (for example Sargent Florence's index of localisation coefficients) and the horizontal axis the ratio of transport costs to scale economies. The higher the ratio of transport costs to scale economies, the greater the dispersion as represented by the curve A. A discontinuous

Figure 1



development in the techniques and organisation of communications, for example, would not only lower transport costs for a given quantity of goods transported from a central factory to a dispersed market, it could also increase scale economies by increasing the effectively indivisible range of the production process. The ratio would then fall from r_1 to r_2 , and the degree of dispersion from d_1 to d_2 .

At the same time changes in communications costs may strengthen the counter-tendencies. Relative labour costs would be a case in point. Increased spatial centralisation of industry would shift the location of labour demand. If the labour extruded by the closure of dispersed plants cannot move to the agglomeration, for reasons of lack of housing, custom, or protective barriers raised by organised labour in the agglomeration, then we would expect an increase in the wage differential between dispersed and agglomerated locations – an increase that would be even more marked if full employment in the agglomeration already prevailed. Labour intensive industry would be encouraged to move to dispersed locations, shifting curve A upwards to B. A similar result could be brought about by an increasing congestion in the agglomeration relative to the periphery. Whatever the cause, the counteracting shift of the dispersion curve to B would leave the net effect of the changes as an increase in spatial concentration by d_1d_2 , made up of a concentration effect d_1d_2 , and a dispersion effect d_2d_3 .

I have drawn the B curve in such a way that there is net agglomeration as the result of technical change. I have suggested reasons why we might expect this result, and indeed there is some evidence to support the proposition that it is increasingly difficult to develop rival agglomerations (under the protection of distance) in peripheral areas. But there is one important respect in which peripheral areas may have so marked an advantage over existing agglomerations that it is possible for a rival agglomeration to develop around a previously lower order place. The matter has been at the centre of the debate around the so-called late-comer thesis, and I would like to take it up in terms of my earlier argument about the relationship between communications costs and economies both of scale and of proximity.

In figure 1 improvements in communications resulted in a tendency towards centralisation in part because they led to an increase in scale economies, in the effectively indivisible range of the production process. However, improved communications systems have to be co-ordinated into existing networks, and this co-ordination may be very difficult if the new communications techniques are qualitatively different from the old.

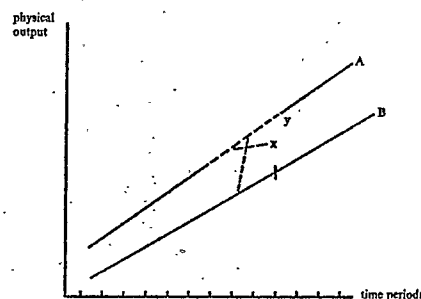
The point is palpably seen in physical transport systems: consider the congestion which may arise when a motorway feeds into single lane roads, or when the flow of vehicles or people into a transport centre is speeded up. But they also affect inter-relations between firms, and production processes, allowing an entirely different principle of production to operate, (flow line production to be substituted for nodal assembly for example). Improvements in communication techniques offer latent time economies: that they should be realised commonly requires the physical relocation of the transport network and the people and fixed capital related by the network. It may also require a radical change in the nature of the work process from the point of view of labour (the replacement of skilled by semi-skilled or unskilled work) in the amount of capital and range of planned co-ordination on the part of the employer (centralisation of the industrial structure), and in the product (standardisation).

It is at least possible that an area of low order in the spatial hierarchy may be able to realise the time economies of the new communication techniques more easily than existing agglomerations. For an existing agglomeration there are indivisibilities in restructuring the complete network. In the absence of long time horizons, (i.e. with relatively high discount rates), the scrapping of the large amount of fixed capital involved in the existing communications network may appear unjustified if large marginal (as against average) profits can be earned from it. There will in addition be opposition from many existing firms, from labour, from amenity and residents groups resisting the threats of relocation, noise, fumes from a new network. With a less integrated industrial and communications structure in a low order place, and with a relatively less powerful labour force, it has been argued that a new network is more easily established. Thus early English motor manufacturers found it difficult to introduce mass production because of the opposition of machinery firms and their employees. British steel plants with cramped, ill-shaped sites, found it difficult to integrate backwards or forward to finishing. The British electrical industry was held back because of the diversity of methods of supply. Landes, explaining the reason for the passage of industrial leadership from Britain to Germany in the late 19th century, put the point like this: 'All of British industry suffered from the legacy of precocious urbanisation; the cities of the early nineteenth century were not built to accommodate the factories of the twentieth.'⁹ More recently it has been Japan who has benefitted from being a late-comer in terms of its internal structure of productive communications.

The point is shown diagrammatically in Figure 2. Here we represent output on the vertical axis and time on the horizontal. There is a scale

curve A which is composed of the outputs at the least cost points of the long run average cost curves of the dominant agglomerations in the system at successive points in time. The curve slopes upwards because of a secular rise in scale economy, but the rise is presumed to take place discontinuously, where the continuous part of the curve represents the grafting of new techniques onto an existing production and communication system. We may exhibit another curve B, which represents output levels where the average cost of production is equal to that at the least cost points of the dominant agglomeration (shown by curve A). Curve B lies below A because production embodying the new techniques is started from scratch, rather than being superimposed on an old base as in the

Figure 2



dominant agglomeration. It will accordingly be open to greater time economies, and not only match the least cost levels of the erstwhile dominant agglomeration at a lower output, but also expand to become the dominant agglomeration at a higher level of output than is represented by the optimum level of output of the previously dominant agglomeration. The dotted lines represent the expansion paths of a dominant (x) and a subordinate (y) centre.

The existence of a B curve below A suggests that there is a possibility for peripheral areas to rise in the hierarchy. At the same time, the fact that I have shown both curves sloping upwards implies that it will require an increasingly large big push/minimum effort/great leap forward for a peripheral area to be in the position to realise its potential advantages as a green field site. To match the agglomeration economies of the advanced capitalist areas (North America, Western Europe, and now Japan)

would require now not so much infant industry protection, but infant economy protection on a continental scale. In other words, the minimum size for the home market sufficient to support the development of an industrial base capable of challenging the existing dominant agglomerations becomes increasingly large and inaccessible. The hierarchical rankings in that sense become more stable.

Recent work by the Spanish geographer, Lasuen, supports this proposition. On the basis of comparisons of the rank ordering of cities within Venezuela, Spain and the USA he suggests that for a city to change its ranking becomes increasingly difficult as development proceeds. 'Nowadays, the polarisations over topological sectoral space seem to distribute themselves over the urban structure so as to permit a stable pattern of growth of the system of cities. The relative rise and decline of cities as a consequence of the localisation of the successive transformations in the system of industries is becoming a minor issue, at the national level, in most countries.' He has found a similar stability internationally; 'countries have grown in a tight pack, keeping their relative positions: the rich have got relatively richer; the poor relatively poorer, but yesterday's rich and poor are still today the same countries.'¹⁰

The burden of my second point has been that there are narrowing limits to the possibility of developing an independent growth pole in the periphery. An export staple will generate additional local activity (the national and regional industries of Tinbergen's formulation¹¹) but the whole economy will tend to remain highly dependent on the original export. This does not mean that accumulation will not take place: merely that the accumulation will be other-sustained rather than self-sustained, if indeed it is sustained at all.

What chances are there that the agglomeration will sustain accumulation in the periphery? Let me put the point, my third in this part of the argument, in this way. Capitalism tends to centralise geographically, and this tendency is intensified by developments in productive techniques, particularly in the field of communications. At the same time the changes in techniques will mitigate the effects of the centralising tendency on the periphery in two respects. First, as we noted in discussing Figure 1, some productive processes may be decentralised to the periphery as the result of congestion costs in the agglomeration, as well as cheaper communications connecting the periphery to the agglomeration. These productive processes can be expected to have a relatively low 'agglomeration intensity' (including relatively low transport costs per unit) and/or a relatively high labour intensity.¹²

Secondly, improvements in communication will effectively widen the geographical area of the agglomeration itself. If, from an economic point of view, distance can be transformed into time, then techniques which save time in communications, will effectively cut distance, or, alternatively, a given geographical range defined in terms of time will, after an improvement in communications, now cover a wider area. Within this area there may be a hierarchical structure, just as there is in any city or town, for there will still be differences in the costs of communicating between places within the area. But the precise location within the agglomeration will matter less relative to other determinants of economic activity, just as it matters less, to take a limiting analogy, where any person is placed in a factory flow line production process. The extension of the geographical range of agglomerations is one of the factors behind the observed tendencies for regional income differentials to narrow in advanced capitalist countries, even though as a consequence of the same material changes, the gap between the central agglomerations and the peripheral areas is widening on a world scale. The overall effect, however, is to gradually incorporate some lower order places into the dominant agglomeration itself.¹³

The progressive extension of the range of agglomeration is an aspect of a fourth characteristic of geographical relations under capitalism: the tendency towards integration. I have previously treated the international economy as if it were meaningful to talk about it as a single system. But this is problematic. Distance separates, and where communications costs between areas are high and made higher by political autarchy, some regions may be only marginally affected by the dictates of the law of value originating from capitalist areas of the world economy. It adds little, in short, to see these isolated areas as part of a single world economy rather than as systems in themselves. The point would apply to many areas of the world during the early period of capitalist development in Western Europe.¹⁴

Yet capital is ever extending its rule into areas of lower labour productivity. It may be a question of the incorporation of pre-capitalist areas. Or it may be one of increasing interdependence between capitalist areas, an increase in the division of labour between them, so that it becomes less and less adequate to consider any one area in isolation.

There are two ways in which we can trace this tendency to interdependence. The first lays stress on those developments which reduce the friction of distance: the standardisation of articles which have to be moved or do the moving (currency, traffic systems, language, industrial standards, professional qualifications), the harmonisation of laws (patents and

company laws, taxation systems, including double taxation agreements, labour codes), other improvements in means of communication (railways, steamships, telegraph, containerisation, STD telephones), and the reduction of political discriminations. These developments allow a more rigorous application of the discipline of the market, of the law of value. High cost producers are thrown out of business and their markets served by the more 'efficient'; in this way the consequences of new techniques are more rapidly diffused over the area, as are new products. Improving the average productivity of labour, integration in this sense may be seen as progressive. At the same time, for the dispossessed, the unemployed, the deskilled, the rule of value will seem anything but progressive. There is a development of underdevelopment. Machines, like Luddism, will always have a double meaning. So, too, will integration.

The second aspect of integration is the extension of planned co-ordination, the replacement of market relations by administrative relations in the economy. First and foremost this takes place through the increase in the size of firms and the geographical range of their activities. It reflects an increase in sectoral and geographical indivisibility. But this increase will have, too, as a concomitant, an extension in the territorial range of states, of the planned co-ordination of collective economic functions.¹⁵

In any capitalist economy there are certain activities which we find being performed collectively:

- a. the enforcement of property rights;
- b. the initiation and administration of means to reduce geographical friction - standardisation, harmonisation, channels of communication;
- c. the maintenance of the competitive availability of general inputs: land, labour, capital, energy, information, and some intermediate inputs such as steel;
- d. the orchestration of general economic activity, including monetary policy, cyclical management, and the restructuring of the economy;
- e. the attempt to maintain social consensus;
- f. the organisation of the economy's relations with other economies, including measures of aggression and defense, as well as technical management of the exchanges.

These activities will vary in significance according to the degree of development, the stage in the cycle, the intensity of international competition and so on. They may be performed by a variety of institutions on behalf of the collective: but they are commonly performed by states.

Now my point is this. When capitals extend (or wish to extend) their geographical range beyond the territorial confines of their domestic state, there will be a simultaneous pressure to extend the geographical range over which the above collective functions will be performed. It may be possible for the extended capitals to perform some of them on their own account (as with the provision of infrastructure or the preservation of property rights in some underdeveloped countries). Their domestic state may extend its territorial range in order to be able to perform them (as was the case with colonialism). Other states may perform them, either under the pressure/guidance and with the financial help of the extended capital's domestic state (this is one way of looking at neo-colonialism), or of their own accord (the British government does not curb the access of US subsidiaries in Britain to the domestic communications system, the labour reservoir, or the preferential markets in the Sterling area.) Some of the activities can be performed by states in co-operation – monetary arrangements, tariff reduction, investment or double taxation agreements. Still others have historically come to depend on the unification of separate states (in particular the establishment of a large, co-ordinated and protected home market, and support for domestic capitals against discrimination in other parts of the world). In a variety of fields, therefore, the geographical extension of the area directly administered by private capitals will lead to an extension of the area administered by collective institutions, particularly states.¹⁶

What is the significance of the extension? First there is a political significance, a significance for the power relations in the system. This is a point to which we will return in a moment. But quite apart from that there is also a productive significance. Firms and states, in reducing the frictions of distance within their areas of co-ordination, will sharpen the discontinuity between the administered space, and those areas to which they relate via the market. There will be a dualism, exhibited in the differential ease of the flow of goods, capital, labour and information in the firm's internal as against external relations, and this dualism will be evident in geographical as well as sectoral space. Inputs which might have been purchased from a nearer place *x* in a system of smaller capitals related by the market may, under a system of large, administered capitals be obtained from a farther place *y* – which as the result of the communications differential, will be a lower cost source for the firm concerned. Where the large firm's main area of activity, experience and information is in the metropolis, spillover and linkage effects of subsidiary activities in the periphery are likely for this reason to be limited. Such a limitation stands

over and above the limitations resulting from the market laws governing location which we discussed above – laws that the relatively lower cost of communications within a geographically extended firm may be expected to have imposed more stringently in any case. There will be similar discontinuities between states.¹⁷

Up to now the emphasis of the discussion has been on time economy as the determinant of geographical distribution. I would like at this point to introduce institutional influences as they relate to the power relations in the system. These influences will reflect the antagonistic forces we have identified in the economic sphere. Capitalism is, by its very nature, a system founded on antagonisms: between labour and capital, at times between labourers, and consistently, between capitals both individually and collectively. Under the last of these I would include rivalry between states.

Let us concentrate for the moment on the struggle between individual capitals. Each capital will seek to secure a greater part of overall surplus value at the expense of rival firms. They will do so via the exercise of some form of monopoly power. To this end they may collude with other selected firms, and/or with discriminating political authorities. The struggle may take place within an industry or between industries, that is it may be sectoral. But it can also be geographical. A group of firms in one area may collude against firms in another area, again either on their own in the form of restrictive business practices, or via their domestic state.

The outcome of the struggle over the distribution of surplus value between capitals will depend on relative monopoly powers. Although there is no one to one correlation between geographical hierarchy and monopoly power – defined in terms of the power of individual capitals, and the power of states – there are reasons for expecting a strong relationship to hold between the two.

Monopoly power has a number of alternative bases: control over naturally fixed resources; control over market outlets; product differentiation; control over process or product technology; organisational and operational skill; spatial monopoly; and preferential political treatment. All these powers will be subject to erosion. Monopolists are also competitors. The conditions for the realisation of monopoly profits must therefore be constantly reproduced.

Peripheral areas are at a disadvantage in reproducing these conditions, particularly those dependent on technology. The production of new technology, we have suggested, is subject to the economies of proximity found in central agglomerations. This is as true of the technology of organising and operating (consider the geographical location of business

schools for instance), as it is of the development of new processes and products. The same holds for the market oriented bases of monopoly power, control over market outlets, and product differentiation. In as much as the main markets are centred in the agglomeration, and in as much as both these types of power require on the spot reproduction, then clearly agglomerations will be the favoured sites for such powers for the space taken as a whole.

It is, of course, possible for capitals to be mobile in order to take advantage of these geographically specific conditions. Certainly quantities of capital have moved, historically, from the periphery to the centre, but they have tended to move in the form of financial capital (via the money market), rather than in the form of direct investment. One reason has been that new investment in the concentrated industries of the centre faces sizeable entry barriers; it requires an existing base of know-how, plus organisational and operational ability, quite apart from capital. These are all factors in which the periphery is at a relative disadvantage. Even if these barriers could be overcome, there might also be a political obstacle, the protection by the resident state authority of the right to benefit from the economies of the agglomeration.

The willingness to introduce protection will depend in part on likely retaliation, on relative power. Again it would be mistaken to assume a direct correspondence between the economic strength of an area and its political power. We might expect the periphery to be economically more dependent on the centre than the centre is on the periphery, but in an increasingly integrated system relative dependence can fluctuate over time. Economic strength might also allow the production and purchase of more advanced military equipment by the centre, yet in military conflicts the advanced nature of equipment is only one factor which may be outweighed by others in which the periphery has an advantage (consider the rival systems of communication in a guerrilla war). In spite of these caveats, there clearly is a positive relation between political (including military) strength and economic activity, and in as much as economic activity is concentrated in agglomerations, so, too, will be some aspects of political power.

My argument has been that there is a strong relationship between privilege in the economic hierarchy, and access to the sources of reproduction of monopoly power. This power is used for two purposes; first to gain control over the greatest possible amount of surplus value; secondly to re-invest that surplus value according to the locational preferences of the possessor of power. If the holders of power are the agglomeration-based capitals, and if their preference for the location of new activity in

the agglomeration means that funds generated in the periphery exceed their investment requirements in the periphery, then we would expect politico-economic power to be used to centralise a portion of the capital accumulated in the periphery to the metropolis.

It may be that there is no opposition from the economic groups of the periphery to such a pattern of location of new activity. Commonly we find classes in the periphery who favour the incorporation of their local economy into the hierarchical system, albeit it in an underprivileged role. In some cases it is a question of a pre-capitalist ruling class who are able to reinforce their dominant position by virtue of their share of rent accruing from locally based though metropolitan oriented activities. In others, it is a question of so-called comprador capital, local merchants concerned with the import-export trade for example. A parallel interest is represented in peripheral manufacturing capital linked into locally operating metropolitan capital, via joint ventures for example, and whose share of the surplus value represents a rent on nationality, political connections, and privileged access to some types of economic information. Some authors have argued that there is, too, an aristocracy of peripheral labour, receiving high wages from metropolitan capital operating in the periphery, whose interests lie in the uninterrupted relations of the periphery and the centre.¹⁸

At the same time, the experience of peripheral areas as part of a hierarchical capitalist system, has led, historically, to organised resistance to the role assigned to the periphery in the geographical division of labour. Part of the resistance has come from what is sometimes called the national bourgeoisie – (though in many cases it would be more apt to term them 'would-be national bourgeoisie'), controllers of capital in the periphery who see profitable local opportunities being seized by metropolitan capital.

Another focus of opposition has been among those dispossessed by the operation of capitalist development on the peripheral area: handicraft workmen, or small manufacturers undercut by the product of mechanised production; peasants extruded from the land, via the introduction of capital intensive methods of agriculture. Those so dispossessed may find work as proletarians (i.e. as labour without access to their own means of subsistence or means of production), but others are left unemployed particularly where the labour reducing effects of technological change (in this case mainly the result of imported technology) are not counteracted by the re-investment of the surplus value generated via the implementation of the advanced technology. That capital is in general more mobile towards the centre than is surplus labour from the periphery (for political,

cultural, and informational reasons) is the main basis for the uneven distribution of unemployment in geographical space.

The relative strengths of these two groupings (as well as the significance of the rentier elements in favour of a large 'take' from the existing inter-relationships with the centre) will determine the character of the oppositional movement, and the extent to which it wishes to alter the relationship of the area in question to the central metropolis. Yet whether it is the first group which dominates the opposition (as in Bangla Desh, Eire, or the Andean Pact) or the second (as in Vietnam, ex-French Guinea, or Cuba), both present a challenge to the allocative logic of the centre, and both will be met by attempts by the firms and governments of the centre to re-impose this logic throughout the area.

Earlier in this paper we suggested that, stemming from time economy, there was a tendency towards concentration in capitalism, both among firms and geographically. But there are also simultaneous forces for deconcentration, again with both sectoral and geographical aspects. Economics has given rather less theoretical attention to the political economy of separatism than it has to that of geographical integration, but the former is important, particularly if we could derive more specific laws for the fluctuations which tend to occur in the politico-economic relations of the periphery with the centre.

Let me now summarise my argument up to this point. I have suggested the following:

- i. the geographical distribution of economic activity is governed by laws specific to the capitalist mode of production.
- ii. these laws, based on the economy of time and timing, tend constantly to centralise the location of production, to gather together productive activities into agglomerations.
- iii. set against this are countertendencies, grounded in the fixed location of resources, and/or in the costs of communication to and from the centre which are so large as to outweigh the advantages of agglomeration.
- iv. the interplay of these forces results in a locational hierarchy of economic activity, in which each intermediate level both dominates and is dominated.
- v. with the development of capitalism the rankings in this hierarchy become increasingly stable: it is more and more difficult for any subordinate area to develop self-sustained growth, or to supplant a dominant agglomeration by virtue of being a 'latecomer'.

- vi. agglomerations themselves expand over a wider area, diminishing the significance of distance within that area.
- vii. capitalism progressively incorporates precapitalist areas and imposes its laws - hence the observation of the development of underdevelopment. It similarly increases the integration of capitalist areas, eroding any one area's insulation to the locational logic of the system as a whole.
- viii. one aspect of integration is the increase in the geographical range of indivisibility, and this in turn is reflected in an extension of the area co-ordinated directly by single institutions (firms and states) in contrast to co-ordination via the market.
- ix. there is a correlation between the position in the geographical hierarchy and power, both the monopoly power of firms, and the political power of states.
- x. this power is used to reinforce the uneven geographical distribution of economic activity as determined by the market.
- xi. the constantly reproduced contradiction between the expansion of the productive potential of the system and the social, sectoral, and locational distribution of the product, leads to opposition to the locational distribution of activity as determined by the market and reinforced by the monopoly and political power of the dominant centres.
- xii. opposition among ruling classes in subordinate areas will always be ambiguous, for while they may be dominated geographically they are dominant within their areas. A dominated position geographically, may yet yield more by virtue of stronger domination socially, than a more independent geographical position.

These points constitute an outline of an approach. Even in this summary state, it is an approach which suggests explanations for a number of the points raised in the introduction to this paper: why underdevelopment (or more properly uneven development) is a necessary aspect of a capitalist mode of production - in contrast to the non-development of areas unintegrated into a capitalist system; how the locational distribution of economic activity is likely to change over time; ways in which relationships within social hierarchies are affected by relations with other social hierarchies within an overall geographical hierarchy, and so on.

An approach of this sort, however brief, is I think necessary for an adequate discussion of the subject matter of this paper, for only then can we move on to the more specific questions: what significance do institutions (firms and states) have on the geographical distribution of economic

activity under capitalism; and, following on from there, is it possible, via public policy intervention, to significantly lessen geographical inequality and/or ameliorate its effects? It is with these questions, discussed against the background of the more general approach, that the remainder of this paper will be concerned.

III

In this section I want to argue that the international firm as an institution is significant first and foremost as a bearer of market forces. Its significance derives from its character as a competitive mass of capital operating on the world market and subject to the laws discussed in the first section of this paper. The laws realise themselves through the medium of organised capital. They cannot be derived from the firms studied separately as institutions.

In saying this I am aware that I am going against the burden of much of the recent literature on international firms. But it seems to me that in reacting against the lack of structural and institutional concern in traditional international economic theory, some writers have gone too far in lodging the laws with which they are concerned in firms as institutions. Let me illustrate my point, I hope fairly, from one of the most thorough and interesting writers on the international firm, Norman Girvan. Girvan's work has been principally concerned with the relationship between mineral export industries and underdeveloped host economies. This is how he summarises one of the theses derived from his empirical work: 'the functioning of (mineral export) industries in the national economies in which they are physically located can be better understood by an analysis of their functioning in the *corporate* economies of which they are an organic part. Such problems as their dependence on foreign demand, prices and decision-making; the large amount of profit repatriation and its reflection, the low share of the industry's value is 'returned' to the national economy; and the lack of integration of the industry with the national economy: are the surface manifestations of the institutionalised relationships between subsidiaries and their parent firms.'¹⁹

As far as this goes it is undoubtedly true. It points up the limitations of the traditional utilitarian concern with the individual country. But at the same time these 'problems' are the surface manifestations less of the institutionalised relationships between subsidiaries and their parents, than of the laws governing location in a capitalist economy, regardless of the size and geographical range of the corporate capitals that make up that economy. In the next section I shall argue that international firms, considered as institutions, are important for a full understanding of

location in the world economy. But I think it is misleading to start from the firms rather than the system, for it makes it more difficult to establish the boundaries to the significance of the international firm or to the degree to which its activities are subject to political determination.

What I think is true is that the laws governing location can be more clearly seen when they are mediated directly through the planned operations of a single firm, rather than through the actions of a number of smaller firms connected by the exchange relations of the market. The laws become more transparent, more exposed, and this is significant.

Let me give some body to this point, and at the same time some specificity to the propositions of the previous section, by looking at three types of activity in which international firms have been prevalent in underdeveloped countries: raw material extraction, import substituting manufacture, and the so-called 'runaway industries'. I will take them in turn.

In general we may expect production to take place in an underdeveloped country under the following conditions:

$$I_{udc} + T_c < I_{dc} + T_m - A \quad (1)$$

where I_{udc} and I_{dc} represent material inputs, energy, labour and capital for the underdeveloped and the developed areas respectively, where T_m and T_c are the transport costs on the primary materials and the final commodity between the two areas, and where A represents those net agglomeration economies not included under the input items.

In oil and mineral extraction, capital costs are likely to be higher in the underdeveloped area than in the developed, either because of higher interest rates on local debt capital, or because greater risk premiums are attached to imported capital. Labour costs too may be equal if not higher in the underdeveloped areas in capital intensive methods of extraction because of the number of expatriates requiring wage and salary premiums over the rates normal in the developed countries. If we assume for the moment that the raw material is the final commodity, T_m drops out so that production will take place in the underdeveloped area in the case where the underdeveloped countries' raw material extraction costs (including energy) plus the transport costs of the raw material to the developed area is less than the developed countries' raw material extraction costs less net agglomeration economies.

In raw material extraction the important net agglomeration economies are commonly found in the provision of basic social and economic infrastructure, including transport, power, housing, health and education. In underdeveloped areas these may all be absent at the point of the deposit. Some of them will fall to the firm to provide, but commonly

much of the expense of providing the social overhead capital is born by the local government with loans from aid agencies and even from the extracting firms themselves. In recent raw material experience in Africa, I have come across few cases where a project has not gone forward for reasons of the cost of social overhead capital. Rather, in cases where otherwise raw material costs (udc) plus transport costs (to the dc) are less than raw material costs (dc) and would therefore suggest location in underdeveloped areas, the critical counteracting variable is the risk element in the cost of capital.

When it comes to the processing of raw materials we must reintroduce T_m . For only if T_m significantly exceeds T_c (the cost of shipping the raw material in an unprocessed form significantly exceeds the cost of shipping the processed commodity — taking account of tariffs and export taxes) will there be a counteraction to the tendency for the net agglomeration economies to rise at the processing stage, and for the difference between $I_{u,dc}$ and I_{dc} to fall. In the extraction stage there is no question of expanding existing plant in the developed area to mine materials in the underdeveloped area. Materials are fixed. The mine has come to the mountain. Once the material has been extracted, it is free to move. The difference between the marginal cost of expanding an existing processing plant in a developed area and the marginal cost of establishing a 'green-field' processing plant in the underdeveloped area (a net internal economy expressed by a rise in the agglomeration term) may outweigh the difference between T_m and T_c .

An interesting example of this occurred with Aluminium Limited's subsidiary in Guinea. Initially it had agreed in 1956 to produce 1.5m. tons of bauxite from the deposits at Boké, as well as 250,000 tons of alumina (the latter to start production by 1961). By 1957 the company lowered the alumina figure to 220,000 tons (which would have used only half the bauxite output) and in 1958 agreed with the Guinean government that this processing would not start until 1964. In February 1962 the company's Guinean operations were nationalised without compensation because of its refusal to keep to the 1964 contract date. Part of the reason for the company's willingness to write off its sunk cost of \$23m (and rights to future profits) in Guinea was the escalation in the estimated cost of the processing complex (from \$100m initially to \$175m in 1961). But the major reason lay in Canada. AL already had an alumina production capacity of 1,250,00 tons p.a. sited in Canada which was quite sufficient to supply its new Kitimat aluminium smelter also in Canada. Further, surplus western aluminium capacity had developed in the late '50s, particularly in Canada, and the Kitimat smelter had to cut back produc-

tion. Lastly, according to the company, AL were testing the economic viability of the new Gross process which enabled bauxite to be transformed directly into aluminium without the intervening production of alumina. Here then is a clear case of a company's internal cost structure derived from its existing pattern of international industrial location determining the location of the first stage of the processing of bauxite.

Another type of external economy affecting processing location has been discussed, again in relation to alumina plant locations, by Huggins in his study of Caribbean bauxite production. Huggins quoted an unpublished study by P. M. Stern which calculated comparative variable costs for hypothetical alumina plants in Jamaica and at a port in the US on the Gulf of Mexico, both using Jamaican bauxite and both delivering alumina to the US. From Stern's data our expression (1) stands as follows; (figures in dollars per ton):

$$30.53 + 9.38 < 32.71 + 13.75 - A \quad (2)$$

Yet the companies did not locate their plants in Jamaica, even when the US removed its \$5 import duty per short ton of alumina thus lowering the T_c term in the expression to 4.38. Huggins examines some possible explanations: differences in fixed costs, strategic reasons, taxation and fears of nationalism, but finds none of them significant in this case. Rather he suggests that a major part in the decision was determined by the fact that 'an alumina plant in the United States would be part of a complex of other industries in a way that such a plant in the Caribbean would not'. In particular, caustic soda is an important input in the alumina production process. Not only might there exist excess caustic soda capacity in the developed area (as there was in the US in the early '50s), but any alumina producer building a caustic soda plant as part of the alumina complex (as Kaiser did at Gramercy in Louisiana in 1958) would seek to sell caustic soda output for uses other than its own alumina processing in a way which would be more profitable in the developed as against the underdeveloped area.²⁰

These examples from the bauxite industry show how net agglomeration economies arise both from lower marginal costs of expanding processing capacity (internal economies) and from complementarities on the input and output sides of processing (external economies). Similar considerations apply in other mineral industries (the fabricating of Zambian copper for example), in oil (the history of the location of oil refineries) and in plantation crops such as coffee.²¹ Once freed from the fixed resource, agglomeration factors work against the further processing of that resource in the periphery.

The above relates to forward linkage effects, and is one aspect of the question of whether or not growth is liable to be generated around a staple export in the periphery, I would like now to take this point further by considering the local multiplier effects of staple investment, to what extent the value of a staple export is retained or 'returns' to the periphery, and whether such retained value is likely to lead to growth.

Again the bauxite industry in Guinea provides an interesting starting point, though this time I want to take the case of the country's other complex at Fria. This complex consists of both bauxite and alumina operations, and is operated by an international consortium initiated and managed by Pechiney-Ugine, and including Olin Mathieson (a US firm with the majority interest), the Swiss AIAG, British Aluminium, and later the German firm VAW. The capital expenditure on the project totalled \$135m, two-fifths of which was contributed by the companies concerned, 45% being raised on the French and American money markets, and the rest being funded by a long term loan from the French Government (who also contributed a further \$42.7m in the form of financing port extensions and via a loan from the state bank CCFOM). Figure 3 represents diagrammatically the sources of cash funds, and the destination of cash payments during the construction period. It is the latter with which we are particularly concerned, and fortunately we have calculations of these payments made by Samir Amin. He found that of the total capital expenditure, only 12% was retained in the Guinean economy (3% from local expenditures by expatriate workers, 5% from local expenditures by Guinean workers, and 4% in tax). There were virtually no domestic inputs other than labour. In the operating period (whose cash flows are shown diagrammatically in Figure 4) revenue from the sale of 400,000 tons of alumina totalled 6.8m francs CFA (about two-thirds of the annual resource availability during the construction period). Of this, value retained in Guinea was 25%, 4% being expenditures on primary goods and services (local expenditures being 12% of all such expenditures), 6% local labour cash flows (40% of the total wage bill), and 14% tax. If we excluded taxes, the proportions spent in Guinea during the construction and operating periods would drop to 8% and 11% respectively.²²

More formally we may define retained value as:

$$R = (W - w_e - w_m) + (L_p - L_m) + (T_a - T_m) \quad (3)$$

where W is wages, w_e the portion of wages expatriated as savings, w_m the portion of wages spent on imports, L_p the expenditure on local non-factor inputs, L_m the import content of L_p , T_a taxes of all kinds (including import and export duties, surtax, but excluding taxes on wage earners),

Figure 3. Cash flow capital construction (showing direct leakages abroad)

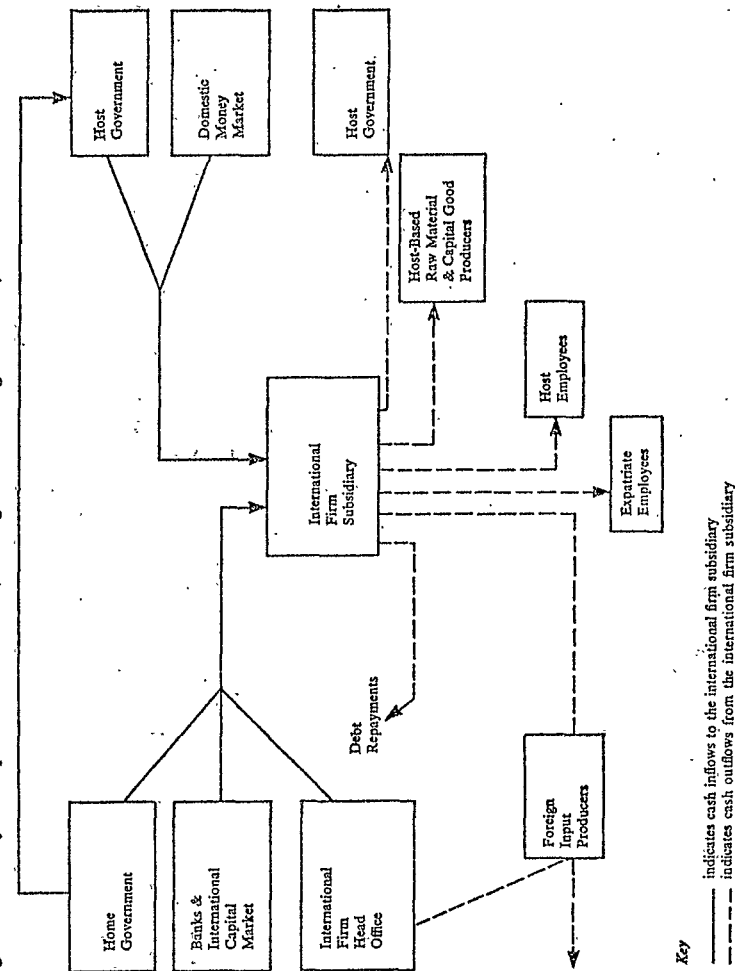
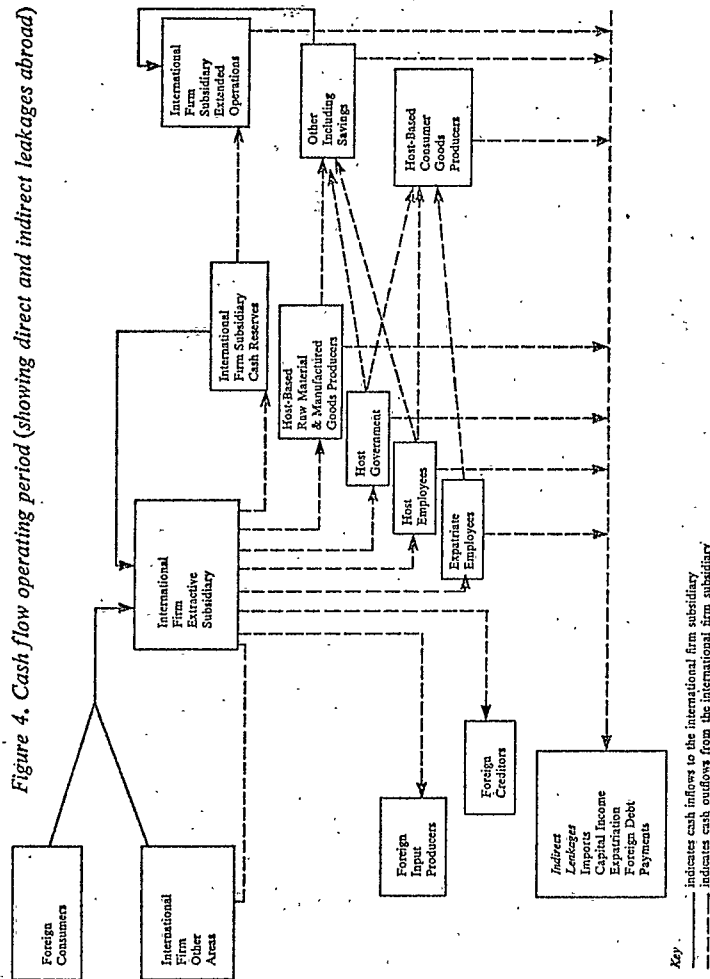


Figure 4. Cash flow operating period (showing direct and indirect leakages abroad)



and T_m the proportion of taxes spend on imports, or expatriated. In Guinea during the construction period, expression (3) looked like this:

$$R = (2.3 - 0.5 - 1.0) + 0 + 0.4 = 1.2 \quad (3a)$$

and during the operating period like this:

$$R = (1.0 - 0 - 0.63) + 0.3 + 1.0 = 1.67 \quad (3b)$$

These are annual figures measured in milliard francs CFA, (3a) assumes $L_m = 0$ and $T_m = 0$ and (3b) assumes $w_e = 0$, $L_m = 0$ and $T_m = 0$.

Recently there have been a number of studies which aim to measure retained value for other raw material economies. Particularly striking are those contained in the recent volume edited by Mikesell. Summarising these studies Mikesell writes: 'For most of the petroleum and mineral export industries studied, retained value or net foreign exchange contribution has ranged from 60-70% of the export value of the product in recent years.'²³ Why are these figures so much higher than those for Guinea?

Part of the difference lies in the definition of retained value. A number of the Mikesell studies use the following:

$$R = (W - w_e) + L_p + T_a + T_r \quad (4)$$

Where the terms are as in (3), with T_r representing other transfers (e.g. charitable contributions).

The principal distinction between (3) and (4) is that the latter does not subtract the imports by wage earners, nor those by producers of local goods, nor those by governments out of taxes. There are grounds for this omission: receipts by wage earners in the mining sector, for example, can be said to increase welfare. But given that wage earners are usually so small a proportion of the population, and given that we are interested in the way in which the export staple affects the rest of the economy, the failure to take account of import propensities seems to me misleading.

Moreover, the import propensity of wage earners can make a significant difference. In the Guinean case if we had followed the Mikesell formula for wages, the retained value proportions would have risen from 12% and 25% to 22% and 34% respectively. Or let us take Mamalakis's discussion of Chilean copper. He uses a formula:

$$A_o^n = L + T + I + M \quad (5)$$

which he says is identical to (4) above. A_o^n stands for net resource availability, L is legal costs of production, mainly wages and salaries, T is direct taxes, I stands for investment, and M for miscellaneous expenditures.

Here is his calculation for 1959:

$$A_c^a = 80.6 + 85.5 + 39.1 + 5.5 = 210.7 \quad (5a)$$

measured in millions of dollars at current prices. This represents 67% of the value of production, or 54% if we exclude new investment. If we now assume that 50% of the legal costs of production are spent on imports (a reasonable figure for the import propensity of wage and salary earners from countries with a more expanded domestic production base than Guinea), the retained value figure (or net resource availability effect) falls to 54% of the value of production or 42% excluding new investment.²⁴ In other studies domestic wage payments were a significant portion of retained value (16% for oil in Venezuela, 16% in Iranian oil, 25% in Venezuelan iron ore, as against the 18% and 15% in the two phases of Guinean production) and the wage earners' propensity to consume imports may therefore be assumed to make a significant difference to the impact of the export sector on the rest of the economy²⁵. The Saudi Arabian study also suggests that adjustments of figures for purchases of local non-factor inputs should be made on the same argument. Local material purchases of Aramco in Saudi Arabia were 6% of the total retained value, but this contained 'a large import content'.²⁶

A further reason for the difference between the Guinean figures and those others we have mentioned, could be the relatively more advanced stage of industrialisation of Chile, Venezuela, and even Iran, reflected in their ability to supply a greater portion of inputs locally. But in fact the extent of backward linkages has been very restricted. Local purchases of goods and raw materials account for 2% (at the most) of retained value in Iran, 9% in Venezuelan iron ore and in oil, and only in Chile do they rise to over 20%. Further, local purchases are a small proportion of total purchases in most of these cases. In Iran the figure was 11.2% for local purchases by the oil industry for the period 1962-6. In Saudi Arabia we noted it was 6%, for bauxite in the Caribbean it has been estimated at 14%. In Venezuela the proportion started low (16% in 1948) and then rose to 29% in 1958, and to 57% in 1963. However, much of material purchased in Venezuela was produced abroad, and if we recalculate the figures in order to find the proportion of total purchases produced in Venezuela, we get respective historical figures of 9%, 15% and 37%. In Chile the figure has also risen from 31% in 1956 to 56% in 1964, in part as a result of the 'buy national' policy.²⁷

The major difference between the Guinean figures and the rest lies, however, with the proportion of the value of the product going to the state. In Chile, taxes paid by the large copper mines rose from 5% of the

value of production in 1930 to 27% in 1959. In Venezuelan iron ore tax payments constituted 40% of the value of output. In the oil producing areas the figures are even greater though precision is difficult because of the problem of valuing the oil output. An estimate for Saudi Arabia gives a figure of 49%.²⁸

Yet the extent to which these tax receipts return to the economy is problematic. In some areas these receipts may be used to finance the luxury consumption or the expatriated saving of the class in control of the government. In Saudi Arabia, for example, the government income was considered to be the personal income of the king. Wells writes: 'income was disbursed, either directly or indirectly, to a relatively small number of families. Given the unequal income distribution and the complete freedom of financial capital, a considerable proportion of these revenues was exported. Much of the remainder was used to meet the consumption demands of a relatively small proportion of the population'.²⁹ The situation is similar to Levin's ruling class importing luxuries.³⁰

Alternatively, the revenues may be used to strengthen the position of the ruling class within its own society. Meillassoux has shown the important link between external trade and the maintenance of the internal class structure in pre-capitalist economies. He has shown that trade must be seen not so much as a horizontal relationship between independent producers, but as one between two power structures.³¹ A similar perspective is needed for analysing the relations between underdeveloped and developed countries. Thus in the case under discussion, the tax 'take' of the

Table 1

	Oil revenues as % of government revenue	Defence and Security Expenditure as % of government revenues
Libya 1968/9		
(a) as given	78	32
(b) as corrected for 80 m. of oil revenue not included in budget	82	45
Kuwait 1967/8	85	31
Saudi Arabia 1968	87	40
Iran 1969	51	33
Iraq 1967/8	56	38

Source: Robert Mabro, *Oil and Underdevelopment*, mimeo.

government may be used to finance arms expenditures both for the sake of internal repression, or for local external military purposes whose rationale may be linked in part to the maintenance of the existing power structure within the country concerned. Table 1 gives figures of defence and security expenditure for oil exporting countries.

Both local luxury consumption (including the employment of retinues) and defence and security expenditures are likely to have local effects, particularly in regard to employment in the non-productive sector of the economy. But the impact on growth round the staple is likely to be restricted, and a considerable portion of both types of expenditure is likely to go on imports.

My point has been that wherever we follow the dynamic effects of the staple product, we will find the logic of location imposing itself. I have suggested that considerations of the import content of wage payments, local purchases, and tax payments will all reduce the value 'retained' in the staple economy. Neglect of these second round 'leakages' will lead to an overstatement of the local impact of the staple. If we followed through the local expenditures, we would find the same logic imposing itself on the third round of expenditures, since local manufacturing industry is often heavily controlled by foreign firms operating final touch processes. In an interesting study of the Nigerian economy, Edozien calculated linkage effects in twenty sectors and found that in those nine which stood comparison with the Chenery-Watanabe calculations for USA, Italy and Japan, both backward and forward linkages were with few exceptions lower in Nigeria than in the developed country sample. What is interesting from the point of view of the present argument is that where local linkages do occur, they mostly accrue (in the manufacturing sector at least) to foreign-owned or foreign-managed firms.

In the manufacturing sector, Nigerian private capital accounts for only 10% of the paid-up capital. Of a sample of 185 manufacturing establishments, only 22 were fully owned by private Nigerian capital, as against 18 fully owned by the Nigerian government, and 89 fully owned by foreign capital. The rest were joint ventures, commonly with foreign capital dominating. If we look down a table of paid-up capital by sector, we find that most of the sectors with significant linkages in manufacturing are dominated by foreign capital. As Edozien comments, 'quite apart from the incipient nature of modern manufacturing industry in Nigeria, most of the ventures are of the 'enclave-import' type; and the foreign investors with better knowledge of overseas sources of supply for the partly finished products are thus better equipped for such ventures'.³²

The high import content, rate of profit, and propensity to expatriate profit of such industries constitutes a further leakage from the staple economy.³³

I have been concerned to develop in more detail the point made in the previous section about the difficulties of developing around an export base, and changing a country's rank in the international hierarchy. I have questioned the presentations of the Mikesell volume which at first sight would seem to have thrown some doubt on the more general argument, and I have sought to show how, at each stage of any process, the laws governing location in a market economy are re-introduced. Now, by virtue of the same argument, we would expect to find some local effects. We would expect the effects to take the form of industries found most commonly at the base of the urban hierarchy.

Certainly Borgu e's general finding on the falling relative importance of manufacturing in peripheral areas is confirmed in underdeveloped countries. Given that services are in general less easily transported than manufactured goods, and given the immobility of staple production, preventing its moving to the point of service, it is not surprising that primary production in underdeveloped countries has given rise to a sharp increase in complementary service activities (commercial banking systems which themselves have much in common with branch banks in metropolitan countries,³⁴ public utilities, as well as personal services). While in some countries such as Brazil, Indo-China, India, Egypt and Nigeria, many of the services have been performed by indigenous capital, this has not been so true of smaller countries, or those industries where there are scale or informational barriers to entry. It is not, therefore, surprising to find foreign investment in underdeveloped countries being still concentrated in the primary and tertiary sectors as against a somewhat greater emphasis on the manufacturing sector in foreign investment between developed countries. In 1966 the OECD estimated that of total accumulated overseas direct investment in underdeveloped countries, 27% was in manufacturing, as against a comparable figure of 47% in developed countries.³⁵

For some peripheral areas, manufacturing has decreased proportionately with increasing incorporation into the world economy. That part which remains, or has developed, appears to follow the propositions of location theory. Thus those industries at the lower end of Bain's ranking by minimum size of single efficient plant are the kind we find in underdeveloped countries: shoes, canning, and, where applicable, flour milling.³⁶ Stobaugh has suggested that a ranking of industries by number of plants servicing the US market will be close to a ranking based on the speed with

which those industries have dispersed overseas: the more plants in the US, the shorter the 'imitation lag'.³⁷ In the field of motor manufacture Baranson has produced evidence which suggests that increases in the locally produced content of cars manufactured in underdeveloped countries follows an order based on economies of scale. As we would expect, and as his figures show, there is an increasing cost divergence between metropolitan and peripheral manufacture as minimum efficient operation size increases.³⁸

Putting the point another way, where the industry is market oriented and uses intermediate goods produced in the developed area, production will take place in the underdeveloped area under the following conditions:

$$I_{ude} + T_m < I_{de} + T_e - A \quad (6)$$

where the symbols have the same meaning as in inequality (1). We would therefore expect market plants in underdeveloped countries to have small scale and external agglomeration economies (a low A term), and/or to produce goods which were expensive to transport in finished form (a high T_e), and/or to use competitive local inputs (a low T_m) and/or to be strongly tied to the market (these factors we would include in the T_e term). I have intentionally not emphasised the differential cost of inputs.

These are, of course, very much the kind of goods one finds being produced in peripheral economies: many of them under the control of foreign capital. Lonrho's range of interests in African countries gives an excellent summary of the point: textiles, brewing, motor trading and distribution, construction, newspaper publishing, transport and warehousing, general trading, insurance, finance, accounting and banking services, shipping, the provision of public utilities, as well as their other interests in mining, ranching, plantations and hotels. If we look at representative industries in the least industrialised countries of Southern Africa we find a similar range: an abattoir, meat processing and an ill-fated South African tannery in Botswana; grainmilling, carpets and the re-treading of tyres in Lesotho; South-African match manufacture, Portland cement, canning and Bata shoes in Malawi; in Zambia, glass, shoes, cigarettes, building materials, breweries, saw mills, and now the Fiat-operated car assembly plant.³⁹ In Rhodesia and particularly South Africa there are plants with much larger optimum sizes (steel, chemicals, low foreign content consumer durables). These, however, were established under the umbrella of tariff protection (and embargoes), i.e. with the help of political discrimination. The question of how far it is possible to change market determined location patterns by protective measures, I will take up in the last part of this paper.

Having discussed the contemporary difficulties of economic growth around a staple, and the applicability of the principles of geographical hierarchy on an international level, I want to turn thirdly to a recent trend in international firm investment that bears closely on another aspect of our discussion in the previous section, namely the location of labour-intensive manufacturing processes in the periphery. In much raw material production I suggested that labour costs might well be higher in the periphery. This was because, quite apart from productivity differentials, there are commonly a significant proportion of expatriate personnel earning a premium above the relevant wage level in the centre, as well as skilled indigenous personnel with strong industrial and political bargaining power, who demand parity with expatriates' earnings. For differential labour costs to be significant in the geographical decentralisation of production, the operation will have to be not merely labour intensive, but intensive in that type of labour whose wages are determined more by subsistence costs in the underdeveloped area than (indirectly) by subsistence costs in the developed area. Salaries of technical and managerial staff are likely to be a small proportion of the total wage bill, wages of unskilled and semi-skilled labour a high proportion.

Further the wage differentials will have to be such that they outweigh (a) lower productivity in the periphery, (b) net agglomeration economies of the centre, and (c) the cost of transport commonly of intermediates from the centre and manufactured items to the centre. The inequality necessary for production in the periphery becomes:

$$I_{ude} + T_e + T_m < I_{de} - A \quad (7)$$

with costs of transporting materials and intermediates switching to the left hand side.

In the past few years there has been a rapid development of manufactures of this type in underdeveloped areas, concentrated principally in Mexico, peripheral Europe, and South-East Asia. Commonly imported intermediates are shipped into special zones (export processing zones, free trade zones), undergo a labour intensive process, and are then re-shipped to developed countries for further processing of selling. In South Korea, for example, total exports of manufactured goods have risen from \$11 m. in 1962 to \$250 m. in 1969, four fifths of them going to developed countries. In Taiwan about 120 companies have built plants in the Free Trade Zone. In Singapore there are 35 factories solely concerned with electronics production. In Hong Kong there is \$100 m. of recent foreign direct investment in manufacturers - mostly producing for export (Hong Kong's exports, according to recent figures, accounted for 28% of man-

ufactured exports from underdeveloped into developed countries). In Mexico, under the border industries programme, 152 factories have been established on the Mexican side of the border, employing 21,000 people with plant valued at \$17 m., producing an output of \$297 p.a. and value added of \$56 m.p.a. There have been similar developments, though not yet on so large a scale, in peripheral European countries, Spain, Portugal, Yugoslavia, and even Usikaupunki, an underdeveloped area of Finland.⁴⁰

In the case of Mexico, both T_m and T_e have tended to be low since US firms have set up twin plants on either side of the border. On the Mexican side labour intensive production processes take place (in those plants operated under the border industries programme until 1968, 37% of the value added was wages). Capital intensive processes were located on the US side of the border. Not only does such twinning enable physical transport costs to be kept low, but what might be called political costs of transporting are also minimised: Mexican border firms can import equipment and materials into the zone duty free, and goods can be re-exported to the US paying duty solely on the value added abroad (under Section 807 of the US tariff schedule).

The net agglomeration term has also been kept low. In terms of the internal economy aspect of the term, the Mexican authorities have tried to ensure that the border does not interfere with rapid intra-firm movements of goods and personnel. Imports can clear customs in as little as a day. The time required for companies to import goods to Mexico varies from two hours to three days depending on the point of entry. As for external economies, utility costs were slightly higher in Mexico, but rents were lower. Other external economies do not appear to have distinguished the two sides of the border.⁴¹

Given these conditions, wage differentials were able to become a determining factor in location. From a survey conducted by the American Chamber of Commerce in mid-1969, wage differentials stood at 1 : 4 - 1 : 5 (prior to fringe benefits) in favour of the Mexican border region as against the US. All 63 companies in the survey considered labour costs to be the primary reason for establishing plants in Mexico, and 61 of the 63 were satisfied with the efficiency of the Mexican workers.⁴² One border plant reported that Mexican workers were performing at 100-120% of the US standard.⁴³

In the Far East wage differentials with the US are generally larger than was the case in Mexico. Adam quotes wages of 11 cents an hour in South Korea, Pakistan and Taiwan for workers in yarn and fabric plants as against \$2.43 in the US.⁴⁴ Paul Jennings, President of the International Union of Electrical, Radio and Machine Workers cites an IUE survey of

167 IUE shops: in 55 of them, US workers were getting less than \$2 an hour but were having to compete 'with wages of 10 to 30 cents an hour paid to Far Eastern and Mexican workers'.⁴⁵ The US Tariff Commission Study of the subject gives ratios of average hourly earnings (including supplementary benefits) between the US and workers processing or assembling US materials in foreign establishments in the Far East (other than Japan) as ranging from 9.7 to 21.6 according to product and county.⁴⁶

Set against these labour savings are agglomeration and transport considerations. In respect to the first, the export processing or free trade zones provide basic infrastructural facilities, and rapid customs clearance in an effort to minimise the external economy item in the net agglomeration term. As for the internal economy item, some US firms have moved their main world production facilities to the Far East so that scale economies can be preserved. General Instruments Corp. for example employs 12,000 people in Taiwan, more than in all its US plants combined. Sperry Rand's Remington typewriters, Litton's Royal typewriters, are other examples of transferring the whole of production rather than incremental plant to the Far East.⁴⁷

As far as transport costs are concerned, the development of airfreight and containerised shipping has undoubtedly been a factor in the development of runaway industries. Consider the location of Ireland's equivalent to a free trade zone, an industrial estate around Shannon airport; or Hong Kong, 21% of whose exports and 24% of whose re-exports were airfreighted in 1970, against a world trade average of 1%. For individual items many of them exported by foreign firms, the figures were higher: 90% of all wigs, 83% of electrical components, 93% of all precious and semiprecious stones, and 67% of all clocks and watches.⁴⁸

The above conditions, high wage differentials, significant labour content, low agglomeration intensity, low transport costs per unit of value are very much those outlined by Vernon in his product cycle model.⁴⁹ Vernon saw them as particularly applicable to the mature stages of some products, but recent experience has shown that decentralisation may take place at an adolescent if not an infant stage. These a priori considerations taken with the a posteriori view of the last few years, have led some economists, developed country trade unionists and underdeveloped country governments to see the runaways as a force for major locational redistribution of economic activity on a world scale for peripheral development, and even for metropolitan underdevelopment.

I would like to enter some caveats to this view, based on the considerations raised in the previous sections.

- i. The conditions of inequality (7) are highly restrictive for the general extension of such far flung geographical decentralisation as we have witnessed in the Far East. The range of runaway products are still small: electronics and electrical goods (which accounted for 58% of the value of output of the Mexican border industries in May 1970); cameras (with labour as 50-60% of production costs) and photographic accessories; wigs and plywood/veneers (representing 10% and 16% of South Korean exports in 1967 respectively); typewriters, sewing machines, simple machine tools, small motors, toys, textiles, scientific instruments. In 1969 total imports by the US under items 807.00 of the Tariff Code from less developed countries, totalled \$367m (of which \$159m consisted of value added abroad) or 1.0% of total US imports.⁵⁰
- ii. A feature of a number of the runaway industries is that they are assembly industries. In many of these the dictates of time economy have led to the adoption of flow line production, and its necessary requisites: the deskilling of labour and product standardisation. The direct commensurability of labour which takes place under this process allows for greater co-ordination of production. It also allows for greater decentralisation (organisationally and/or geographically). Yet by its very commensurability and simplicity of operations, it also invites substitution by machines. Labour intensity is, in short, often a transient feature of a production process.⁵¹
- iii. Transient, too, may be the extent of the wage differentials. One of the features of the growth of factory employment is the simultaneous development of the power of organised labour (for cultural and communication reasons). Southern Ireland, which since 1956-8 has had a considerable flow of foreign investment of the labour- and capital-entrepôt type, has with it faced growth in the strength of trade unions and a consequent pressure on wage levels. Recently wage rates have been reported to have been rising rapidly in Taiwan and South Korea, while a shortage of labour was reported to be deterring many firms in Hong Kong from undertaking major expansion or diversification.⁵² In this sense, cheap labour, like raw materials, may be properly considered an exhaustible resource so that long run development relies on the possibility of diversification round the labour-intensive export base.
- iv. Such evidence as we have suggests that a modern version of staple growth round a 'runaway industry' may be as difficult to realise as it is in the case of primary products. The export processing zones, or free trade zones are enclaves par excellence. Their use is commonly

- limited to foreign investors. The majority of inputs are imported; the majority of output exported. In Southern Ireland, out of an output of £50.9m produced by grant aided industry (mostly foreign owned) in 1966, 74% was exported, and 59% of all material inputs imported (79% if we exclude food products). Only £3.5m out of the total inputs of £26.8m could be ascribed to purchases of goods manufactured in Ireland.⁵³ In the case of Mexico, during the first six months of 1969, of the goods imported into the US under Section 807 of the Tariff Schedule, 68% of the components were imported into Mexico from the US, (comparable figures for Hong Kong and Taiwan were 58% and 36% respectively). Of wages paid to Mexican workers, a majority is spent on imports of US goods or, indeed, on buying goods on the US side of the border.⁵⁴ Similar limitations apply to South Korea's export growth. There, too, it has been suggested – a familiar point in the literature on primary good enclaves – that the export sector has taken away domestic funds which could have been used more productively in the industries oriented to the home market.⁵⁵ Finally, since almost all the labour entrepôts give substantial financial concessions to foreign investors, a good deal of the value added declared in the entrepot may represent tax haven profits, for use as a cash reserve for the companies' world wide investment programme. This has certainly been true of Southern Ireland.⁵⁶
- v. There is an additional pressure, which may be expected to grow in the long term, from the unions of the advanced capitalist countries. US unions have been particularly active in campaigning against runaways: the AFL-CIO have suggested among other things the repeal of Item 807 of the Tariff schedule, a tax on capital export, regulation of foreign imports with too rapid an import growth, and an international programme to raise sub-standard wages. This last is particularly significant: according to the UAW, protection of US jobs can best be maintained by raising the pay of auto workers elsewhere. The North American unions have been noticeably active in the international trade union bodies, and in this clearly affect point (iii) above.⁵⁷
 - vi. Inasmuch as cheap labour areas are independent countries, premiums always stand to be added to the discount rates to take account of political risk. It is significant that many of the labour entrepôts have been heavily dependent, right wing, dictatorial governments, or in the case of Hong Kong, a colony. Risk premiums in such cases would be likely to be lower. But for many of the countries who are now considering export processing zones, premiums would almost certainly be higher – Ceylon is a case in point⁵⁸ while the development of the

power of organised labour in the already existing entrepôts would also be likely to raise the premium. This point becomes particularly relevant when the entrepot investments are large, and the pay back period long.⁵⁹

The point of these six caveats is not to deny the significance nor the possibility of an extension of the product and process range of such decentralisation of labour intensive/low transport cost/low agglomeration intensity products. Indeed, this type of movement is a characteristic of locational development at regional, national as well as international level. Rather it is to insist that such movements are strongly bounded by the general laws governing location (both economic and political) – certainly as far as major changes in geographical ranking are concerned.

In this section I have taken three instances of international firm activity: raw material production, manufacture for peripheral markets, and manufacture for the markets of the metropolitan centres. In each case I wanted to suggest that the pattern and results of the activities in question are of the kind we would expect from the general features of locational development in a capitalist system. A consideration of the institutions involved – international firms – may help our understanding of the determinants of location. Indeed one of the purposes of this section has been to show the transparency of the determinants when observed through the operations of international firms. The following two sections will also be concerned with the locational effects of the development of international firms as institutions. But their significance must in the last resort always be understood within the context of the overall laws of the system. Their development, and their effects will be bounded by these laws. So too will all attempts at controlling the direction and effects of such development.

I have put so much weight on this point because it seems to me the literature on international firms, having established their significance as units of analysis at micro level, in contrast to conventional international economic theory, has failed to situate these firms in the overall system of capitalist accumulation. Those writers who have stressed the conflict which exists between the international firm and the economics in which they operate, or who have emphasised the oligopolistic character of such firms face always a limitation in the level of explanation which a micro/macro approach allows. So, too, do those who emphasise the significance of the differences in the organisational form in which capitals are organised and relate: national as against international; private as against public; wholly owned subsidiaries as against joint ventures, or management

contracts. The point is not that there is no significance in these distinctions: a change in form may be a necessary condition for a change in the way in which social production operates and relates to capitals elsewhere. Rather the change in form by itself is likely to remain of limited significance when compared with the overarching discipline of the market economy.⁶⁰

IV

What, then, is the significance of international firms over and above the fact that they are the bearers of market forces? I want to suggest two ways in which such firms have a significance, first as units of economic integration, and second as units of power. This section will be devoted to the question of integration, the following one to that of power.

In discussing the international firm as a system of integration, I am asking the question, in what ways will a particular economic space function differently when it is administered by a single large firm rather than by a number of smaller firms related by the market. In the first section of this paper I put forward three principles which bear on the question: specialisation, communication and control, and insurance. I will deal with them in turn.

Certainly international firms enjoy economies of specialisation, in administration and marketing, in production and R & D. These economies are based on physical indivisibilities, and the effective indivisibilities deriving from economies of proximity. In some sectors, firms have expanded their overseas operations and connections in order to secure a large enough market to justify the development of greater specialisation.⁶¹ In others, expansion has taken place in order to realise what Edith Penrose has called economies of growth, to utilise what would otherwise be wasted services possessed by the firm. The service in question will vary from firm to firm. 'For some firms it may be machinery; for other firms the waste of administrative ability, executive talent, or the specialised connections of the sales force will be more important; for still others the significant waste may be of know-how, research-acquired knowledge, and engineering ability.'⁶² Their nature will commonly approximate to that of public goods, goods whose social marginal cost is zero. Penrose saw the existence of such wasted services as a basis for the expansion of firms in economic space. Both the empirical and theoretical literature on international investment suggests that it is also a basis for the expansion of firms in geographical space. The international circulation of depreciated

machinery, product and process know-how, or products differentiated by marketing expertise, all illustrate the point.⁶³

The existence of firms large enough to realise the potential economies of scale of this kind, will clearly result in costs lower than would prevail in an economy composed of smaller firms. But as I argued in the earlier discussion of scale, such economies form a material base for geographical concentration. When we speak of international firms we are concerned with administrative units which co-ordinate activities which are geographically dispersed.⁶⁴ While economies of specialisation may therefore account for the overall size of international firms and for the cost efficiency of their production and distribution, they do not by themselves explain why firms should expand geographically (rather than exporting their outputs to independent producers) nor do they bring out the full significance of international firms as instruments of international integration. Rather we must turn to the second of our principles.

International firms are distinctive channels for the international circulation of commodities, and of information about the production and circulation of commodities. Take commodity circulation first. When raw materials and intermediate goods circulate within a firm rather than via the market, there are, as we suggested in section 1, potential savings in the costs of exchange, and in the use of pricing systems which are more rational from capital's point of view.⁶⁵ There are some goods, too, where the marginal cost of production and circulation may be different according to whether the good is transferred within the firm or sold to an outsider. The marginal cost of production of know how may be zero for example, but there will be an opportunity cost to the producer if he sells it to a rival firm that is prepared to use the knowledge to reduce the producers competitive advantage. There would be no such opportunity cost for an internal transfer, and we would therefore expect a much more extensive flow of commodities of this kind within rather than between firms.

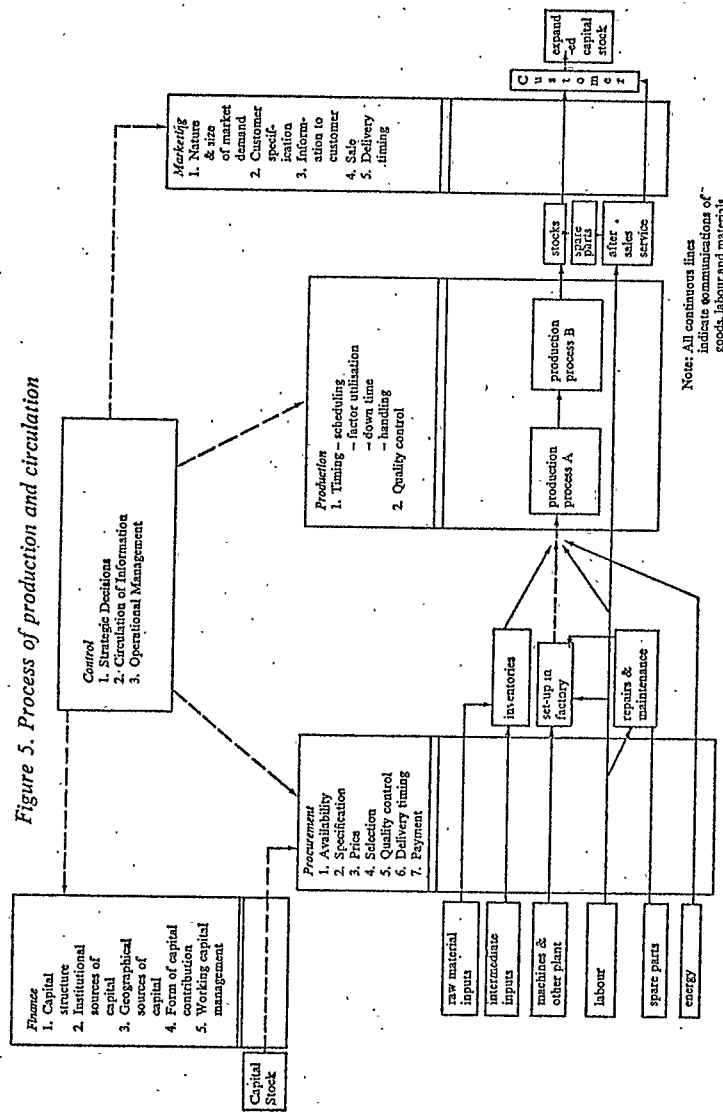
Not all these economies of circulation are confined to intra-firm transfers – long established trading relationships can cut down the cost of exchange between independent producers for example. Nor are all these economies realised in the circulation of commodities within international firms. Many such firms (particularly those new to extended international operations) still operate a system of arms length market-based exchange between their subsidiaries. But the evidence suggests that with the growing significance and experience of international operations, control within the firm has become more centralised, the price system no longer has such a dominant significance for allocation within the firm, while those price

systems which remain within international firms have commonly been rationalised.⁶⁶ Evidence suggests, too, that the relatively lower marginal costs of circulating technology within firms rather than via independent producers has been one of the reasons for international corporate expansion. Firms have wanted to take advantage of their Penrosian 'wasted services', rather than offering them for sale on the international market. In the case of ICI's recent fertiliser project in India for example, ICI insisted on maintaining equity control as a means of controlling directly any further sales to outsiders of the technology embodied in the scheme.⁶⁷

Another reason for the international expansion of firms is technical. For the use value of the commodity to be realised (and thus its exchange value), complementary inputs may be required – and in some circumstances these complementary inputs may be most efficiently supplied by the seller of the original commodity. Take the ICI in India case again. One of ICI's conditions for investment was that its Indian subsidiary should have full control of the marketing of fertiliser and not be required to sell through co-operatives. Partly this condition may have reflected a desire to realise monopoly rents (through monopoly pricing, forced salesmanship and so on) and this was certainly a fear within the Indian government. But ICI argued with reason that they had a more effective system of distribution and of agricultural education, that is they were more capable than the cooperatives at getting the product (fertiliser) productively used.⁶⁸

Here ICI were supplying not only a key input to a particular production process (fertilisation), but a complementary input in the form of information about the methods and evaluation of this production process. It was in part because they could provide this complementary service most efficiently themselves that they insisted on keeping control of marketing. Given the comparative simplicity of the evaluation and application of fertilisers, and the absence of scale factors, ICI did not demand control of the users of their product. The Indian farmers were left independent. But it will be clear from a consideration of the process of production and circulation (shown diagrammatically in Figure 5) that there are reasons why a company might wish to maintain control of not only marketing but some aspects of the next production and distribution stage in order to realise the full value of the original product.

Quality control is a common example in production processes carried out in underdeveloped countries, particularly where the product concerned is branded and has an international reputation for reliability. The control of quality is not just a question of inspecting. It is an activity



which involves a number of different types of skill. 'Neither top management nor inspectors can themselves create good quality. It must be accomplished by the workers, by the vendors, by the product designers, by the toolmakers, and by the maintenance men. First-line supervision and middle managers are the only ones who can observe the hour-by-hour practices in the plant and correct them in time to prevent poor quality'. This is Skinner on the quality problem in international production management.⁶⁹ It is because a number of these skills may be most economically provided by (or indeed only available from) the foreign firm supplying the intermediate materials, and because the company may incur a cost in terms of a damaged reputation if its output is incorporated in a product of uneven quality, that many foreign suppliers of technology insist on quality control clauses in the sales contract.

To quality control, and the many facets of marketing we could add other operations: repairs and maintenance, overall production planning and control, the training of labour. In each case forward integration by the intermediate supplier may be required for technical reasons in order to realise the value of the product. Similar considerations apply to backward integration. Geest, for example, invested in banana production in the Windward Islands for the sake of quality control. Quality control and delivery timing appear to be two reasons for intra-company sourcing by the international motor firms.⁷⁰ In other cases, it may be a question of simple availability. Stigler pointed out that vertical integration often characterises the early stages of a new industry, since the new industry is forced to rely on itself to develop the specialised equipment, operate the new processes, and train the skilled labour. The argument also applies geographically to an old process of production in a new area. Where the resource is fixed (raw material, climate, soil, scenery, water,) firms expand internationally for such technical reasons.⁷¹

We have been discussing economies in the circulation of technology within rather than between firms. One basis for these economies was the problem of maintaining control of information once it had been transferred to other firms. It stems from the general characteristic of information as a commodity that it is difficult to privatise. A second characteristic of information underlies the international expansion of firms for reasons of technical inadequacy on the part of foreign suppliers or demanders. Information is an intermediate product, part of a package of productive inputs, and may itself relate to a number of different parts of the process of production and distribution. Some items of information may be transmitted at zero marginal cost (in the case of a blue print for example), but such information often requires complementary transfers of other

information in order to realise its value. If the information required involves teaching/learning, the marginal cost of transfer tends to be high, so high indeed that it would be cheaper for the information exporter itself to produce abroad. It would be cheaper because for key parts of the process (e.g. the co-ordination of the set-up and operation of a plant by a production manager) marginal learning costs would be low when the operations were carried out by already trained men within the firm. It is a case of it taking longer to explain how to do a job than doing it oneself. Or, put another way, information only has a low circulation cost when the receiver is capable of supplying the complementary inputs required to realise the value of the circulated information.

A third characteristic of information as a commodity will allow us to take our argument further. Not only must the recipient of information be able to supply the complementary inputs, he must also be aware of the potential value of the information which is the subject of circulation. He must therefore have information about information, and this secondary information may also be a commodity about which further information is needed. One of the functions of marketing is to supply this secondary information free (as did ICI to the Indian farmers), but in some cases adequate evaluation of the information requires first knowing what the information is. Secondary and primary information become one. Arrow refers to this as 'a fundamental paradox in the determination of demand for information: its value for the purchaser is not known until he has the information, but then he has in effect acquired it without cost'.⁷²

From the point of view of the exporter of technological information, how to get the foreign buyer to accurately value the information for sale without at the same time losing control of the information before the sale is a problem which is overcome when the purchaser is its own subsidiary. This holds for product and process technology as it does for production, marketing and general managerial skills. It is one of the reasons which Arrow advances for centralising decision making in the management of information as a commodity. It is also a reason for corporate expansion internationally, and for the significance of the firm once the expansion has taken place.

From contrasting the firm and the market as circulators of commodities, particularly technology, I want now to turn to comparing the two institutions as systems of control. Control involves two things: information about the activities subject to control, and the ability to enforce decisions derived from that information. In both these respects the firm is distinct from the market.

The basis for the distinction is again to be found in information, in

particular the differential access to information. In a market system control is finally exercised by the holders of capital. Given their concern to expand the value of their capital, they will shift it to concerns which promise most profit. Their allocative decisions will be made on the basis of information, some from public accounts, some from knowledge of the personnel involved, some from direct or indirect experience of the operations themselves. They will be limited, however, in the collection of information both because of the inaccessibility of data, and because of the cost of gathering the information which is accessible. Even where holders of capital do have information, they may be limited by their own lack of understanding of the significance of the data, and/or by the difficulty of devising control procedures other than the negative one of merely withdrawing their capital. It is not that lenders and shareholders do not have information about firms, nor that they do not have the controlling power of capital withdrawal. Rather my point is that they have an underprivileged access to information (both substantially and legally) which limits the precision of the control they are able to exercise.

The question of differential access to information is still an issue inside a firm. The legal right of access of managers to information within the firm does not do away with the problems of search, interpretation, or restrictions imposed by the direct controllers of information. Consider the relations of managers with skilled labour (and the principles of F. W. Taylor) for example, or relations between different levels of the managerial hierarchy, or, of course, the relations of managers with the owners of capital (discussed in the literature on ownership and control). There are grounds for thinking, however, that there will be a fuller and more accurate information flow and more effective control or steering mechanisms, when operating units are organised within a firm rather than being related by the market.

One factor is authority, the fact that managers of capital are commonly seen as having more detailed rights of hiring and firing, access to information, and of issuing directives than have lenders or even subscribers of capital on the market. Firms are thus able to establish standardised reporting and evaluation procedures, which allow relatively accurate comparisons of the performance of each of the sub-units.

We need only consider the budgeting and control procedures of large firms to see the force of the distinction between firm and market in this respect. One large international oil company for example has an annual planning cycle and an appraisal and control cycle. In the planning cycle are phased the presentation and assessment of environmental forecasts, detailed corporate and investment objectives, long and short range demand

and supply forecasts, long and short range financial forecasts, and finally the formulation of the investment plans and the formal capital budgets. The appraisal and control cycle is composed of a system of monthly reports on earnings and operating volumes, semi-annual financial forecasts, the annual submission and evaluation of financial statements and budget expenditure and commitment statements from the affiliates, and an annual financial and operating review. Such budgeting systems are backed up with regular and planned face-to-face contact, and in some firms by travelling teams of internal auditors. The final system of information flow in principle allows for more detailed and responsive steering and co-ordination than would be possible in the less standardised, more general flows of the market. The consolidation of information and control systems in the early days of a merger confirms the significance of the distinction.⁷³

The enabling factor of authority; the distinctiveness of a firm's standardisation and co-ordination, and of the quality of its information flow both to decision makers and from them; to these I would add a point about the relations between the communicators. "The quality of the communications is determined by the confidence that the key people throughout the organisation have in each other" said a director of Unilever. Because of the firm's authority over employment it can affect the nationality, class, even the character of the communicators, and thus indirectly the 'quality' of communications. 'If we get the right people, confidence is easier to develop', said the same director, and this will be reinforced by the planned face to face contact that characterises a firm.⁷⁴

A consequence of the effectiveness of international firms as transmitters of information about their internal activities, is that they may also be more effective transmitters of some kinds of market information. For an international firm costs of search will be reduced when local subsidiaries know the needs or saleable outputs of their company in more detail than independent information channels. They can be more discriminate in the amount of information they collect. Costs will also be low when the gathering and communicating of the information is a by-product of other activities. This is one reason for the tendency of particular capitals to expand by stages: first exporting goods to independent importers, then establishing foreign marketing outlets, then assembly operations, gradually increasing the foreign content of material inputs, until the main import from the parent takes the form of information. The conduct of operations at each of these stages yields low cost information about the opportunities for expansion to the next stage, that is it lowers search costs (and thus the risk element in the discount rate).⁷⁵ Finally communica-

tion costs will be reduced by the 'confidence' factor mentioned above, a point of particular significance where coding and decoding the information is difficult (the political climate of a market for example, or the quality of an unstandardised product). In labour market literature emphasis has recently been placed on the significance of informal as against formal information networks used in the hiring of workers. Formal networks include state employment services, private agencies, and advertisements. Informal networks cover referrals from employees, other employers, and miscellaneous sources, walk-ins or hirings at the gate. What I am suggesting is that international firms have more extensive informal information networks about supply and output markets than would exist were the components of the firm independent and related by the market.⁷⁶ These, then, are the economies of circulation via the international firm. They derive from the second principle of scale economy - communications and control. The third scale principle - insurance - is also significant for some firms. The international oil companies, for example rely on the law of large numbers to normalise their exploration risks (and profit rates) for the world as a whole. Similarly on the output side. The fact that a firm sells in several geographical markets means that the positive and negative effects of unexpected demand fluctuations may to some extent balance themselves out, in the same way as they are held to do it in sectoral space.

Overall, however, the insurance principle is not a major factor. It is the economies of specialisation taken together with those of communication and control which give the international firm significance as an institution in the international market economy.

I now want to suggest three ways in which these characteristics of the international firm affect geographical distribution: first, the laws governing location will be more stringently applied; second, there will be a centralising effect resulting from the discontinuity between the economic space of the firm, and the environment in which it operates; third, the firm as a co-ordinated unit will have power to counter attempts by peripheral governments to prevent the outflow of surplus value to the centre.

I will begin with the first point. When the international economy is co-ordinated by international firms, the tendencies noted in section II will be intensified.

The international firm's economies of search for market information for instance reduces the natural protection afforded to the high cost supplier by consumer ignorance.⁷⁷ The firm's economies in the internal circulation of goods means that (ceteris paribus) foreign markets may be served from lower cost sources of supply. The financial co-ordination

within a firm we would expect to lead to a greater mobility of funds from low profit to high profit areas.

Let us take this question of the allocation of resources within an international firm as a case in point. Some early writers on the subject suggested that there was likely to be considerable locational stickiness as far as profit re-investment was concerned. Penrose argued the point in terms of economies of growth and the contrast between the knowledge of local market opportunities for expansion possessed by the subsidiary, and the ignorance of central management of opportunities in new markets. Barlow and Wender put the matter in gambling terms, parents re-investing their winnings (profits) in the country which produced them.

Later work has questioned this effective decentralisation of financial control. Stobaugh for example has shown, on the basis of a sample of 39 US international firms, that subsidiary independence in finance is common only in those firms with a low international involvement: that as foreign investment grows both absolutely and relatively to domestic investment, financial control is centralised and systems of world-wide optimisation are introduced; in firms with the greatest international stake this centralisation is softened – greater responsibilities being given to large area financial staffs – but they still operate a system of company guidelines, standards and rules of thumb. Stevens on the basis of a larger sample found that there was no substantive empirical evidence for subsidiary independence, and rather that 'the behaviour of plant and equipment expenditures of foreign subsidiaries is consistent with a theory of world wide profit maximisation subject to financial constraints.' The tendency towards global profit maximisation, even when the system is administered with geographically decentralised financial staffs, is supported by other, more circumstantial sources.⁷⁸

A centralised financial structure still faces the problems emphasised by Penrose, those of evaluating and entering new markets. But as the international firm expands so too will the possibility of shifting funds between already existing operations in different markets, i.e. locational stickiness will be reduced.

The responsiveness of international firms to world wide price and profit differentials has been seen by some as significant in neo-classical terms. Kindleberger for example thinks the international firm an indispensable element in the process of international integration defined as factor price equalisation.⁷⁹ In as much as international firms 'perfect' the international circulation of commodities, this may at any one point in time increase the tendency to equalisation of wages, interest and profits. But it will also strengthen a tendency with which we are more concerned than

towards international spatial inequality in the distribution of productive activity.

There is another side to this. Where international firms are led, by the forces of geographical dispersion, to extract, produce or sell in peripheral areas, they tend to revolutionise the techniques and conditions of production and circulation. They raise the productivity of labour in the periphery even to the level obtaining in the metropolis.

We have seen how this may happen in marketing and in aspects of production control – particularly in the field of quality. But the point has a more general application: to the product and process techniques, to the type of education and skills required of a labour force, or as Ansdén has recently shown, to the institutional form and conduct of wage negotiation.⁸⁰ Of course the principles of modular production may be brought to bear in all these fields: some changes in the general practise may be made to take account of local conditions.⁸¹ But in general the tendency is towards global standardisation of techniques as well as products.

The international firm will accordingly not only increase the tendency towards geographical inequality, it will also further the integration of the periphery into the world economy. Yet the fact that the integration takes place by way of the firm leads to the second main point I want to emphasise, namely the dualism that appears between the firm and its environment. The discontinuity of the flow of goods and information between the firm and its peripheral environment, in contrast to the continuity of this flow within the firm, will (given the concentration of most international firm activity in metropolitan areas) increase the degree of centralisation in international location.

Take the flow of goods first. In locational literature it has sometimes been observed that a vertically integrated industry is less likely to lead to spillovers in adjacent areas than non-integrated production. Chinitz for example, on the basis of US regional experience, suggested that large firms provided more inputs themselves than would small firms. As a result, when a large firm set up a new plant there would be less likelihood of backward linkage industries clustering round the plant in classical growth pole fashion.⁸² Caves suggests similar conclusions internationally: that foreign subsidiaries are typically less vertically integrated in the host economy than the domestic firms with which they compete, and manufacturing operations by subsidiaries less integrated than home production by the parent.⁸³

A similar point applies to diversification. Chinitz puts it like this; 'The surplus capital which accrues inside large multiplant companies . . . is more mobile within the company than intra-regionally outside the

company. A large corporation is more likely to respond to investment opportunities in its traditional activity at other locations than to new investment at home in unrelated industry'.⁸⁴ Certainly there is circumstantial evidence to suggest that the argument holds for peripheral economies. John Holt's, the second largest merchant firm in Nigeria, provides a particularly clear example. 'The principal explanation for John Holt's comparatively limited shift to manufacturing is that the company has had other opportunities in France and England (in the wine and spirits trade, car distributorships) which, although perhaps not quite as profitable, were less risky and did not require a radical break with the company's traditional merchanting activity. It is to these European opportunities that new investment has been directed since 1960.' This comment is taken from Kilby's analysis of Nigerian industrialisation.⁸⁵

In such cases peripheral areas have compounded disadvantages: not only may they be more risky for the foreign subsidiary than is the home economy of the parent firm, but the risk is increased by the parent's lack of information both about the economy and the requirements of the diversified production. In as much as risk is a reflection of lack of information – and Aharoni suggests that there is strong relationship between risk estimates and unfamiliarity with foreign economies in foreign investment decision making – then foreign subsidiaries can be expected to invest less than a comparable indigenous firm would have done, particularly where the subsidiary is subject to tight parental control.⁸⁶

It is not as clear, however, that Chinitz's argument holds equally for the metropolitan economies. Here it is a question of balancing the risk and cost of producing a new product against the risk and cost of entering a new foreign market. Where the foreign market is a peripheral economy, the risk element is likely to be high, and the possibility of metropolitan diversification correspondingly stronger.⁸⁷ If these arguments hold, we would expect foreign subsidiaries in peripheral areas to have lower rates of diversification than indigenous firms, and also lower rates than their parent firms in the latter's domestic market.

Both vertical integration and diversification are instances of an international firm being less integrated with the peripheral host economy than would be expected were the investments controlled by national firms. Such effects are additional to those which we would expect from the operation of the laws of the market as discussed in section III.

My purpose in this section has been to show (a) the characteristics which distinguish the international firm as an instrument of geographical integration, and (b) what consequences follow from these characteristics as far as economic activity in the periphery is concerned. In the latter

respect I have argued that the operations of international firms will impose the general laws governing capitalist location more rigorously – with implications both for the amount of economic activity, and the productivity of peripheral labour; and secondly that the very integration of the international firm will weaken the growth pole effects of the subsidiary's operations in the periphery, over and above the limitations of these effects deriving from the general laws of the market. There is a third consequence. It concerns the power of the international firm over the location of accumulation, and is the subject of the section which follows.

V.

The firm is a distinctive unit of economic integration because of the technical advantages of unified control. The economies of specialisation, communication and control, and insurance when realised inside a firm allow commodities to be produced and circulated at a lower cost. This technical side to economy is distinct from the social relations of the economic system. There are technical requirements for the production and circulation of useful objects regardless of the mode of production in which they are produced: In capitalism, however, the goal of production is profit. Capital is concerned with the exchange value of the goods it produces. In capitalism, therefore, control always has a double aspect: its technical character, and its function as a basis for monopoly power.

As we noted in section II, the first use of monopoly power is to secure for the holder the maximum proportion of surplus value produced by the society in which he operates. It may be a question of weakening the power of labour, reducing wages, lengthening working hours, or increasing the intensity of labour. Or it may be one of appropriating surplus value from other, weaker capitals by monopolistic and monopsonistic practices. Or, again, the power may be used to minimise payments to and maximise payments from the state. In each of these cases the relative power of capital taken individually, will be determined by (a) the dependence of others on the individual capital, and (b) the dependence of the individual capital on others. It will depend on mutual substitutability.

We could call the above monopoly power in economic space. The second domain of power is in geographic space, and consists of the power to shift surplus value from where it was produced to where it is to be accumulated. Within national boundaries the geographical mobility of surplus value takes place unfettered. Internationally, however, nation states put up barriers to curb this flow both into and out of their territory,

barriers which necessarily affect the geographical distribution of accumulation.

For our argument, both aspects of monopoly power are relevant. I want to suggest that the power of international firms restricts the ability of underdeveloped country governments to change the market determined patterns of international location. Capital controlled by international firms has a distinct fluidity when faced with governmental restrictions on its movement. Because of this, the monopoly power of the international firm within the economic space of the underdeveloped country will also be significant since the international firm will thereby control a larger portion of surplus value within the underdeveloped country – surplus value which thereby becomes more elusive to government attempts to restrict its expatriation.

Formally, of course, underdeveloped country governments start with legal powers over the movement of surplus value into and out of their country. Most such governments now operate a system of general controls, exchange controls, tariffs, corporate tax systems, requirements about equity participation in concerns initiated by international firms and so on. These controls are designed either to retain funds held by international firms within the country concerned (exchange controls), or to shift the funds to the control of nationals in public or private bodies, who are more likely to re-invest them locally.

There are reasons why some international companies will willingly submit to these controls. Perhaps the most significant results from double taxation agreements. If taxes paid to the peripheral country on income transferred to the parent company are offset against taxes due on that income in the parent's country, then the parent may prefer to pay the tax in the periphery. For in this case there will be no point in side stepping the peripheral controls; the subsidiary will be seen to be contributing to the local economy, and may even stand to benefit more directly from state spending funded by its tax in the periphery than would the parent from taxes paid in the metropolis. Indeed in some foreign investment projects in the periphery, the international firm makes a loan to the host government to finance part of the project (basic infrastructure for example), the loan to be repaid out of the tax funds due from the company once the project is in operation. Tax paid in this way effectively finances part of the original investment, but at the same time qualifies for tax relief in the metropolis under the double taxation provisions. It is interesting to find that among the British firms most involved internationally in 1968, both RTZ and BP almost exactly balanced their tax liabilities in Britain with their allowances under the double taxation provisions

(BP paid 100% of its tax abroad, RTZ 97%. Their respective allowances in 1968 against British taxation for tax paid abroad were £201.4m. and £3.0m).⁸⁸

In other cases, controls may be observed because they are relatively lighter than elsewhere. This is the position of tax havens. In extreme cases there are no controls, and the declaration of surplus value will have little to do with accumulation in the same place. It will remain little more than a paper declaration. In other countries taxes will be paid not only on the profits realised in that country but on profits transmitted from elsewhere as well. As in the previous case of double taxation agreements taxes will be paid because global minimisation of tax payments is best secured by paying taxes due in the periphery.

Still other companies may have no global tax policy, or may regard the payment of tax in the periphery as an insurance against nationalism. Certainly, in respect to another control – that relating to local equity participation – a considerable number of companies make a point of inviting in local equity, even when there is no pressure from the local government.⁸⁹

In many instances, however, the controls will conflict with the geographical preferences of the international firm. The double taxation provisions for instance will be irrelevant where the firm can transfer peripheral income to other areas where accumulation is taking place and where the income can be offset against expenditure, and thus avoid tax. That is to say, income from peripheral activities is seen first and foremost as part of the international firm's cash flow, only a portion of which will be subject to tax as profit. Given the general proposition advanced in the second section of this paper that accumulation tends to be concentrated in the advanced capitalist countries, and, further, the fact that expenditure in its home economy may well exceed its income from there in any one time period, then this concern to consolidate profit per time period internationally assumes some importance. Constantine Vaitsos has recently argued persuasively that such international profit consolidation is indeed significant for US companies, particularly as far as funding their overhead expenditures with surplus value from Latin America is concerned.⁹⁰

Another reason why international firms may wish to avoid underdeveloped country taxation is that the total tax to be paid would be higher than if the funds were taxed elsewhere. The possibility of realising profits in a tax haven would be a case in point. The 1962 US Revenue Act curbed the use of tax havens by US companies, but there are still many opportunities for both US and European companies to take advantage of low tax areas.⁹¹

Just as international firms may find, therefore, that taxation in an underdeveloped country runs counter to their preferred geographical distribution of capital, so do exchange controls. These controls can take a variety of forms; import surcharges, advance deposits, a system of auctioning exchange certificates, multiple exchange rates. These will raise the cost of any exchange transaction. Alternatively the controls may be direct limitations: on the amount of profit remitted, of royalties, fees, interest, and other capital transfers. International firms are particularly sensitive to exchange controls of this kind.⁹²

Similar conflicts apply to other controls – tariffs and equity structures being only two. For each type of control there will be occasions when the controls do not conflict with the interests of foreign firms. What I am concerned to establish is that often these controls will restrict the expatriation of surplus value to preferred locations elsewhere.

The fact that firms are reluctant does not mean that they cannot be controlled. But governments, particularly those in underdeveloped countries, face three problems in restricting the outflow of value. First they must control all the channels which may be used to move out funds. To block one may merely mean that the funds are switched to another which remains open. For example, Vaitsos has suggested that one reason for the overpricing of intermediate imports into Colombia by foreign subsidiaries was the ceiling of 14% of net capital invested which could be repatriated by foreign subsidiaries after local taxes.⁹³ If intermediate overpricing can be stopped then there are still other channels: fees and royalty payments; interest on and amortisation of intra-company loans; back-to-back financing; and the leading and lagging of payments on intra-company international transactions. There is also the possibility of straight smuggling. Each of these channels will be limited and have other considerations particular to itself: royalties and fees will have to be related in some way to the technology transferred to the subsidiary, and may face specific rates of tax in both the host and parent countries; back-to-back financing relies on the existence of another international firm (or bank) with cash needs and cash surplus located in areas complementary to the would-be repatriator. The wide variety of channels does, nevertheless, leave the international firm with considerable flexibility, a flexibility of which they are aware. It is a flexibility, too, that does threaten the effectiveness of those general policies towards foreign investment which do not control all these channels simultaneously.⁹⁴

The second problem is information. Even if all repatriation channels are controlled, there is the problem of enforcement. The major problem of enforcement in this case is in finding out when the controls are being

circumvented. How is a government to find out that goods are being over- or under-invoiced over the exchanges? Vaitsos' remarkable empirical study of the overpricing of intermediates in Colombia compared price and quality in Colombia with price and quality on the world market, and even with relatively homogeneous products this took considerable time and ingenuity. Products however are often not standardised. Prices in world markets may reflect large monopoly rents. In such cases the relevant information will be the firm's costs, and even if these are made public it is often very difficult to judge their accuracy.

The problem is compounded by the fact that the costs are administered prices within the firm and can be determined by varying principles. It is not just a question of finding out an objective cost (for example what discount rate the firm uses). It is a question of discussing principles of administered pricing within the firm. Transfer pricing is a case in point: as we have already seen, firms follow different principles of intracompany pricing regardless of international exchange barriers. Even more difficult is the allocation of non-specific overheads, the charging of subsidiaries for the receipt know-how with zero circulation cost within the firm, or, in an area we have not as yet touched on, the proper procedures for calculating depreciation or for revaluing assets. In each of these cases procedures are the subject of argument; while in one country a particular procedure may dominate for the sake of standardising public accounting for example, established procedures often differ between countries. For they reflect the discord between the nature of the production process (increasingly indivisible) and the capitalist system of distribution which demands that the indivisible should be divided as far as accounting is concerned. The contradiction impinges on our argument as it affects geographical distribution. There will be some latitude in the geographical allocation of these charges, which international firms can be expected to utilise in support of their desired allocation of funds geographically.

The three factors we have mentioned – the side-stepping of controls by using other repatriation channels, the private nature of company information, and accounting ambiguities, – mean that not only will governments have difficulty in preventing the outflow of funds through international firms, but that evidence about the extent of these practices will be limited. Much rests on imputation. I have already mentioned the discussions in the managerial literature on accounting and finance on how to move funds internationally by using the above methods. We know that some international firms keep more than one set of books. Edith Penrose cites one firm who kept three, one for internal accounting purposes using cost prices, one for the internal revenue authorities, and one

for shareholders.⁹⁵ There is Latin American evidence on so-called transfer accounting practices by international firms, particularly the use of royalties as a means for repatriating profits.⁹⁶

Rather more information exists on transfer pricing practices, for these are more vulnerable to attack when comparisons can be made with comparable internationally traded goods. In the field of raw materials, for example, there have been many disputes over the alleged underpricing of exports from underdeveloped countries: with both oil and iron ore in Venezuela, with copper in Chile, with bauxite from Surinam, Guyana, and Jamaica, and to take an instance from plantation agriculture, with bananas from Costa Rica and Guatemala. In the case of Venezuelan iron ore the Bank of Venezuela have published figures showing how low the declared value of their iron ore has been in comparison with prices elsewhere (in spite of the high ferrous content of the ore). In Jamaica the companies were found to be using a higher valuation for their bauxite with the US tax authorities than they had agreed with the Jamaican government. In the case of bananas IMF statistics themselves upvalued the figures for banana exports from Guatemala and Costa Rica, to take account of, among other things, systematic undervaluation by the vertically integrated banana companies.⁹⁷

In the field of intermediate imports we find similar examples – this time of overpricing: rubber tyre manufacturers in India, the motor industry in a number of countries, oil importing subsidiaries in India and Argentina.⁹⁸ The most extensive evidence comes from Vaitos' original Colombian study, and the subsequent work to which it gave rise. For 17 of the foreign owned drug firms in Colombia Vaitos compared the FOB prices of over a quarter of their intermediate intra-firm imports with FOB price quotations for a number of developed country markets. He found an average overpricing of these imports in 1968 of 155% (defining overpricing as the Colombian price minus world price, all over the world price, times 100). The dollar value of this overpricing was \$3m, of which 50% would have been taxed by the Colombian government if declared, and 80% represented balance of payments loss. If this same overpricing held in the rest of the drug sector, the total charge to the Colombian balance of payments would have been \$20m. – roughly equivalent to the annual known explicit payments for industrial technology by the whole economy of Colombia. Vaitos found similar though less extreme figures for overpricing from other sectors: 40% in the rubber industry, 25.5% for the chemical industry, 16-66% for the electronics industry. Parallel results have since been found for other Andean countries, and for the drug and chemical sectors in Latin America as a whole.⁹⁹

What the Latin American figures also show, and this is important for our argument, is that overpricing and royalty payments are generally higher for foreign subsidiaries than for national firms. In the Colombian drug industry the sample of nationally owned firms was found to have overpricing of 19% compared to the 155% of foreign firms. In rubber the respective figures were zero as against 44%. A similar contrast has been observed in the drug sector in Peru and Chile.¹⁰⁰ In chemicals and the electrical sector the difference is much less marked: in both cases foreign suppliers appear to take their returns more in the form of lump sum and royalty payments rather than via intermediates.¹⁰¹ We have no figures for comparison here, but for royalties in general Vaitos has quoted evidence from the Colombian Committee of Royalties to suggest that foreign subsidiaries may pay excessive royalties for their imported technology in comparison with national firms.¹⁰²

On the evidence we have, it is international rather than national firms who are able to evade national controls on the geographical movement of funds. They have access to the channels of transfer pricing and transfer accounting in a way which national firms have not. This is the first aspect of their power.

There is a second one. It exists independently of that which we have been discussing. Even if a government controlled all repatriation channels, and even if it had full information about an international firm's costs and standard accounting practices, the firm might still be in a position to extract a monopoly rent and export it. There will be many claims on the surplus value of an underdeveloped country: from workers landlords, national capital, and the apparatus of the state. Foreign capital will also lay claim. The distribution of the surplus value will depend on the relative power of the parties involved, as expressed in the moments of the exchange process. It will depend on what I earlier called the balance of mutual substitutability. In general we would expect labour to be least powerful: in situations of high unemployment their wages stand to be reduced to the subsistence level relevant to their work, though for some sections – the so-called labour aristocracy – this is by no means always so. In the same way I would suggest that foreign capital may be so powerful that it seriously weakens accumulation of surplus value in the periphery by the dominant indigenous classes even when the latter unite.

There are two conditions for the exercise of this type of monopoly power. First the monopolist must be able to supply a significant element to the process of production and circulation. Second, he must be able to prevent those elements being provided from other sources, he must prevent substitution. These may be regarded as the material and restrictive ele-

ments of monopoly respectively. Together they form the substance of monopoly power.

If we turn back to the representation of the process of production and circulation in Figure 5, it will be clear what are the main material elements subject to monopoly control. For the purpose of our current discussion I will pick out raw material reserves, product and process know-how, and technical and organisational skill: all of these either in the embodied form of a primary or intermediate input, or disembodied as separate components of the production process. To these we should add the initial capital stock, and the final source of realisation – the customer.

The restrictive aspect of monopoly has eight dimensions:

- a. natural limits (restricted raw material sources for example points of sale, or operating space as in broadcasting channels);
- b. geography, and the communications costs facing would be substituted;
- c. market ignorance, whether of sales outlets or of sources of supply;
- d. technical ignorance;
- e. political protection from substitution;
- f. agreements between alternative suppliers or buyers, in the form of cartels;
- g. agreements between the two parties to the exchange (in the form of contractual obligations) not to seek alternative buyers or suppliers;
- h. indivisibility of production, and the minimum scale of operations required to produce an alternative.

In a state of pure competition none of these dimensions are significant. There is no 'gap in the chain of substitution'. In pure monopoly, where there is no effective substitution, the limit to the monopolist's power is set by the material aspect of monopoly control, by the usefulness of the product supplied by the monopolist. The buyer may withdraw from the market, the supplier pour his water back down the well. Most situations, however, fall between these limiting cases. Competitors, under the protection of their own barriers, are monopolists; monopolists, over time at least, are competitors. The difference is one of degree rather than one of kind.

In terms of these distinctions international firms tend to have considerable monopoly power in underdeveloped countries. They supply key inputs to these economies: earlier literature emphasised the capital contribution; more recently attention has turned to their supply of know-how, skilled labour and organisational experience. These are the material elements of monopoly, the necessary but not sufficient conditions for the exercise of monopoly power.

We are more concerned with the restrictive elements. Of these, I would first like to return to the question of indivisibility and integration. We have already seen how the dictates of time economy have led to the extension of the economic range of planned co-ordination, to vertical as well as horizontal integration. One consequence of this is a concentration of industry, a cutting down of competitors. Another is that rival firms may be expected to have their own sources of supply and outlets, and may, in the short run at least, be restricted in buying from or selling to outsiders to their system. Further the elements of their production and distribution system may be quite different from the comparable elements in a rival firm, even though the final outputs of the competitors are similar. What may fit into the synthetic process of one firm may not fit into that of a rival. The process of integration, in short, may not only increase the interdependence of the elements of a system; it may also decrease the transferability of those elements to similar systems.

Runaway plants are a clear instance of the point as far as underdeveloped countries are concerned. They commonly receive their intermediate products from sister subsidiaries abroad, and re-export their processed material to other subsidiaries. In the twin plants on the Mexican-US border, products may be shunted backwards and forwards across the frontier a number of times according to the factor intensity of the successive processes. Each part will be dependent on the rest; we need only imagine the limitations of facing a country which nationalised the facilities for making any one of these processes. While the international firm might be thought to be similarly dependent on those countries in which their single processes were located, it is interesting that international firms keep reserve plants – commonly in their politically safe home country – to guard against disruptions of this kind.¹⁰³

Considerations of the same kind apply to primary production. International extractive subsidiaries direct their output according to the global requirements of the parent firm, or of major customers linked by long term contract. Where the world market is concentrated among a small number of vertically integrated firms, it will be hard for a country which has nationalised raw material production to sell large quantities of the material – disregarding the question of a collective boycott amongst potential purchasers. It will be additionally difficult to sustain operations when the expropriated firm customarily supplied inputs and technicians.

It was the lack of outlets, inputs and technicians which forced the Guinean government to re-open negotiations with western aluminium firms after the nationalisation of Aluminium Ltd. at Boké in 1962. Cuba, after its nationalisation of oil companies in 1960, faced not only these but

the additional problem of technical tying, when the oil companies held up supplies of spare parts. As William Hoskins put it in his article on how international firms could counter expropriation, 'A foreign investment which acts as an economic base for other local enterprise and sells its entire output to a vertically integrated US affiliate operating in an oligopolistic market exemplifies the ideal position of power.'¹⁰⁴

The above type of dependency results from the indivisible nature of certain processes of production and circulation. It becomes increasingly difficult to decompose rival processes and make up, as from a kit, a combined process geared in scale, cost and type of production to the conditions of a peripheral economy. The choice is between rival processes, between packages. The scale required to produce these total packages is such as to have already restricted the number of metropolitan firms who can offer them, let alone new operations based in the periphery.¹⁰⁵

There are a few sectors where this tendency has led to the domination of the world economy by a single firm: American Metal Climax in molybdenum, International Nickel in nickel, SKF in ball bearings, Swedish Match in matches, all have a dominant world role, but all face competitors. More usually it is a case of oligopolistic competition between firms of equivalent size, (in some sectors there is a distinction between majors and minors.) Such a structure characterises the world oil industry, bauxite, motor manufacture, canning, rubber, drugs, nylon, heavy electricals and so on. In these sectors, a further dimension of restrictive monopoly power becomes relevant, that concerning agreements or understandings between alternative sources of supply or demand.

International cartels are the most explicit form which this restrictiveness can take. Some control output, others prices, others assign areas of monopoly privilege to the cartel members. They exhibit a type of corporate colonialism. For example, the quinine cartel which ran from 1959 to 1962 attempted to restrict supply sources to the Indonesian manufacturers of quinine. They shared out export markets amongst themselves, and operated a group boycott of underdeveloped country exports (particularly from the Congo). A similar division of the world into exclusive markets, so-called 'hunting-grounds', took place in the recent cartel in red phosphorous.¹⁰⁶

Most of our evidence on international cartels refers to the first half of the 20th century, particularly to the inter-war period.¹⁰⁷ However short-lived, international restrictive agreements appear to have characterised a great many industries in which other dimensions of restriction did not operate. One official study in Britain estimated that 16% of the value of total gross output of UK factory trade in 1935 was the subject of inter-

national agreements, and that in 1938 34% of UK exports of those goods subject to cartelisation were similarly involved.¹⁰⁸ The general economic expansion of the 1950's and 60's, together with the liberalisation of international economic relations have not provided the conditions for stable cartels: there have been mutual encroachments by metropolitan countries on each other's preserves in the underdeveloped countries. Market shares have changed rapidly particularly under the influence of the expansion of the former axis powers. Nevertheless, the concentration and centralisation of industry in the advanced capitalist countries which is also a feature of the post-war period, particularly since 1958, has meant two things. First, some of the cartelisation of the inter-war period has been internalised within international firms. The limitations on exporting imposed by parents on subsidiaries or contractees in underdeveloped countries is an aspect of this.¹⁰⁹ Second, the smaller number of firms on a world scale make it more possible to arrange and keep international restrictive agreements.

Further, in spite of the limited contemporary data, there is evidence of inter-firm restrictive agreements which increase the monopoly power of firms vis à vis underdeveloped countries: in steel wheels, fertilisers, man-made fibres, heavy electricals, shipping, as well as a large number of national import and export cartels.¹¹⁰ In some sectors the collective power of international firms has been used even more directly in negotiations with underdeveloped countries. The oil industry is a good example here; the oil majors have shown a remarkable solidarity, not only in their recent bargaining with OPEC, but in their long-term battle against Soviet crude, in their boycott of Iran in the early fifties, and of Cuba in 1959-60.¹¹¹

Where it is difficult to find substitutes from among international firms, it may still be possible for the government in the periphery to develop domestic alternatives. The problem here is partly one of scale in the sense of financial resources and the inaccessibility of controlled overseas markets. It is also a question of technology which could be subsumed as another aspect of scale, but which for this discussion I have distinguished as a separate dimension.

In section II I argued that there is a tendency in a capitalist system for the centre to reproduce its technological monopoly because of economies of scale and agglomeration in technological production. A peripheral economy will therefore start at a disadvantage. When the international circulation of technology takes place via international firms this disadvantage may be compounded. For the control over technology which we have discussed in its technical aspect, will also be used restrictively.

Firms will not merely have the power of co-ordinated withdrawal of the technology package, they will also – and this is the relevant point here – be able to restrict the periphery's application of substitutes.

There are cases, for example, where international firms have re-enforced their dualistic relation to the peripheral economy in order to maintain a restrictive monopoly control of technology. In Zambia the copper companies made a point of not training Zambians in certain mining techniques in order to maintain Zambian dependence on the companies and thus forestall expropriation. Alternatively, where the foreign firm cannot expect to maintain control over information, it will commonly reproduce a temporary technological advantage by means of long term agreements. Study of technology contracts has brought to light a number of examples where the time covered by the agreements exceeds that of the technology's probable scarcity. Patents afford a similar protection, and have been widely used to maintain monopoly privileges for foreign importers into underdeveloped countries. The practice of importing scarce technology as part of a package whose other components are far from scarce but which must be all bought from the technology suppliers is a further example of restrictions being placed on alternative domestic (and indeed foreign) suppliers.¹¹² Finally possible peripheral sources of substitution can be brought under the international firm's control by takeover, and integration into its system.

In all these ways international firms confirm their monopoly power vis-à-vis the periphery not merely by producing new technology in the centre, but by restricting the spread and legal possibility of substitution either by peripheral capital or other international firms.

The informational disadvantages of capital and governments in the periphery lead directly on from this, and we have already discussed some of the features in relation to the ability of international firms to get round government controls. I would like to bring out one other aspect, as it relates to the political dimension of monopoly power. We commonly find that one of the main instruments of the monopoly power of international firms in underdeveloped countries are the government's themselves. Foreign firms tend to be granted any or all of a variety of monopoly privileges. They may be financial advantages, such as tariff protection, tax concessions, cheap credit, low cost productive locations, or restrictions on the organisation of labour. Or they may be restrictions of an administrative kind: import quotas, sole franchises, patents. Some of these may be granted as general incentives, others as a result of individual negotiations. It is not uncommon for foreign firms to demand monopoly privileges as conditions for entry: ICI in Argentina or Bechtel in India

are cases in point. For footloose capital these concessions may be determined by the concessions available elsewhere: countries compete to grant the most favourable privileges, as in the case of labour and tax havens. But they are also granted to individual firms because peripheral negotiators find it difficult to challenge representations made by foreign firms that these privileges are necessary for them to earn their minimum required rate of return on capital.¹¹³

Another aspect of the political reinforcement of monopoly power is the support given to international firms by the governments of their country of origin. Again this support takes a variety of forms: the direct or indirect subsidisation of exports of goods, technology and/or capital; the granting of credit in the form of aid tied to the purchase of the donor's capital goods, or to the support of operations in the periphery by the donor's capital; the establishment of preferential agreements with underdeveloped countries on the flow of goods and capital such as to give the advanced countries' capital privileged access to these economies – consider the advantages given to the respective metropolitan capitals under the arrangements of the sterling area and franc zone; the development of cultural domination in underdeveloped areas – schooling, higher education, mass communications, language, – which will again give the metropolitan firms an advantage via the information dimension of monopoly power.

One further form of support should be mentioned, that which a metropolitan government provides in order to enforce respect for its capitals' property and contractual rights in underdeveloped countries. That is to say, once a monopoly position has been materialised in a contract, the metropolitan government will back its capitals' efforts to see that the terms are adhered to. Part of the support will take a procedural form: the negotiation of investment guarantee agreements with underdeveloped countries, the development of international codes of practice on the subject, and of national provisions.¹¹⁴ In addition, metropolitan governments act more directly: threatening to cut aid (as under the Hickenlooper Amendment), to stop trade (as under the US Trading with the Enemy Act), or indeed to intervene militarily, or by political intrigue via a secret service.¹¹⁵

Metropolitan governments therefore strengthen the monopoly power of their international firms first by making it more difficult to substitute the material elements provided by these firms to the peripheral economy (through action along a variety of the restrictive dimensions) and second by increasing the cost to the peripheral economy of going without the material elements altogether.

This second point takes us a further step in the argument. I have until now stressed the restrictive power of international firms, their ability to prevent peripheral capitals or governments finding alternative sources to supply the material elements of production and reproduction. But as we noted above, even in a position of complete non-substitutability, of complete monopoly, there are limits set by the importance of the material elements in question to those on the receiving end of monopoly power. In the case of peripheral economies, once more we find them in a weak position.

In financial terms, many primary exporting underdeveloped countries are heavily dependent on a small number of international firms for their foreign exchange earnings and their government revenue (see Table 1 for government revenue figures for oil producers – the figures for foreign exchange dependence tend to be higher). Capital and labour entrepôts can become similarly dependent on foreign investors as a source of foreign exchange. Ireland for example developed an indicative planning procedure for their second plan which left the Balance of Payments deficit as the residual item. The items in the balance of payments most sensitive to government policy were those involving foreign firms, particularly the inflow of new foreign capital. This led the Irish government into offering ever more liberal incentives to foreign investors as a way of maintaining the inflow.¹¹⁶

In real terms, too, underdeveloped countries are heavily dependent on foreign investment. Many of them have a large proportion of their manufacturing industry controlled by international firms, formally or informally. I have already cited figures for Nigerian manufacturing. In Rhodesia a questionnaire conducted amongst most companies with a nominal capital of over £20,000 showed that foreign controlled companies accounted for over two-thirds of gross profits, disposable funds, and gross domestic capital formation. In Swaziland the first Census of Industrial Production showed that 24 foreign owned units accounted for 88% of the manufacturing output covered. In Latin America, a survey of Mexican industry published in 1962 shows that of the top 100 companies 56 were controlled from abroad; among the top 400 companies foreign firms accounted for 54% of the sales; if public companies are excluded (and their share in manufacturing was small) foreign controlled groups accounted for 70% of the sales invoiced. In Brazil a survey of 276 consortia with capital in 1962 of one billion cruzeiros or more showed that over half the capital invested was held by foreign groups.¹¹⁷

We would not expect all these firms to act together as a co-ordinated force against the peripheral government. Some of them, too, would be

small and of little significance. But the figures do suggest the vulnerability of these areas to a capital or technological strike, particularly when such actions are reinforced by the political sanctions we have just discussed.

The monopoly power of international firms which has been the subject matter of this section, increases the proportion of the periphery's surplus value appropriated by metropolitan capitals, and imposes the locational preferences of these capitals against attempts by governments to get the surplus value re-invested in the periphery. Monopoly power sets limits to nationalism.

This is not to say that there are not degrees of freedom within these limits. Classes in underdeveloped countries, and the institutions which represent them, do have some power to offset the force of the market as imposed by international firms.

To begin with the economic elements found in the periphery often have considerable significance for international firms. Raw materials are a case in point: the international oil companies are still heavily dependent on oil from the periphery; as are firms producing aluminium, copper, asbestos, chrome, iron ore, or primary commodities like coffee, bananas, rubber and so on. For intermediate and final goods producers the markets of the periphery are still generally marginal as far as quantity is concerned. Yet where marginal profit rates are high, and where the market shares of oligopolists are relatively stable in the advanced capitalist countries, peripheral markets do become a significant factor in world wide competition. Japanese capital in particular has concentrated its overseas expansion in peripheral countries because of the relative openness of their markets compared to those of Europe and North America. In 1966, 60% of the book value of Japanese investment was in less developed countries, and nearly half of that was in manufacturing. The Japanese were also among the first to see the competitive importance of exploiting cheap labour through runaway industries.

In spite of this general dependence, international firms have often been able to preserve their bargaining power by developing substitutes. I have already mentioned the reserve plants built by runaway firms. Raw material firms have been developing non-peripheral sources of supply: Alaskan oil and North Sea oil and gas, the mineral discoveries in Canada and Australia. Many firms have also profited from peripheral governments bidding against each other in order to attract foreign capital, that is to say substitution is possible between the peripheral countries themselves. Of course, where it is a case of an existing investment the foreign firm will be concerned with the loss of capital value and not merely with the interruption of its process of production and circulation. While, there-

fore, the underdeveloped country has a corresponding power over foreign held assets within its boundaries, this power is weakened by the legal and indeed penal restrictions we discussed earlier.

There are a variety of measures open to governments in underdeveloped countries to strengthen their position, both by increasing the dependence of firms on themselves, and decreasing their dependence on the firms. Among the former, collective action against foreign firms has been canvassed and in some cases practised. OPEC is a good example of collective action between countries, and it has undoubtedly strengthened the bargaining position of the oil producing countries in the short run. The Andean Pact has a much shorter experience: its members have agreed (under decision no 24 of December 1970) to establish common demands of foreign importers of technology, to prevent member countries bidding each other down by establishing limits to concessions, and to pursue common policies in international bodies. A third example of collective action, CEPEC, the organisation of the four major underdeveloped copper producing countries has made less headway.

In all three of these examples, the difficulties of co-ordinating countries with differing conditions, and differing regimes have been evident, (consider Iran's role in OPEC, the Congo's in CEPEC, or first Colombia's and then Ecuador's in the Andean Pact). This does not mean that some common action will not be possible - OPEC provides evidence to the contrary. But even OPEC'S role has been comparatively limited compared to the other factors which have undermined the monopoly power of the major producers of crude over the last 15 years.¹¹⁸

Where such common action may have more success is in the reduction of some aspects of the international's firms restrictive power: particularly in the field of information, and the nature of contractual agreements. OPEC for example has made a significant contribution by disseminating information to producer countries on the structure, mode of operation, and competitive position of the major international oil companies, and by developing model contracts. Decision no 24 of the Andean Pact makes provision for the pooling of information on technology imports, statistics, authorisations, international prices, alternative international sources, as well as for the production of a model agreement for double taxation contracts, and guidelines for authorisation, registration and control of foreign investment. It also seeks to standardise methods of valuing stocks and investments, and to establish information and control systems for the prices of intermediate products provided by foreign technology or capital suppliers. Such action in the field of information may be given a much wider range as the result of the current initiative at UNCTAD.

In terms of the restrictive dimensions of monopoly power there are, therefore, a number of ways in which nationalist governments in the periphery can restrict the appropriation and relocation of surplus value by international firms. They can clearly derive considerable gains from improving their access to information. They have legislative powers and can reduce the political protection granted to international investors. They can avoid concluding disadvantageous contracts. Over time some of them may be able to provide a growing number of the elements of productive activity: skilled labour, organisational ability, a quantum of independent technology, intermediate inputs. They may also be able to develop united action between themselves in order to prevent the playing off of one against another.

In the long run, however, international firms will retain their structural dominance. While there will be periods of sharp inter-metropolitan rivalry, allowing international firms to be played off against each other, and periods of competitive dependence on individual peripheral areas, international firms will continue to reproduce their technological advantage, and the concomitant power of support from their metropolitan states. Above all the growing indivisibility of production on a world scale, and its consequences on which I have laid such stress - integration and the socialisation of labour - increasingly bind the peripheral areas into the world economy. It will widen the range between the scale on which certain commodities can be produced in the periphery itself, and the scale on which they can be produced on the world market. This decreases the number of competitive metropolitan sources from which the goods are available, increases the costs of autarchy, and thus the dependence on international firms.

These are general theses about the long term, and are put forward a priori. We clearly need to know a good deal more about the sources of monopoly power as they affect the relations of international firms and peripheral societies, how they develop over time, to what forces they are subject. What we can say is that those few studies of detail which have been made, notably by Vaitos, Kidron, and Girvan, do establish the significance of the international firm as an institution, whose monopoly power affects the rate of accumulation in the periphery, over and above that dictated by international market forces.

CONCLUSIONS

I have suggested that attempts by peripheral governments to alter the

market determined pattern of international location will be bounded by the power of international firms. But, and this is an important point against institutional interpretations of distribution, these attempts would be limited even without the imbalance of power. They would be limited by the market.

By the laws governing location, peripheral areas tend to be high cost areas of production. In principle it is possible to insulate such economies from the competition of the world market, to prevent the flow of capital across the exchanges, to severely restrict imports both of goods and technology, to become autarchic. In that sense there is no technical limit to autonomous accumulation in the periphery. Differential production costs internationally do not by themselves set the bounds. Rather when productivity differentials are high, when the immediate gains from trade and international factor movements appear considerable to holders of capital on both sides of the frontier, then the pressure both internal and external, against an autarchic policy will also be large. They will be larger, the smaller the internal market, the greater the degree of capital competition within the peripheral area, the greater the power of the controllers of capital relative to other classes. Even when the underdeveloped area is organised on socialist rather than capitalist principles, historical experience has shown how difficult it is to insulate the growing economy from the international law of value.¹¹⁸

Once the measures taken to protect the high cost economy from the world market are removed, the peripheral area will be restricted to that production determined by the locational forces of the world market system. The market will impose its logic in the sphere of circulation, but the logic will be derived from the conditions of production. Underdevelopment is not brought about by unequal exchange, rather unequal exchange reflects unequal conditions of production. The emphasis on production rather than exchange, on the market rather than on particular institutions, and, following on from these, on the international economy as a single capitalist market system rather than as an aggregation of independent, homogenous, nation states, these together are the first set of conclusions I want to bring forward.

The second set concern the effects of the integration of the periphery into the world market, particularly those resulting from integration via the international firm. In my argument I have tried to keep to the forefront the twin features that characterise all capitalist development: on the one hand the constant development of the techniques of production and circulation, on the other, the anarchic system of distribution (both geographical and social) which results from the imperatives of capitalist

accumulation. Some writers on the international firm have concentrated entirely on the former, and it is undeniable that imported technology often revolutionises production and circulation in the periphery. But to base policy recommendations on this alone is in the interest solely of those who benefit from the revolution of techniques. And it is a characteristic of capitalism that the distribution will be highly unequal. To discuss these results in terms of aggregates: overall net benefits, development effects, and so on is to fudge the point. To neglect the distributional power of the international firm in any discussion of foreign investment is similarly misleading.

A third set of conclusions follow directly from this and concern the significance of states as institutions in determining social and geographical distribution internationally. As far as states in the periphery are concerned, some writers have seen them as capable of rectifying the inequalities brought about by foreign investment, by taxation and redistribution of the enlarged surplus value. This assumes first that they have the practical power to appropriate the surplus value controlled by the international firms: an assumption which I have suggested is open to doubt. It assumes also that the government has an interest in redistribution, and can effectively carry it out. This a-social view of government is also questionable. Governments do not stand outside the class antagonisms of their societies: they are part of them. They are also part of an international antagonism between national groups within the same class. The use which governments make of appropriated surplus value will be determined by these two considerations.

The same two points – the social nature of governments and their redistributive power – should be taken into account in considering metropolitan states. These states represent systems of capital subject to the laws of accumulation by virtue of international competition. Surplus value not re-invested in cost reducing (or other monopoly increasing) activities will weaken the system relative to other rival metropolitan systems.

This has limited the degree of social (and regional) redistribution which has taken place in these areas. It also limits (via the stated interests of capital and metropolitan labour) the redistribution of surplus value to the periphery. The history of the aid programmes in these countries reflects the point. In the same way that the laws of the international market sets limits to economic capitalist nationalism in the periphery, so they set limits to redistributive internationalism in the metropolis.

NOTES

1. G. M. Meier, *Leading Issues in Development Economics*, Oxford 1964, pp. 151-2, and also D. MacDougall, 'The Benefits and Costs of Private Investment from Abroad: a Theoretical Approach', *Economic Record*, March 1960.
2. On time economy: Part IV of Volume I and Part II of Volume II of Marx's Capital, Moscow edition, and the paper 'The Dual Economics of Transition' by Alfred Sohn-Rethal, presented to the 2nd Conference of Socialist Economists, Cambridge, October 1970. I have discussed the relationship between time economy, specialisation and scale in the shipbuilding industry in chapter III of an essay *UCS, the Anatomy of Bankruptcy*, Spokesman Books, 1972, pp. 61-73.
3. See for example, O. E. Williamson, 'Hierarchical Control and Optimum Size Firm', *Journal of Political Economy*, LXXV, April 1967, pp. 123-38.
4. A useful collection of papers related to the above is ed. T. W. McRae, *Management Information Systems*, Penguin Books 1971. Also, R. Vernon, 'Organisation as a Scale Factor in the Growth of Firms', in eds. J. W. Markham and G. F. Papanec, *Industrial Organisation and Economic Policy*, Houghton Mifflin, 1970, pp. 47-66. For an earlier treatment of the subject see, R. S. Edwards, and H. Townsend, *Business Enterprise: Its growth and Organisation*, MacMillan, 1958, Chapters VIII and IX.
5. On geographical hierarchies see Chapter V of Peter Haggett, *Locational Analysis in Human Geography*, Arnold 1965, pp. 114-152, and the references cited therein.
6. For suggestive work on this subject see: E. L. Ullman and M. F. Dacey, 'The Minimum Requirement Approach to the Urban Economic Base Papers', *Regional Science Association*, 6, pp. 175-194.
7. R. E. Baldwin, 'Patterns of Development in Newly Settled Regions,' *Manchester School of Economics and Social Studies*, Vol 24, May 1956, pp. 161-179.
8. M. H. Watkins, 'A Staple Theory of Economic Growth', *The Canadian Journal of Economics and Political Science*, Vol. XXIX no. 2, May 1963.
9. D. Landes, *The Unbound Prometheus*, Cambridge 1970, p. 336. For a more general discussion of the latecomer thesis, see, E. Ames and N. Rosenberg, 'Changing Technological Leadership and Industrial Growth', *Economic Journal* Vol LXXIII March 1963, pp. 13-31.
10. J. R. Lasuen, 'On Growth Poles', *Urban Studies*, June 1969, Vol. 6 no. 2, pp. 144, and 159.
11. J. Tinbergen, 'International, National, Regional and Local Industries' in R. E. Baldwin et al., *Trade, Growth and the Balance of Payments, Essays in Honour of Gottfried Haberler*, North Holland Publ. Comp., 1965, pp. 116-125; a list of international, national and regional sectors is contained in Appendix V of L. B. Mennes, J. Tinbergen, J. Waardenburg, *The Elements of Space in Development Planning*, North Holland Publ. Comp., 1969, pp. 314-317.
12. It is interesting that on a national rather than international level, there has been a tendency for manufacturing industry to shift from the principal city to the suburban fringe. For US evidence see E. M. Hoover, *The Location of Economic Activity*, McGraw Hill, 1948, p. 159-160.
13. *ibid.* pp. 155-158. and: J. G. Williamson, 'Regional Inequality and the Process of National Development: a Description of the Patterns,' *Economic Development and Cultural Change*, Vol 13, 1965, pp. 3-45.
14. Peter Worsley in the Introduction to his book *The Third World*, Weidenfeld and

- Nicholson, 1964, gives some striking examples of the insulation of different areas of the world from each other during this period.
15. For a discussion of integration as planned co-ordination see R. Erbes, *L'Intégration Économique Internationale*, P.U.F. 1966.
 16. This argument is presented more fully in my paper, 'The internationalisation of Capital and the Nation State' in: ed. J. H. Dunning, *The Multinational Enterprise*, Allen and Unwin, 1971, pp. 265-288.
 17. For other consequences of the socialisation of labour (that is to say, the relation of workers to each other directly within a firm rather than via the market) see: Alfred Sohn-Rethal, *Intellectual and Manual Labour: Attempt at a Materialistic Theory*, Birmingham, 1971, of which a fuller version has been published in German, *Geistige und Körperliche Arbeit*, Suhrkamp Verlag, 1971: also C. Palloix, *L'Économie Mondiale Capitaliste*, Maspero 1971.
 18. On peripheral class formation see: S. Amin, *L'Accumulation à l'Échelle Mondiale*, IFAN Dakar/Éditions Anthropos, 1970, Chapter II, 'Les formations du capitalisme périphérique' pp. 159-376; two articles by G. Arrighi and J. Saul, 'Socialism and Economic Development in Tropical Africa' *Journal of Modern African Studies*, Vol VI no. 2, 1968, pp. 141-169 and 'Nationalism and Revolution in Sub-Saharan Africa' in eds. R. Miliband and J. Saville, *Socialist Register*, 1969, Merlin Press pp. 137-188; F. H. Cardoso, 'The Entrepreneurial Elite in Latin America,' *America Latina* Año 10, No 4, Oct./Dec. 1967, pp. 22-47.
 19. N. Girvan, *Multinational Corporations and Dependent Underdevelopment in Mineral Export Economies*, Yale Economic Growth Centre Discussion Paper no. 87, June 1970, p.1.
 20. H. D. Huggins, *Aluminium in Changing Communities*, Deutsch 1965, p. 50. On the same subject Girvan comments: 'To smelt in North America gives the companies significant external economies: the increased demand for produced inputs such as alumina, aluminium, fluoride, coke and hydro-power and the resulting internal economies in these activities, and proximity to using plants such as semi-fabricators. These external economies become the opportunity costs of smelting in the Caribbean with little, if any, external economies in return.' see: *Regional Integration vs. Company Integration in the Utilisation of Caribbean Bauxite*, University of Puerto Rico, Institute of Caribbean Studies, 32nd Caribbean Scholars Conference 1966, Caribbean Integration. p.110.
 21. As regards copper fabricating in Zambia, the two mining firms, RST and Anglo-American, showed themselves most reluctant to integrate forwards in Zambia by setting up such a plant. This was partly because of tariff barriers protecting developed country markets, and partly because the plant would compete with established European fabricators many of whom were their customers. They were finally forced to agree to local fabrication by the readiness of a rival international consortium to go ahead with the scheme. See: *The Economist* (London), 22nd April 1967, p. 379.
 22. S. Amin, *Trois Expériences Africaines de Développement: le Mali, la Guinée et la Ghana*, P.U.F. 1965, pp. 153-8. On the limitations of the external economic effects of Fria see: G. Bell, *Le Projet de Pôle Electro-Métallurgique de Fria*; *L'Énergie Hydro-électrique et le Développement*, *Cahiers de l'I.S.E.A.*, Supplément no. 141. F. no.18. September 1963.
 23. ed. R. F. Mikesell, *Foreign Investment in the Petroleum and Mineral Industries*, John Hopkins 1971, p. 428.
 24. M. Mamelakis, 'Contribution of Copper to Chilean Economic Development, 1920-67: Profile of a Foreign Owned Export Sector' in ed. R. F. Mikesell, *op. cit.* pp. 393,

- 1416-7. Also: C. W. Reynolds, 'The Development Problems of an Export Economy: the Case of Chile and Copper.' in, M. Mamalakis and C. W. Reynolds, *Essays on the Chilean Economy*. Yale 1965.
25. ed. R. F. Mikesell, op.cit. see particularly, W. G. Harris, 'The Impact of the Petroleum Export Industry on the Pattern of Venezuelan Economic Development,' p. 130; W. H. Bartsch, 'The Impact of the Oil Industry on the Economy of Iran,' p. 244; and H. Gomez, 'Venezuela's Iron Ore Industry,' p. 339.
26. *ibid.* D. A. Wells, 'Aramco: the Evolution of an Oil Concession,' p. 232.
27. *ibid.* pp. 141, 232, 257, 410. see also H. D. Huggins op.cit. p. 129.
28. ed. R. F. Mikesell, op.cit. pp. 232, 338, 339, 416, 417. Reynolds in his study on Chile (see note 24) found that the main reason for the rise of his measure of net returned value from 38% in 1925 to 56% in 1959 was the increased portion going to the Chilean government. Reynold's measure, it should be noted, differs somewhat from that of Mamalakis.
29. ed. R. F. Mikesell, op.cit. p. 235.
30. J. V. Levin, *The Export Economies: their pattern of Development in Historical Perspective*, Harvard U.P. 1960.
31. C. Meillassoux, *Anthropologie Économique des Gours de Côte d'Ivoire*, Mouton 1964. I am grateful to Stephen Hymer for introducing me to Meillassoux's work, and for stimulating discussion on this point.
32. E. C. Edozien, 'Linkages, Direct Foreign Investment and Nigerian Economic Development,' *Nigerian Journal of Economic and Social Studies*, Vol. 10. no. 2. July 1968, p. 200.
33. A. Mabogunje, *Growth Pole Development in the Nigerian Space Economy*, Paper to the Conference on Growth Pole Hypotheses and Policies, Madrid September 1970; Mabogunje notes also that 'the linkage effects and external economies generated by these (manufacturing) industries would appear to give rise simply to the establishment of more industries of the same type.' p. 6.
34. E. Nevin, *Capital Funds in Underdeveloped Countries*, Macmillan, 1961, p. 45.
35. OECD, DAC (68) 14, 23 April 1968, p. 28, Figures reprinted as Table 1 in S. E. Rolfe, *The International Corporation*, Background Report to the XXIIInd Congress of the International Chamber of Commerce, Istanbul 1969, p. 145.
36. J. S. Bain, 'Economies of Scale, Concentration, and the Condition of Entry in Twenty Manufacturing Industries,' *American Economic Review*, Vol. XLIV no. 1. March 1954.
37. R. Stobaugh, 'Where in the world should we put that plant?,' *Harvard Business Review*, January-February 1969, pp. 133-4.
38. J. Baranson, 'Automotive Industries in Developing Countries', *World Bank Staff Occasional Papers*, no. 8. I.B.R.D. 1969, pp. 28 sq.
39. For a fuller discussion of the pattern of foreign investment in this part of Africa, see R. Murray and C. Stoneman, *Private Overseas Investment in Southern and Central Africa*, paper presented to the Chatham House Seminar on Southern Africa, June 1970. (mimeo).
40. For the evidence of this paragraph see: G. Adam, *New Trends in International Business: World Wide Sourcing and Domiciling*, (2 parts). Paper presented to the International Conference on Multinational Corporations: Trade Union Global Strategies and the Public Interest, Belfast May-June 1971. The Proceedings of the Conference are to be published shortly by the Northern Ireland Legal Quarterly, 21 University Square, Belfast.
41. L. H. Hunt II, 'Industrial Development on the Mexican Border,' *Federal Reserve Dallas Business Review*, February 1970, p. 8.
42. *ibid.* p. 7.
43. Harold O. Walker Jr., 'Border Industries with a Mexican Accent,' *Columbia Journal of World Business*, Vol 4. January/February 1969, p. 28.
44. G. Adam, op.cit. part II p. I.
45. P. Jennings, *Statement to Hearings Before the Subcommittee on Foreign Economic Policy of the Joint Economic Committee*, Congress of the United States. Ninety-First Congress. Second Session. Part 4 - The Multinational Corporation and International Investment. July 27th-30th 1970. Washington 1970. p. 819.
46. United States Tarriff Commission, Economic Factors Affecting the Use of Items 807.00 and 806.30 of the Tarriff Schedules of the United States, Washington, September 1970, p. 170, quoted in: G. K. Helleiner, *Manufactured Exports from Less Developed Countries and Multinational Firms*, mimeo, March 1972. Table 7, p. 48a.
47. G. Adam, op.cit., part I, pp. 5-7.
48. L. Turner, *Multinationals and the Developing World*, Mimco Salford University 1972, p. 168.
49. Discussing those commodities whose production could be decentralised to underdeveloped countries, Vernon writes: 'Their production function is such as to require significant inputs of labour; otherwise there is no reason to expect a lower production cost in less-developed countries. At the same time, they are products with a high price elasticity of demand for the output of individual firms; otherwise, there is no strong incentive to take the risks of pioneering with production in a new area. In addition, products whose production process did not rely heavily upon external economies would be more obvious candidates than those which required a more elaborate industrial environment. The implications of remoteness also would be critical: products which could be precisely described by standardised specifications and which could be produced for inventory without fear of obsolescence would be more relevant than those which had less precise specifications and which could not easily be ordered from remote locations. Moreover, high value items capable of absorbing significant freight costs would be more likely to appear than bulky items low in value by weight. Standardised textile products are, of course, the illustration par excellence of the sort of product that meets the criteria. But other products come to mind such as crude steel, simple fertilisers, newsprint and so on.' R. Vernon, 'International Investment and International Trade in the Product Cycle', *Quarterly Journal of Economics*, Vol. LXXX no. 2 May 1966, pp. 203-204.
50. United States Tarriff Commission, op.cit., Helleiner pp. 42a, 42b. For Mexican border industry figures, see P. Camarena, 'The Runaways', *Free Labour World*, No. 245. November 1970. p. 17.
51. It is noteworthy that a majority of workers in border industries in Mexico are women, and that in Hong Kong, child labour is used in one in four of the factories (c. 34,000 children p.a. between the ages of 12 to 14 seek work in the colony). The employment of women and children, together with the length of the working day for workers of both sexes in the labour havens of South East Asia, is reminiscent of another period of de-skilling, the first half of the nineteenth century in England. For the contemporary evidence see: P. Camarena, op.cit. p. 18 and L. Turner, op.cit. p. 175.
52. On Ireland see: J. Meenan, *The Irish Economy since 1922*, Liverpool U.P. 1970

- p. 68. On South-East Asia see Bela Balassa, *Industrial Policies in Taiwan and Korea*, *Weltwirtschaftliches Archiv*, Band 106, 1971, Heft 1, p. 73; *Business Asia*, March 19, 1971, p. 93; both quoted from G. Adam, op.cit. part II p. 83, n. 112.
53. *Survey of Grant Aided Industry*, Dublin, October 1967, Tables 2.14 and 2.16.
54. A-S Ericson, 'An Analysis of Mexico's Border Industrialisation Programme', *Monthly Labour Review* 93, May 1970, Table 2, p. 36. and G. Adam, op.cit. p. 52.
55. 'some fears have been expressed that export incentives offered by the South-Korea Government might be excessive, channelling into the export sector resources that could be used to greater advantage in other activities and contributing to an increase in domestic liquidity. In addition the Government's export-first policy has to some extent impeded the development of some sectors of the economy, such as the agricultural and industrial sectors that cater to the needs of the domestic market, and this has resulted in large imports of consumer goods and foodgrains.' Hyong Chun Kim, Korea's Export Success, 1960-69, *Finance and Development*, March 1971, p. 21. quoted G. Adam op.cit. part II pp. 48-49.
56. The overall figure for value added abroad on US imports under item 807.00 from less developed countries is relatively high, 43% of the total value of the imports in 1969. We do not know how much of this represents profits. see, G. K. Helleiner, op.cit. Table 4, pp. 42a, 42b.
57. G. Adam, op.cit. pp. 17-24.
58. The recent ILO report on Ceylon contains an interesting critical discussion of the proposal for an export processing zone on the island. ILO, *Matching Employment Opportunities and Expectations, a Programme of Action for Ceylon*, Geneva, 1971, Report, pp. 113-116.
59. G. Adam, op.cit. p. 51.
60. The experience of nationalisation in underdeveloped countries has often underlined this point both to the governments concerned and the foreign investors. The following is an illustrative comment from an article in the Harvard Business Review on how foreign investors can limit the threat and effects of nationalisation: 'Confiscation, in essence, is simply a change of ownership. If the expropriated enterprise is a useful part of an economic system, then legal ownership is - at least for economic purposes - immaterial. If animosities arising out of the confiscation process and the conditions which set it in motion can be overcome, and if the investor really is important to the continued success of the investment, then it should be possible to continue business practices in much the same way as before confiscation. The only significant difference is that the investor would act as a contractor or agent rather than a proprietor.' W. R. Hoskins 'How to Counter Expropriation,' *Harvard Business Review*, September-October 1970, p. 111.
61. For an interesting case study of this point, see: M. Kaldor, 'A European Aerospace Industry', *Bulletin of the Conference of Socialist Economists*, II, 1, Summer 1972.
62. E. T. Penrose, 'Limits to the Size and Growth of Firms,' *American Economic Review*, Vol XLY, no. 2. May 1955, reprinted in E. T. Penrose, *The Growth of Firms, Middle East Oil and Other Essays*, Cass, 1971. (henceforward referred to as 'Collected Essays'), p. 35.
63. H. G. Johnson, 'The Efficiency and Welfare Implications of the International Corporation,' in. ed. C. P. Kindleberger, *The International Corporation*, MIT, 1970, pp. 35-56. R. E. Caves, 'The International Corporations: The Industrial Economics of Foreign Investment,' *Economica*, New Series, Vol XXXVIII, no. 149, February 1971, pp. 1-27. R. E. Baldwin, 'International Trade in Inputs and Outputs', *American Economic Review*, Vol LX, no. 2. May 1970, pp. 430-434;

- C. Cooper with F. Sercovich, *The Channels and Mechanisms for the Transfer of Technology from Developed to Developing Countries*, UNCTAD, 1970, TD/B/AC. 11/5.
64. For the purposes of this paper, I define an international firm as a firm which has control over the instruments of production and/or circulation in more than one country: this control need not necessarily be formal in the sense of ownership, but may be exercised through contracts.
65. J. Hirschleifer, 'On the Economics of Transfer Pricing,' *Journal of Business*, Vol XXIX, No. 3, July 1956, pp. 172-84.
66. J. Behrman, *Some Patterns in the Rise of Multinational Enterprise*, Graduate School of Business Administration, North Carolina, Research Paper 18, 1969. pp. 72-88; D. B. Zenoff and J. Zwick, *International Financial Management*, Prentice Hall, 1969, Chapter 12, pp. 453-473 and the references cited therein; J. Schulman, *Transfer Pricing in Multinational Business*, unpublished thesis, Graduate School of Business Administration, Harvard University, 1966.
67. R. Murray, *ICI and the Kanpir Fertiliser Project*, IDS Teaching Case Study, Sussex University, 1971, mimeo.
68. *ibid.* see also: A. Kapoor, *International Business Negotiations*, New York U.P. 1970.
69. W. Skinner, *American Industry in Developing Economies*, Wiley, 1968. p. 105. 'At a vehicle assembly plant in Turkey the hood of a large truck would not close properly. A worker lifted a hammer and smashed down at the catch four or five times, paint chips scattering, until it finally closed. Then he turned to the researcher and said with a grin, 'That's the Turkish way.' The truck left the plant ten minutes later,' *ibid.* p. 106.
70. J. Behrman, op.cit. p. 79.
71. G. J. Stigler, 'The Division of Labour is Limited by the Extent of the Market,' *Journal of Political Economy*, June 1951, p. 190. Stigler's argument is quoted in Edwards and Townsend, op.cit. (see note 4), p. 213, who add examples from British industry in support of the thesis.
72. K. J. Arrow, 'Economic Welfare and the Allocation of Resources for Invention,' in: *The Rate and Direction of Inventive Activity: Economic and Social Factors*, National Bureau of Economic Research, Princeton U.P., 1962, pp. 609-626, reprinted in ed. D. M. Lambertson, *Economics of Information and Knowledge*, Penguin Books, 1971. p. 148.
73. Zenoff and Zwick, op.cit. Chapter XII. see also, R. D. Robinson, *International Management*, Holt, Rinehart and Winston, 1967, Chapter 8, pp. 149-161; A. I. Stonchill and L. Nathanson, 'Capital Budgeting and the Multinational Corporation' *California Management Review*, X, No. 4. Summer 1968, pp. 39-54, reprinted in: ed. A. L. Stonchill, *Readings in International Financial Management*, Goodyear, 1970, pp. 121-146; A. D. Bonham Carter, *Centralisation and Decentralisation in Unilever*, paper delivered to the weekly seminar on Problems of Industrial Administration, London School of Economics, May 24th 1955, reprinted in: Edwards and Townsend, op.cit., pp. 335-341; see: Edwards and Townsend also for a discussion of the budget as an instrument of direction and control in Dunlop Rubber Company, op.cit. pp. 218-220.
74. A. D. Bonham Carter, op.cit., p. 341.
75. For evidence of the step by step development of the overseas commitments of international firms, see: W. Skinner, op.cit., pp. 21-5; Y. Aharoni, op.cit., pp. 177-180; P. Kilby, *Industrialisation in an Open Economy: Nigeria, 1945-1966*,

Cambridge U.P. 1969, Chapter 3, pp. 53-80. Kilby found that a major portion of import replacing industrialisation in Nigeria had been carried out by firms which had a previous interest in the market. His summary of the reasons why this should be so puts the main emphasis on the information factor: 'By virtue of his proximity the 'insider' will note any possible opportunity long before an 'outsider'. Likewise with regard to the cost of gathering information and its reliability, the former has an advantage over the latter. Because of his specialised knowledge of the Nigerian economic environment, the market protector's objective risks of failure are less; for the same reason, his margin of error in quantifying these risks is smaller. The insider can count on lower costs by utilising his already established distribution facilities, management overheads and connections with the public bureaucracy. Add to these the galvanising threat of economic loss if such opportunities are not exploited and the market protection hypothesis takes on a high degree of a priori plausibility.' p. 80.

76. A. Rees, 'Information Networks in Labour Markets,' *American Economic Review*, Vol LVI, no. 2, May 1966, pp. 559-566, reprinted in: ed. D. M. Lamberton, op.cit. pp. 109-118.

77. For the significance of search costs and buyer ignorance on the dispersion of prices, see: G. J. Stigler, 'The Economics of Information,' *Journal of Political Economy*, Vol 69, pp. 213-225, reprinted in: ed. D. M. Lamberton, op.cit. pp. 61-82. Behrman, op.cit. p. 79, quotes the case of a company who found that its centralised purchasing department, connected by a hot line with all major supplier markets, greatly affected the profit of the company.

78. E. T. Penrose, 'Foreign Investment and the Growth of the Firm,' *Economic Journal*, Vol. LXVI June 1956, reprinted in *Collected Essays*, op.cit. pp. 64-81; E.R. Barlow and I. Wender, *Foreign Investment and Taxation*, Prentice Hall 1955; R. Stobaugh Jr., 'Financing Foreign Subsidiaries of US-Controlled Multinational Enterprises,' *Journal of Business Studies*, Spring 1970, pp. 43-64; G. V. G. Stevens, 'Fixed Investment Expenditures of Foreign Manufacturing Affiliates of US Firms: Theoretical Models and Empirical Evidence,' *Yale Economic Essays*, Vol 9, no. 1, Spring 1969 pp. 136-198.

79. C. P. Kindleberger, *American Business Abroad*, Yale 1969, pp. 33-5.

80. A. H. Amsden, *International Firms and Labour in Kenya: 1945-70*, Cass, 1971.

81. E. J. Kolde, *International Business Enterprise*, Prentice Hall, 1968, pp. 318-321. There is an interesting discussion of the technological policies of international firms in underdeveloped countries, in W. Skinner, op.cit. pp. 139-161.

82. B. Chinitz, 'Contrasts in Agglomeration: New York and Pittsburgh,' *American Economic Review*, Vol LI, May 1961, pp. 279-289.

83. R. Caves, op.cit. (note 63).

84. B. Chinitz, op. cit. p. 285-6.

85. P. Kilby, op.cit. p. 71.

86. Y. Aharoni, op.cit., Aharoni found that the same risk was assessed differently in different parts of a single company. see pp. 91-2.

87. One interesting case where the balance between domestic diversification and foreign expansion was particularly delicate occurred in the US canning industry in the early 1950's. Following limitations imposed by the anti-trust court, American Can diversified principally by product in the US, while Continental Can, expanded geographically, particularly to the Common Market, as well as undertaking some product diversification at home.

88. For figures on the proportion of total tax liability paid in Britain by the major

British multinationals, see: R. Murray, 'The Internationalisation of Capital and the British Economy,' in: ed. J. M. Samuels, *Readings on Mergers and Takeovers*, Elek Books, 1972, Table 3, pp. 271-2.

89. On the joint venture policy of multinationals see: J. W. C. Tomlinson, *The Joint Venture Process in International Business: India and Pakistan*, M.I.T., 1970. For a case where equity holdings had a significant effect on the distribution of surplus value, see: C. M. Cooper, *The Choice Between Alternative Mechanisms for Settling up an Oil Refinery in a Developing Country; an Application of Cost Benefit Techniques to a Bargaining Situation*, Science Policy Research Unit, University of Sussex, mimeo, 1971.

90. C. V. Vaitos, *Inter-country Income Distribution and Transnational Corporations: Reasons and Mechanisms*, Lima 1971, mimeo. The Science Policy Research Unit of the University of Sussex (SPRU) found that 7 companies from their sample of 20 in the drug industry explicitly stated that their overseas earnings were important for amortising R & D costs incurred at headquarters, see: SPRU, *The Transfer of Technology to Latin America*, Study prepared for the Department of Scientific Affairs of the Organisation of American States, February 1972, Mimeo. p. 13.

91. G. Mueller, *International Accounting*, Macmillan, New York, 1967; Price Waterhouse and Company, *US Corporations Doing Business Abroad*, Information Guide Series, 1967, reprinted in part in: Ed. A. I. Stonehill, op.cit. (note 73), pp. 69-91.

92. see for example, J. Polk, I. W. Meister, L. A. Veit, *US Production Abroad and the Balance of Payments*, National Industrial Conference Board, 1966, pp. 74-6.

93. C. V. Vaitos, *Transfer of Resources and Preservation of Monopoly Rents*, paper presented to the Dubrovnik Conference of the Harvard Development Advisory Service, June 1970, p. 27, reprinted as Economic Development Report # 168, Harvard University 1970.

94. D. B. Zenoff and J. Zwick, op.cit. Chapter 11, 'Managing International Fund Remittances,' pp. 412-440; and J. Polk, I. W. Meister, L. A. Veit, op.cit. Chapter V 'Company Financial Operations,' pp. 77-102.

95. E. T. Penrose, *The Large International Firm in Developing Countries: the International Petroleum Industry*, Allen & Unwin 1968, pp. 44 n.1.

96. SPRU, *The Transfer of Technology to Latin America*, op.cit. pp. 22-25.

97. For Venezuelan oil and iron ore, and Chilean copper see Mikesell, op.cit. (note 23) pp. 105-6, 329, and 371; for bauxite see Girvan, 'Regional Integration vs. Company Integration in the Utilisation of Caribbean Bauxite' op.cit. (note 20), pp. 105-6; for bananas, R. A. La Barge, 'The imputation of values to intra-company exports: the case of bananas,' *Social and Economic Issues*, Vol. 10, no. 2, Juni 1961. In particular compare La Barge's footnote 3 with the figures given in S. May and G. Plaza, *The United Fruit Company in Latin America*, Seventh Case Study in an NPA series on United States Business Performance Abroad, National Planning Association, 1958, p. 67.

98. For rubber tyres in India see: M. Kidron, *Foreign investment in India*, Oxford U.P. 1963, p. 227, and also pp. 265-268 for other sectors; for the motor industry, J. Baranson, op.cit. (note 38) p. 37; for oil imports see E. T. Penrose, *The Large International Firm in Developing Countries: the International Petroleum Industry* op.cit., pp. 227-229 for India, and for Argentina, p. 286, in an Appendix on the Oil Industry in Latin America, by P. R. Odell.

99. For Colombia, C.V. Vaitos, 'Transfer of Resources,' op.cit. p. 34sq.; for the

- other Andean countries, C.V. Vaitsos, *The Process of Commercialisation of Technology in the Andean Pact*, Lima, October 1971, Mimeo, pp. 47-53. For the drug and chemical industries in Latin America, SPRU, *The Transfer of Technology to Latin America*, op. cit. pp. 25-27.
100. P. Diaz, *Análisis Comparativo de los Contratos de Licencia en el Grupo Andino*, Lima, September 1971, quoted in C.V. Vaitsos, *The Process of Commercialisation . . .* op.cit. p. 51.
 101. SPRU, *The Transfer of Technology to Latin America*, op.cit. p. 24.
 102. C.V. Vaitsos, *The Transfer of Resources . . .* op.cit. pp. 50-51.
 103. Y. S. Chang, *The Transfer of Technology: Economics of Offshore Assembly, The Case of Semi-Conductor Industry*, UNITAR Research Report no. 11 New York 1971. Chang found that even small firms maintained two plants in two different countries, and that many firms flatly refused to locate a second plant in the same country. pp. 36-39.
 104. W. R. Hoskins, op.cit (note 60), p. 105.
 105. Vernon cites the case of aluminium refining where refining costs constitute 60% of total production costs, and where the refining process is subject to large economies of scale. The difficulty which most bauxite producing countries had in raising finance on the required scale weakened their bargaining position vis-à-vis the large international aluminium companies in contrast to oil and copper where refinery costs were respectively 6-7% and 15% of total production costs. R. Vernon, *Sovereignty at Bay*, Longmans, 1971, p. 44.
 106. UNCTAD Restrictive Business Practices, TD/B/C 2/104.
 107. Useful works on the subject include: R. Leifmann, *Cartels, Concerns and Trusts*, Methuen, 1932; A. Plummer, *International Combines in Modern Industry*, Pitman 1934; E. Hexner, *International Cartels*, Pitman 1946.
 108. United Kingdom, Board of Trade, *Survey of International Cartels*, 1944, p. XXIII.
 109. In the Andean Pact an inspection of foreign technology importing contracts revealed that for the four countries for which exact figures were available, 81% of the contracts prohibited exports entirely, and a further 5% permitted exports only to certain areas. see C. V. Vaitsos, *The Process of Commercialisation . . .* op.cit. p. 21. see also M. Kidron op.cit. pp. 283-4 for similar evidence applying to India.
 110. UNCTAD, Restrictive Business Practices, op.cit. and also: UNCTAD, The Liner Conference System, TD/B/C.4/62 E 70 II D 9.
 111. M. Tanzer, op.cit. Chapter 24, pp. 319-348.
 112. The extension of contract periods to an average of two to three times the expected useful life of the technology being transferred has been suggested from a study of foreign technology contracts in Argentina being undertaken by Francisco Sercovich at the University of Sussex. On the duration of contracts more generally see L. Kopelmanas, *Contract Practices in Commercial Transfer of Technology from Enterprises of Developed to those of Developing Countries*, UNCTAD ID/WG.64 Rev. 2, 7 October 1970, pp. 7-9.
On the technology package problem see C.V. Vaitsos, *The Process of Commercialisation . . .* op.cit. pp. 26-28.
 113. On the Bechtel negotiations in India see A. Kapoor, op.cit. As regards industrial structure Vaitsos cites a sample of foreign owned subsidiaries in Chile of which 50% had a monopoly or duopoly position in Chile, and a further 36% were the leading firm in an oligopolistic situation. *The Process of Commercialisation . . .* op.cit. p. 45.
 114. For a summary of the legal provisions available to international firms subject to expropriation see W. R. Hoskius, *How to Counter Expropriation*, op.cit. pp. 106-111.
 115. There are of course examples where the metropolitan governments have not supported individual firms, on occasions when it has conflicted with overall government policy. Some US examples are cited in R. Vernon, *Sovereignty at Bay*, Longman 1971, pp. 210sq., and p. 238. Overall, however, US governments have given extensive support to their firms in the periphery, by financial aid, by sanctions, and perhaps even more important, by the implicit threat of sanctions. As Hickenlooper said of his amendment in 1966, 'its great value is its non use rather than its use: that is, its value is in its presence, and the fact that it can be used deters a great many countries from doing what they otherwise might do or not do.'
 116. A. D. Little Inc., *Review of Incentives for industry in Ireland*, Industrial Development Authority, Dublin, 1967.
 117. For sources of African figures see R. Murray and C. Stoneman, op.cit (note 39); for the Latin American figures see C. Furtado, *Economic Development of Latin America*, Cambridge U.P. 1970, pp. 174-5.
 118. E. T. Penrose, 'OPEC and the Changing Structure of the International Petroleum Industry' in: *Middle East Economic Survey*, Vol. 12. no. 19, 7 March 1969, Supplement, reprinted in *Collected Essays*, pp. 228-235.
 119. On the issues involved in the relation of a socialist economy to the world capitalist economy see E. Preobrazhensky, *The New Economics*, Oxford U.P. 1965.