

Dualism in economic growth*

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Introduction

Current economic literature dealing with problems of growth has only been concerned, until recently, either with advanced economies – well ahead in the process of capitalistic development, with high incomes and productivity – or with underdeveloped economies, where growth has not yet begun or is just beginning. Accordingly, the models purporting to explain the working of the dynamic process are so built as to conform to one of these two patterns. There are other economies which cannot be reduced to either of the two types mentioned above. Such economies have undergone a process of non homogeneous growth, in the course of which a relevant part of the system has lagged far behind the other. As a result two sectors have come to coexist: an advanced sector, where the degree of industrialization is high, factors of growth are in operation, productivity and wages increase, and *per capita* incomes are high, or at least well above a certain minimum; and a backward sector, where income *per capita* is well below that minimum, productivity is low and stagnant, techniques of production are very primitive, and where unemployment and underemployment are persistent features. For defining such a situation the term “dualism” has been adopted. Dualism is a paradox, in that a sector remains backward even though the economy as a whole is growing and the overall rates of capital accumulation and of income growth continue at a high level: growth taking place in a part of

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the economic system does not benefit the remainder; and the excess labour force in one sector is not absorbed by capital accumulation in the other. Hence the problem arises of finding the causes of this distortion in the growth process through an analysis of the factors governing the distribution of the increments of income between the two sectors.

Italy is the best known and most typical example of an economy affected by dualism. At the same time the pattern of Italian development seems to provide the evidence that no satisfactory explanation of dualism can be obtained by recurring to the approach followed in modern theories of development concerned with underdeveloped countries. In these theories, which stem directly from the classical long-run analysis, the scarcity of capital is emphasized as the main obstacle to development, and the main issue consists in finding the way to provide the economy with an initial amount of savings sufficient to set the development process in motion.¹ But in a dual economy of the Italian type the problem does not consist in a lack of the savings necessary to give the initial push to the system: high overall rates of growth in income and investment and a high share of investment in national income can be associated, as it has been the case in Italy in the past twelve years,² with the persistence of dualism – the excess labour force being left unemployed or underemployed and the gap between two parts of the economy remaining unbridged.

Though the set of hypotheses advanced for explaining the absence of

¹ Hence in this line of thought investment and consumption are assigned a contrasting role: unlike in the Keynesian world, where they act complementarily in determining the level of effective demand and the level of income, and, through the latter, the amount of saving required, in the classical long-period world investment and consumption are in a rival position, since an expansion of any of the two can take place only at the expense of the other.

² And not only in the past twelve years. On the high rates of growth attained by the Italian economy after the Unification, see Clark C. (1954), "The Development of Italian Economy", *Banca Nazionale del Lavoro Quarterly Review*, n. 30, July-September; Paretti V. and Bloch C. (1956), "Industrial Production in Western Europe and in the United States 1901 to 1955", *Banca Nazionale del Lavoro Quarterly Review*, n. 38, September-December.

On the persistence of unemployment and regional inequalities with high overall rates of growth, see Di Nardi G. (1956), "Le politiche di impiego dei mezzi per lo sviluppo economico", *Rivista di Politica Economica*, October-November, pp. 1012 and 1015.

growth, and relevant for economies where development has not yet begun or is just beginning, cannot be used for a *diagnosis* of the causes of uneven growth, it may be thought that the same models of development are more useful in discovering some *therapy* against dualism. In the most representative of such models, that put forward by Professor Lewis in 1954,³ development with unlimited supply of labour, once started, appears to be an automatic process: with an entrepreneurial class saving most of the profits, if wages remain constant over time, until when labour becomes scarce, the reinvestment of the saved profits insures a progressive widening of the capitalistic sector and, if the rate of accumulation is sufficiently high relatively to the rate of growth in population, the gradual absorption of the excess labour force; rising wages, on the other hand, would cut down the investible margin (on the plausible assumption that practically all wages are consumed) and thus reduce the rate of expansion of employment. This argument has been applied, with some qualifications, to the case of a dual economy: if what is considered a high level of investment does not suffice, for some reason or other, to absorb the excess labour force and to insure an even development, an even higher level is needed: and the latter can only be achieved if consumption, and therefore wages, do not rise over time and a certain rate of growth in income is maintained.⁴

Still, even if this line of thought is accepted, it is evidently of paramount importance to inquire into the reasons why a high rate of accumulation is not followed by an expansion of the capitalistic sector sufficient to absorb the excess labour force. A contribution in this direction, representing an independent approach to the problems of a dual economy, can be found in a recent article by Mrs. Vera Lutz,⁵ purporting

³ Lewis W.A. (1954), "Economic Development with Unlimited Supplies of Labour", *Manchester School*, May; also (id.) (1958): "Unlimited Supply of Labour: Further Notes", *Manchester School*, January.

⁴ This approach is followed to a certain extent in the Vanoni Scheme and also in a recent report of the President of the Comitato per lo sviluppo dell'occupazione e del reddito, Professor Saraceno (Presidenza del Consiglio dei Ministri, Comitato per lo sviluppo dell'occupazione e del reddito (1959), *Riconsiderazione dello "Schema Vanoni" nel quinto anno dalla sua presentazione*, Rome).

⁵ Lutz Vera C. (1958), "The Growth Process in a 'Dual' Economic System", *Banca Nazionale del Lavoro Quarterly Review*, September. See also, by Mrs. Lutz (1956),

to provide a general diagnosis of the causes of dualism as well as a model of even growth for a dual economy. Mrs. Lutz recognizes that the *size* of aggregate investment is only a part of the story, and directs her attention to the factors determining the *pattern* of investment, on which the effects of investment on employment depend. The organic composition of capital at any moment of time and its changes over time – and therefore the level and the dynamics of employment are mainly determined by the level of wages and by its dynamic behaviour: since a rise in wages brings about a fall in employment through an increase in capital intensity, the wage rate can be so high at any moment as to prevent the full employment of the labour force; and wages rising over time are associated with an increasing capital intensity of production processes. With an increasing capital/labour ratio and increasing capital requirements per worker employed, even a very high rate of accumulation may reveal itself insufficient to expand employment and to eliminate dualism. While the type of analysis of development theories mentioned above is of classical derivation, Mrs. Lutz' analytical approach can legitimately be labelled as neo-classical, since she resorts to propositions and tools of analysis of unmistakable marginalistic brand. However, her conclusions concerning an even development of the system, though founded on different grounds, are substantially the same as those reached by the analysis of classical type. Capital accumulation, fed by the existence of a capitalistic surplus made available for reinvestment at the end of any productive period, insures the widening of the capitalistic sector and the absorption of the excess labour force at a constant or slowly rising capital-labour ratio, provided that the wage rate remains constant over time. Rising wages prevent a smooth working of the mechanism: and in this connection emphasis can be laid on the resulting curtailment of the investible margin or on the resulting increase in capital intensity.

Thus, in approaching the problems of a dual economy, we are confronted with a specific diagnosis of the emergence and the persistence

“Some Characteristics of Italian Economic Development, 1950-1955”, *Banca Nazionale del Lavoro Quarterly Review*, n. 39, September-December, which contains an empirical analysis of the pattern of investment and of growth in output in recent Italian development.

of dualism, as put forward in Mrs. Lutz' theory; and with a therapeutic suggestion as to the possibility of attaining an even development and of eliminating inequalities between sectors of a system, which is common to both the general theory of development and to the particular theory of Mrs. Lutz, and consists essentially in a high rate of accumulation with constant wages.

The purpose of this paper is twofold. In the following part we shall move some criticisms to Mrs. Lutz' diagnosis of dualism, trying to show that the emphasis laid by her on the wage level as a cause of dualism is not justified and to point out some flaws in the mechanism through which the wage level should affect employment. The main part of our analysis is to be found in part II. There we shall suggest an alternative and more general explanation of dualism in economic growth, from which an implicit refutation will emerge of any therapy founded exclusively on capital accumulation and on the constancy of wages: for in our model we shall try to show that under certain conditions dualism can arise independently of the behaviour of wages.

It must be said at the outset that our analysis does not provide anything more than a set of hypotheses, i.e. a model for explaining uneven growth. However, if the approach followed here is correct, the study of dualism in economic growth will acquire a somewhat broader scope, for it will appear that its relevance is not restricted to a few actual cases – and in particular to the Italian case – which, though important, are of scarce interest to the rest of the world. The limitations conditioning the working of even growth in an economy at initial stages of development are shown to apply to any development model which relies exclusively on initial capital formation and on successive capital accumulation as main factors insuring that growth of the desired size and pattern can take place. Moreover the emergence of dualism will appear to be more than a pure possibility, as far as economies which have started their growth recently are concerned. In our concluding remarks on the historical and empirical relevance of the proposed explanation we shall argue that dualism is not simply an accident in the economic history of some countries, but an immanent – though possibly avoidable with adequate policy measures – obstacle to development, due to factors which were not working (or were

not powerful enough) in the past processes of capitalistic growth, but which are present today because the conditioning data have changed: and, we shall suggest, there are good reasons to suppose that dualism, while not a feature of past growth of capitalistic economies, constitutes an inherent danger for economies which are now at initial stages of development.

I. A critique to the view that imperfections in factor markets are an independent cause of dualism

Here we shall first present a brief summary and then attempt a critical analysis of Mrs. Lutz' model.

1. Mrs. Lutz' model of a dual labour system

Three parts should be distinguished in Mrs. Lutz' analysis: the first shows how dualism can originate; the second is an analytical description of the distortions of a dual economy; in the third, a growth model for a dual system is sketched.

1) The proposition underlying the first part of the analysis is that, granted the variability of factor proportions, and with given technical conditions and given capital, employment and the degree of capital intensity depend exclusively on the prevailing wage rate.

The level of the real wage rate, Mrs. Lutz argues, does not affect the capital-labour ratios directly, "as the 'Classics' first supposed, and as most of the current literature continues to assume," but "indirectly via its influence on the demand for investment funds and hence on the interest rate."⁶ A rise in wages causes an immediate fall in aggregate employment and output: owing to this a smaller amount of capital than before is required to maintain a given capital intensity. Thence a fall in the interest rate is bound to follow, so that replacement funds will be invested into more capital intensive industries and methods: thus the degree of capital intensity will be different from that prevailing with the previous level of

⁶ Lutz (1958), *op.cit.*, pp. 288-289.

wages and employment.

As labour is always employed up to the point at which its marginal (value) productivity equals the wage rate, in a unified wage system, with a given marginal productivity curve of labour, a full employment level of wages, W , would exist at which all the existing labour force could be employed; and any wage higher than that would cause some unemployment.

In a dual labour system labour is, *ex hypothesis*, divided into two groups. Workers employed in large firms are under the protection of unions, which impose a contractual wage, W' , higher than W . Workers of the other group (consisting of self-employed and family labour or of hired labour attached to very small units, which escape the observance of collective contracts) are not unionized and are willing to work for less than the contractual wage. This differentiation affects the size of the firms, insofar as it opens the alternative possibility either of operating on a large scale, paying the contractual wage, or of keeping production in small units, paying a lower wage. Productive activities which can only be operated on a large scale will employ only high wage labour, while those where the absence of economies of scale makes small size profitable will employ only low wage labour. But there are also productive activities where there is flexibility with respect to scale: here the size of the units depends on whether lower wages can more than offset the disadvantages of small scale, and the proportion of small scale units to the total will be greater than that "normal" in a unified wage system.

Thus two sectors come to coexist, with units of different size, dualism in production methods and different degrees of capital intensity and productivity within the same industrial group. The distribution of the labour force and the allocation of capital between the two sectors, as well as the average wage level in the small scale sector, depend on the level of W' in the large scale sector and on the technological factors, which condition the convenience of keeping small or expanding. The low wage sector provides a sort of refuge for the labour force which cannot be employed at the wage rate prevailing in the other sector: therefore in a dual system at any wage W' employment, though less than full, is greater than it would be in a

unified wage system with the same wage rate.

2) The situation of an economy with a wage rate set above the full employment level and a dual labour system can be compared with that resulting from a unified wage system with the wage rate at the full employment level.

Total income is lower, owing to the distortion in the size structure of the producing units. The level of employment is lower in the large scale sector – the lower, the higher the contractual wage – and higher in the other sector. The rate of interest is lower, because of the loss in productivity due to size restraint. Labour employed in the large scale sector uses more capital and has a higher productivity than in the “normal” situation, while capital-labour ratios and productivity are lower in the other sector. As output and employment in the large scale sector are lower, concentration and the degree of monopoly, and therefore the level of profits, are higher than in the “normal” situation. Finally, as modern technical conditions tend to limit flexibility with respect to scale, “the bulk of the ‘excess’ of small units is likely to be in agriculture” and “agricultural employment is swollen at the expense of industrial employment.”⁷ Thus, while workers of the large scale sector, capitalists enjoying a high degree of monopoly and landowners benefit from the situation, the “unprotected” labour group, suffering of an abnormally low productivity, is the main victim of the distortions of dualism.

3) In a growth model of a dual economy, Mrs. Lutz argues, labour and at least two income and employment aggregates should be considered. Accordingly she examines the influence of the wage policy followed in the large scale sector on the type of development process induced by capital accumulation, and considers two extreme cases.

If wages are kept constant in the large scale sector for a relevant period of time, capital accumulation, by shifting up and to the right the marginal productivity curve of labour, allows employment to increase in that sector. Thus a gradual absorption of the excess labour force into the advanced sector takes place, while at the same time easier credit

⁷ *Ibid.*, pp. 299-300.

conditions allow the capital-labour ratio and productivity to rise in the backward sector. The final effect “would, if the wage truce lasted long enough and if capital accumulation lasted long enough, be to close the income gap between the two sectors so that a unified wage system would be reached.”⁸

If, instead, wages in the large scale sector rise, the expansion of employment following capital accumulation is much lower than in the previous case: wages might even rise just enough as to prevent any absorption of unemployment, so that all the new investment would be devoted to raising the capital-labour ratio. In this case all the benefits of capital accumulation would be limited to the high wage sector. With any or these two development processes, a different rate of increase in income would be associated: it would be higher in the former case, because of the lower incremental capital/output ratio and because of the larger absolute volume of savings which would result.

2. A critique to the model

Thus Mrs. Lutz’ explanatory hypothesis appears to rest on two sets of theoretical propositions and assumptions – one showing how dualism arises and the other accounting for the persistence of the phenomenon.

As regards the former, the fundamental proposition is that, with given capital, employment and capital intensity depend on the level of wages: therefore there exists a level of wages capable of insuring full employment, and at any level higher than this capital intensity is higher and the volume of employment lower. This one-way relationship rests in turn on the assumption that wages – or rather the wage policy of trade unions – is an independent and exogenous variable of the system, so that changes in capital intensity are mainly wage induced. Then, if we further *assume* that trade unions do actually press for a wage higher than the full employment wage rate and that a lower wage is paid and accepted in the rest of the economy, we have dualism arising with all the consequences analysed by Mrs. Lutz.

⁸ *Ibid.*, p. 313.

The persistence of dualism is also explained with reference to the behaviour of the wage rate. If the wage rate were constant, capital accumulation would gradually eliminate unemployment; but at any rate of capital accumulation there corresponds a particular rate of rise in wages at which unemployment is not absorbed. Therefore, if capital accumulates and employment does not increase or increases slowly, this is because in the course of the process wages rise too fast.

In this section we shall only be concerned with the first proposition: an implicit criticism of the second will result from the alternative explanation put forward in the following part.

Mrs. Lutz' account of the origins of dualism seems to hurt against three groups of difficulties, of increasing order: 1) if any relationship is to be established between the level of wages and capital intensity, this cannot be done in the way proposed by Mrs. Lutz; 2) even granted, however, that some such relationship does exist, the very assumptions on which it is founded are questionable, and its scope is limited to the analysis of equilibrium situations; 3) quite apart from its formal consistency, the relationship between wages and employment at any moment of time has scarce relevance in explaining a dynamic phenomenon such as dualism.

1) Mrs. Lutz' analysis appears to be founded on a short-run production function of the traditional type, in which the amount of capital is given and output and employment vary. From it a marginal productivity curve of labour is derived, in order to show the equilibrium level of output and employment, at which the marginal productivity of labour equals the current wage rate. A rise in wages causes a primary fall in output and employment, but is not sufficient by itself to bring about a change in capital intensity, because, Mrs. Lutz argues, it also induces a rise in the price of capital goods: however, since output has fallen, there will be, at the prevailing capital-output ratio and with the given capital, an excess supply of capital; this will bring down the interest rate, and firms will invest their replacement funds in more capital intensive techniques.

Now, even if we assume that, following the rise in wages, a primary fall in output and employment occurs (independently, it should be noted,

of changes in capital intensity) some difficulties appear, owing to the fact that, while we are dealing with an aggregate of firms, we are not told how the fall in output is distributed among different firms, and therefore how it is reflected in the marginal productivity curve of labour and how it affects the supply of capital. The initial fall in aggregate output can be caused either by the elimination of the marginal (least efficient) units of production, or by a proportional fall in any firm's output, or both by the elimination of some firms and by the reduction of other firms' output. The second possibility should be ruled out on grounds of realism, because it presupposes that cost conditions are the same for all the firms. As far as the third possibility is concerned the extent to which output and employment are going to be reduced in intramarginal firms depends on the shape of the cost curve and of the marginal productivity curve of labour: if some discontinuities are present, so that – as it is often the case in modern firms – no more and no less than a certain number of men is needed to man any piece of equipment and all the teams of men working at equal pieces of equipment have equal productivity, then the productivity of labour is constant⁹ and there is no reason why production should be cut. The most plausible possibility is the first one, i.e. that of marginal firms leaving the market. But in this case two consequences follow. First, since the distribution of capital among the producing units alters, and since it is to be believed that the marginal productivity curve of labour shows the intensive margin, taking as given not only the quantity of capital but also its distribution among firms, the position of the system is left quite indeterminate. Second and more important, the machines of the marginal firms which have been eliminated will probably be scrapped before the end of their technical life span, and therefore a destruction of capital will occur.¹⁰

This destruction of capital should be considered in the context of Mrs. Lutz' argument. Indeed, when we pass from the short run – in which

⁹ More exactly: it is constant for labourers grouped into teams, while it falls to 0 for any number of labourers lower than that required to work a machine.

¹⁰ It would not be so if machines left idle by some firms were bought by other firms: this is clearly not the case when the machines in question are those used by the least efficient firms, now eliminated from the market.

the given capital is embodied in machines and there is only a primary fall in output – to a Marshallian long run – in which we have to deal with a new incarnation of capital – more flaws appear in the mechanism which should insure the increase in capital intensity via a fall in the rate of interest brought about by a fall in output, and therefore in capital requirements, relatively to the given supply of capital.

Since, owing to the rise in wages, the price of capital goods has risen, as Mrs. Lutz herself admits, and since the amortization funds are those adequate to a past situation with lower prices of capital goods, one would think that the demand for finance of firms left in the market should increase, even if the degree of capital intensity is not going to be altered.¹¹ Nor can we expect these higher requirements to be matched by capital left free after the primary fall in output: the elimination of marginal firms results, as we have seen, in a partial destruction of their capital; and, if anything,¹² only their amortization funds are left available for reinvestment.

Rather, it might have been argued that a rise in wages causes a fall in the present and future quasi-rents which can be obtained from a machine, and therefore in the rate at which the quasi-rents should be discounted in order to bring their aggregate value into equality with the cost of the machine.¹³ But in any case, so long as we remain confined to the static and short-run method of analysis employed by Mrs. Lutz to obtain the desired relationship between wages and capital intensity, we are in a tangle from which it seems rather difficult to get out. Nor is it our concern to find here whether there is a more satisfactory way to demonstrate such a relationship:¹⁴ for the latter, as we shall see presently, cannot be imbued with any causal significance when dealing with a long-run dynamic

¹¹ The rise in the price of capital goods is the result of the so-called Wicksell effect. At an unchanged output of the firms left in the market, an increase in capital intensity has *a fortiori* the same consequence: for the same output capacity, a machine employing less labour costs more than a machine employing more labour (cf. Robinson J. (1956), *The Accumulation of Capital*, London, p. 102).

¹² Also the amortization funds are likely to be absorbed in the process of liquidating the business and repaying creditors.

¹³ See Robinson J. (1959), "Depreciation", *Rivista di Politica Economica*, November.

¹⁴ See Robinson J. (1956), *op.cit.*, chap. X and p. 396.

problem, and therefore cannot be used in the explanation of dualism.

2) Any one-way relationship between wages and the degree of mechanization rests on the assumption that wages are always an independent variable. This assumption can be questioned from at least two points of view. First, changes in productivity might be independent of changes in wages: to neglect this possibility by leaving aside technical progress and by taking the spectrum of techniques as given, as Mrs. Lutz does, is not a very plausible procedure in a long-run dynamic model. Second, we might find that the level of wages is related to other variables or data in the system, such as the organizational structure of industry and the degree of competition. Both these considerations will receive a wider treatment in the following part.

Furthermore, the relevance of that relationship is conditioned by the existence of a long-run equilibrium,¹⁵ in a world in which any change of a variable is followed by an instantaneous adjustment of all other variables. Even though a change in real wages causes a redistribution of income between classes with different propensities to consume, no account is taken of changes in effective demand, of corresponding changes in prices and expectations and of the influence of expectations on investment. Thus, while it is easily admitted that a rise in money wages induces a rise in the price of capital goods, it is implicitly assumed that the same thing does not happen in the case of consumer goods: but this is inconsistent not only “with the rest of the neo-classical theory, according to which the money prices of commodities are determined by money costs of production and the level of demand in terms of money expenditure,”¹⁶ but also with the known fact that increases in costs are more easily passed on to buyers in the case of consumption goods than in the case of capital

¹⁵ This implies, among other things, perfect competition and a uniform rate of profit in the economy (see Robinson J. (1953-1954), “The Production Function and the Theory of Capital”, *The Review of Economic Studies*, vol. 21 n. 2, p. 51). Thus the use of a relationship between wages and capital intensity appears to be limited to the analysis of equilibrium growth and to comparative statics.

¹⁶ Robinson J. (1956), *op.cit.*, p. 391.

goods.¹⁷

Similar objections can be moved to the concept of a full employment level of wages, intended as that level of wages which *insures* full employment. The wage level which happens to prevail under full employment, instead, might result itself *determined* by the full employment level of output and by the distribution of output between consumption and investment.¹⁸ Since the full employment of a given quantity of labour is possible at various relative levels of consumption and investment, more than one wage rate can be associated with full employment at the same level of aggregate output.

3) It thus appears that no satisfactory explanation of dualism can be obtained from a relationship between wages and capital intensity: and actually Mrs. Lutz' analysis, though providing an accurate description of symptoms, leaves the problem of the causes unsolved. We get a snapshot of the system at a certain moment of time; but we remain ignorant as to what has happened before, while capital was being accumulated and the differentiation between the two sectors was increasing. Even if the relationship were meaningful, a rise in wages and the ensuing fall in employment which have occurred once could explain a static case of dualism, but not dualism as a dynamic phenomenon and as the result of past history.

This static bias is made evident when Mrs. Lutz seems to imply that the swelling of agricultural employment, the diffusion of small units and dualism in production methods are to some extent the effect of a conscious entrepreneurial choice between large scale with high wages and small scale with lower wages. But in the case of a dual economy it is a question not so much of choice as of the persistence of a pre-existing situation. Excess employment in agriculture, primitive industries and primitive methods of production chronologically precede industrialization and continues to coexist with it at initial stages of development: the

¹⁷ As was pointed out by Keynes J.M. (1936), *The General Theory of Money, Interest and Employment*, pp. 7 ff., ch. XIX, labour can bargain the money wage, but not the real wage.

¹⁸ Cf. Kaldor N. (1955-1956), "Alternative Theories of Distribution", *Review of Economic Studies*, p. 61.

coexistence comes to an end or persists according to whether growth takes place with or without distortions. It is at least doubtful that conscious entrepreneurial decisions dictated by the behaviour of wages have a relevant influence on the course of the process, or that the wage rate is the only datum orienting the choice: the availability and the cost of capital, the minimum capital requirements, the structure of the market and the rate of expansion of demand are far more important determinants of the dynamics of investment, income and employment.

This will be seen in the following part of this paper, where we shall attempt to show how dualism can arise and persist independently of the behaviour of wages, i.e. also if wages remain constant over time, and even with a high rate of capital accumulation.¹⁹

II. Dualism in economic growth: an alternative explanation

1. Introduction

We shall attempt here to replace models of regular growth and static theories of dual economies with *a dynamic theory of uneven growth*. The latter is not meant to be either a complete and exhaustive explanation or dualism or an exact model founded on a consistent set of precise relationships. It is evident that, when the problem presents so many institutional and sociological facets, no theory in purely economic terms

¹⁹ Thus at the same time also the second proposition of Mrs. Lutz' model, which accounts for the persistence of dualism by recurring to the rate of increase in wages and asserts that if wages instead remain constant (with an adequate rate of investment) dualism will disappear, will be implicitly criticized. Already at this stage it can be noted that, if this proposition were always true, the persistence of unemployment in an economy where the rate of accumulation is greater than the rate of increase in the labour force could only be explained by recurring to the assumption that wages in the past have been increasing just at the rate necessary to prevent any effect of capital accumulation on employment. Mrs. Lutz does not make explicit this extremely restrictive assumption. In referring to the particular case of the Italian economy, to which her model should apply, she quotes, as empirical evidence, a study by Professor Gerschenkron (1955) "Notes on the Rate of Industrial Growth in Italy, 1881-1913", *Journal of Economic History*, vol. 15: there, however, nothing is said as to the rate of increase in wages.

can claim to be “general” or anything but a first approximation.²⁰

Some preliminary considerations are needed in order to clarify the approach followed here. Dualism is not a static but a dynamic concept, which designates a tendency towards uneven growth. Lack of homogeneity and existence of inequalities in an economy *at a certain moment*, i.e. in a static sense, are not necessarily signs of dualism, otherwise dualism would be an unavoidable stage of any development process: any process of capitalistic development takes time to spread over the whole system; while it is still in progress, considerable inequalities between sectors are, at any moment, normal features of a growing economy. There is no dualism if the widening of the capitalistic sector is such as to gradually absorb the excess population from the rest of the economy and if all the economy enjoys the benefits of capitalistic growth: in this case there is a long run tendency towards economic unification, even though some inequalities may persist for a considerable period of time. If instead there is no such tendency and a large part of the economy is left untouched by the stream of progress, then a gap is being created and we are faced with dualism.

Thus the problem of dualism consists in examining the nature and the causes of the possible alternative courses of a development process already in operation: therefore we shall not be concerned either with the origins of development and its general factors or with a static analysis of a given situation. We shall consider an economy in which development has already been initiated – to us it does not matter how – but is at a relatively early stage: some capitalistic industries are already at work employing part of the population, while the rest of the system is as yet in a precapitalistic state. Our economy is thus at a critical stage from the point of view of dualism: conditions for further growth exist, but growth can either proceed regularly or take a dual path, leaving a

²⁰ Moreover the task of economic analysis is made harder in this case by the methodological difficulties arising when an intermediate approach, which is neither purely microeconomic nor purely macroeconomic, is followed: the procedure which has to be adopted when dealing with dual economies, of limiting the degree of aggregation and trying to relate microeconomic data or variables to the dynamic behaviour of some aggregate magnitudes, necessarily entails a loss of precision, not always compensated by a greater approximation to reality.

part of the system stagnating. Our analysis will be devoted to find the conditions of regular growth and to show how and why, instead, dualism can emerge.

Before this, we shall provide a simplified description of some initial features of our economy (wages, pattern of demand, structure of production) which are relevant for our further analysis: as will be seen, no drastic assumptions will be introduced, for the description is likely to fit any economy at a still early stage of development. For reasons which will be fully understood later, we assume that in our economy growth, though already in progress, has been initiated late relatively to other more advanced systems.

2. Initial conditions of the economy

2.1. Employment and wages

In our economy the main productive activities are capitalistic industries at one extreme, agriculture and primitive trade at the other, and, in the middle, family or cottage industries, where advanced methods of production are not yet in use and productivity is much lower than in precapitalistic industries.

The labour force is still in excess in relation to the possibilities of employment. The part of the labour force which is not employed in newly introduced capitalistic industries either is openly unemployed, or lives on land, or is underemployed in trade and in other occasional occupations. Since we assume that employment in agriculture, trade, etc. can be reduced to a considerable extent without any fall in output, supply of labour to industry can be considered unlimited for a relevant period of time. Thus a rise in employment can only take place through a rise in industrial employment: if employment falls in capitalistic and precapitalistic industries, also aggregate employment falls.

Income per head in non-industrial activities, which provide subsistence to the excess labour force, is near to a very low subsistence level. The level of income per head here is not fairly represented by the

wage rate: if a person works only two months per year or distributes his earnings among relatives and friends, income per head can be at the subsistence level even though the wage rate is considerably higher.²¹

Income per head is higher in industries in general and in capitalistic industries in particular; the possibility of subsidizing the excess labour force through underemployment is lower in industry than in agriculture or trade. Income per head is likely to be higher in capitalistic than in precapitalistic industries, even if the minimum wage rate is the same, mainly because in the former industries there is more ample scope for attaining varied and higher qualifications and therefore for the existence of internal wage differentiations above the basic wage rate.²²

However, no assumption is introduced as regards the level of wages paid to workers in capitalistic industries. It does not make any difference to our model whether we assume that the minimum wage rate at this initial stage is the same all over the economy or not. We assume instead

²¹ One could visualize the aggregate wage bill paid in these activities as corresponding to the sum of wages paid only to the workers who are necessary to produce the current output; and assume that these workers have to part with some of their earnings, either directly, subsidizing their unemployed relatives and friends, or working less and sharing their jobs with others, in order to keep the excess labour force alive.

²² It might be argued that, if the supply of labour is unlimited, the level of wages in the capitalistic sector should depend on the standard of living in the underdeveloped sector, and there should be no substantial differences in the standards of living of the two sectors. However a difference is likely to exist, and does exist in most underdeveloped countries, owing to reasons which are quite independent of imperfections in the factor market: (a) as was said in the text, even if the hourly or daily pay is the same in industry as in agriculture and in trade, annual earnings are higher in industry because the industrial worker is not left unemployed for long periods of the year; (b) a somewhat higher wage has to be offered in order to induce workers to move into the capitalistic sector; (c) the very low standard of living in the underdeveloped sector might be inadequate to meet the basic requirements of the worker, when he is called to work more and more actively – as it happens when he passes from, say, agricultural underemployment to industrial employment – and it is in the interest of the employer to improve it, in order to obtain a greater efficiency; (d) the *average* wage rate is also higher, because in industry skilled and specialized workers are required, who get a wage higher than the minimum wage. Moreover, when we consider the average per capita income, we should take into account the existence in the capitalistic sector of a salaried middle class. On these points see: Lewis (1954), *op. cit.*; and Lewis W.A. (1955), *The Theory of Economic Growth*, London, p. 180 and p. 228; Nurkse R. (1958), *Problems of Capital Formation in Underdeveloped Countries*, London, 6th Impression, p. 39; Kahn R.F. (1958), *The Pace of Development*, in VV.AA., *The Challenge of Development*, Jerusalem, pp. 187-188.

that, at least initially, wages in newly introduced capitalistic industries remain constant. These two points need to be stressed in order to emphasize the distinction between the approach followed here and that followed by Mrs. Lutz: instead of having dualism already at the beginning of the story, here we start from a situation in which no dualism has yet evolved; moreover the condition of constant wages is present which, according to Mrs. Lutz, should insure, together with a steady rate of investment, an even development. We shall show that this condition is not sufficient.

2.2. The pattern of demand

It will be useful for further exposition to classify all the consumption goods produced and consumed in our economy under three groups, reducing them to three composite commodities according to some common characteristics of supply and demand. I hope that not much realism in this simplifying procedure will be sacrificed. We shall call the three composite commodities *a*, *b*, and *c*. Commodity *a* is produced and consumed only in the capitalistic part of the economy. Production of commodity *c* is confined to the precapitalistic sector, but its consumption is common to the whole economy. Production and consumption of commodity *b* are common to both parts of the economy: we shall distinguish it into *b'* and *b''*, according to whether it is produced in capitalistic industries, on a large scale and with advanced methods of production, or on a small scale in the highly labour intensive family and cottage industries. The characteristics of the three composite commodities from the point of view of demand are the following.

Composite commodity *a* includes all those goods which are not consumed at low or very low levels of income (e.g. radio sets, automobiles, refrigerators, some services): since they satisfy only secondary needs and are mainly industrial goods, they can be consumed and produced only in the capitalistic sector. Income elasticity of demand for *a* is high and increasing above a certain income level, but very low below this level – very high in the industrialized part of the economy, very low in the remainder.

Commodity c consists of basic subsistence goods and is produced in the subsistence sector, which we have placed in the underdeveloped part of the economy: *per capita* consumption of c rises very little with income, and remains constant after a certain level of income has been reached.

Demand conditions of b are somewhat intermediate between those of a and those of c . Commodity b (e.g. textiles and “traditional” manufactured goods) is consumed at both low and high stages of development, and therefore in both parts of the economy. Its *per capita* consumption rises with income; but income elasticity of demand for b is high at low to medium incomes and then decreases as income increases.

2.3. *The conditions of production and technology*

In our economy the productive sectors are: a subsistence sector producing c ; a primitive industrial sector producing b ”; and a capitalistic and advanced industrial sector, in which investment goods and commodities a and b' are produced. The following assumptions will receive some justification later, when some points of great relevance to our analysis – concerning the historical evolution of the technical characteristics of production methods and commodities produced – will be discussed.²³

Production in advanced and capitalistic industries is more capital intensive and technical coefficients are less flexible than in other sectors. Capital intensity is greater and the variability of technical coefficients is more limited in the production of both investment goods and a than in the production of b and c . The greater flexibility in technical coefficients in the production of b is mainly due to the possibility of producing b either in capitalistic industries or in primitive industries with high labour intensity (b ”). This same fact, however, implies a discontinuity in the spectrum of techniques and in the variability of technical coefficients. There is flexibility of technical coefficients until when it is possible to improve techniques and increase productivity inside primitive industries with the introduction of simple machines which do not require any radical

²³ See end of section 9.

change in the structure of the industry itself. The discontinuity appears when production is transferred to a large scale capitalistic industry²⁴ with a radical change in technology: for the technology used in capitalistic industries, being more capital intensive and increasing considerably the minimum economic size of the producing unit, is associated with lumpiness of investment and high capital requirements. Thus a gradual substitution of capital for labour is possible only up to a certain point, after which further substitution implies a considerable increase in capital and output per unit of labour: at a given level of aggregate output of b (being the sum of b' and b''), a capitalistic firm producing b' is the substitute for a number of primitive firms producing together the same quantity of b'' , using much less capital and employing much more labour.

In our economy at any moment a capitalistic surplus is available, which can be reinvested so as to increase the stock of capital. We assume that a reinvestible margin is produced only in capitalistic industries, while there is no surplus in primitive industries, where productivity is very low.²⁵

3. Implications of the general model of development

We have postulated that in our economy wages remain constant while a margin is made available for reinvestment: thus the two necessary and sufficient conditions are present, which should insure a smooth working of the development process with creation of new employment through capital widening.²⁶ All models founded on these two conditions make abstraction of any problem connected with the level of demand and with the inducements to invest: it is assumed that the surplus on wages is actually reinvested at a constant capital-labour ratio, thus shifting to the right the marginal productivity curve of labour and increasing

²⁴ Cf. Hirschman A.O. (1957), "Investment Policy and 'Dualism' in Underdeveloped Countries", *American Economic Review*, September.

²⁵ Cf. Lewis (1954), *op. cit.*

²⁶ See the two articles by Professor Lewis quoted above, and Lutz (1958), *op. cit.*, section 7.

employment – the process going on until when all the excess labour force has been absorbed. Our purpose in this section is to see how the model looks like when the level of demand and the inducements to invest are taken into account; in sections 4 and 5 we shall show that the working of the mechanism is related to the structure of the industrial sector and to entrepreneurial policy. For purely expository purposes and for making the comparison easier, our argument will be expressed here in the same analytical language adopted in the general development model to which we are making reference, i.e. in terms of the marginal productivity curve of labour.

The value of the physical increment in output due to an increase in the quantity of labour employed is obtained by multiplying this physical increment by current price, if it is assumed that price remains constant with changes in output, or by marginal revenue, if price instead changes and marginal revenue accordingly differs from price. Thus two curves should be considered: we shall call marginal productivity (*MP*) curve the one showing the increase in the value of output at constant prices, and marginal revenue productivity (*MRP*) curve the one which reflects the changes in prices induced by an increase in output and is derived from the marginal revenue curve of the commodity. The relationship between these two curves depends on the elasticity of demand curve: the lower the latter is, the greater the difference between *MP* and *MRP*, and the steeper the *MRP* curve in relation to the *MP* curve.²⁷

When a whole productive sector – e.g. an industrial sector producing one of our composite commodities – is considered, since the price elasticity of aggregate demand has a finite value, marginal revenue productivity is smaller than marginal productivity and the two curves do not coincide.²⁸ However, if the aggregate curve shifts to the right, owing to increases in income, the *MRP* curve will also shift and the discrepancy

²⁷ Marginal Productivity – Marginal Revenue Productivity =
= Marginal Physical Productivity · Price – Marginal Physical Productivity · Marginal Revenue = Marginal Physical Productivity · Price / Elasticity.

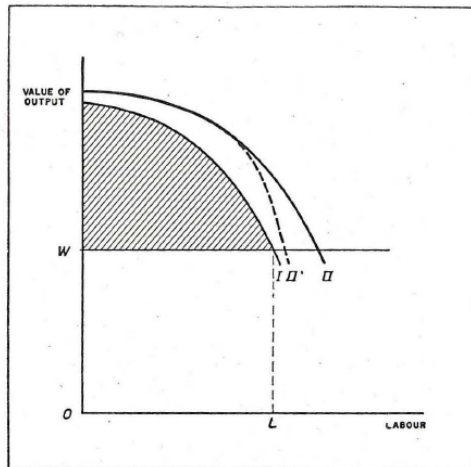
If elasticity is 1, marginal revenue productivity is 0; if elasticity is infinite, marginal productivity is equal to marginal revenue productivity. If elasticity has a finite value, marginal productivity is always greater than marginal revenue productivity.

²⁸ See footnote 27 above.

between the *MRP* curve and *MP* curve will be reduced.

This is represented in the diagram, where the value of output and the quantity of labour employed are plotted respectively against the *y*-axis and the *x*-axis. Initially, with given capital, a certain output is produced and sold at an equilibrium price. Curve *I* shows the value of the marginal physical product of labour at that price: at a wage rate *OW* (constant) *OL* labour is employed and a surplus is obtained (shaded area). The reinvestment of this surplus will endow the system with more capital and therefore will increase the marginal physical productivity of labour. The curve indicating the value of the higher marginal physical product at the same price will thus shift up and to the right (curve *II*): but since the additional output can be disposed of only at falling prices, a *MRP* curve should be considered (curve *II'*), which falls more steeply than curve *II*, and might even fall more steeply than curve *I*. However, an increase in demand might make curve *II'* coincide with curve *II*.

Figure 1



In a fully advanced and progressive economy, where the initial difficulties of development have long ago been overcome, a steady increase in demand (and therefore continuous shifts of demand curves) in response to capital accumulation, technical progress and growth in

population can possibly be taken for granted. But in our economy growth is not yet an automatic and self-perpetuating mechanism. At low levels of income, since demand is likely to be very inelastic²⁹ marginal revenue productivity is likely to be very low:³⁰ and this might be a drag to an expansion of output. On the other hand, demand can increase (and marginal revenue productivity with it) only to the extent to which the industrial sector widens and absorbs the excess labour force; while its level remains low if employment opportunities, i.e. investment, do not expand sufficiently.

The way in which the system gets away from this seemingly vicious circle depends on the structure of its industrial sector, as will be shown presently.

4. The development process under competitive conditions

If competition³¹ prevails and entry is free, the position and the slope of the aggregate demand curve are unknown data for the entrepreneurs. The margin obtained in the past provides both the finance for new investment and an inducement to invest and increase output. If entrepreneurs who are already in the market do not intend to plough back their profits, the credit system of a competitive economy makes the existing surplus available to newcomers. Newcomers, as well as existing entrepreneurs, have no notion of a *MRP* curve and rely on the fact that a surplus has been obtained at the existing level of prices.³² Thus, on the

²⁹ See Nurkse (1958), *op. cit.*, pp. 9-10; Papi G.U. (1954), *Teoria e politica dello sviluppo economico*, in VV.AA., *Teoria e politica dello sviluppo economico*, Milano, p. 14 and p. 17.

³⁰ See Nurkse, *op. cit.*, p. 14: "value productivity is limited for any individual business by the poverty of potential consumers [...] The physical increase in output may be spectacular compared with existing output, but value productivity is limited by the low purchasing power of people." Nurkse's value productivity is our marginal revenue productivity.

³¹ Competition here is to be intended not in a 'pure' static sense, but in a dynamic Schumpeterian sense: in the latter case competition is quite compatible with the existence of short-run profits, which are continuously wiped out and continuously recreated.

³² This happens even if competition is not pure in a static sense. In polipolistic competition long-period demand curves are likely to be more elastic than short-period demand curves (see Harrod R. (1952), "Theory of Imperfect Competition Revised", in (id.)

assumption that additional output can be sold at the old price, the industrial sector widens and production is expanded with an eye to MP and not to MRP .

It might be thought that the assumption would soon reveal itself unfounded, for – MRP being much lower than MP – prices would fall and some firms would be incurring some losses. But meanwhile the general economic situation and the conditions of demand have changed: with the reinvestment of the margin and the widening of the capitalistic sector, employment has increased as has income; and aggregate demand curves, as well as MRP curves, have shifted to the right. Thus entrepreneurs' assumption that additional output can be disposed of at the existing prices, though false in a static sense, turns out to be justified from a dynamic point of view. The act of faith³³ in the market of entrepreneurs creates a new demand which was first lacking and which would still be lacking if the act of faith had not been made. Reinvestment, in turn, creates the conditions for further development – a new margin and new incentives: the process of accumulation can go on smoothly, without distortions, while the excess labour force is gradually absorbed into the industrial sector.

5. The development process under oligopoly

If instead of competition oligopoly prevails, the course of the process is quite different. As we shall see later, it is not due to mere chance whether the industrial structure of an economy at the beginning of capitalistic growth is competitive or oligopolistic. Since the data conditioning development are not the same in any case, but vary with the timing and the degree of development of the system relatively to other economies, which assumption is relevant depends on the period of economic history to which the analysis refers. Later on we shall argue that here lies a major difference between the beginning of past

Economic Essays, London): expectations of newcomers tend to be the projection of past level of prices and output prevailing for entrepreneurs already in the market.

³³ Nurkse (1958), *op. cit.*, p. 15.

development in economies now fully advanced and the first phase of the development process in economies which were left behind and where economic progress has initiated later. For the moment, however, we shall consider the oligopoly case *in vacuo* – first in general terms and then with particular reference to our economy. Beforehand something should be said on the nature of oligopoly.³⁴

The maintenance of oligopolistic conditions in a market is possible because there are barriers to new competition from outside the group and forces which prevent cut-throat competition from disrupting the minimum necessary cohesion inside the group. Economies of scale and technological discontinuities are a major obstacle to new competition, for they make production profitable only at a certain minimum scale and therefore set limits to a competitive expansion of supply: expansion of output and new investment are thus conditioned by the expectation not simply of additional demand, but of a minimum quantum of additional demand, and by the availability of a minimum quantum of capital. Product differentiation is a further barrier to internal and external competition when a large fixed investment in selling is required in order to enter the market – or to increase any particular firm's share of sales.

Fewness allows individual firms to appreciate their reciprocal interdependence as well as the overall market situation, and makes them conscious of the necessity of following some quasi-collusive rules which can keep the firms and the group in a dynamic equilibrium. Price cutting is avoided and competition inside the group takes mainly the form of non-price competition and product differentiation. Entrepreneurial policy is dictated by the consideration not of problematic individual demand

³⁴ We do not need here anything like a complete theory of oligopoly, and we shall simply call attention to some general features of oligopolistic behaviour which are relevant in this context. These features have been analyzed in two recent works, by Professors Sylos Labini P. (1957) *Oligopolio e progresso tecnico*, Rome, and Bain J.S. (1956) *Barriers to New Competition*, Cambridge (MA), which are to a large extent complementary. Both the authors, while emphasizing the irrelevance of static equilibrium theories of oligopoly, show the possibility of finding out an economic rationale for the empirical rules of oligopolistic behaviour: the level of mark-up and price, instead of being considered simply as "the result of past history," is shown to follow necessarily from the behaviour of other variables in the model. On these two books see Modigliani F. (1958), "New Developments on the Oligopoly Front", *Journal of Political Economy*, June.

curves, but of the more objective and reliable data of the aggregate demand curve – its position and slope and its shifts through time. Thus firms' action can be adapted to changes in the relevant data without the established equilibrium being disturbed: a sufficient increase in demand can make entry attractive or induce existing firms to build new plants; price changes can be induced by cost changes which are common to all members of the group.

When we consider the economics of oligopoly, we are led to think that in the oligopoly case the pattern of development may not be the same as in the case of competition. Oligopolists, unlike competitive entrepreneurs, are conscious of the overall market situation: when the market is limited and effective demand is deficient, they do not assume the existing price as given, and are aware that additional output can be disposed of only if prices are cut. Since the *MRP* curve becomes then relevant in deciding whether and to what extent output should be expanded, the availability of a given surplus may not be followed, or may be followed only to a small extent, by reinvestment in capital widening and expansion of production.³⁵

It might be argued that, if oligopolists really knew the market situation, they should foresee that their investment would create over a long run that demand which at present is lacking. But the increase in demand on which any particular firm should rely could only result from *joint* reinvestment on the part of all firms: an oligopolist may know a lot about the dynamic possibility of his industry, but only as far as the supply conditions are concerned, because the dynamics of demand depend on the dynamic conditions of the whole economy; and no individual firm would undertake to invest and expand production on the assumption that other firms belonging to other industries act in a similar way. In the case of investment decisions, quasi-collusion works only in a negative way: if expectations of future demand for any entrepreneur are dependent on other entrepreneurs' investment decisions, nobody will take the first step, waiting until potential demand becomes actual. In the absence of other

³⁵ It must be stressed that our analysis of the influence of the structure of industry on growth applies to *initial* stages of development and is not concerned with the growth of advanced economic systems.

inducements such a general interdependence of expectations and decision is an obstacle to capital widening.³⁶ From this point of view it is difficult to find an intermediate possibility between the blindness of competitive entrepreneurs and a complete knowledge of market conditions *and of all* the dynamic implications of entrepreneurial decisions, which can be attained only by a central body: in both cases industries widen, output is expanded and the mechanism of development can work. But the far sightedness of the oligopolists, going only half way, deprives them from the incentives necessary to perform the act of faith in the market necessary for the type of development visualized in the model mentioned above: greater far-sightedness than competitors in the short run becomes short-sightedness from the long-run and dynamic point of view of the economy as a whole.

The consideration of two specific features of oligopoly strengthens this conclusion. First, as has already been said, expansion of production and new investment are conditioned by expectations *of a minimum quantum* of additional demand (which can be rather large), for, owing to technical discontinuities and minimum capital requirements, production cannot be expanded gradually: thus the increase in demand necessary to induce new investment must be such as to overcome this discontinuity.³⁷ Second, if oligopoly prevails, the credit system is to a large extent deprived of the possibility of performing his most important function in a development process: that of making the existing profits available to newcomers and to the most enterprising firms. Profits earned by large units, instead of being made available to other firms through the channels of the credit system, are kept under the financial control of the market leaders until when they can be utilized for self-financing.

Thus capital can be at the same time abundant and scarce: abundant for big firms, whose investment policies are very cautious; scarce in the

³⁶ An analogous view has been expressed with great vigour by Domar E.D. (1948), *Investment, Losses, and Monopolies*, in VV.AA. (eds.), *Income, Employment and Public Policy: Essays in Honour of Alvin H. Hansen*, New York; see especially p. 39 and pp. 49-53.

³⁷ See Nurkse (1958), *op. cit.*, p. 10; Sylos Labini (1957), *op. cit.*, part I; Meier G.M. and Baldwin R.E. (1957), *Economic Development: Theory, History and Policy*, New York, p. 323.

economy as a whole and for firms not belonging to the controlling groups – medium and small firms and newcomers, who are the main actors of the competitive process resulting in capital widening.³⁸

Having stressed so far that the general model of development cannot be relied upon if there are oligopolistic imperfections in product markets, it must be seen now how oligopolistic firms reinvest their margin. A more detailed consideration of the various industrial sectors will allow us to qualify the above argument, which concerns only the general inducements to capital widening.

6. The oligopolistic investment policy and its primary effect

The absence of general inducements to invest in capital widening by no means implies that an oligopolistic economy will be stagnating. Some profitable outlets exist, through which the surplus accumulated by capitalistic firms in any given period can be profitably employed and which allow the process of capital accumulation to continue.

6.1. Elimination of primitive industries

A specific inducement to expand productive capacity in some industrial sectors arises from that some commodities – our composite commodity b – are produced both by modern capitalistic industries and by primitive industries, which together satisfy aggregate demand. The market share of small primitive firms offers an attractive field for expansion to oligopolists in the advanced sector, who can increase production at the expense of the former and appropriate a demand which is already in existence. Price cutting being avoided by oligopolists, use will be made of the typical weapons of oligopolistic competition which are not available to small firms – better sales organization, advertising, product differentiation.

The primary effects (the indirect effects, which are more relevant in

³⁸ See Kalecki M. (1954), *Theory of Economic Dynamics*, London, pp. 92 and 95; Lutz (1958), *op.cit.*, p. 297.

the long run, will be examined in the next section) of the substitution of advanced capitalistic industries to primitive firms follow from the fact that there is a sensible gap in capital intensity between the two: at an unchanged level of aggregate output, considerably more capital and less labour are employed. If the additional production of b' has only substituted a part of the previous output of b'' , employment in the capitalistic sector rises, but aggregate employment falls owing to the difference in capital intensity: of workers previously employed in the primitive firms which have been eliminated, some are absorbed into the capitalistic sector and some are pushed back into the subsistence sector. Aggregate income in the capitalistic sector increases, while it remains unchanged in the subsistence sector. Income per head of workers employed in the former sector is left unchanged; it increases for workers shifting from primitive to capitalistic industries; it falls for workers left unemployed and for those in the subsistence sector. However, an expansion of capital goods industries following the widening of industries producing b' may offset to a certain extent the fall in aggregate employment.³⁹ But in any case there will be more workers whose income is higher than the average, while at the same time the number of those whose income is lower increases or at best is left unchanged.

While capital widening under competitive conditions is always accompanied by a net increase in aggregate supply, this type of oligopolistic expansion takes mainly the form of substitution of new output for previous output; and, even though the process has a capital-widening character for the expanding industries, it has a capital-deepening effect for the economy as a whole.⁴⁰ This depends on the different nature of entrepreneurial policy in the two cases. In the competitive case entrepreneurs simply aim at increasing their output, on the assumption that it will be absorbed by the market; nor could they resort to any other means but price cutting to eliminate their rivals, since a systematic campaign of non-price competition is beyond their limited financial power. As we have seen, the increase in demand will actually

³⁹ However the capital-labour ratio in such industries is likely to be higher than in consumer goods industries.

⁴⁰ Because an unchanged aggregate output is produced with more capital and less labour.

follow the increase in supply, even though the existence of lags between the two may generate a temporary price fall. Oligopolists on the other hand aim directly and explicitly at substituting their output for other firms' preexisting output: since their competitive effort is directed to the elimination of other products, the increase in supply takes place in such a way that it necessarily becomes substitute and not additive to previous supply.

Also the substitution of capital for labour occurring in this case of oligopolistic expansion has not the same nature as that brought about by gradual mechanization of primitive industries. First, while the process is discontinuous and the minimum increase in capital intensity is very high when a big modern plant replaces a number of small primitive plants, the process is gradual and capital intensity increases by degrees when small firms start adopting new methods of production. A second difference regards market conditions and entrepreneurial behaviour. In the former case additional output is produced *at unchanged costs* from the point of view of the expanding firms, and sold at the expense of other firms' previous output. In the other case firms improving their production methods feel directly, in the form of *lower costs*, the benefits of the increase in productivity which is taking place in the economy, and therefore have an even greater incentive to expand production. This latter process goes beyond the substitution of output produced with more labour and less capital with an equal amount of output produced with more capital and less labour – its ultimate effects being those visualized by the Ricardian analysis, of an increase of both aggregate output and employment.⁴¹

⁴¹ Ricardo D. (1821), *On the Principles of Political Economy and Taxation*, London, ch. XXXI ("On Machinery"); see also Lewis (1958), *op. cit.* and Sylos Labini (1956), *op. cit.*, pp. 131 ff.

As Professor Lewis puts it (1958), *op. cit.*, pp. 140-41, the effects of the elimination of primitive industries depend on the relative rates of increase of demand and productivity: "if productivity increases faster than demand, unemployment is created; but if demand increases faster than productivity, there is either inflation or increased employment;" the increase in demand depends in turn on the rate of absorption of labourers from the backward sector. In the case we are considering productivity grows faster than demand, the failure to create new employment being at the same time the cause and the effect of this. The recent industrial development in Sicily provides a striking example of a process

Some other effects of oligopolistic expansion follow from the nature of the competitive weapons used by oligopolists. Selling expenditures, insofar as they represent an additional cost for the entrepreneurs, reduce the investible margin and therefore slow down the rate of accumulation, with negative effects on employment both in the investment goods and in the consumer goods industries. On the other hand, these expenditures are necessary, for, owing to the very nature of oligopoly, incentives to expand production would be lacking without them. It is unlikely that the consequences of selling expenditures on employment can be offset by an increase in the number of workers employed in selling activities, especially when we consider the dynamic and long-run effects of productive investments. Moreover the newly employed in selling do not come from the ranks of the wage-earners unemployed or underemployed in the subsistence sector, but from “the army of salesmen, advertising agents, publicists and salaried employees [... who ...] form a large proportion of those engaged in distributive activities.”⁴² selling expenditures are taken away from profits and transferred entirely to consumption – mostly non-workers’ consumption.

6.2. *Technical progress*

Inventions which give rise to investment decisions represent another outlet through which the margin is reinvested. In our economy, however, investment induced by inventions is not likely to have any positive effect on employment for various reasons. A first reason is, again, inherent in the policy followed by oligopolists. Investments in new production methods are undertaken only if the latter can insure a higher rate of profit. Therefore, in the case of a rise in the productivity of labour due to an invention, direct employment can rise only if output increases more than proportionally to the increase in productivity, while at an unchanged level of output less labour is employed.⁴³ When we consider the unwillingness

of this kind: see footnote 61 below.

⁴² Sweezy P. (1942), *The Theory of Capitalist Development*, New York, p. 284; see also pp. 278-85, and Robinson (1956), *op.cit.*, p 92.

⁴³ Cf. Lange O. (1952), *Price Flexibility and Full Employment*, Bloomington (IN), p. 74.

of oligopolists to expand output, we are bound to think that the possibility of an increase in employment might be rather remote.

The effect of inventions would be different if they were of a labour-using nature. It is however unlikely that this is the case in our economy. In less advanced economies, where growth has started later, technical progress is rarely a factor originating from inside the system. The blueprints of new methods of production are imported from more advanced countries: the nature of technical progress being adequate to the state of knowledge and to the relative availability of factors in such countries, new techniques are likely to be oriented towards a greater use of capital at the expense of labour.⁴⁴ Such techniques are adopted without any change in economies like the one we are considering, even though they do not appear advantageous to the economy when the overall situation of employment is taken into account.

Indeed, if the type of the oligopolistic investment in technical progress is not the most appropriate to the situation of an economy where capital is scarce and labour redundant, this is due not only to the labour-saving nature of the new production methods, but also to a profound contradiction existing between the general economic conditions and the position of oligopolistic firms. If capital were as scarce and expensive for oligopolistic firms as it is in the rest of the economy, the incentive to adopt innovations with very high capital requirements would be greatly reduced. But in our economy, where capital is scarce because industrial development is still at an early stage, a great part of the investible capital, instead of circulating through the system, is kept under the control of oligopolistic industries and is not made available to other industries.⁴⁵ Since oligopolistic entrepreneurs have a dim view of investment

⁴⁴ Cf. Kahn (1958), *op. cit.*, p. 189; Nurkse (1956), *op. cit.*, p. 45. The borrowing from other more advanced countries of technical knowledge, industrial know-how, methods of business organization, etc. was a characteristic of the early Italian industrialization: cf. Foa B. (1953), "The Italian Economy: Growth Factors and Bottlenecks", *Banca Nazionale del Lavoro Quarterly Review*, n. 27, September-December. See also section 9 below. In less developed economies often also the machinery embodying the innovation is imported from abroad. In this case also the positive effects on employment in the investment sector, otherwise following the adoption of a more capital intensive technique, is prevented.

⁴⁵ See end of section 5, above.

opportunities, apart from the possibility of expanding at the expense of precapitalistic firms, the expected rate of profit obtainable in widening productive capacity is low. Thus also the cost of capital is low for oligopolistic industries, and quite independent of the level of the current rate of interest which smaller firms have to pay: and this of course makes capital-using innovations more attractive than they would be if that higher rate of interest were relevant in entrepreneurial decisions.

If the bias towards labour-saving inventions were accompanied by a dynamic competition of Schumpeterian type, technical progress would be in any case an expansionary factor, no matter how it is biased. Inventions would immediately be adopted by some firms, and other firms would have to scrap their old plants, in order not to be eliminated, and to follow suit “in a leap-frog game.”⁴⁶ Thus innovations would give rise to an outburst of investment, with positive effects on both income and employment. But in the case of oligopoly the low degree of competition affects also the adoption of innovations, slowing down the speed of the game. Entrepreneurs will try to avoid the loss of scrapping equipment before the end of its economic life and to adopt new methods of production only when the depreciation period is over. This will be easier under oligopoly, because there are barriers to newcomers, who, bearing no loss in exploiting a new method, are, in competitive conditions, the leaders of technical progress. Moreover, while for a small firm “the introduction of a new machine may become particularly attractive as an instrument for underselling other firms and capturing their market,” for a firm already possessing a sizeable part of the market, “there isn’t much to conquer, and the loss from scrapping bulks large.”⁴⁷ Thus new investments will have more a substitutive than an expansionary effect.

⁴⁶ Robinson (1956), *op.cit.*, p. 85; Schumpeter J. (1954), *Capitalism, Socialism and Democracy*, London, chapters VI-VIII.

⁴⁷ Domar (1958), *op. cit.*, p. 36. This does not mean that oligopolistic firms will not eventually adopt innovations; they will, but only when the plant embodying the old technique has reached the end of its economic life, having yielded all the quasi-rents expected at the beginning of its life. What is lacking is not the adoption of inventions, but the process of “creative destruction” caused by inventions in the dynamic competitive case, with its expansionary effects.

6.3. *New products*

New products are another major outlet of investment. Innovations of this type in more advanced economies are associated with economic progress and with a rise in the standard of living; in economies like ours they are more likely to result from a negative entrepreneurial appreciation of the capacity of the market to absorb increasing amounts of the existing commodities. Consumers' tastes can be influenced through advertising, and demand for new products can be created, at the expense of actual or potential demand for commodities already sold in the market. Oligopolists of course rely more on a future demand which they can directly build up with a selling campaign than on expectations of an expansion conditioned by joint investment, which, as such, escapes their control.

New commodities usually contain more capital relatively to labour than old commodities.⁴⁸ They are usually appropriate to the higher living standards of more advanced economies, from where they are imported in less developed economies. In the former economies these new products start being consumed only when all the more basic needs have already been satisfied; in less advanced countries, instead, they are introduced when incomes are still very low for a relevant part of the population and when also *per capita* consumption of more essential goods is still low. It is true that human needs escape any classification and that it cannot be said *a priori* which good is more essential in absolute without introducing a value judgement. Still it is legitimate to say that, while in the economic history of more advanced economies there has been a gradual evolution in the pattern of demand and in the basket of goods produced, it is likely that no such gradualness will characterize the economic growth of less advanced systems.

This difference is due not so much to a spontaneous and autonomous change in the pattern of demand, as to a change in the pattern of supply, which in turn modifies demand. Indeed it is often easier to influence the pattern of demand of more primitive consumers with low living

⁴⁸ See section 9 below. Cf. Kahn (1958), *op. cit.*, pp. 194-195.

standards, since, owing to their backwardness, no set of value judgements as to the order of priority in the satisfaction of needs is well rooted in them. For instance, more cultivated and educated persons would deem, say, clothes indispensable and they would never switch money from purchasing clothes to buying a TV set; but it is a matter of common observation in half-developed economies to see durable consumers' goods, which can be considered superfluous by any standard, in slums where six people sleep in the same room and children cannot be fed and dressed properly. In our economy this well known demonstration effect and the introduction of new products appear to be, at least *prima facie*, an expansionary factor, since they provide an incentive, otherwise lacking, to investment.⁴⁹

The introduction of new products causes a change in the pattern of demand, both statically and, through changes in income elasticities of demand, dynamically: commodity *a* substitutes commodity *b'* and commodity *b'* substitutes commodity *b*". The process leads also to a considerable expansion of the tertiary sector, since it is accompanied by heavy expenses in selling and by the development of various forms of consumer credit – all the more necessary when incomes are rather low. The effects of the process on the dynamics of employment will be dealt with in the following sections.⁵⁰

7. The long-run effects of oligopolistic expansion on the dynamics of employment

Already at this stage it should be clear that, owing to the cautiousness of oligopolists in expanding output and to the constant bias of their investment policy towards increasing capital intensity, the pattern of capitalistic expansion is far more complex under oligopoly than under

⁴⁹ See Chiang A.C. (1959), "'Demonstration Effect' in a Dual Economy", *The American Journal of Economics and Sociology*, April.

⁵⁰ This process is very similar to that of elimination of precapitalistic firms, and to a certain extent coincides with it, for product differentiation makes the commodity sold by the capitalistic firm different and new with respect to that sold by the primitive firm.

competition.

Positive factors of development are at work also in the oligopoly case. All the three possibilities of reinvestment envisaged above imply an increasing demand of capital goods and therefore lead to an expansion of the investment sector. Moreover new commodities are *per se* an expansionary factor, since their introduction will not cause an immediate and sudden interruption in the production of older products, and the competition with the latter might regard the additional purchasing power rather than a part of the purchasing power previously spent. Thus the increase in industrial productivity which accompanies oligopolistic expansion is bound to result in an increase in output and also in some increase in employment.

But the fact that employment can rise or does rise is of minor importance, because, considering a certain pattern of industrial expansion, we are interested not so much in its immediate consequences on the *level* of employment, as in its overall effects on the *rate of expansion* of employment: it depends on the speed at which employment rises, compared with the rate of increase in population, whether and to what extent structural unemployment disappears. From this point of view there is no doubt that the oligopolistic type of development process is the least favourable to an even spread of growth throughout the economy, since positive expansionary forces are counterweighed by negative factors which make the elimination of unemployment very problematic.

This conclusion is given much stronger grounds and acquires a greater dynamic significance when the indirect effects of oligopolistic expansion on employment, through technology and the pattern of demand, are considered. We shall approach the problem with reference to the conditions of supply and demand prevailing in our economy.

We know that income elasticity of demand for commodity *b* is very high from low to medium income levels and then decreases rapidly, while income elasticity of demand for *a* is very low at low income levels and becomes high after medium incomes: for simplicity we can assume that at any income equal to that of workers in capitalistic industries some *a* starts being consumed, while at any income lower than that no *a* is consumed and all additional income is spent in *b*. We also know that technologies

are more capital intensive and less flexible in the production of a than in the production of b and in the production of new commodities than in that of old commodities.

The absorption of the excess labour force taking place in the competitive type of development process affects the aggregate consumption pattern in two ways. On the one hand newly employed workers will considerably increase their consumption of b and will start consuming some a . On the other hand income per head will increase in the backward sector, for an unchanged aggregate income will be shared among less people: if no change in the pattern of demand has meanwhile intervened, the additional *per capita* income will be spent in b . Thus development affects mainly consumption and production of b , which expand along with the improvement in the conditions of the backward sector; the expansion of industries producing a , without being prevented, is kept in line with the relative state of development of the economy and of the two sectors.

In the oligopolistic growth process, instead, a number of factors contribute to swell consumption and production of a at the expense of a potential expansion of b . In the oligopoly case the increase in capitalistic employment is not accompanied by any relevant decrease in the excess labour force living in the backward sector. With the elimination of primitive firms, the *trait-d'union* between the advanced and the backward sector is abolished: as was said above, there are more workers who earn more without there being less workers who earn less than the average, since only a part of the workers previously working in primitive firms are absorbed into capitalistic industries. This tendency for the gap between the two sectors and the two groups of labourers to grow larger is reflected in the composition of aggregate consumption. The increment in incomes per head accrues to the workers who have passed from primitive to capitalistic industries, and who were already relatively better off than the unemployed and the underemployed in the backward sector; the very low income per head of the latter, instead, has at best remained unchanged. It follows that, while demand for a increases as much as in the competitive case and possibly even more, the increase in demand for b is reduced by all the potential increment in income per head of the backward sector,

and, for workers of primitive industries left unemployed, by the difference between actual income per head in the backward sector and income per head in primitive industries. To the same extent, the expansion of *b* industries is hampered.

The diversion of a part of the capitalistic margin from investment to selling expenditures works in this same direction. Income originating from these expenditures, instead of accruing to newly employed workers, mainly benefits, in the form of salaries and profits, a sub-capitalistic class of selling agents, salesmen, etc. Since the level of income of the latter class is certainly higher than that of workers, income elasticities of demand and the way in which additional income is spent are different: while workers would spend most of their additional income in *b*, members of that class will spend most of it in *a*.

So far we have considered the changes in the composition of demand induced by the distribution of the increments in income assuming that the patterns of individual demand at various income levels remain constant through time. But the introduction of new products changes the pattern of demand itself, and is a further factor working, as we know, in favour of *a* and at the expense of *b*.

Thus in the oligopolistic process of expansion there are a number of factors which conjure to swell the consumption of *a* and to check the expansion of industries producing *b*. Some consequences of this tendency are more striking because they are paradoxical. In our economy, industries lagging behind are just those supplying some essential products (e.g. textiles) of which a relevant part of the population is lacking and for which potential demand is very high even though actual demand is low. Meanwhile other industries producing commodities which a relevant part of the population cannot afford to buy expand their output and lead the industrial development.⁵¹

But the most relevant effects of the process concern the dynamics of

⁵¹ The Italian case provides a good illustration of this paradox. It should be noted that the crisis of, say, textile industry in a country like Italy, where probably income elasticity of demand for textiles is still fairly high for a large part of the population with low income levels, should be distinguished from the inevitable decline in the relative importance of the same industry occurring in advanced countries with high *per capita* incomes and low income elasticity of demand for more essential goods.

employment. Technical progress tends by itself to increase capital intensity and to limit the variability of factors in production processes. And the evolution of the pattern of demand which accompanies oligopolistic expansion works in the same direction, making it profitable to concentrate investments in sectors where technical coefficients are less variable and capital intensity is higher. As a result the opportunities for new employment are reduced, for a higher capital intensity implies that a larger amount of the relatively scarce factor (capital) is necessary to absorb a given amount of the redundant factor (labour), and a more limited variability of technical coefficients makes the proportion of factors used rather rigid and invariant with changes in their relative price. Furthermore technical progress and the evolution of the pattern of demand, being two aspects of the type of development process which we have tried to sketch, are interdependent and react on each another, giving rise to a cumulative process.

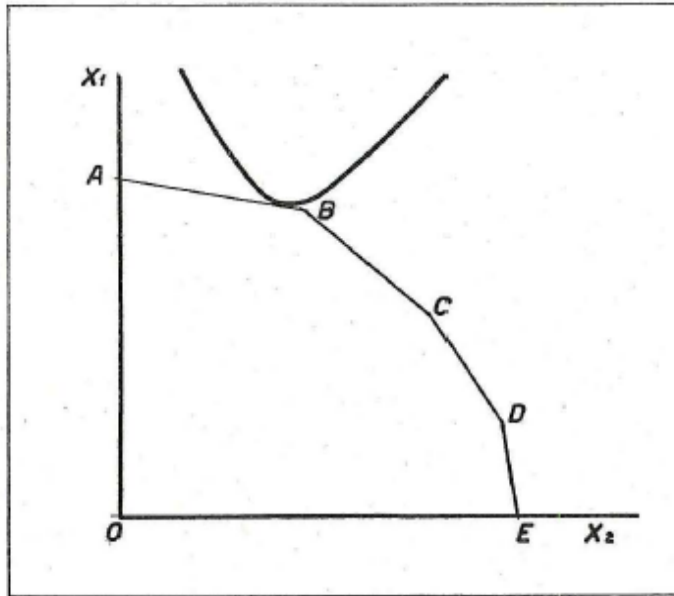
What has been said could provide the ground for a dynamic interpretation of Professor Eckaus' well known analysis of the problem of factor proportions.⁵² Professor Eckaus, approaching the problem from a purely static point of view, pointed out that, with a given endowment of factors, the limited variability of technical coefficients of modern production methods might make full employment impossible, independently of the flexibility of factor prices.

This can be shown in the case of one good produced with a limited number of processes: in figure 2, where capital and labour are plotted along the axes, the points *A*, *B*, *C* indicate the combinations of factors required by the processes available for producing an output y_1 and the points *A'*, *B'*, *C'* the combinations of factors required by the same processes for producing an output y_2 ; the point *E*, indicating the amounts of labour and capital available, is outside the area delimited by the expansion lines of the most capital intensive and the most labour intensive processes.

⁵² Eckaus R.S. (1955), "The Problem of Factor Proportions in Backward Areas", *American Economic Review*, September.

the possibility that the indifference curve of the community might not be independent of the particular processes or combinations of processes adopted.⁵³

Figure 3



We have tried to show that there is a tendency for production processes to become more capital intensive and for the variability of technical coefficients to become more limited: this makes the absorption of unemployment more difficult, as can be seen by the position of the new expansion lines (dotted lines) in figure 2; or even better by the fact that, as a result, the range of patterns of output which are incompatible with full employment is widened in the case of two goods and the corresponding trait of the transformation curve of figure 3 will be no longer *AB*, but *ABC*. Moreover we have tried to link the position of the community's indifference curve with this type of development process,

⁵³ *Ibid.*, p. 553, footnote 17.

and to show that the tendency for the curve to assume just one of the positions incompatible with full employment is inherent in it, while the position of the curve affects in turn the technical characteristics of production.

8. Increases in wages

So far we have assumed that both money and real wages remain constant, in order to show that distortions in the growth process can arise independently of the dynamic behaviour of wages. When we drop this assumption, we realise that a very important cause of rises in wages is to be found in the rapid increase in industrial productivity which accompanies oligopolistic development. These productivity-induced rises in wages might induce, in turn, further increases in productivity; but on the whole it would be quite illegitimate to establish any precise causal relationship, as Mrs. Lutz does, between the two variables.⁵⁴

The wage policy of the Trade Unions is to a certain extent associated to the relative importance of the capital-deepening and the capital-widening character of investment in the growth process. If the capital-widening character prevails and employment rises, neither the capital-labour ratio nor productivity rise very fast *in the expanding industrial sector*, even though average productivity in the economy as a whole might rise very fast. In a process of industrial expansion characterized by capital-deepening investment, instead, productivity rises very fast in the expanding capitalistic sector, while average productivity in the whole economy rises much more slowly. Since Unions look at the trend of productivity in single industries, and not at the trend of average productivity in the economy, or even of average industrial productivity, in order to justify their wage claims, it is more likely that they press for

⁵⁴ In Italy, between 1950 and 1955, output per man-hour in the group of medium and large scale industries increased by 57 per cent (output increased by 64 per cent, employment by 1.8 per cent, total man-hours worked by 4.2 per cent); in the same period and in the same industries money wages rose by 35 per cent, real wages for the worker (taking into account the cost of living) by some 12 per cent, the real cost of labour for the employers (taking into account wholesale prices) by some 32 per cent. (Lutz (1956), *op. cit.*).

and obtain higher wages in the latter type of process than in the former.

Also the imperfections in factor markets, which allow wages to increase when the labour force is still redundant, and the effectiveness of Unions' wage policy are associated with the general characteristics of the growth process. When in a growing but still very poor economy the rise in profits taking place during the industrial expansion is accompanied by a steady absorption of the excess labour force, there is no need for a social justification for rising profits, and claims for higher wages can be resisted with the argument that the larger is the amount of resources devoted to investment, the more employment can expand. If instead unemployment remains constant or decreases slowly in spite of industrial development, some price has to be paid by entrepreneurs: the concession of higher wages is far more convenient than price cuts, which would upset the oligopolistic equilibrium, or government controls on prices and investment. Increases in wages affect all firms alike and they allow to obtain the implicit acquiescence of the Unions, more interested in the welfare of the employed than in that of the unemployed, to the preservation of the existing situation.

Rises in real wages on one hand increase effective demand, thus providing incentives to industrial expansion. On the other hand, however, they reinforce the evolution of the pattern of demand in a direction unfavourable to full employment, since they accrue to workers who are already relatively better off – thus widening the gap between their condition and the condition of the unemployed and the underemployed in the backward sector – and induce an increase in demand which is mainly directed towards commodity *a*.

In the case we have examined real wages might rise both for the workers who get them and for the employers who pay them. But very frequently a higher money wage represents a higher real cost of labour for the employer and at the same time an unchanged real wage for the worker. This happens when retail prices and the cost of living rise while wholesale prices remain constant, and higher money wages are asked by the Unions in order to keep the purchasing power of workers constant. Often an inflationary rise in retail prices is the result of the type of development process sketched above.

Owing to the oligopolistic structure of industry, to the slow rate of absorption of the excess labour force and to the elimination of primitive firms, labour, small entrepreneurs and the capital controlled by the latter crowd into activities which are still free from oligopoly and where technological obstacles to entry as well as capital requirements are limited:⁵⁵ the most accessible and the most attractive of such activities is small trade. Since competition in trade is very imperfect, even if excess capacity prevails and sellers are too many, the price of distribution will not fall: on the contrary, the entry of newcomers, reducing any seller's share, will cause the mark-up on costs to be raised in order to limit the fall in gross profits. Thus an exaggerate expansion of the tertiary sector implies a rise in the cost of distribution, which, in semi-advanced countries, is the cost of inefficiency: it is one of the ways through which the community subsidizes a part of the excess labour force and the small entrepreneurs victims of the oligopolistic development.⁵⁶ This forced contribution levied on consumers and on producers of primary products has considerable inflationary effects and makes nobody better off: newcomers will be attracted by the illusion of high margins and excess capacity will tend to increase; thus the swelling of the tertiary sector contributes to hide the reality of a heavy underemployment. Wages will follow retail prices and rise in money terms; if the wholesale price of industrial products meanwhile does not rise, profits, and the margin available for reinvestment, will be squeezed without any benefit for workers. It can be concluded that this type of rise in wages has only negative effects on the development of the system.

⁵⁵ See Sweezy (1942), *op. cit.*, p. 277.

⁵⁶ Italy offers striking examples of inefficiency and excess capacity in retail trade and of very high distribution costs. Retail distribution margins can be as high as 100-150 per cent. Considering the distribution of agricultural products and foodstuffs, in 1951 there was a shop every 158 persons; in 1954, there existed 300,128 shops in this branch of trade, of which 83.5 per cent employed no more than two persons and only 1.7 per cent employed between 6 and 50 persons. For these figures and some problems connected with distribution costs, see Spaventa L. (1956), "Il costo del commercio", *Il Mulino*, n. 53.

9. Dualism in economic growth

We should now be able to put together the various parts of our analysis, drawing some general conclusions on the *modus operandi* of a process of dual growth and trying to show the foundations of our explanatory hypothesis.

9.1. *The inadequacy of current models*

Dualism is a *tendency* to growing inequality and cumulative differentiation between two parts of an economy. During the first phase of a process of capitalistic development – when industrial expansion has started but has not been going on long enough and has not yet spread throughout the whole economy – at any moment there are static inequalities, which are not necessarily signs of dualism. If growth proceeds smoothly, such inequalities will be eliminated in the long run; if there is dualism, the first phase of the process will never be completed, the excess labour force will not be absorbed and further growth will take place only in the already industrialized part of the economy. This dynamic conception of dualism excludes the validity of any explanation of the phenomenon in static terms.

Dynamic development models make even and smooth development dependent on capital accumulation and the constancy of real wages: hence it has been argued that, if growth proceeds unevenly in spite of capital accumulation, the fault must be of wages rising too fast. But on one hand many doubts can be cast on the validity of any kind of precise relationship between wages on one side and employment and capital intensity on the other – doubts concerning both the mechanism through which the relationship is supposed to work and the nature of the increases in wages. On the other hand it can be shown that the validity of the development models in question is conditioned by the implicit assumption that competition prevails in industries, and that, if this assumption is dropped, dualism can arise independently of the behaviour of wages.

Under competition freedom of entry, availability of credit and above all an appropriate entrepreneurial behaviour insure that the whole

investment of the capitalistic surplus is directed to expanding productive capacity and to create new employment opportunities at a slowly rising capital-labour ratio. Blindness as regards market conditions makes entrepreneurs unconscious of risks and losses implicit in investments leading to the expansion of output or to the immediate adoption of new production methods, and therefore makes them willing to undertake such investments; safety in investment, on the other hand, would cost too much for a competitive entrepreneur, since it would require too large an amount of capital. As it turns out to be, if potential losses are ignored, they never become actual; and, if an act of faith is made by all entrepreneurs, the conditions are created which insure the success of the investments and the expansion of the system.

9.2. The role of technology and the working of dualism

When we introduce the hypothesis of oligopoly, the model of development mentioned above ceases to be relevant. This by no means implies that distortions affecting the growth process are only caused by subjective behaviour and conscious decisions of entrepreneurs. When we go to the bottom of our explanatory hypothesis we see that technology is the common factor underlying both the assumption of oligopoly and the *modus operandi* of the process. Technology becomes relevant to this effect when it is associated with discontinuities of such importance that they cannot legitimately be neglected in the theory of production. Broadly speaking, such discontinuities can affect either the variability in the proportion of factors used for producing a certain output, making it very limited, or the economies of scale, as it is the case when a method of production, by which sensible reductions in costs per unit of output can be obtained, cannot be adopted economically at less than a rather large minimum scale of output and requires a rather large minimum amount of capital.

The relationships between these two kinds of discontinuities (which, even though distinguishable in principle, in actual facts are strictly connected) on one side, and oligopoly and the oligopolistic process of growth on the other, are manifold, and so complex, that it is difficult to

go beyond interdependence and establish a causal sequence. Discontinuities implicit in certain types of technology are a factor of formation and preservation of an oligopolistic structure in industry, since they represent an incentive to concentration and a powerful obstacle to the entry of newcomers. Thus oligopoly itself appears to be a dependent rather than an independent variable – its existence being conditioned by a certain situation of technology. On the other hand oligopoly influences the types of technology in use, through the type and the direction of investments. Consciousness and cautiousness of oligopolistic entrepreneurs kill that faith in the market which is the motor of competitive development. Unlike competitive entrepreneurs, oligopolists know the overall market situation and can foresee potential losses: thence uncertainty is, as far as possible, eliminated, risks are not faced and investments are systematically directed towards safer outlets. This, far more than the difference between prices and marginal costs or price rigidity, being the main characteristic of oligopoly, we can see how a cumulative process is set in motion. The pattern of oligopolistic investment affects technology both directly and, through the evolution in the pattern of demand to which the type of technology in use is strictly associated, indirectly. As a result, technical discontinuities are increased and the factors making for oligopoly are reinforced.

These interdependent factors – oligopolistic behaviour, technology, and the pattern of demand – work dynamically in the same direction of checking an expansion of employment sufficient to absorb the excess labour force, and of causing uneven growth: income is generated mainly in the advanced part of the economy while new employment is created at a rate which hardly allows the absorption of the natural increase in the labour force.

This sort of growth is full of paradoxes. Since the redundant labour force is not absorbed, additional income accrues only to those who are already better off, while lower incomes remain low. The pattern of production adjusts itself to the pattern of demand of that part of the economy where incomes are rising, while the pattern of demand itself is influenced from the supply side. Potential demand of the rest of the economy remains only potential because it is not sustained by an

adequate income, while the latter could only be created if production were expanded. Thus stagnating industries are those producing commodities which could be sold in far larger quantities if only income could increase in the backward sector, but for which no additional demand can be expected from an increase in income in the advanced sector. Growing industries are those producing commodities demanded at income levels much higher than that prevailing in the economy: the expansion of the latter allows an increase in employment which, being offset by technological unemployment created in other branches of production, cannot absorb the labour force structurally in excess. Thus the backward sector remains stagnating, with high unemployment and low productivity, without getting any benefit from growth taking place in the economy. At the same time the advanced sector more and more acquires the characteristics of a fully advanced economy: productivity and output rising and profits and wages rising with them; reabsorption of technological unemployment created inside the sector; a pattern of demand typical of relatively high income levels, with the introduction of new commodities. "Plenty in the midst of poverty," we could say paraphrasing Keynes.⁵⁷

9.3. *The historical side of the problem*

The conclusion that technology plays a major role in generating dualism can provide a historical justification for our explanatory hypothesis. The argument is not liable to be dealt with in short: here we shall give only a few hints of what should be a joint study in economic history and economic analysis.

In our exposition we have compared the competitive case and the oligopoly case *in vacuo*, as if the structure of industry were not related to other conditioning data and as if, the conditioning data being the same,

⁵⁷ In the context of this analysis, the optimism of Colin Clark, who has written, examining the Italian development, that Italians "may reassure themselves that the improvement of productivity, which is the only real remedy for these ills (*i.e.* poverty and unemployment), is now proceeding at the greatest possible rate," seems out of place: for, as the very case of Italian development shows, the improvement in productivity may be associated with both poverty and unemployment. Cf. Clark (1954), *op. cit.*, p. 128.

oligopoly or competition alike might prevail. This procedure, even though very useful for purely analytical purposes, can hardly be justified on the grounds of realism and of historical evidence. In actual facts, whether oligopoly or competition prevails in the industrial sector of an economy at an early stage of development is not a chance, but depends on the conditions of technology, which in turn depend on the timing and degree of development of the economy itself relatively to other economies: and this can explain why it is not a chance that in some countries growth has proceeded fairly regularly and evenly, while in others has taken a dual path. There has been a distinct evolution of the technical conditions in relation to the pattern of commodities produced. The capital content of a commodity, the range of techniques available and the variability of technical coefficients in its production are related to the 'age' of the commodity itself, i.e. to how far back in the past the commodity was first produced and sold in the market. Some commodities which are produced at low income levels and primitive stages of development are still produced when the economy, growing, reaches more advanced stages, with the only difference that, parallel to growth, techniques are improved and become more mechanized. The range of techniques which could be used for producing such commodities is, in principle, very broad – from those used at earlier and more primitive stages to those introduced later. On the contrary, the only techniques devised for producing 'new' commodities, introduced at an advanced stage of development, correspond to the general economic conditions and to the general state of technical knowledge prevailing at that stage: in advanced economies new production methods and production methods for new commodities are correspondingly advanced, and are planned having regard to the availability of factors in these economies. Production methods suitable to or possible for less advanced societies are not even envisaged. Thus there is a general evolution of production methods towards greater capital intensity; as for commodities, the more recent they are, the greater their capital content, the more restricted the range of available techniques and the less variable the technical coefficients. In the world's economic history there has been a group of countries which were the first to experience capitalistic economic development and which have

been the first to reach economic maturity. Such countries, having been the leaders in the process of growth⁵⁸ and, so to speak, the makers of technical progress, have not missed a single step in the technical evolution: technical progress was gradual, and they have experienced any phase of it, passing through the whole range of more primitive commodities and techniques, before arriving at the pattern of commodities and methods of production prevailing in present days. Along with technical progress, also the transformation in the structure of industry has been gradual in such economies: oligopolistic concentration was not the rule in the first stages of the industrial revolution; rather, competition prevailed, taking mainly a dynamic form of Schumpeterian type, under the stimulus of a very rapid rhythm of innovations. Only later on most industries became definitely oligopolistic, when the first phase of growth – that in which the capitalistic modes of production and capitalistic employment spread throughout the whole economy – had already been accomplished: and the passage from competition to oligopoly was associated with the introduction of new methods of production of increasing capital intensity and with an increasing minimum scale of production.⁵⁹

In other countries, where growth has started later, often much later, there is no such gradual evolution. There is no need for such countries to go through the whole process of evolution in technologies, commodities and industrial organization, when the latest discoveries of more advanced countries are at their disposal. Newly introduced industries adopt modern

⁵⁸ Also in these countries, at early stages of capitalistic growth, “the very limitation of the standard of life of the masses, which was a condition of the growth of capital accumulation, set fairly narrow bounds to the market of anything but luxury goods,” and “investment in new industries or the extension of existing industries was evidently hampered by the prevailing notion that the market for commodities was limited” (Dobb M. (1946), *Studies in the Development of Capitalism*, London, pp. 196 and 198). But international trade gave soon the necessary push, opening immense markets abroad and acting, as Sir Dennis Robertson put it (quoted by Nurkse (1958), *op. cit.*, p. 23) as “an engine of growth:” thus “that mood of optimism” was stimulated, “which was so essential an ingredient of the pioneering activities of the industrial revolution” (Dobb (1946), *op. cit.*), and which instead is lacking in the case examined here.

⁵⁹ On the characteristics of competition in the industrial revolution and on the process of concentration in advanced economies, see Fellner W. (1949), *Competition Among the Few*, New York, pp. 18-24, and Sylos Labini (1957), *op. cit.*, “Introduction.”

and highly capital intensive methods of production, and demand ‘jumps’ to some of the more advanced commodities produced in more developed countries, at a still very early stage of development of the system, when the first phase of growth is far from being completed. This might seem, and sometimes is,⁶⁰ an advantage; but there can be drawbacks, not so evident, but often so important as to more than offset the advantages. The technologies and the commodities introduced at an early stage of industrialization are not devised in relation to the degree of development of the economies in question, but are imported from far more developed countries; and with them the form of industrial organization prevails which is more appropriate. What is good for the health of an adult is sometimes harmful for the growth of a child.⁶¹ For younger economies internal markets are limited and external markets are dominated by more advanced countries. Competition is lacking or soon comes to an end,

⁶⁰ It has been an advantage, for instance, in the case of the reconstruction of the German industries after both the world wars. But the conditions and the potential of postwar Germany, both after 1919 and after 1945, were very different from those of an under-developed or half-developed country.

⁶¹ As it has been rightly said, while the effects of monopolistic factors are “less adverse where economic growth is rapid, since the process of industrial and product substitution is infinitely more effective and brings into play strong competitive factors,” “in a market which grows only slowly, the competitive process is stifled [...] Monopolistic factors [...] are certainly not worse in Italy than in most industrial countries. They operate more oppressively simply because the national economy offers little scope for rapid growth, and because oligopoly, wherever it exists, does not lead to active and intense competition among semi-monopolists, but to cartel agreements, and limitation of output” (Foa (1953), *op. cit.*, pp. 250-251). On the monopolistic elements at the beginning of Italian industrialization, see Gerschenkron (1955), *op. cit.*, p. 366.

Sicily, which in recent years has undergone a very rapid industrial development, provides a most typical example of dualism in growth. A careful analysis of such development (Sylos Labini P. (1959), “Riflessioni sul problema dello sviluppo industriale in Sicilia”, *Il Ponte*) shows that, if on average the standard of living has risen, and if the number of those who are relatively well off has increased, the number of the poor has increased even more. Unemployment has increased, owing to the elimination of primitive firms, which has not been counterweighted by a sufficient expansion of capitalistic industries. Competition has been lacking, owing to the high capital requirements of capitalistic firms and to the level or effective demand, too low relatively to the minimum quantum necessary to start production on a large scale with modern methods. Meanwhile there has been an exaggerate expansion of the tertiary sector, which has become the refuge of unemployed labourers and entrepreneurs. As can be seen, there are striking similarities between some points of our hypothesis and a real case.

since it is hardly compatible with the pattern of technology adopted and with the limitation of the markets, and, unless there are natural resources which give a decisive push to development, also lacking are the other incentives ensuring a continuous growth of the system. Thus such economies relapse in the situation which we have tried to sketch in this paper.