

## ASPECTS OF REGIONAL ECONOMIC GROWTH

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It is one of the indices of our lack of knowledge about the mechanism of economic growth that every introduction of a new dimension into our analysis raises new problems. After all, if we really knew what made our little Johnny grow from babyhood to maturity, we should be able to answer why brother Jimmy, brought up under broadly similar conditions, differed in certain respects. To the extent that we are still fumbling for hypotheses to account for the specifics of Johnny, the introduction of Jimmy can be peculiarly disturbing to our favorite theses.

This type of complication occurs when we remove the false homogeneity we confer upon the United States economy in studying its economic growth and turn to an explanation of differential growth within the whole. As replacements for all of the aggregative economic, sociological, psychological, and political imponderables forming both motive power and constraints in an analysis of the Nation's growth processes, the inclusion of space introduces immediately the need to explain differential growth within a society of somewhat less than perfect spatial homogeneity.

There exists a temptation for the regional economist to adopt what might be termed a "Ptolemaic" approach to these problems. This school of astronomers, in pre-Copernican days, devised a grand theory of the movement of heavenly bodies which it struggled to retain in the face of the theory's inability to predict the position of specific planets at specific times. To explain the deviant behavior of these bodies, the astronomers built into the grand theory a series of epicycles which seemed to explain, *ex post facto*, a particular planet's position.

It may well be that the regional economist has adopted the vision of the United States as a nation of phenomenal industrial growth, fitted the pattern to its regional components, and constructed epicyclical theories to account for abnormal departures of backward areas. It may also be that, quite understandably, the policymaker has adopted the grander vision as a regional norm, measured departures from it with a ruler calibrated in units of abnormal, and designed measures to correct such pathological lapses at the expense of more valid policy criteria.

This paper will deal with certain aspects of these problems in its presentation of a rather pessimistic outlook upon the role of feasible fiscal policy in regional economic development. It will ignore the quite different problems of natural-resource development programs by the Federal Government. The writer wishes to stress, however, his realization that these viewpoints are more intuitive than scientific, given the vastness of the processes and the crudity of analytical tools.

They must be labeled, therefore, quite frankly at the outset, as one economist's professional prejudices.

### REGIONAL GROWTH DIFFERENTIALS

Among the myriad factors determining the economic growth rate, economists have fastened upon three of great importance. These are (1) the rate of capital formation, (2) the resource base of a region, and (3) the strength of and status afforded to the entrepreneurial class in a society. To concentrate upon these predominantly economic elements in the growth process is not, of course, to ignore or underestimate the role of factors more political, sociological, or ideological in nature: Our analysis must be recognized as of partial value only in the broad topic under discussion.

Let us assume boldly, for purposes of gaining some insight into growth, that the political, sociological, and cultural conditioning of individuals in the United States is similar in all areas in all respects that might affect economic growth; or, more realistically, that existing differences do not constitute important sources of differential growth experience in the various regions. Obviously, the assumption is not realistic—indeed, to the extent that we recognize feedbacks from the economic experience of a region to its political, sociological, and cultural outlooks, the position is untenable. However, it may well be true that differences in these attitudes that affect economic growth autonomously are lessening as our communications revolutions continue.

For purposes of analysis, then, we shall hold these factors constant at some identical level for all regions, thereby assuming away spatial barriers to the formation of a genuinely national ideology, and focus attention upon differential rates of capital formation, resource endowments, and availabilities of entrepreneurial talent to explain regional experience in the levels of per capita income attained and the rates of its growth.

To ascribe such differences to these sources implies all or part of the following:

1. The existence of immobilities within the national expanse which prevent effectively the attainment of an equal endowment of resources and entrepreneurial talent spatially; and/or,

2. The existence of indivisibilities in the production processes which militate against an evening out of production spatially;

3. In the absence of immobilities and indivisibilities of the type discussed in (1) and (2) above, new investment would tend to be spread evenly over regions, and differential rates of capital formation would tend to reflect the condition discussed in (4) below, unless immobilities exist in the movement of capital between regions;

4. To the extent that the growth process implies rates of growth that vary with stages of development—in a sense, with the existence of dynamic indivisibilities—differential regional growth rates may reflect differences in economic maturity.

To some extent, at any period of time in which we consider the differential levels of income between regions or its rate of growth for regions, the fourth type of factor must be borne in mind. That is, even if all factors were perfectly mobile in space, and each production

process were subject indefinitely to constant costs, it is quite possible that an early start would lead to very real advantages in costs. It is in the establishment of these types of economies within a nation that government policy has concerned itself with the protection of infant industries. Its application to regional economies raises some difficult policy questions.

For example, let us hypothesize that New England's early development of a merchant class, the successful mutation of that class into an industrial-merchant entrepreneurial stratum at the beginning of the Republic, and the acquisition and immobile nature of capital in this early period gave that region an initial impetus in textile manufacturing which, from the earliest times, overrode the penalties of distancing from markets and raw materials.<sup>1</sup>

Assume, further, that the economic development of the South had reached a level such that New England's advantages could be eliminated with some exercise of Federal Government pressure via its ordinary spending program. Should the National Government violate its economic criteria by purchasing in a more expensive market to attain the objective of raising the South's ability to compete at the price of accelerating the decline of New England? What calculus does the policymaker of a common, impartial government adopt to measure the losses of New England against the gains of the South? In this simplest of cases, the economic criterion seems quite clear: If the discounted value of prospective savings on the cheaper southern cloth exceeds the present value of the loss through purchase in the more expensive market, the policy should be adopted. But the more important questions are left unanswered: they become even more complicated when direct investment in regional development requires some benefit-cost calculation.

In our simple, but useful, model, however, these type 4 indivisibilities afford an economic basis for action, although the more difficult assignment of priorities must be made on other grounds. It seems to the present writer that the use of fiscal policy to overcome regional differences springing from immobilities and indivisibilities of the other sorts is less defensible if these are inherent economic characteristics of production processes as they exist in a period of time.

That type of friction leading to factor and goods immobility which is most germane to a discussion of regional development springs from the requirement that scarce resources be consumed in the movement of goods through space. A balance between the costs consequent upon overcoming these frictions and the savings often springing from the indivisible nature of certain production processes is struck so that economic criteria would lead to the location of production in region A rather than region B. To the extent that such decisions yield minimum cost solutions, it is difficult to see how the attempt of Government policy to locate a plant in region B can be justified on the

<sup>1</sup> Almost from the beginning of yarn spinning in New England, interior markets in the young West were important to the cotton-textile industry: indeed, the substitution of these markets for foreign markets with the imposition of the Embargo and Nonintercourse Acts was one of the more important economic developments for the region. From the viewpoint of access to these markets, New England was at a disadvantage compared with New York, Philadelphia, and Baltimore. Although she was peculiarly well-endowed with waterpower, the existence of a fall line along the Atlantic Coastal Plain was sufficient guaranty that she had no unique advantage in this respect. Besides, steam became competitive with waterpower about 1870, and New England's initial advantage in this regard became negative.

grounds of an epicyclical explanation that the latter region lags behinds either the Nation as a whole or region A in particular. Such decisions must be made upon the basis of noneconomic criteria. To the extent that they involve the establishment of production processes which could not exist in the absence of such policy, their implementation involves the need for a continuing subsidy via Government fiscal policy and a misdirection of investment whose positive contributions in the light of other-than-economic criteria must outweigh these costs. A classical case of this misdirection of the spatial economy is given by the history of location of steel capacity in Duluth at the instance of (State) governmental policy.<sup>2</sup>

But such cases are too clear cut to be realistic. Today, if we may believe certain preliminary indications, regional tendencies exist which seem to be a compound of several movements. First, an increasing mobility of labor between regions seems to have been born of wartime experience and a growing ease of communication. Capital, too, seems to have shared in this increasing ease of movement. Second, the differential positions on the scale of development as between regions seem to be less far apart, so that the advantages of more maturity seem less than in the prewar period. Third, the advantages of locations nearer to markets seem to be increasing relative to those obtained from the indivisibilities of production in large scale, from location near associated industries, or from location near raw materials. These movements seem to be giving a greater choice to the firm in its locational alternatives, allowing noneconomic considerations to play a greater role in the decision by exacting a smaller penalty for non-optimum location, or giving several optimal solutions.

The true strength of these tendencies has yet to be assessed. It is possible, for example, that the South experienced an inrush of plants oriented toward its growing markets after the war and will not attract much in the way of national production facilities. For example, most of the 11-State Southeast region's relative growth in per capita income seems to have occurred between 1932-34 and 1940-45. From 1945 to 1953 the area shared the national growth experience (a 44.7-percent growth in per capita income compared with 43.5 percent for the Nation).<sup>3</sup> A study of the applications for certificates of necessity during the Korean war by several Standard Industrial Classification Code four-digit metal fabricating industries reveals that the proportion of the total value of proposed facilities in the States of Massachusetts, Connecticut, New York, Pennsylvania, Ohio, Indiana, Illinois, Wisconsin, Michigan, Missouri, and California was exactly equal to the proportion of wage earners in manufacturing in these States in 1939 (about 90 percent).<sup>4</sup> These evidences are fragmentary and substantial studies must be undertaken before we can conclude that American industry is dispersing toward markets and/or away from

<sup>2</sup> L. White and G. Primmer, *The Iron and Steel Industry of Duluth: A Study in Locational Maladjustment*, *Geographical Review*, XXVII (1937), pp. 82-91.

<sup>3</sup> See B. U. Ratchford in his comment on H. S. Perloff's paper in *Conference on Research in Income and Wealth, Regional Income*, Princeton, 1957, pp. 66-68. Ratchford uses this material to illustrate the importance of a base period in measuring a region's relative growth, and concludes: " \* \* \* There is a tendency to allow the spectacular results of the war period to overshadow the more recent and perhaps more significant results of the post-war period. One must not only choose the base year with care but must also be alert for changes in trends, especially when a strong movement develops rapidly in a disturbed period, such as during a war or a severe depression" (p. 68).

<sup>4</sup> Robert E. Kuenne, *Recent Locational Tendencies in United States Manufacturing*, unpublished.

older centers because of an increasing foot-looseness born of the factors discussed above.

Whether these movements are or are not afoot means a great deal, it seems to the author, to the Government policymaker facing up to the many dilemmas in this field. To the extent that immobilities and indivisibilities are disappearing or changing in the manner suggested above, the need for his action—given the adoption of greater equality of regional per capita income and its rate of growth as desirable—lessens at the same time that the opportunities for accomplishing the aims with least interference with economic efficiency increases. To the extent that they are not, the need for government action to achieve the end increases at the same time that the interferences with optimum economic allocation of resources is maximal. A good deal more research than now exists should be done on these basic movements through space of industry.

A last consideration of this paper is the often-urged use of government means to induce a dispersion of industry on the basis of defense policy. Enough experience has now accumulated to indicate that industry is reluctant to locate at nonoptimal cost points in the absence of a goad involving a continuing subsidy or substantial tax relief. From the viewpoint of economic criteria, it seems futile to expect our economy to operate in a viable fashion after a nuclear attack upon its major centers of production. Twenty-megaton thermonuclear bombs can wreak annihilation upon a 32-square-mile area before considering the effects of radiation. To expect a period of "broken backed" war after such an attack seems unrealistic.

However, even were our production facilities dispersed to a high degree at the cost of violating economic criteria, one set of considerations seems to negate the supposed reduction in our vulnerability: our transportation system is organized about a series of nodal points whose elimination is impossible. To the extent that production facilities were dispersed into regions whose communications were not meant to be used to the extent demanded, our productive mechanism would be subject to frequent breakdowns. Moreover, in the event of nuclear attack, destruction of the nodal points on our transport network would leave us as helpless as would destruction of the facilities themselves. Paying the price economically for a dispersion sufficiently great to offer some prospect of having production facilities survive thermonuclear attack would be too great, given the continuing and even enhanced vulnerability of a concentrated and overstrained transportation nexus.

#### SUMMARY

This short paper has refrained from discussing the regional development aspects of Federal expenditures for large-scale resource development in favor of remaining in the less ambitious policy realms concerned with year-to-year budgetary expenditures for Government needs. In such programs, other criteria than regional economic growth will be dominating, but the latter consideration may enter into the decisionmaking in a more-than-marginal manner. Such decisions may cumulate into substantial aid or disadvantage to one region or another. Under what conditions should other criteria be ignored to take action furthering one region's economy at the expense of another's?

The purpose of this paper is not, of course, to present a list of priorities for noneconomic goals which would take precedence over those we might call the economic criteria proper. Rather, we have chosen to find a simple mechanism giving insights into the existence of differentials between regions and to judge the feasibility of action by ordinary budget policy to overcome the barriers to regional equality. Our model has assumed a common ideology between regions, and focused upon economic immobilities and indivisibilities, of a static and dynamic character, tending to dictate economic inequality between regions.

On the whole, government policy seems best justified when it is shaped to boost a region whose disadvantage in a certain production is ascribable solely to a less mature stage of development, when that region can achieve a lower cost than presently obtained from a currently producing region. It is in this field of helping to overcome such dynamic indivisibilities of production that our most unambiguous case can be discerned.

On the other hand, the use of expenditures to overrule the spatial pattern of production when it is a reflection of inherent immobilities and indivisibilities of production processes is much more difficult to defend. To the extent that greater regional equality is desired at the expense of a continuing subsidy to the industries involved or a more rational allocation of investment in the economic sense, the costs should be so reckoned. These costs, however, may be cheapening if certain movements in industrial location are present.

Lastly, it is difficult to accept the argument of dispersion of industry for defense against thermonuclear attack, given our basic inability to disperse transportation facilities as well.