Case Studies of Effect of Roads on Development

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•A SERIES of case studies has been conducted in Latin America to indicate the impacts of road construction on economic development. The purpose of these field studies, undertaken by The Brookings Institution, was to shed light on the actual results of better transport, as a basis for improving techniques of evaluating future transport project proposals.

The countries included in the case study work were El Salvador, Guatemala, Nicaragua, Venezuela, and Bolivia. In addition, analysis was made of a number of other cases previously studied by other organizations in India, Thailand, North Borneo, Uganda, and Peru. The following sections provide a broad survey of the impact on the regions influenced by the new roads. (For further details and an analysis of the implications for theory and policy, see Ref. 1.)

EFFECT ON TRAFFIC

In every case there was a rise in traffic along the new facility, representing in most instances a net increase in total mobility, not merely a diversion. Where no previous connection existed, the traffic on the highway represented a net increase in movement. But in most instances, even where rail connections were paralleled, the rise in highway movement implied a net increase. For example, only 12 percent of the total traffic along the Friendship Highway in Thailand was believed to have been diverted from the railway, and along India's Ramnad-Mandapam road, and the coastal highway in El Salvador, rail traffic increased following its completion. The same is true of the autopista in Venezuela. In Nicaragua, rail traffic declined along the portion of the highway closely paralleling the railroad, but this was more than offset by the rise in trucking. Even in the case of the Guatemalan road, some net increase in mobility was recorded although this was slight and mainly attributable to other factors.

In general, however, the total volume of traffic in the region or country increased, and the extent of diversion from parallel facilities, other than indigenous forms of transport, was not significant compared to the growth along the new capacity. Even where diversion occurred, this proved to be a more rational allocation of traffic.

In every case, local traffic was almost completely captured by truck transport except for heavy, bulky low-valued commodities such as bricks, tiles, gravel, and timber, which continue to move by rail where this is a possible alternative. In Guatemala, for example, local traffic by rail is estimated to have declined by almost 50 percent. In Nicaragua local traffic by rail fell sharply between 1954 and 1962. During this period it accounted for only one-third of total rail and truck short-haul or local traffic. With respect to indigenous forms of transport, which were entirely short-haul, the volume of traffic similarly decreased substantially.

Longer-haul or through traffic also showed a shift to truck from rail but for the most part this represented movement of the increased production in the region, and the extent of diversion from alternative forms of transport was relatively small.

Passenger traffic, however, shifted more dramatically to bus service once the road was completed. In Guatemala, bus service even replaced an airline between Guatemala City and Puerto Barrios. Large reductions in rail passenger traffic were generally reported despite a rise in total passenger movement. It is clear from the cases that bus transport captured much of the previous passenger business and was responsible for practically all of the increase.

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CHANGES IN PRODUCTION

The net increase in mobility implied an increase in both the tonnage of freight and number of people moved during any time period and, in some instances, a lengthening of the average distance traveled. As both cause and consequence of this, a sharp rise in production (mostly agricultural) took place with a growing emphasis on production for the market rather than for subsistence. In other words, the rise in mobility was not simply more movement over longer distances of existing annual volumes of production. In virtually every case, the greater mobility represented a net increase in physical output as well as a higher value of output per unit of weight, as substitutions for both low-valued cash crops and subsistence crops ensued. The extent of growth of new output was particularly striking in the area affected by the Friendship Highway, and the Nicaragua and El Salvador Littoral Highways. (The 1962 decline in upland crop production in Thailand is believed to have been a result of locust plague and does not represent a reversion to production levels before the highway.) In the Department of Chinandega, Nicaragua, the area cultivated increased by over 70 percent because much pasture land was converted to crops, while the estimated value of output almost tripled between 1951-1952 and 1962-1963. The sharp rise in value per unit of cultivated land is attributable to a substantial shift from low-value crops to cotton and sugar cane as well as rising yields, especially in cotton. For example, while the total number of manzanas (1 manzana = 1.73 acres) cultivated increased by about 40,000, the area devoted to cotton alone increased by over 52,000 manzanas. The area devoted to such lower-yielding crops as rice, beans, corn, and sesame declined between these two dates. Physical yields in cotton increased steadily from about 6 quintales per manzana (1 quintal = 100 lb) in 1952-1953 to over 12 in 1962-1963, with the result that a ten-fold increase in the value of cotton output occurred. A similar though less-pronounced pattern of new lands and substantial substitution of cotton for other crops also typified the Department of Leon.

Even in Guatemala, where the area affected by the road was not extensive and conditions along the right-of-way were not propitious, some net increase in cash crop production for sale in Guatemala City was reported, which implied a substitution for subsistence crops.

But the most dramatic change occurred in the El Salvador case where cotton output increased more than seven times in the decade following 1953-1954. Indeed, the conversion of a relatively substantial region from subsistence to market-oriented production probably went further in El Salvador than in any other region examined in this paper.

There was a sharp response in timber production following completion of penetrating transport facilities (and negatively when they collapsed as near Satipo, Peru, in 1947) in Peru and the Pasak Valley in Thailand. Slightly less dramatic were the production increases in the Ramnad-Mandapam area of India, North Borneo, Uganda, and the Aragua Valley in Venezuela. Only the Guatemalan road and the Cochabamba-Santa Cruz highway in Bolivia have failed to trigger much new production. Most of the increases in output constituted a net growth for the economy as a whole and did not simply represent a relocation of productive activity.

The substitution of cash for subsistence crops was especially apparent in North Borneo, El Salvador, Nicaragua, Thailand, the Santa Cruz area in Bolivia, and the Western Montaña in Peru. This implies not only a greater volume of output but a higher unit and total value as well. More importantly it permits greater specialization and provides an essential integration of market-oriented economic activity over a more extensive area.

In most instances the transport facility served directly or indirectly to bring more land into productive use, although the extent of this varied widely. It was obviously dependent on the type and length of road as well as the quality of the soils or forests through which the road went or to which it provided easier access. Yet there is no relationship between the cost of the highway per mile and the developmental impact.

With the exception of the autopista in Venezuela, which is a very special case, the most expensive road was that constructed in Guatemala which cost over $26,000 per mile. The East-West highway in Thailand cost about $210,000 per mile, and the others

TABLE 1

SELECTED DATA FROM THE CASES

Country	Vehicles per Day, 2 to 5 Yr after Construction	Avg. Annual Change in Production in Areas Affected[a] (%)	Approx. Cost of Road per Mile (U.S. $)
Bolivia	102 to 120	20	134,000
El Salvador	150 to 1,200	80	165,000
Guatemala	400 to 700	5	261,000
India	<100	5	14,000
Nicaragua	770 to 1,500	45	100,000
North Borneo	N. A.	35	10,000 to 17,000
Peru	N. A.	75	N. A.
Thailand: Friendship	700 to 1,000	40	150,000
East-West	40 to 470	50	210,000
Uganda	N. A.	65	N. A.
Venezuela	>5,000	30	1,600,000

[a]Data refer to simple average annual increases, not compound rates of growth, rounded to the nearest 5 percent. The production estimates were derived as follows:

Bolivia: tonnage of rice and sugar production 1950-1958.
El Salvador: tonnage of cotton production, 1953-1954, 1963-1964.
Guatemala: estimated from tonnage handled at ports influenced by highway, 1953-1962.
India: weight of agricultural output excluding paddy, in study area 1954-1955 to 1958-1959.
Nicaragua: average weight of cotton and sugar output for Departments of Chinandega and Leon, 1951-1952, 1962-1963.
North Borneo: land demand, 1953-1960.
Peru: board feet of lumber production in Chinchamayo-Oxapampa area, 1942-1951.
Thailand: Friendship, weight of output of upland crops and vegetables, 1957-1961, in provinces affected;
East-West, weight of output of upland crops and vegetables, 1957-1962, in provinces affected.
Uganda: avg. of weight of cotton output for Madi and Jonam, 1948-1949, 1955-1956.
Venezuela: production index average for Departments of Aragua and Carabobo, 1954-1960.

in Latin America cost between $100,000 and $150,000 per mile. The Ramnad-Mandapam road and the unpaved roads in North Borneo cost less than $20,000 per mile. There is no relationship between these amounts and traffic estimates several years later which varied from less than 150 veh/day for the highway in Bolivia and the roads in North Borneo and Uganda, between 400 to 700 on the Guatemalan and East-West highways to almost 1,000 on the Friendship Highway and portions of the coastal highway in El Salvador (Table 1). There are obvious features of noncomparability in these cost estimates such as the degree of inflation (since the highways were constructed at different times), the variations in the exchange of rate of local currencies for U. S dollars, and, of course, the nature of the terrain and standard of road built. But even considering these sources of cost variations, the kind of road and its cost per mile is not associated with the degree of success, however measured. For comparison, data for Tanganyika are given in Table 2. If these figures have any relevance at all outside of Tanganyika, the construction costs in the Latin American and Thailand cases are clearly excessive. Independent of the general applicability of these estimates, however, the point is that road costs and standards vary considerably and without any apparent relationship to the subsequent economic effects.

There is no single answer to the question of what type of road is needed to stimulate development. Differing circumstances require different transport solutions. For instance, the Uganda case shows that when harvest time coincides with the dry season or a time of year when dirt roads are passable, all-weather or surfaced facilities are not essential for inducing sustainable increases in output of crops, especially if they are not subject to serious damage through rough transport (e.g., cotton). On the other hand, all-weather roads are important where these circumstances do not exist. The only specific example of this is in North Borneo where a positive relationship exists between all-weather roads and the value of crop production at varying distances from the market. It is reasonable to assume that a similar, though less pronounced, relationship

TABLE 2

ESTIMATED ROAD CONSTRUCTION COSTS, TANGANYIKA[a]

Vehicles per Day	Type of Road	Construction Cost per Mile (U.S. $)
<60	Earth feeder roads, permanent bridges	1,400 to 7,000
60 to 150	Earth or gravel	14,000 to 22,000
150 to 1,200	Bituminous surface 20 ft wide	33,600
>1,200	Bituminous surface over 20 ft wide	56,000

[a]Data denied from International Bank for Reconstruction and Development, The Economic Development of Tanganyika, Baltimore, Johns Hopkins Press, p. 279, 1961.

holds for improvements up to and beyond paved facilities, although the data available do not permit specifying its precise nature.

Furthermore, where constant attention must be paid to crops during the growing season, accessibility at all times during the year, and not merely to transport the harvest from the fields, is important as the Nicaragua and El Salvador cases suggest. This is especially true when landowners or their agents reside in towns or villages more or less remote from the growing area.

RATES AND SERVICE

The mechanism that served to stimulate additional output, cultivation of new lands, and more passenger travel was in every case except that of El Salvador a rather sharp decrease in freight and passenger charges from levels prevailing before the new facility as well as improved service. This, however, did not happen spontaneously. Moreover, some commodities and segments of the region benefited more than others. Nor was there much uniformity in the extent of average rate decreases among the cases as would be expected. (As far as penetration facilities are concerned, it is not possible to speak of rate decreases since no previous service existed.)

Rough estimates indicate that rates for most of the commodities involved dropped by about 50 percent in the Guatemalan, Bolivian, and Indian cases and by even more than this on the Friendship and Nicaraguan Pacific Littoral highways. However, in El Salvador, both passenger and freight rates on the railroad which paralleled the road for part of its distance did not drop. Furthermore, for the Friendship Highway it is estimated that the cost of moving maize from Korat to Bangkok is about the same whether by rail or road. It is not clear whether the rail rate before the highway was much higher than at present. Data on rates for the other cases are either not available or indicate a mixed pattern. Even these rate changes hide a wide variety of changes, for instance among commodities with import rates, where relevant, falling more than export rates, and rates for local traffic declining more than for through traffic.

The difference in the extent of rate reduction between imports and exports reflects the typical situation of an underdeveloped country. Bulky, low unit-value agricultural commodities predominate among export commodities; and high unit-value manufactured goods constitute the major proportion of total imports. This meant that before road competition, the rail rate from the ports was significantly higher than the rate to the ports, since "value of service" rate-making principles typify most rail networks. Furthermore, the import traffic in general is more suited to truck transport than is the export traffic. Thus, the import rate by rail was especially vulnerable to truck competition. It is not surprising that when road facilities were made available, the prime target was the import traffic. In the Nicaraguan case, rail rates on imported goods from Corinto to Managua declined by well over 50 percent while export rates on cotton and coffee were reduced by only 11 and 19 percent, respectively. The rail rate from Puerto Barrios to Guatemala City in the Atlantic Highway case exhibited a somewhat

similar pattern. The export rates for sugar and coffee were reduced by about 10 and 50 percent, respectively, between 1958 and 1963, whereas import rates on truck-competitive traffic were generally halved.

On the other hand, the even more drastic rate reductions for local traffic were less a result of excessive rail rates, where rail transport was an alternative, than the high cost of indigenous forms of transport and vigorous competition among the large number of independent truckers who suddenly emerged.

For example, the short-haul cotton traffic from the field to the cotton gin in Nicaragua was estimated to cost $0.35/ton-kilometer by oxcart and only 10 cents by truck. In the Western Montaña of central Peru, costs by mule per ton-mile are more than double those by air and many times higher than truck where these forms of transport are possible.

Except for El Salvador, in places where rail competition existed, rates on local traffic declined very sharply. (In the Guatemala case, the rail rate for general merchandise was reduced from almost $2.00 per hundredweight in 1957 to $0.40 in 1963.) This put additional pressure on truck charges aside from the vigorous competition among the truckers themselves. However, the marked service advantage of motor transport over rail, especially for short hauls, meant that a substantial diversion from rail to truck could not be prevented. Indeed, the railway in Guatemala acknowledged that shipers definitely prefer truck service for export of cotton (2, p. 38). Short-haul truck rates up to 50 percent above the corresponding rail rate did not prevent the loss of local traffic to trucks.

But no rate change was possible without the creation of excess capacity in transport and relative freedom to set whatever rates seemed necessary to utilize this capacity. Where some type of restriction on entry into the trucking business was in force (e.g., Guatemala), the results were among the poorest of all the examples given, although some evasion of the law and lack of enforcement offset the importance of the restrictions. Again, in the Bolivia case, part of the lack of success, at least during the early years, has been attributed to monopolistic tariffs due to "restrictive practices of the Cochabamba and Santa Cruz road haulers' federations" (3). The income from a round trip, Cochabamba to Santa Cruz in 1958 was estimated at $185, while costs were only $110 (4).

The excess capacity was a direct result of a rather sudden influx of trucks and buses on a for-hire basis. In other words, one precondition for rate changes was the rise or expansion of entrepreneurial activity in the provision of transport service and an absence of direct or indirect restrictions. Despite a sharp decline in rates charged, new or existing transport firms still found it sufficiently profitable, at least in the short run, to initiate or expand service to the area served by the new right-of-way. In all cases, the transport industry received an influx of small-scale operators in response to the new economic opportunity, and the low-level instability of rates and service typical of this kind of operation naturally ensued. Vehicle registrations in the areas directly affected increased more rapidly than the national average, and the number of vehicles using the highway rose even faster as trucks, buses, and automobiles were diverted from other more costly routes.

In Nicaragua an economic slump occurred between 1957 and 1962, occasioned by declining coffee and cotton prices. Despite the fact that the slump led to a contraction in the purchase of vehicles, traffic along the completed portion of the Pacific Littoral Highway rose steadily from 277 vehicles per day (counted at a station 30 kilometers north of Managua) to 1,200 in 1963. This suggests some diversion from other routes as well as increased use of the existing stock of vehicles.

In the Santa Cruz area of Bolivia, it is reported that campesinos were entering the local trucking business in response to agricultural growth. These new truckers purchase Japanese trucks with two-year loans which suggests that financing is readily available. Partly due to the increased production in Santa Cruz, traffic along the Cochabamba-Santa Cruz highway is believed to have risen from 102 vehicles per day in 1959 to 120 in 1962 (4; the data are subject to some serious shortcomings; a "most conservative estimate" covering the period from December 1961 to September 1962 puts the vehicles per day at only about 80 [p. 20] while another estimate for 1960 suggests a figure of 135 [p. 36]).

Even in the less successful Guatemala case, it is reported that "as soon as the paved highway . . . was completed, trucking interests commenced to operate to and from the port," (2, p. 26) precipitating a serious rate war. Since there was no significant increase in the size of the country's vehicle fleet, this represented mostly a reallocation of motor transport in reponse to the increased profit potentials created by the highway. That the response was substantial is indicated by the fact that 18 bus companies (during 1963) were operating over the entire length of the highway while 89 others were licensed to operate over routes which require the use of portions of the road. Thirty-seven larger trucking firms used the highway, and although data are lacking, it is believed that several times this number operate as small independent or owner-operators (2, pp. 40 and 87).

Vehicle registration in the provinces directly affected by the Friendship and East-West highways in Thailand, showed markedly faster rates of growth than for all of Thailand. Available evidence also suggests that the number of vehicles per day is continuing to rise, although no data are presented regarding the number and type of transport firms operating along these highways.

Although similar data are not available for all of the other cases, it is clear that something of the same type of phenomenon must have occurred in response to the production increases.

At the same time that rates decreased, the service became faster, and accommodations for small shipments over relatively short distances were improved.

Time in transit was sharply reduced compared with previous alternatives in almost all cases. Before the road in Bolivia was completed, travel between Cochabamba and Santa Cruz even during the dry season took from two to four days. It is now a matter of about one-half day to one day during all seasons. On both the East-West and Friendship highways in Thailand, time savings of over 50 percent, compared to the next best alternative between important points, were recorded. The same is true of the several areas in the Peruvian Western Montaña with respect to travel time to Lima. Time savings in the Nicaragua case amount to about one-third although this was not directly attributable to the road since the railways had installed better equipment in 1955 which improved speeds by this amount.

But of greater importance, especially to local traffic and small holders, are both the increased flexibility of service and the ability to transport smaller amounts at reduced rates. Average loads with few exceptions run from barely four to ten tons, depending on the country and nature of the vehicles, and these are well below the cut-off points for carload rates by rail. Door-to-door service also eliminates the time and extra cost of transshipment.

Furthermore, truck transport is inherently more capable of tailoring service to specific needs, especially of small-scale producers. This refers not only to more frequent scheduling of service or providing service on demand, but also to the fact that truck drivers sometimes assist in loading and perform other services for small individual producers that a railroad could not. It is not surprising that the bulk of short-haul, local traffic now moves by truck in virtually all the cases examined which is, of course, consistent with the technology and economics of road vis-á-vis rail transportation.

Because of the nature of these changes, substantial benefits accrued to smallholders located near the highway relatively close to the market as well as to middlemen who handle small quantities at any one time. Where the highway paralleled a rail connection, the relative advantage was even greater since there was no need to transship and small loads could be moved more efficiently. In all such cases a more rational traffic allocation ensued. The less-than-carload, short-distance traffic which was highly rated by rail was captured by the trucks. This permitted, or forced, the railroad to concentrate more on the type of traffic for which it has an inherent advantage. The importance of this traffic shift was particularly pronounced in those instances where the railroad was operating at or beyond full economic capacity.

In short, the effect of a net increase in mobility was to bring about an improved use of an expanded transport capacity. Both the former users of alternative modes of transport as well as the new users benefited. At the same time fewer resources were

used up than would otherwise have been the case. More traffic was carried at lower per unit real costs (as well as rates) as a result of the new facility and increased number of vehicles.

TRENDS IN POPULATION

Even in the absence of information concerning regional demographic trends, a positive relationship between new transport capacity and population was evident. This does not imply any relationship at the aggregative level where, in fact, transport would represent more of a response to population growth. But for particular regions, transport facilities are both cause and consequence of population growth. When transport creates new economic opportunity, it attracts people to the area. Increases in output usually require more labor; higher incomes attract new settlers; and a demand for services, shops, etc., emerges. So long as markets remain favorable and the resource base undepleted, this process becomes self-reinforcing and the rate of population growth in the region affected is accelerated.

One of the most striking illustrations of what improved access means in terms of population growth is provided by Drewes' comparison of the four areas in central Peru, although cause and effect are not readily separated. The slowest and steadiest growth of population was recorded in Pozuzo which has been virtually isolated since 1900 and grew almost entirely without immigration. On the other hand, population grew sharply in the Tingo Maria-Pucallpa area after completion of the road connection to Lima. Satipo indicates the volatility induced first by improved access in 1940 when the population increased sharply after decades of stagnation and then decreased just as sharply after the road was destroyed in 1947.

But the complexity of the interrelationships between improved access and population growth is suggested by the Bolivia and Guatemala cases. It is true that the city of Santa Cruz grew at a rate well above the national average between 1950 and 1962, but this is due to a complex of factors only one of which is the Cochabamba-Santa Cruz highway. Furthermore, the Department of Santa Cruz recorded a rate of population growth below the national average and only one-fourth that of the city of Santa Cruz. In the Guatemala case, little migration has occurred and the overall demographic impact has been negligible.

Improvements in health, resettlement schemes, and relative economic potential of particular areas are more significant than access, per se, regardless of the fact that access of some sort is a necessary condition for effective attacks on disease and resettlement (e.g., El Salvador) as well as exploitation of economic opportunity. Just as in the case of the growth of production, population responds differently to new transport capacity depending on a complex of conditions.

CONCLUSION

In every case, the extent of new traffic generated depended mainly on the availability of easily exploitable natural resources. The lowest levels of traffic, omitting the earth roads in Uganda and North Borneo for which traffic estimates are lacking, were associated with highways traversing a territory poor in resources. The Guatemalan, Bolivian, and Indian experience typifies this situation. The largest traffic volumes or those growing most rapidly involved highways through areas rich in forest reserves or with good soil conditions for cash crops. This was especially true in Nicaragua, El Salvador, Venezuela, Peru, and Thailand. Additional inducements to open up new lands were population pressure, rising prices for the crops concerned, reduced transport charges, and improved service. In short, the highest traffic volumes were fairly consistently associated with rising net receipts to producers of agricultural products.

No adequate details of actual or possible profit prospects were provided, but the inference is clear that they created a powerful inducement to raise output and sell a greater proportion of it in local, sectional, or world markets. Some of the evidence on production changes is given in Table 1. The data are not strictly comparable nor can they be assumed accurate in all cases. But with all their weaknesses, they do suggest

the radically different impact on production between the Guatemala, India, and to some extent Bolivia cases and all the others. With appropriate qualifications, these data may be construed as rough indicators of the relative degree of success. Using this criterion, even considering the costs per mile and amount of traffic, the least successful roads, up to the present, are those in the three countries just mentioned. It cannot, however, be stressed too much that this evidence by itself is inconclusive. Nor has it been possible to deduce a consistent set of calculations yielding a meaningful and comparable benefit-cost ratio. But the inferences deduced from the behavior of production in the affected areas are consistent with the impressionistic evidence concerning relative profitability which itself is closely associated with the availability of natural resources in the regions.

As far as causation is concerned, we have noted the role of the highways in Bolivia, Guatemala, and India (even if there was not much in the way of development according to production indicators), as well as in both areas in Thailand, Peru and El Salvador. For the other cases, the highway or road is best construed as a response to a development that would probably have occurred in any event although not necessarily in the same manner nor to the same extent. The role of transport in the latter cases was more one of facilitating a dynamism already under way. In the former group the road was at least a partial initiator, inducing a development that would not otherwise be expected to occur. The relative lack of success to date in three of these instances does not detract completely from the importance of the road. Indeed, in Guatemala, not only was there a large expansion in truck transport, but a new type of transport using refrigeration equipment appeared, and its future prospects seem bright. In Bolivia, the future success of the colonization scheme lies partly in the existence of a good connection between the highlands and the Santa Cruz area, to say nothing of the political significance of tying together two regions of a country hitherto separated physically and psychologically. Furthermore, recent evidence on domestic production of rice and sugar, most of which comes from the Santa Cruz area, suggests a continued acceleration. From 1950 through 1962, the average rate of growth of these products combined is more than double the figure given in Table 1. Preliminary data for 1963 show an even more rapid increase. Even in the India case, the growing number of market areas, a narrowing of regional price differentials, and the rapid expansion of some key products might well pave the way for accelerated growth in the future. However, data are not available to demonstrate what in fact has occurred more recently in the Ramnad-Mandapam area.

What these three examples suggest is that, given a relatively static or deteriorating situation before the new transportation capacity, along with few readily exploitable natural resources, the task of initiating sustainable growth is both more difficult and protracted, which implies the necessity of combining transport investment with other policies if important changes are to occur.

Furthermore, the three countries with the slowest rates of overall growth coincide with the three relatively unsuccessful cases just mentioned. This would suggest that where there is a general lack of dynamism there is also a greater probability that a specific investment will not become much of a success. Where there is a high degree of overall dynamism, on the other hand, a specific investment is apt to become an apparent success for two reasons: (a) the greater the general rate of growth, the more likely it is that any investment will appear as a necessary reponse to prevent or alleviate a bottleneck situation; or (b) even in the absence of an actual or incipient bottleneck, a rapid rate of expansion is associated with an environment where additional economic opportunity is not only more assiduously sought but more rigorously exploited. The opposite typifies a situation of persistent overall stagnation.

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