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5. The Scope of Economic Activity in International Income Comparisons

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Summary

THE PURPOSE of this paper is to find a concept of economic activity that will be useful in comparing national incomes in two situations distinguished by widely different social and economic institutions. Interest is focused on interspatial rather than intertemporal institutional differences and on income comparisons between developed and underdeveloped countries. The view is taken that such comparisons should be limited to flows of goods obtained through *economic activity* in the two situations. This rules out possible comparisons between the products of a common set of institutions (i.e. the market economy) or between a common list of products. However, it raises fundamental questions regarding the scope of economic activity under different institutional arrangements.

Are institutional differences between the developed and underdeveloped countries so great as to preclude meaningful comparisons? My analysis of the differences between the two types of economies suggests that significant income comparisons can be made.

The issue then becomes one of defining the scope of economic activity so that it is invariant to institutional differences. Two criteria for marking off economic activity from the rest of life are suggested: the exchange and the psychological criteria. From each of these a rule governing international income comparisons is derived: (1) *The rule of remunerated activities*: The rendering of

My interest in this problem was stimulated by a number of discussions with Milton Gilbert in connection with drafting our report on the Organization for European Economic Cooperation study cited herein. I owe much also to a number of my colleagues at the University of Pennsylvania. Richard A. Easterlin's penetrating criticisms of an earlier version of this paper were invaluable in enabling me to improve the argument. Raymond T. Bowman and Philip Bourque made a number of helpful suggestions. To Simon Kuznets my intellectual debts, both specific and general, are large, even for one interested in the national income area. I must, however, add the usual absolution to the effect that none of the above is guilty of complete, or perhaps even of partial, agreement with the contents of this paper.

consumers' services to others in exchange for a *quid pro quo* is economic activity. (2) *The rule of sensitivity to rewards*: Within households, activities on which time spent is relatively responsive to changes in rewards for remunerated activities outside the household are economic; those on which the amount of time spent is relatively insensitive to changes in compensation in external occupations are noneconomic or leisure-time activities. The chores of life, including most of the services performed by housewives, are in the former group; the ritual of life, including the rearing of children, the worship of the deity, and the burial of the dead, are in the latter. Where there is paid or other professional leadership of leisure-time activities, the compensated services are economic activity under the second rule.

Though not defensible in strict logic, a third rule is offered as a practical aid in international income comparisons. It is the *commodity rule*: All activities that result in a tangible product that satisfies a human want are economic activities.

Purposes of International Income Comparisons

International income comparisons are desired both for their inherent interest and for the contributions they can make to international economic statecraft. Unfortunately, however, our inability to measure our own well-being severely restricts the comparisons that can be made. What is actually compared is not total welfare and not even economic welfare, but the flows of satisfaction-yielding commodities and services. Although there is no assurance that these goods flows are the true objective counterpart of the subjective state described as "welfare," many practical and important purposes are served by regarding them as such. Indeed, the world proceeds very much on the assumption that the flow of goods is an accurate indicator of economic welfare.

Even if this assumption is accepted, many questions arise about the inclusiveness of the goods flows that are to be compared. Most of these will be discussed later, but there is one that is closely related to the formulation of the purposes of international income comparisons: Should the income flows compared be limited to goods that are obtained through the productive efforts of the populations of the respective countries?

If the answer is yes, we have a comparison of the productivity of the respective countries. It may be recognized, of course, that any observed differences in income are the net results of a large

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number of factors, among which the relative natural endowments of the several countries may be of great importance, but there is an especial interest in relating output to the input of human labor. When this is done, as when the results are expressed in terms of income or output per worker or per man-hour,¹ the productivity aspect is made more explicit.

Occasionally, however, a method of comparison is used which includes, at least by implication, satisfactions that do not result from the productive efforts of man. This is sometimes implicit in real-income comparisons that are made via a cost-of-living index. The question posed in the classical cost-of-living problem is: What expenditure in situation A is necessary to yield an equivalent level of well-being in situation B? The crux of the matter, of course, is the selection of the criterion of equivalence. Some of the suggestions that have been advanced have the effect of including not only free goods, such as the advantages of a salubrious climate, but also noneconomic influences on welfare, such as social attitudes toward material things. Recently, for example, the Bureau of Labor Statistics used the proportion of income spent on necessities² as the criterion of equivalence in a comparison of the cost of living for families of office workers in San Juan, Puerto Rico, and Washington, D.C. The list of necessities differs widely according to climate and culture, and therefore "equivalent well-being" reflects different amounts of production. In a favorable climate, little expenditure for protection from the elements may be required; in a less favorable one, heavy expenditures for fuel, clothing, and better-built shelter may be necessary. In comparisons based on relative productivity, the extra effort would be counted, and, other things being equal, income would be assumed to be higher in the colder place. In "welfare" comparisons based on necessary cost-of-living expenditures, the two incomes would be the same.³

¹ Cf. Colin Clark, *Conditions of Economic Progress*, 2nd ed., London, Macmillan, 1951.

² Necessities were defined as "the items purchased by the same or a decreasing proportion of the population as total money resources rise." Cf. "A Method of Measuring Comparable Living Costs in Communities with Differing Characteristics," prepared by Eleanor M. Snyder, mimeographed, Bureau of Labor Statistics, October 1953, p. 5.

³ This ignores the problem of government and investment expenditures. Of course, once the cost-of-living ratio between the two situations is known, it is a simple matter to make a real consumption comparison, but the problem of deflating government and investment still remains. The productivity approach lends itself to the solution of this problem better than the welfare

There is, however, a more important case in which different amounts of production will be regarded as equivalent in welfare. When attitudes toward goods in general differ in the two situations, it will take different quantities of output to yield equal welfare. If, as Duesenberry has argued,⁴ the satisfaction derived by a man from a given volume of consumption depends on the ratio of that volume to the amount of consumption of his fellows, the real volume of consumption that is necessary to yield a given level of welfare rises as incomes increase. The Bureau of Labor Statistics method is consistent with this theory. If applied to a comparison of the United States of 1900 and of 1950, it might show little difference in welfare. The reason is that the welfare approach tries to compare the extent to which people in each country succeed in satisfying *the needs of which they are conscious*, regardless of the extent of the differences both in the composition of the felt needs and their total magnitude.

The answers provided by the productivity and welfare approaches differ, of course, because the questions that are posed are different. While each question is important and pertinent to certain problems, the one that the productivity approach tries to answer has more general relevance, I think, in national and international affairs. While economic policy must take account of free goods and of changing attitudes toward goods, it is directed primarily toward altering the supply of economic goods; it is, after all, concerned with those phases of welfare that can be improved by social effort.

The Nature of the Problem

The delimitation of economic activity—the separation of those pursuits that represent economic activity from those that constitute the rest of life—presented relatively minor problems in the early work of developing methods for measuring national income. In the

approach. The competition of government, investment, and consumption for scarce resources is much more direct than is their competition for the income receiver's dollar. Therefore, the magnitude of government and investment expenditures may be more readily compared with that of consumers' expenditures on a production basis than on a welfare basis. It should be added that the labels "productivity approach" and "welfare approach" are not meant to imply that the things being measured by each are mutually exclusive. There is no production, of course, unless welfare is enhanced; however, not everything that yields welfare has to be produced (i.e. created by human effort).

⁴ James S. Duesenberry, *Income, Saving and the Theory of Consumer Behavior*, Harvard University Press, 1949.

advanced countries, where the estimation of national income was begun and the methods have been most refined, income estimators at an early stage began drawing this line in accordance with what might be called "Pigou criterion"; viz. income or product consists of those welfare-yielding activities that ". . . can be brought directly or indirectly into relation with the measuring-rod of money."⁵ The money criterion could be adopted in these countries because the great bulk of the scarce resources that are used for production are offered for hire or sale on the market. Furthermore, the activities of the nonmarket sector change slowly or at least in ways that do not give rise to pressing short-run problems that must be dealt with by social organization. The economic problems that require social action—whether they relate to price, production, labor, or domestic or international trade—are concerned almost entirely with what transpires in the market sector of the economy. Thus the conventions regarding the scope of economic activity that have been developed in order to estimate the incomes of the advanced countries are reasonably useful for many governmental and business purposes.

The conventional definition of national income serves also for international comparisons among advanced countries. But, while this small group of nations holds most of the world's economic and political power, it includes less than one-fourth of the world's population. For most other countries, which include a large majority of the human race, the more or less mechanical identification of economic life with market activity breaks down. In these countries, production is still predominantly for use rather than for exchange, and market activities absorb only a small portion of the nation's resources.

Under such conditions, a measurement of the output of the market economy could have only limited utility from the standpoint either of domestic policy or of international comparison. Of course, it might be of some interest to compare the effectiveness of labor in the market sector of an underdeveloped economy with that of a more developed nation. Care would have to be taken to measure the output of the market economy alone in each country (i.e. the

⁵ A. C. Pigou, *Economics of Welfare*, 4th ed., London, Macmillan, 1932, p. 11. A similar criterion was suggested earlier by Alfred Marshall in discussing the scope of economics (cf. *The Present Position of Economics*, Macmillan, 1885, par. 9; and *Principles of Economics*, 6th ed., London, Macmillan, 1910, Book I, Chap. II, par. 1).

value added by the market economy), as this would be the appropriate value product to relate to the number of market workers. This procedure involves measuring the output or effectiveness of a *common range of institutions* (those of the market economy) even though it is realized that the relative importance of these institutions and the composition of their output vary from one country to the other. An exercise of this character, however, would scarcely meet the basic purpose of international income comparisons; to compare total income or product we must take into account all economic output regardless of the institutional arrangements under which it is produced.

Differences in Economic Institutions

Despite an enormous diversity in the various motives that have been institutionalized, in the arrangements governing the provision of labor, in land tenure, in the degree of certainty of the food supply, in the extent of trade, and in other important aspects of economic life,⁶ there are striking similarities among the primitive and peasant economies when they are contrasted with the market economies of the advanced nations.⁷ For present purposes it will suffice to stress two broad aspects of the pre-industrial economy, one dealing with the organization of production and the other with the economic relationships among people.

When production is primarily for use, the main productive organization is usually the household. The activities of this small unit embrace agriculture, food processing, handicraft manufacture, construction, and the provision of consumers' services. All these activities are carried on with a simple technology but one often well adapted to environmental conditions.⁸ The technique is simple largely because there are no machines and only rudimentary tools. The absence of capital equipment explains in turn why each household works only a small land area even where land is not scarce.⁹

⁶ This diversity is evident in any account which collates materials relating to different societies. For an excellent brief treatment oriented toward the variety of human motives that have been the bases for the institutional arrangements of different societies, see Margaret Mead, "Primitive Society," *Planned Society*, F. Mackenzie, editor, Prentice-Hall, 1937.

⁷ Cf. Raymond Firth, *Elements of Social Organization*, London, Watts, 1951, pp. 133 ff.

⁸ *Cultural Patterns and Technical Change*, Margaret Mead, editor, Paris, UNESCO, 1953, p. 203.

⁹ M. Zinkin, *Asia and the West*, London, Chatto & Windus, 1951, p. 19: "For rice, outside labor has to be employed at transplanting and harvesting

The division of labor by sex is almost universal, but there are wide variations in the duties assigned to each of the sexes. In some places the more venturesome activities (war, hunting) are assigned to the men and the more routine activities (housekeeping, cultivation) to the women.¹⁰ The fact that each individual has to be a Jack of all the trades carried on by his sex reduces the efficiency of labor. Usually, however, individuals, tribes, or villages do specialize in a particular activity, and a certain amount of trade is carried on either within the tribe or village or with outsiders. Even in these instances, the total activity, whether it be pottery making or wood-carving, is rarely subdivided and parceled out among specialists in each task. "[We] do not find the kind of organization where one woman characteristically specializes in gathering the clay, another in fashioning it, and a third in firing the pots. . . ."¹¹

Because each person does a variety of work and is largely his own master, labor in the underdeveloped country is not usually disciplined to routine work day in and day out, although both precepts and practice of hard work are common.¹² The practice, however, is often confined to intermittent periods imposed by the seasonal requirements of agriculture. It is difficult to reconcile various evidences of labor stringency at such times (e.g. the use of hired help to supplement family labor) with frequent reports of substantial agricultural overpopulation and underemployment.¹³ At any rate, out-of-season periods are used for other kinds of work. Many, such as the repair of buildings and tools, are essential for survival, but almost always more than the bare minimum is done. The artistic impulse and the instinct for workmanship are inevita-

—even on a three-acre farm. For wheat or millet, oil seeds or cotton, the size of the farm is normally governed by the area which can be ploughed by one pair of bullocks." This area is said to vary from 7 to 20 acres.

¹⁰ Cf. J. H. Boeke, *Economics and Economic Policy of Dual Societies*, Institute of Pacific Relations, 1953, p. 41.

¹¹ M. J. Herskovits, *Economic Anthropology*, Knopf, 1952, p. 126.

¹² *Ibid.*, pp. 90 and 117. The complaints about the laziness and unreliability of native labor that are made by western enterprisers in underdeveloped countries are similar to those made about the English workers in the seventeenth and eighteenth centuries. In both instances, work habits had to be transformed before a disciplined labor force could be developed (cf. W. E. Moore, *Industrialization and Labor: Social Aspects of Economic Development*, Cornell University Press, 1951, Chaps. 2 and 7).

¹³ The UN experts who drafted the report entitled *Measures for the Economic Development of Under-Developed Countries* (United Nations, 1951) accepted estimates of surplus population of 20 to 25 per cent for many underdeveloped areas (cf. pp. 8-9).

bly found in one form or another. Thus the New Zealand Maori was not content to fashion a bird snare simply as a thing of utility, but spent long hours in fine carving so that the finished product was a thing of beauty as well.¹⁴

The other striking difference between the industrial and pre-industrial economies lies in the nature of the relationships of men to men and to things. The market of the advanced economies is impersonal and universalistic; what a man can do is more important than who he is. Economic relationships in the peasant and primitive societies are personal and particularistic; they are governed largely by kinship ties.¹⁵ These ties are recognized through cooperative productive activities, reciprocity in supplying labor, and the exchange of gifts. The family, kinship group, or village also provides an effective social security system which includes protection for the individual against starvation and old age.¹⁶ The fact that economic ties are personal and social in nature indicates that in the pre-industrial economies, economic motives and activities are not so sharply differentiated from the rest of life as they are in the market economies. Again and again technical assistance experts have found that activities that we would regard as economic in character are not carried on purely in pursuit of the material product, but as a way of life. For example: "Experts show concern for women who have to carry water from the village to the home, or wash clothes on the stones by the brook; but the women who are the subject of their concern find in these functions a pleasant social activity and an opportunity to be out-of-doors. And their men ask, 'What will our women do all day long?'"¹⁷ In this and many similar illustrations, there is no apparent desire to minimize effort or to maximize output if a sharp break with custom is required, and this is the basis for the frequent observation that neither the peasant nor the

¹⁴ Cf. Raymond Firth, *Primitive Economics of the New Zealand Maori*, London, Routledge, 1929, p. 141.

¹⁵ M. J. Levy, Jr., *The Family Revolution in Modern China*, Harvard University Press, 1949, p. 281; and Herskovits, *op. cit.*, pp. 99-108 and 155-179.

¹⁶ Kingsley Davis, *Population of India and Pakistan*, Princeton University Press, 1951, pp. 136 ff; Levy, *op. cit.*, pp. 208 ff; Boeke, *op. cit.*, pp. 34-35; Moore, *op. cit.*, Chap. 5.

¹⁷ *Cultural Patterns and Technical Change*, p. 202. Other illustrations of adherence to a way of life are given in this source. There is also the oft-cited Oriental love for bargaining per se: "The mentality which makes a man charge more for his wares if a purchaser takes the whole lot, because by this he is deprived of the pleasure of a series of commercial duels with a series of customers, is typically eastern" (Boeke, *op. cit.*, p. 75).

primitive society is oriented toward the acquisition of goods. Custom governs consumption norms as well as techniques of production.

Because noneconomic values are so closely intertwined in the nonmarket economy with what are strictly economic values in the industrial economy, the accounting symbolism of the market may not be able to capture and record the real social product. Indeed, it has been suggested that the differences in social outlook and purpose between market and nonmarket economies are so great that income comparisons cannot be made. This viewpoint, which has been very persuasively stated by Frankel,¹⁸ stresses the diversities of the values and institutions that are found among human societies. However, there are also important uniformities that must be considered.

In the first place, the central factor in the problem, man himself, is the same animal whatever the cultural environment with which he surrounds himself. This is true not only in the pure physiological sense but also in a broader social sense. Not only does man have certain physiological needs—for food and shelter and the like—but he also has social needs—for companionship, status, and security. If the idea of the “changelessness of man as a social being”¹⁹ is accepted, comparisons of his success in meeting his wants under different institutional arrangements, while fraught with difficulties, are conceptually valid.

Furthermore, the basic economic problem, the antithesis between ends and the limited means available to achieve these ends, is present in the pre-industrial and industrial economies alike. This antithesis is more readily observed in a progressive society, which continually bends its efforts toward a more favorable outcome with respect to the maximization of output and minimization of effort than was attained in the past. In the pre-industrial society, on the other hand, the level and pattern of living and the technological processes and productive activities have become rigidified under a “cake of custom.” Whatever economy is achieved in the use of resources has long been arranged for and put in the mold of customary behavior; individual attempts to maximize output or to minimize effort are not stressed. In short, the balance between ends and means has become institutionalized.

¹⁸ Cf. S. H. Frankel, *The Economic Impact on Under-Developed Societies*, Harvard University Press, 1953, Chap. 3.

¹⁹ The phrase is K. Polanyi's (cf. *The Great Transformation*, Farrar & Rinehart, 1944, p. 46).

Sometimes the customary ways do not seem very economical of resources. It is often alleged, for example, that the Indians let cows eat crops while people starve. But elements of irrationality are sometimes found in the industrial economies, too, where they lack even the excuse of religious sanction. In the United States, for example, we prefer to eat the cows and, on occasion, to bury little pigs. More recently, we have dyed potatoes purple to make sure that they would not be eaten (the cost of dyeing was large relative to the value of the potatoes as food). Bricklayers deem it unethical to lay too many bricks in a day, while consumers are misled or induced to make wasteful expenditures (e.g. the continual raising and lowering of the hem line on women's skirts to hasten obsolescence). If irrational economic behavior is to be found in a society that is constantly searching to increase the product of its scarce means, then it is likely to be found also in a society where there is passive acceptance of the established degree of success in the utilization of productive resources. *What is different is not that economic motives are important in one setting and unimportant in the other, but the presence of strong group solidarity²⁰ and the absence of technological progress in the pre-industrial country and the absence of group solidarity and presence of technological progress in the industrial country.*²¹ This makes comparisons more difficult but not impossible.

Although economic motivations may not dominate the pre-industrial society to the same extent as the market society, they are nevertheless of considerable importance. Generalizing about primitive society, Malinowski writes:

The conditions as we know them from northwest America, from many African tribes, above all from Oceania, and more especially from Melanesia, reveal the accumulation of wealth as one of the strongest social incentives, the economic and ceremonial handling of valuables as one of the motives round which big social achievements crystallize, and the beginnings of a "leisured class" as the carrier of culture.²²

²⁰ The solidarity in the underdeveloped country occurs within a relatively small circle of interdependent people; it is the widening of the circle of interdependence that breaks down the solidarity of the group.

²¹ The argument that economic elements in the society of an underdeveloped area are inseparable from the rest of the social activity and organization implies that the economist qua economist has nothing to contribute to the understanding of that society. This, happily, runs counter to common sense as well as to vested interest.

²² Bronislaw Malinowski, "Labor and Primitive Economics," *Nature*, December 26, 1925, pp. 926-930.

The link between the economic factor and personal and family status appears to be common to all types of societies. Wherever there is a surplus over the bare minimum required for subsistence—and there are few cases indeed where such a surplus does not exist—social classes develop. And wherever there are social classes, the higher ones have more land, wives, pigs, or whatever form of wealth constitutes the hallmark of status.²³ The upper classes who obtain control over the surplus and who enjoy the power and prestige that go with it are usually those who govern²⁴ and those who mediate between man and the supernatural. The governing and priestly groups are freed from manual labor; thus, full-time civil and religious leadership is often provided even in the pre-industrial economy.

The points of similarity between the industrial and pre-industrial countries have been greatly increased by the penetration into all parts of the world of the market mechanism. There are few if any premarket primitive societies left in which consumption patterns have not been altered by the adoption of Western-style goods. This signifies a shift also in patterns of economic activity, because the old, self-sufficient system did not produce the exportable surpluses that are required to pay for the new commodities. Although the advent of money and the increase in exchange have been frequently described,²⁵ when a glimpse can be caught of the quantitative importance of trade, the results are sometimes surprising. For example, Buck found that as far back as thirty years ago about one-third of the consumption of Chinese farm families was made up of purchased goods, food accounting for nearly half of the value of the goods that were bought.²⁶ More recently Zinkin estimated that the proportion of crops sold by Asian peasants varied from one-fifth in "comparatively untouched" areas to three-quarters in fully commercialized areas, with the average possibly being one-third.²⁷ Even in tropical Africa, a United Nations study shows approximately

²³ Hershkovits, *op. cit.*, Chaps. 18-21.

²⁴ In Indonesia, for example, Boeke reported that the best lands were commonly turned over to the village officials (*op. cit.*, p. 66).

²⁵ Among the books cited in previous footnotes, Boeke, Levy, and Davis contain such descriptions for Indonesia, China, and India, respectively.

²⁶ The sample was drawn from six provinces in eastern China (cf. J. L. Buck, *Chinese Farm Economy*, University of Chicago Press, 1930, pp. 392-393).

²⁷ Zinkin, *op. cit.*, p. 19n.

30 per cent of the land and 40 per cent of the labor is engaged in production for either domestic or foreign markets.²⁸

The encroachment of the market economy is but one facet of the rapid process of cultural convergence. The shrinkage of the world by modern means of communication has created both the opportunity and—by spreading the awareness of the disparities in production and income among nations—the impetus to cultural imitation. It is, of course, the scientific apparatus and spirit of the Western culture, with its great capacity to destroy life or to prolong it and add to its material comfort, that are being imitated and adapted to local conditions wherever there is spontaneous or planned economic and social change. Thus, although the values and objectives implicit in Western national income accounting may not be indigenous to the underdeveloped areas, they are those to which the underdeveloped countries, or at least their leaders, aspire.

The Comparison of a Common Range of Products

This argument suggests that the conceptual problem of delimiting economic activity for purposes of international income comparison is not after all so difficult. If we were content to compare national income by comparing a common range of products, the problem would become one of indentifying and valuing the products in the underdeveloped country that are the equivalents of those that are exchanged for money in the more advanced economy. The common products would be sought out and measured regardless of the international differences in the institutions under which they are produced.²⁹

This attractively simple solution is marred only by the need to complete national balance sheets by comparing the nonmarket activities common to both developed and underdeveloped countries. If the comparison were limited to tangible commodities, there would, of course, be a problem of imputation, but it would lie entirely within the underdeveloped countries. That is, it would be necessary to impute to the households of the underdeveloped country

²⁸ *Enlargement of the Exchange Economy in Tropical Africa*, United Nations, 1954.

²⁹ This is the international equivalent of the test of invariance suggested by Gottfried Haberler and Everett E. Hagen: “. . . the measure of national income should be invariant to all purely monetary, financial, and institutional changes that do not change real output or its money value” (*Studies in Income and Wealth, Volume Thirteen*, National Bureau of Economic Research, 1951, p. 5).

some part of the commodity production carried on as a market activity in the developed countries. The estimation required, while perhaps on a heroic scale, would not be an insurmountable barrier.³⁰ But comparing nonmarket activities would involve the making of parallel imputations for services performed wholly in the households of the underdeveloped countries and partly in the households of the developed countries.

If, for example, household laundering is imputed to national income in the underdeveloped country on the ground that it is the analogue of commercial laundering in the advanced country, how shall we treat the very large volume of laundering that is also performed in households in the advanced countries? Must we not impute for that also? An impressive list of possible imputations could be developed for the advanced countries which would include not only the activities of housewives but also the activities of many persons who spend part of their leisure time doing things that are done for money in the market sector of the economy (e.g. shaving, hairdressing, knitting, gardening, woodworking, etc.). Indeed, almost every service imputed to the household sector of the underdeveloped economy could be found in both the market and the household sector of the advanced economy. For example, it has been suggested that an income comparison between the United States and China might include, as the equivalent of United States life insurance expenditures, the value of the "insurance provided by the family system of China, where the family comes to the succor of a member who may have been affected by one of the bad turns of fortune for which life insurance is supposed to compensate in industrial societies."³¹ But in the United States help is also available within the circle of the great family, even though this kind of aid may not be as automatic as in China. Recent family expenditure studies indicate that gifts and contributions of urban families have been equivalent to perhaps three-fourths of their expenditures on insurance. While much of this help has been channeled into organ-

³⁰ Phyllis Deane imputed values to subsistence production in Northern Rhodesia, for example, by establishing a hypothetical system of prices based on prices prevailing in market towns less allowances for the cost of transporting goods to these marketing centers (Phyllis Deane, *The Measurement of Colonial National Incomes*, London, Cambridge University Press, 1948, p. 23).

³¹ Simon Kuznets, "National Income and Industrial Structure," *Proceedings of the International Statistical Conferences*, Econometric Society, Vol. 5, reprinted in Kuznets, *Economic Change*, Norton, 1953, pp. 154-155.

ized charities whose operational costs are already included in the United States national income, some, at least, represents direct personal aid.

Of course, the effect of all these imputations in the developed and underdeveloped countries upon the real income comparison depends on whether the percentage added to the rest of net product by the imputed activities is greater in one country than in the other. This is an empirical question that cannot be settled by deductive reasoning; it would depend on the results of studies of household activities in both countries. Short hours of work and high incomes give people in the advanced countries the time and the resources to do with little effort or even as hobbies many things for which imputations would have to be made. On the other hand, any additional product imputed to the very low income of the underdeveloped country would tend to raise its income by a larger percentage than an equal absolute addition to the income of the advanced country. The evidence suggests that agricultural work in the underdeveloped countries often occupies considerably less than the full-time efforts of the cultivator,³² but that the extent to which the remaining time is used for other work varies greatly from place to place. Near one extreme was the situation in China which Levy describes as follows:

The working hours of the peasants and the craftsmen were long and hard, and the days of respite were few. It is true that peasants had periods of enforced "idleness," but to a considerable degree they were taken up by hard work on tools, housing, or the like. To be idle in China, unless one was relatively well off, was a tragedy. It may be readily granted that the average peasant spent his hours away from the fields in inefficient forms of production, but he probably spent a large proportion of them in toil. Tea drinking was for the wealthy and the aged. . . .³³

The other extreme was represented by life in the Burmese village near the early part of this century:

The traditional picture of this life is that it was a very happy life; with no indigents and no hard work, with gaiety and very frequent festivity . . . work usually ceased long before sundown. . . . The land was incredibly fertile. Women and children and bullocks did most of the work; the men spent much time smoking, gossiping, sauntering about, and dozing. Some regularity of work was introduced at sowing and harvest time; otherwise, work depended on personal disposition . . . there was no need to work more in the fields. At home, some crafts were practised; women cooked and wove cloth. Men also wove and were said to produce embroideries superior to

³² See for example Boeke, *op. cit.*, p. 43; Buck, *op. cit.*, p. 53, Herskovits, *op. cit.*, p. 94.

³³ Levy, *op. cit.*, p. 217.

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those of women. Women were the petty traders of the villages, and almost every house had a little shop. But this was not "work," and the shop was mainly an excuse to bring more people in for visits. If work as such was not valued, neither was living off the labor of others. . . .³⁴

But the real problem is that there is no limit to the imputations that can be made to cover household activities. There are few human activities for which one cannot find a market analogue. Not only the services of housewives but most of the household and personal activities of other members of the family would have to be reckoned as income. To set a reasonable limit for imputation, we must have an applicable definition of economic activity.

The Comparison of the Results of Economic Activity

What is economic activity? Lionel Robbins has told us, and many have repeated after him, that it is human behavior in disposing of scarce means which have alternative uses, in order to satisfy ends (wants) of varying importance.³⁵ Does this definition point the way to the solution of our problem? The desire for a home is an end; the services of a housewife satisfy that end. The desire for a clean-shaven face is a want; shaving oneself satisfies it. The desire for marriage is a want; courtship leads to its satisfaction. The desire for pleasant indolence is an end; doing nothing gratifies the desire. Housewives' services, personal toilette, courtship, and indolence—which of these is within the realm of economics and which is not?

Robbins' definition does not answer this question because it does not specify the nature of the "means" and the "ends" that are to be "economized." Each illustration involves economizing and can be made to fit into the definition. The maiden, confronted with several suitors, has to choose the one who suits her best. The young man who wants a home must be prepared to pay the various kinds of costs that are entailed in supporting a wife. On a less portentous level, even the decision to shave or not to shave (or to idle or not to idle) represents economizing in the sense that choice between alternatives is required. Choice is necessary to maximize satisfactions because, even where the means required to satisfy a want are abundant rather than scarce, our physical and psychic capacity to receive satisfactions is limited by the time at our disposal, if by nothing else. It follows that the principle of economizing, of com-

³⁴ *Cultural Patterns and Technical Change*, pp. 54-55.

³⁵ Paraphrased from Lionel Robbins, *An Essay on the Nature and Significance of Economic Science*, 2nd ed., London, Macmillan, 1935, pp. 15-16.

paring and choosing the best, is a very pervasive one; it is, indeed, to be found in all purposive activity.³⁶

There are two criteria for marking off those kinds of economizing which fall into the economic sphere—the exchange criterion and the psychological criterion.

The exchange criterion earmarks as economic activity those actions that are performed for others for a *quid pro quo*. It was advanced by Wicksteed in the following words:

Let us begin by attempting to determine the characteristic of the economic field of investigation. . . . If, in fact, I am engaged in the direct pursuit of my own purposes, or expression of my own impulses, my action is not economic. But if I am making or doing anything not because I have any direct interest in it, but because someone else wants it, and that other person will either do what I want done or put me in command of it, then I am furthering his purposes as a means of furthering my own. . . . This is the nature of the economic relation . . . and the proper subject of economic investigation. . . . The economic organism, then, of an industrial society represents the instrumentality whereby every man, by doing what he can for some of his fellows, get what he wants from others.³⁷

Since Wicksteed had an industrial society in mind, he then proceeded to make his criterion largely one of *money* exchange:

It is true, of course, that those for whom he makes or does something *may* be the same as those from whom he gets the particular things he wants. But this is not usual . . . the persons whom a man serves . . . put him in command of the services he requires . . . by the instrumentality of money. . . .³⁸

Thus Wicksteed's position was not essentially different from that held by Marshall before him and Pigou after him, but because it emphasizes exchange somewhat more than money it is more adaptable to the evaluation of a pre-industrial society.

We may take as one of the rules governing international income comparisons that all things or services exchanged for a *quid pro quo* should be counted as part of income. This may be referred to as the *rule of remunerated activities*. Services performed by an individual for himself are excluded, even though the identical service is counted as production when remuneratively performed for others. Suppose, for example, the women of one country all had

³⁶ Cf. Alec L. Macfie, *An Essay on Economy and Value*, London, Macmillan, 1936, p. 47.

³⁷ "The Scope and Method of Political Economy in the Light of the 'Marginal' Theory of Value and Distribution," *Economic Journal*, March 1914, reprinted in *The Commonsense of Political Economy and Selected Papers and Reviews on Economic Theory*, L. Robbins, editor, London, Routledge, 1933, pp. 772-773.

³⁸ *Ibid.*, p. 773.

their hair done in beauty parlors while the women of the other country regarded the care of their hair as a personal art and knew or cared nothing about beauty parlors (happy state!). The services of beauty parlor operators would then be included in the national income of the first country, but no imputation would be made for the home care of the hair in the second country, even if all agreed that the women there were better groomed.

The rule also excludes services that are performed for others without remuneration. This might raise questions of interpretation in situations in which services are performed in a matrix of reciprocal obligations governed by custom and without an immediate *quid pro quo* for each service. In the villages of India, for example, the services of specialists such as blacksmiths, barbers, etc., are sometimes compensated in part, or even for the most part, by payments in kind made at harvest time or on festive occasions.³⁹ In effect, a whole series of services is exchanged over a long period of time for a whole series of reciprocal benefits without close accounting for each transaction or even a close balancing of the aggregate flows.⁴⁰ Such services clearly come under the classification of remunerated activities. In other societies gifts may be given to certain kinds of specialists, particularly those who propitiate the gods, but for our purposes they may be regarded as payments for services rendered.

It is not difficult to apply the rule of remunerated activity to interhousehold transactions,⁴¹ but problems are encountered when

³⁹ Cf., for example, *Some South Indian Villages: A Resurvey*, P. J. Thomas and K. C. Ramakrishnan, editors, Madras, University of Madras, 1940.

⁴⁰ "Many of the work arrangements of the village [Senapur, United Provinces] are regulated by the purjan-jasman or hereditary workman-customer relationship. Purjans are castes of workmen or servants who are called upon to provide certain services because of an understanding, lasting over many generations, between the families involved. It is the duty of the purjan to meet the reasonable needs of his customer, to cut his hair and trim his nails if he is a barber, to plow his fields if he is an agricultural laborer, to provide him with clay vessels if he is a potter. It is the obligation of the customer to call upon the purjan and no one else for the specific service. If the purjan is not used, he must nevertheless be compensated. In addition, purjans are entitled to invitations to the feasts and ceremonies of their jasmans. On these occasions they usually receive gifts of a certain type or value" (Morris Opler and Rudra Datt Singh, "The Division of Labor in an Indian Village," in *A Reader in General Anthropology*, C. S. Coon, editor, Holt, 1948, pp. 494-495).

⁴¹ Difficulties may be encountered in delimiting the household—particularly in a polygamous society (cf. Phyllis Deane, *Colonial Social Accounting*, London, Cambridge University Press, 1953, pp. 147-150).

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an attempt is made to apply it in evaluating the service product of intrahousehold activity. Are services rendered by a person to other members of his household to be considered as remunerated or not? There are, of course, well-established patterns according to which services are exchanged within the household—for example, women often accept the responsibility for the preparation of food, but expect the men to provide the raw material. The details vary from one society to another, of course, but is there not a kind of *quid pro quo* involved here?

The trouble with this argument is that it proves too much. The reciprocal obligations between members of a household and especially between husband and wife are not limited to economic matters. The man who reluctantly plays tennis with his wife is not performing an economic service, nor is the woman who patiently endures a boring evening with her husband's business associates. Yet each activity is part of a whole series of *quid pro quos*, even though strict accounting is impossible and, indeed, attempted only when one of the parties is dissatisfied with the arrangement. The exchange criterion and the rule of remunerated activities, while helping us to identify an important segment of economic activity, do not provide a basis for classifying intrahousehold activities as economic or noneconomic.

It is necessary, therefore, to return to the basic question left unanswered by Robbins, that is, the definition of the "means" and "ends" that fall within the sphere of economic activity. It is the means, or scarce resources, that must be identified, since any end that the scarce means are employed to achieve automatically falls within the purview of economics. The problem is thus to determine when human activity, and more especially intrahousehold activity, represents a scarce resource and when it does not.

The distinction that has to be drawn, therefore, is between "work," "labor," or "economic activity" on the one hand, and all other activity, viz. personal care and recreation, on the other hand.⁴² The distinction is largely a matter of motive; i.e. the criterion of economic activity is psychological. Economic activity is performed primarily so that some commodity or service can be obtained; the motive is a desire for the end product or the reward for doing the job rather than the pleasure in the task.⁴³ A recreational activity,

⁴² Cf. Malinowski: Labor must be distinguished from "purely animal instinctive movement on the one hand, and from recreational and sportive activities on the other hand . . ." (*op.cit.*).

⁴³ "All labor is directed towards producing some effect. For though some

on the other hand, is performed primarily for the pleasure inherent in performing it, and not for the reward that may be received upon completion.

Sometimes this distinction is difficult to apply in real life. Many economic activities, fortunately, bring pleasure to those who carry them on (e.g. national income estimating?); many leisure-time activities are chosen because they give both pleasure in the doing and a useful end product (e.g. knitting, mowing lawns).⁴⁴ What is work and what is play⁴⁵ is a subjective matter and even the performer himself will often be unable to make a clear-cut determination.

Matters would be even worse if the line of demarcation between work and play were drawn very differently in different societies; fortunately, there is little evidence that activities that are regarded as work in one place are regarded as pleasure in another.⁴⁶ What does vary widely is the attitude toward work in general. This is amply illustrated by the history of the West in which the extremes have been the scorn of labor in ancient Greece and the glorification of labor as a means of serving God among the early Protestants.⁴⁷ Differences doubtless exist also among various places at the present time, but the precept of hard work and the disapproval of shirkers is widespread.⁴⁸ Even in the idyllic Burma of the earlier quotation, it was not good form to do so little work that you had to live off others.

How, then, is the fact that work is for reward and play for pleas-

exertions are taken merely for their own sake, as when a game is played for amusement, they are not counted as labor. We may define labor as any exertion of mind or body undergone partly or wholly with a view to some good other than the pleasure derived directly from the work" (Marshall, *Principles of Economics*, p. 65).

⁴⁴ Similar considerations led J. A. Hobson to his definitions of "human utility" and "human cost" (cf. *Work and Wealth*, London, Macmillan, 1914).

⁴⁵ "Leisure," "recreation," and "play" are not of course synonymous, "play" being a form of "recreation" which is in turn a use of "leisure" (cf. entries under these terms in *Encyclopaedia of the Social Sciences*). However, the terms "recreation" and "play" are used loosely in the text without regard to the difference in the meaning.

⁴⁶ However, differences can be found; note the Burmese attitude toward trade cited in the quotation on page 362.

⁴⁷ Cf. A. Tilgher, *Work: What It Has Meant to Men through the Ages*, Harcourt, Brace, 1930.

⁴⁸ Firth, *Primitive Economics of the New Zealand Maori*, p. 166, and *Elements of Social Organization*, pp. 142-144; Herskovits, *op. cit.*, pp. 88-91.

ure revealed in human behavior? The answer is that men are often bribed by better pay to shift from one line of work to another, but seldom if ever bribed to shift from one kind of play to another. The selection of leisure-time activities is not governed by economic motives, but by education, income level, environment, and personal tastes. The difference between work and play is evident also in the fact that men are more willing to make substitutions of activities within each category than between them. Men are reluctant to surrender any of their accustomed leisure time for work, while the need to maintain an accustomed standard of living prevents leisure activities from encroaching upon the usual length of the working week. In any given social situation there is apt to be a "normal" balance between work and leisure which may resist change even under fairly strong pressures. In the recent war, for example, average weekly hours in United States manufacturing industries increased only by a little more than 10 per cent above a forty-hour week, and probably did not reach the level that was regarded as a normal workweek two decades earlier. Leisure time does not seem to be generally available to the economy as a disposable resource.⁴⁹

⁴⁹ This means that when comparisons are made between different times or different places characterized by substantial differences in the length of the work year, a comparison of total income or even income per capita or income per worker will not suffice to convey the full significance of the difference between the two situations. It will be necessary also to present the comparison of income per man-hour. In this connection, mention may be made of a fallacious line of reasoning into which one may easily fall. Where a service is purchased, the buyer has the service plus leisure, but where a service is performed for oneself, the person has only the service. The person who has enough income to buy the service is therefore regarded as better off in a certain sense (even if the quality of the purchased service is no better than that of the self-performed one) than the person who did the task for himself. The erroneous conclusion that might be drawn from this is that it justifies the inclusion of a service purchased on the markets of a developed country without imputing for the equivalent service performed in the households of the underdeveloped country. The difficulty is that this line of reasoning implicitly treats leisure as a commodity. While such a treatment for leisure is a possible alternative, it would necessitate valuation of leisure relative to other goods and would thus introduce an element of artificiality into the comparison. Furthermore, it would contribute nothing that could not be gained from the comparison based on product per man-hour.

The matter may be clarified by an illustration. Let us assume that two men work the same time for pecuniary compensation and that the first is paid \$1,400 and the second \$1,500. They use their money incomes to purchase identical bundles of goods except that the second man uses his

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The sensitivity of work activities and the insensitivity of leisure activities to changes in relative rewards suggest that some concept of *time-allocation elasticity* might be developed as the test of whether an activity is to be classified as work or play. One possible formulation⁵⁰ of the elasticity of time allocation is

$$E_t = \frac{\Delta T_x/T_x}{\Delta R_y/R_y}$$

where E = elasticity

T = time spent

R = reward

x = an activity which does not satisfy the rule of remunerated activities

y = an activity which satisfies this rule and in which the individual actually engages or is qualified to engage.⁵¹

The elasticity of time allocation measures the extent to which an increase (fall) in the reward in activity y brings about a reduction (rise) in time spent in activity x . We can with its aid formulate a

extra \$100 to have his roof repaired by a roofer while the first reluctantly does a similar job on his own roof after his regular working hours. Both men end up with the same bundle of goods, but the second man is better off because he has more leisure. The correct way to convey this is to state that, while their total income is the same, the income per hour of work done is higher for the second man. The first man is, of course, analogous to the underdeveloped country and the second to the developed country. The fact that commodities and services purchased with money income on the markets of the developed country free individuals of certain tasks that are performed in households in the underdeveloped country, thus giving the people of the advanced country more leisure, does not mean that we are justified in ignoring the product of the household in the nonmarket economy.

⁵⁰ Taken from the formula for the cross elasticity of demand.

⁵¹ An alternative formulation, based on the elasticity of substitution is

$$E_t = \frac{\Delta(T_x/T_y)}{T_x/T_y} \div \frac{\Delta R_y}{R_y}$$

This differs from the usual formula for the elasticity of substitution in which the denominator would be analogous to the numerator in that it would show the relative change in rewards for x and y . The modification has been made because x may have a zero reward or one that is difficult to measure. This formulation of time allocation elasticity has the advantage over the one in the text of measuring the shift from activity x into activity y in response to a rise in compensation in y . The text version shows only the extent of the shift out of x ; it is simpler and seems adequate as a criterion to mark off leisure-time activities from economic activities.

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rule of sensitivity to rewards: *Since economic activities are sensitive to changes in rewards in alternative activities, they are characterized by high time-allocation elasticities. On the other hand, leisure-time activities, which do not respond readily to possibilities of gain in other activities, have low time-allocation elasticities.* The elasticities are, of course, affected by institutional factors; for example, we might expect that the time-allocation elasticities for economic activities would be higher in developed market economies than in underdeveloped economies. In each type of economy, however, the elasticities for leisure-time activities would probably range well below one and would be significantly lower than the elasticities for economic activities.

The factors used in computing time-allocation elasticity would be difficult to measure. These elasticities would be valuable not so much for determining some critical value that could be used to separate economic from noneconomic activities, but rather as a rough tool in analyzing many of the more important and obviously elastic groups of activities that are brought into question when comparisons between developed and underdeveloped economies are attempted.

How would these rules and the concept of time-allocation elasticity help us in estimating services in, say, a comparison of United States income with that of some pre-industrial country? The consumers' services in the 1950 national income of the United States have been listed in Table 1. According to the rule of remunerated activities, the full value of these services would be included in the income of the United States. In the large urban centers of the more populous underdeveloped countries, particularly in peasant economies such as India and China, a virtually identical list of services may be exchanged for money or barter. Budget studies for villagers show expenditures for domestic servants, tailoring, transportation, personal care, medical and death services, lawsuits, entertainment, education, and religious activities.⁵² Communications may not show up in family expenditure studies, but, as Bücher pointed out, courier services and other devices for the communication of news are available even among primitive peoples.⁵³ The value of all these services must be included in the national income of the underdeveloped country.

In addition, imputation must be made to cover services per-

⁵² Cf. Buck, *op. cit.*, p. 384; Deane, *Colonial Social Accounting*, p. 177.

⁵³ Carl Bücher, *Industrial Evolution*, Holt, 1901, pp. 77-79.

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TABLE 1

United States Consumption Expenditures on Services, 1950
(millions of dollars)

1. Domestic services		2,525
2. Purchased meals and beverages (service component only)		5,908
3. Care of clothes, shoes, household textiles		2,714
Cleaning, dyeing, alterations	1,516	
Laundering	841	
Shoe cleaning and repair	241	
Furs, costume rentals, miscellaneous	116	
4. Repair of watches, furniture, and electrical equipment		432
5. Household utilities (electric, gas, water)		3,593
6. Communication (tel. and tel., postage, moving)		2,625
7. Transportation		5,488
Auto repair, storage, tolls	1,548	
Purchased transportation	3,940	
8. Personal care (barbershop, beauty parlors)		2,291
9. Medical and death services		9,131
Physicians, dentists, etc.	3,623	
Nurses, etc.	266	
Private hospitals	1,959	
Funerals and cemeteries	883	
Public health expenditures	2,400 ^a	
10. Insurance (net payments)		3,760
Fire and theft	70	
Medical (including group hospital)	679	
Life	2,449	
Auto	562	
11. Education and research		6,493
Private	1,773	
Public	4,720 ^a	
12. Religious and welfare activities		1,822
13. Recreation		3,699
Admissions	2,430	
Camps and Clubs	515	
Photography	358	
Repair and rental of equipment, pets, etc.	396	
14. Personal business		5,816
Employment agencies, dues, etc.	318	
Financial services including brokerage	2,845	
Legal services	1,066	
Interest on personal debt	1,587	
Total		56,297

^a From Milton Gilbert and Irving B. Kravis, *An International Comparison of National Products and the Purchasing Power of Currencies*, Paris, Organization for European Economic Cooperation, 1954, pp. 104-105.

Note: This classification differs from that of the Department of Commerce in that (1) it includes government current expenditures for health and education, (2) it excludes rentals on residential real estate, and (3) it excludes several miscellaneous items aggregating to \$40 million.

Source: *National Income Supplement, 1951, Survey of Current Business*, Dept. of Commerce, 1951, pp. 192-199.

formed within the households of both the developed and underdeveloped countries. According to the foregoing analysis, imputations need be made only if a service is the product of economic activity; that is, only if it meets either the test of a remunerated activity or the test of sensitivity to rewards. The question is *not* whether these services of the United States market economy have analogues in the underdeveloped economy, but whether they are produced by scarce resources that do not happen to enter the markets.⁵⁴

Items 1-3 in Table 1 represent the commercialized equivalent of housewives' services. Ample testimony from authentic sources is readily available to most husbands and sons that these services, including the daily preparation of food, washing of clothes, and care of the home, are not generally done for the pleasure of doing them. Like the growing of food and the provision of shelter, the services of housewives represent one of the essential chores of life; in every society some of the energies of the people must be devoted to housekeeping. It may be that housewives are less mobile than other actual or potential participants in the labor force and that the allocation of their services is influenced to a greater degree by existing social institutions. Nevertheless, there seems to be a widespread willingness on the part of women all over the world to work outside the home in order to earn the means to purchase services that they formerly produced themselves within the home. As the productivity of industry rises, each increase in real wages in commercial and industrial occupations leads more women to shift from housekeeping to wage jobs. There seems little doubt that the services of housewives meet the test of sensitivity to rewards and must therefore be regarded as economic activity.⁵⁵

⁵⁴ An example of an approach based on a search for analogues is that of Kuznets. He says: "Thus, according to the Department of Commerce estimates, consumers spent over half a billion dollars on cemeteries and funerals in 1929; and while these functions are presumably performed satisfactorily in India and China, I cannot find any allowance for them in the estimates . . ." (*op. cit.*, page 154). He advances the "tentative suggestion" that "culture myth" services, such as religious services, funerals, and recreation, either be omitted from the income comparison altogether or be included on the assumption that the supply of these services is in the same proportion to all other consumers' services in the underdeveloped country as it is in the developed one. "There is no basis for assuming that the per capita supply differs among the two types of economy . . ." and thus the second alternative might result in "too moderate" an adjustment (*ibid.*, page 158).

⁵⁵ In practice, however, the valuation of housewives' services is ex-

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The next four entries (items 4-7) represent services that are unlikely to be produced in significant quantities within households either in developed or underdeveloped countries, except perhaps the fetching of water, which is frequently a household chore in pre-industrial economies.

Items 8-13 represent activities that are, for the most part, so intimately related to the physical and psychic being of the individual that he cannot completely avoid participation by hiring others to perform them on his behalf. The cleansing and adornment of the body, the worship of the deity, the burial of the dead, procreation and the rearing of children, and the care of one's brother (i.e. the provision, in effect, of accident, sickness, and old-age insurance by the family organization) are in a basic sense part of the ritual of life. The fact that some aspects of this ritual have been professionalized or commercialized in the advanced countries—and, indeed, in some of the underdeveloped countries also—does not mean that every one of these activities always involves economic activity. Even in the advanced countries there are well-known religious groups that function without professional leadership (e.g. the Quakers). The key to these activities is the necessity of personal participation whether there is any paid leadership or not. This participation is not motivated by economic factors; it is, on the contrary, insensitive to the bribery of higher rewards in remunerative occupations. Except for paid leaders, where they exist, none of the participants is

traordinarily difficult. Even if we decide that a housewife's services should be valued at the salary that a hired housekeeper might receive, it would be no small task to determine what this salary is. The content of such jobs varies widely, and the salaries that are paid are frequently dependent upon the income level of the employer. Does this mean that the services of a housewife in a rich family should be valued at more than those of the housewife in a poor family? Should we impute any household income in a family where the wife works outside the home and keeps house in her spare time? In international comparisons, do we assume that the productivity of housewives in different countries is the same even though we know that the work of United States housewives is highly mechanized?

Of course, some answers—some compromises—can be found to these and other difficult questions that arise in imputing incomes for housewives' services. Indeed, in comparisons between an advanced country and an underdeveloped one or between two underdeveloped countries, the valuation placed on the services of housewives, although highly conjectural, need not necessarily be more so than the valuation placed on other productive activities in an underdeveloped economy. Thus, there is no compelling reason on estimating grounds for excluding housewives' services, and there are good grounds for including them in principle.

engaging in economic activity. Amateur leaders, such as boy scout-masters, clubwomen, and their equivalents (if any) in underdeveloped countries, play these roles in their leisure time.

We must be perfectly clear that we are not trying to measure the total utilities derived from these activities, but only the extent to which scarce resources provide these satisfactions. In the case of recreation, for example, it is true but irrelevant to say that there are nonmarket activities in the underdeveloped country that provide the recreation that is obtained through commercialized channels in the United States. In the national accounts of the United States, as for other countries, the estimate for recreation includes only the value of the scarce resources that were used to provide opportunities for recreational activities. The estimates do not try to take into account the satisfactions enjoyed by children in unsupervised play and by children and adults alike in a myriad of other recreational activities that require nothing but the time of the participants. After all, many if not all the forms of recreation available to the underdeveloped society are enjoyed also in any developed country.

The last entry in Table 1, "personal business," includes services that are exchanged in both developed and underdeveloped economies. Mention has already been made of consumers' expenditures for lawsuits. Personal indebtedness is widespread among peasant cultivators in underdeveloped economies, and fees of various kinds for recruitment for industrial employment are also frequently found. Financial services are more rarely encountered outside urban centers, but brokerage fees are very common in a somewhat different context—viz. in the arrangement of marriages. The real issue concerning these services is not the extent of their production within the household, but whether they should be included as final products at all. Kuznets would regard most of these services and certain others, including commutation between residence and place of work, as intermediate rather than final product.⁵⁶ This, however, is a different argument which, happily, falls outside the scope of this paper.

The discussion of the inclusions and exclusions implied by our two rules has been deliberately cast in terms of services, for the main difficulty in identifying economic activity arises in connection with services. In the case of commodity production it would not

⁵⁶ Cf. Simon Kuznets, "Discussion of the New Department of Commerce Income Series," *Review of Economics and Statistics*, August 1948, pp. 151 ff. and Kuznets, *Economic Change*, p. 195.

be too far off the mark to adopt as a practical expedient the policy of including all tangible things created with the aid of human effort as part of income. This *commodity rule*, as it may be referred to, is akin to the definition of production that was favored by Adam Smith and that more recently has been important in the measurement of national income in the Soviet Union. In the substantial body of economic thought between these two extremes in time and temperament, the commodity definition of production was widely rejected. Though the rule implies that any activity that has a tangible end product represents economic activity, in practice, the rule would mislead only in trivial instances. It is therefore suggested that in international income comparisons *all commodity production should be included regardless of the institutional arrangements under which it is carried on*. The use of the commodity rule and of the rule of remunerated activities would make it necessary to resort to the rule of sensitivity to rewards, which is more difficult to apply, only in connection with non-commodity-producing intrahousehold activities.⁵⁷

⁵⁷ However, even this obvious convention is sometimes hard to apply because a clear distinction cannot always be drawn between commodity and service production. The most important illustration of this difficulty arises in connection with the processing and preparation of food. In the developed countries commodity production is taken to end when food leaves the processing plant, and the operations performed in the kitchens of homes or restaurants are regarded as services. The differentiation is thus based on the place of performance rather than the nature of the operation. The shelling of peas, for example, is a commodity production in a canning or food-freezing establishment, and service production in a restaurant kitchen. In the underdeveloped economy, even this dubious basis for distinguishing between commodity and service production will not apply, because all the processing and preparatory operations from field to table are often performed in the household.

One technique for making the imputations for processing activities is to value raw foods at the prices of fully processed foodstuffs. Phyllis Deane followed this procedure to a limited extent in estimating the national income of Northern Rhodesia (*The Measurement of Colonial National Incomes*, page 24). Kuznets has spoken in favor of what seems to me to be an extreme position in this matter. He suggests that in pre-industrial societies primary and semifinished commodities should be given the prices of the finished product in industrial societies (Kuznets, *Economic Change*, pages 155-156). He argues that a large portion of the more extensive fabrication in industrial societies represents treatment and packaging costs necessitated by the centralization of production. Though undoubtedly wrapping in cellophane or transporting for hundreds of miles do not make the product of the developed country superior, products are sometimes brought to a higher state of "finishedness" in the developed country (e.g. enriched milk, instant coffee, etc.), Kuznets excludes the possibility that processing activities may

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The Proposal of the United Nations Experts

The rules suggested above differ from those advanced recently by a committee of experts appointed by the United Nations. The committee, seeking to draw boundaries for economic activity that would serve for both developed and underdeveloped countries, made the following recommendation:

In the case of primary producers, that is, those engaged in agriculture, forestry, hunting, fishing, mining, and quarrying, all primary production whether exchanged or not and all other goods and services produced and exchanged are included in the total of production. In the case of other producers, that is, those engaged in all other industries listed in the *International Standard Industrial Classification*, the total of their primary production is included as for primary producers. In addition there is included the total of their other production which is exchanged together with the unexchanged part of their production in their own trade. As a result of these rules there is omitted from production the net amount of all non-primary production performed by producers outside their own trades and consumed by themselves. Nonprimary production may be defined broadly as the transformation and distribution of tangible commodities as well as the rendering of services.⁵⁸

This is explicit enough as far as primary output is concerned; all primary output, whether produced for home consumption or for the market and whether by a full-time primary producer or by someone engaged in primary production as a side line, is included in the national product. The difficulties arise in connection with nonprimary product. All nonprimary product that is exchanged is to be included and also the goods produced by a nonprimary producer in the course of his regular occupation and consumed by himself or his family. The part of this rule dealing with unexchanged nonprimary product is not explicit enough to be helpful in dealing with a subsistence economy and is impractical to apply in a developed economy.

As for the subsistence economy, the rule really begs the question, for we must determine which household activities represent the "trade" of the performers before we can apply it. Is clothing made in the household a part of the "trade" of the housewife? The only clue offered to what the committee had in mind when it used the

convert many foods and raw materials into forms more valued by consumers, and that important quality differences exist between the products of developed and underdeveloped countries.

⁵⁸ *A System of National Accounts and Supporting Tables*, United Nations, Statistical Office, Studies in Methods Series F, No. 2, 1953, p. 5.

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word "trade" is suggested by the statement in the report preceding the paragraph in which the rules are presented:

The following rules have as their object the inclusion in production of household activities that are clearly akin to those which are usually undertaken in enterprises and the exclusion of those for which the analogy becomes tenuous and which do not lend themselves to any precise definition.⁵⁹

This seems to indicate that the committee was trying to define production so as to include a common range of products in the developed and underdeveloped countries. The difficulties inherent in this approach have been discussed above.

At the other extreme, in the advanced economy, the rule is too broad for practical application.⁶⁰ While there is no objection in principle to the inclusion of goods produced by a nonprimary producer in his trade that are consumed by himself or his family, it is doubtful that the gain would warrant the trouble of making the estimate. The inclusion of these goods would require us to determine the value of self-medication by doctors, of plumbing work done in their own homes by plumbers, of distributive services represented in the goods that grocers and other shopkeepers take from their own shelves for their family consumption, etc.

Of the two rules proposed in this paper, only the exchange rule fits in with the recommendations of the United Nations experts. The commodity rule finds a place in the recommendations only insofar as primary production is concerned, and the rule of sensitivity to rewards has no place at all.

The weakness of the United Nations report, as far as it touches upon the problems discussed in this paper, arises from its attempt to draw a production boundary for the underdeveloped countries without first finding a rationale regarding the nature of economic activity in a premarket economy.

C O M M E N T

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International Comparisons: What to Compare? At two points in his discussion of intercountry comparisons, Simon Kuznets* refers

⁵⁹ *Ibid.*

⁶⁰ This point was suggested by Milton Gilbert.

* Editor's note: The remarks by Kuznets were based on a preliminary and partial draft of a paper which other pressing demands on his time did not permit him to finish for this volume. The several references by Hagen to the Kuznets paper are sufficiently clear, however, that they are included as originally written.

to comparisons of "economic performance" in different societies. The title of his paper indicates that he has in mind comparison of national product measures. Irving B. Kravis's entire paper is based on the judgment that it is national income, i.e. national product, in different societies which is to be studied.

However, the nature of the purposes that Kuznets lists suggests that the economic product of different societies may not always be the magnitude which ought to be compared. For some purposes, the level of material welfare, including satisfactions contributed by free goods, or the rate of increase in economic product or in material welfare, may be the appropriate magnitude. It has been customary to employ as a measure of relative material welfare an estimate of relative per capita national product. Conceptually, this substitution is obviously in error. The two are not necessarily correlated.

If relative national product is not the appropriate measure, the conditions for comparison and the nature of the comparison may differ from those suggested by Kuznets. An appropriate first step in an analysis of the problem is therefore to examine the purposes and see what measure will actually best serve them.

Among political purposes, Kuznets mentions that of providing "a basis for emphasis on needed remedies or for the claims of the underdeveloped parts of the world." Needed remedies should probably ordinarily be determined by the relative level of product or the relative rate of increase in products in two economies. But decisions concerning claims of the underdeveloped parts of the world should certainly in some contexts be decided on the basis of comparison of the level of material welfare in various economies.

The other purpose stated in the same sentence, "to indicate or test the limits of industrial systems organized under the aegis of the business system in its spread beyond a narrow segment of the world," may require a (nonquantitative) study of comparative structure, of relative levels of output, or of relative rates of growth.

Another political purpose is to evaluate the relative capacity of different systems of social organization "to provide sustained economic growth at adequate or more than adequate rates." By definition, the comparison involved here is one of rates rather than of levels of growth.

A final political purpose stated is to determine basic trends within a country, "as evidence of possible limitations on future growth and as a basis for introducing changes to avoid deceleration or

stagnation." Insofar as such a study involves any direct comparison of economic performance, it would seem to be one of rates of growth, rather than of levels of product or of material welfare.

To these political purposes Jacob Viner adds another in his comment below, namely, to assess "national financial contributions to multi-national tasks," as, for instance, in a cooperative war effort. This, of course, is the general purpose of which providing a basis for the claims of underdeveloped parts of the world is a specific case, and like the latter it involves a comparison of material welfare rather than of national product, if it is to be fair.

Among administrative purposes Kuznets lists first the assessment of contributions to the United Nations. This is another case of the assessment of burdens among countries and, like that purpose, in general requires a measure of relative material welfare. The other administrative purposes are stated in such general terms that I am unable to judge what type of comparison is pertinent.

The analytical purpose discussed is to study the factors determining the rate and nature of economic performance, and the relationships among these factors. This purpose clearly relates to economic product, or rate of increase in it, rather than to material welfare.

It appears then that for some purposes each of the three types of comparison is pertinent.

If the necessary comparison is between levels of output in two economies, the problems of conditions of comparability, of identification, and of measurement which Kuznets sketches exist. If, however, the appropriate comparison is between levels of material welfare in two societies, the conditions of comparability sketched by Kuznets are not necessary conditions. Comparative material welfare can be measured meaningfully whether each group is a social unit or a congeries of individuals, and regardless of the degree to which an economic situation exists and to which goods—for example warmth and food—are furnished freely by nature. For such a comparison, the freedom from cold provided by nature in some climates without cost should be valued at the same level as the freedom from cold provided elsewhere by the production of clothing and housing. Whether the comparison should employ the price weights prevailing in the cold climate or those prevailing in the warm climate, i.e. zero weights or some third set, is a familiar weighting problem discussed in the following section. Consideration of the practical problems of comparability and measurement of

free goods which enter into material welfare along with economic goods would extend the scope of these comments unduly and will not be made. It may be noted, however, that measurement of free goods in one of two societies being compared is in general pertinent only if the same goods are available solely through productive effort in the other.

In this discussion, the phrase "the level of material welfare" is, of course, an ellipsis for the consumption of material goods and services rendering satisfaction. I would not contend that the level of satisfaction in a society or in a group of individuals is derived from or is necessarily correlated with the level of consumption of goods and services. I would agree that even within the economic sphere, the level of satisfaction is dependent on relationships within the society, for example on one's economic status relative to other members of the group, and that it is also dependent on noneconomic relationships. Furthermore, it is readily conceivable that the level of satisfaction experienced by individuals in one society may be greater than that experienced by individuals in another society in which the per capita consumption of material goods and services is five or ten times as great. Nevertheless, there are political, administrative, and analytical problems, the solution of which requires measurements of the level of production or consumption of material goods and services, without prejudice to the relationship of that production or consumption to the level of subjective satisfaction.

Comparison of rates of change in the level of production, rather than of the level itself, can be meaningful even though no direct comparison of the level of production has been made. It is, of course, necessary to determine that the things being measured in the two situations are of the same kind. However, one problem involved in estimating relative levels of output need not be faced, namely, the conversion of values from the currency of one country to that of another. The same is true for comparison of rates of change in levels of material welfare.

The question of comparability of the flow of goods and services among different societies is thus much more complex than is suggested simply by discussion of the comparability of national product measures.

Some Statistical Problems. The conspicuous statistical problem in international comparisons is that of converting the two or more price systems to a common denominator. The same problem exists in comparisons among regions or over time within one society, but

the practical problem has usually been greater in international comparisons because the necessary information is less available.

The data needed concern the prices of identical goods or groups of goods in the two societies, so that ratios between them can be computed. A crude substitute for such ratios, which because of its availability has been commonly used, is the price relationship between goods and services which enter into foreign trade between two countries concerned or, as a rough estimate of this price relationship, the exchange rate between the currencies of the two countries. Little has been known until recently about the margin of error involved in using this substitute or even the direction of the error. Kuznets advanced the tentative idea that "using the foreign trade scales may not be too different from using the value system of the more developed country to weight both its products and those of the less developed society in the comparison." Though this suggestion is highly plausible, it is in error, as recent empirical work shows. In a recent study for the Organization for European Economic Cooperation,¹ Gilbert and Kravis made a direct comparison between prices and aggregate and per capita output in each of four European countries—the United Kingdom, France, West Germany, and Italy—and in the United States. As weights in aggregating output, the comparisons use alternatively relative prices of various classes of goods in the European country and in the United States.

In each of the four cases, the ratio of per capita gross national product in the European country to that in the United States is lowest if exchange rates are used to convert the value of output, is higher if prices of the European country are used as weights, and is highest if United States prices are used as weights. The use of exchange rates in every case results in underestimating per capita income in the European country relative to the higher-income United States. The distortion therefore is systematic, not random. I believe that there are two mutually reinforcing elements causing that distortion. First, the ratios between prices in each European

¹ Milton Gilbert and Irving B. Kravis, *An International Comparison of National Products and the Purchasing Power of Currencies*, Paris, OEEC, 1954.

For an earlier, less elaborate attempt at direct international comparison of output, see *The Impact of the War on Civilian Production* (a study by the Combined Production and Resources Board, Washington, 1945) and the discussion of this study by Copeland, Jacobson, and Clyman in Volume Ten of this series.

country and those in the United States vary systematically with the type of good or service. Prices are relatively higher in the European country (and per capita product relatively lower), the greater the use of capital in the production of the good or service. Value theory would suggest this result (since labor costs are lower relative to capital costs in the European countries than in the United States); it is interesting that the empirical studies confirm it.² Moreover, if the goods of each country are arrayed in order of the capital intensity of the productive methods used in producing them, the exports of the United States are among its most capital-intensive goods, and the exports of the European countries are also among their more capital-intensive goods—or at least are not at the labor-intensive end of the scale. This perhaps surprising fact flows from two considerations. One is that in this context land is capital, and many United States imports are goods produced by land-intensive methods. The other is that many of the most labor-intensive products of any country, and especially of countries with labor costs which are low relative to capital costs, are nontransportable goods and services. Wassily Leontief has shown that United States imports are in fact more capital-intensive than our exports.³ It follows from this set of facts that the prices of each country's exports to the United States are higher relative to the prices of United States exports to that country than are prices in that country in general. If all goods and services were transportable without cost, the exchange rate between the two currencies would under certain conditions about demand and supply functions in the two countries equal the "average" ratio between their prices. Since, however, the relatively cheaper goods of the United States and the relatively more expensive goods of other more labor-intensive countries exchange in trade, demand in the United States for these goods relative to demand in the other country for United States goods is less than if all goods and services flowed. This demand situation causes the value of United States currency to be relatively higher. United States output and per capita income are therefore overvalued if compared with that of the other country via the exchange rate.

Another causal element (of less importance) may be that when

² Gilbert and Kravis, *op. cit.*, Chap. V, especially p. 57.

³ See his "Domestic Production and Foreign Trade: The American Capital Position Re-examined," in *Proceedings of the American Philosophical Society*, September 1953. The result follows in considerable part from the land intensity of production of many United States imports.

productivity in the United States is increasing faster than in another country, the exchange rate between the two currencies is continually being pulled in the direction of a higher valuation of United States currency, and the short-run equilibrium exchange rate at any given time is farther in this direction than it would be if productivity were frozen at the relationship then existing. Exchange rates must reflect this situation to some extent.⁴

It is significant, I think, that both the causal elements will have more influence the lower the per capita income of the other country relative to the United States. The lower the per capita income of a country and the less its industrialization (the two factors are correlated), the greater tends to be the proportion of labor-intensive goods and services which are not exportable or not exported; hence the more unrepresentative of its average prices are the prices of export goods. Further, in general, the lower the per capita income of a country, the slower is its rate of increase in per capita income. (This is not a necessary relationship, but has been a fact during the past half-century and perhaps for a much longer period.) Hence the lower the per capita income of a country, the greater is the disparity between the rate of productivity increase in that country and that in the United States.

These considerations suggest that the greater the difference between the two countries in per capita income, the greater the error caused by use of the exchange rate to compare their price levels. The Gilbert-Kravis analysis provides suggestive, though by no means conclusive, evidence that this is true as between the United States and the four European countries.⁵ After observing

⁴ These factors do not, of course, explain the difference between the comparisons resulting from the use of United States quantity weights and of other-country quantity weights. That difference is due to the fact that the ratio between the price of each good in a country to its price in the other is inversely correlated with the quantity of the good produced in the country (see Gilbert and Kravis, *op. cit.*, Chap. V).

⁵ No matter whether relative prices in the European country, relative prices in the United States, or the geometric average of these is used as weights, the relationship indicated in the text is true as among France, West Germany, and Italy. It is true as between Britain and these countries only if the pre-September 1949 exchange rate, or some compromise rate, rather than the post-September 1949 rate, is used. While there are independent reasons for using the pre-1949 rate or a compromise rate in converting sterling values to dollars, they rest upon relationships between British and European levels of living, and hence some circularity is involved in using a calculation employing the adjusted rate as evidence in the analysis presented here. The evidence is further weakened by the fact that if, with

this relationship I have made a rough and unscientific analysis of the internal value of the currency of a very low income country with which I am acquainted, Burma, compared to the value of the dollar in the United States. This analysis suggests that, whereas the exchange rate between the two currencies is 1 Burmese kyat to United States \$.21, the purchasing power of 1 kyat within Burma is almost equal to that of \$1 in the United States. This correction factor of 4 or more is far greater than that applicable to any of the four European countries.⁶

The error in estimating the value of currencies resulting from use of exchange rates for conversion may explain the anomaly to which Kuznets called attention many years ago, namely, that if per capita real income in the lower income countries of the world were as low as is indicated by national income estimates converted to dollars by use of exchange rates, then the populations of the low-income countries must literally die of starvation within a given year. If in comparing per capita real income in, say, India and the United States, we use a factor of 4 in adjusting the relative values of the two currencies indicated by the exchange rate, then instead of estimating that per capita real income in India is less than one-thirtieth of that in the United States, we arrive at an estimate that it is about one-eighth that in the United States. When, in addition, allowance is made for other factors such as free goods in India—for example, warmth—which are matched by economic goods produced at considerable cost in the United States, the riddle posed by Kuznets begins to disappear.

It would be of considerable interest to do a study like that by Gilbert and Kravis comparing a low-income country, for instance India, with the United States. It would also be of considerable in-

economic recovery, per capita income in West Germany rises more rapidly than in France or Italy, while relative exchange rates remain as at present, the current statistical relationship between exchange rates and purchasing powers in the three countries may be disturbed.

⁶ For Italy, with the lowest income of the four European countries, the Gilbert-Kravis analysis indicated that the correction factor is 1.6. This is the factor applicable to per capita income estimated via exchange rate, compared with per capita income estimated via the geometric average of Italian relative prices and United States relative prices as weights.

The crudeness of my analysis for Burma is indicated by the fact that, whereas when I presented these comments orally at the Conference I suggested a correction factor for Burma of 5; further estimate makes me think that a better figure is 4. However, whatever the true figure may be, it is far higher than for the four European countries.

terest to do studies for enough other countries so that we might begin to plot the relationship between per capita income as estimated by the use of the exchange rates in comparing two currencies, and per capita income as estimated by direct comparison of quantities of production of comparable goods, or by direct comparison of prices, to derive a conversion factor between the two currencies.

After comparisons were obtained between a few more pairs of countries at various income levels, it might be possible to derive a crude empirical function between the amount of difference in per capita income level in two countries (say, the ratio between the per capita incomes as indicated by use of exchange rates in equating their currencies) and the amount of distortion involved in the use of exchange rates.

Undoubtedly such a function would be only a crude one, for exchange rates are subject to a number of influences not related to the relative level either of per capita income or of industrialization.⁷ Yet the function might nevertheless give a useful general impression of relative income levels and aggregate outputs.

Some students would assert that this whole discussion of comparison of outputs or income in two countries differing greatly in economic organization is pointless—that the goods produced or used in the two countries differ so greatly in nature that comparison of income levels is conceptually improper. Certainly many goods are produced and used in either of two such countries which are not available in the other.⁸

Yet there are practical uses for such comparisons, and they will be made. I suggest the same device for quantitative comparison of income in two countries differing greatly in per capita income as for quantitative comparison of income in intertemporal situations, namely, a chain index. We do not shudder at comparing per capita real income in the United States in 1954 with that of fifty years earlier by means of a time series in which we change the weights at various intervals, as the composition of goods produced or consumed changes. Similarly, we might compare per capita income in the United States with that in Canada, Australia, New Zealand, or Britain by conventional index number methods, then compare in-

⁷ See Gilbert and Kravis, *op. cit.*, pp. 14-16.

⁸ Kuznets suggests that the full array of goods available in the low-income countries would also be available in the United States, whereas the goods available in the United States would include many which simply do not exist in the low-income country. I believe this is in error.

come in these countries with those of somewhat lower income countries by the same method, and so on down the scale until we have chained together all the countries for which data are available. No one should assert that the resulting comparisons give a cardinal rather than merely an ordinal measure of the difference between countries widely removed on the per capita scale. But it would be no more improper to use the results cardinally than it is to use cardinally a comparison over a considerable period of time.

Dorothy S. Brady has suggested a sort of multilinear comparison of price levels among a group of countries, rather than binary comparisons between pairs of countries within the group. While the particular method she suggests is technically defective or at least incomplete, as James Tobin has suggested, the principle involved is an important one. Suppose, for example, that no comparison between the level of prices of all goods in any two of three countries (A, B, and C) can be made, but that some in each country can be compared with one country, and the rest with the other. If we call the ratio between the "price levels" in two countries of all matching goods a ratio between the over-all price levels in the two countries, we are implicitly assuming that the structures of tastes and resources in the two countries are in some sense identical, so that the relationship between the prices of noncomparable goods and comparable goods in the two countries is the same. Since the actual goods produced and used differ, binary price-level comparisons between A and B, between B and C, and between C and A will be inconsistent, except by coincidence.

Important though this suggestion is, it is probably not relevant to a comparison of price levels between underdeveloped and developed countries. The reason is simply that in such comparisons we are not apt to get a circular situation of the type suggested above in the example of A, B, and C. Rather, if we assume that countries A, B, C, D, E, etc., are arrayed in order of per capita income, it is likely that few of the commodities which cannot be matched between countries B and C will be matchable between countries C and A, and so on.

The Distinction between Economic and Noneconomic Activity. Kravis, after stating by way of introduction his reason for believing that comparisons of product are of more general usefulness than comparisons of welfare, suggests three criteria by which economic activity can be delimited from noneconomic activity, or, more specifically, by which economic goods and the processes of produc-

ing them can be delimited from free goods and unproductive processes. These three criteria seem to me to make little contribution toward the solution of the problem.

No exception can be taken to the first rule, that of remunerated activities. Obviously, services rendered to others for which the recipient is willing to pay constitute economic activity. As Kravis notes, however, the principle does not go far enough to delimit productive services from others.

He suggests as his second rule that of sensitivity to rewards. On examination, this rule seems to me to break down. The amount of time allocated to leisure in the aggregate is sensitive to the marginal reward for increased production. That is, overtime pay does result in an increase in time spent in production and a decrease in time spent in leisure. Since aggregate leisure decreases, some specific leisure activities must have decreased. It follows that nonproductive activities as well as productive ones are sensitive to the reward offered for competing uses of time. What is true of the marginal rate of remuneration for production is likewise true of the average rate. If the average hourly rate of pay changes, the allocation of time between leisure activities and productive activities may be expected to change, though the direction of change cannot be known a priori. Likewise, it seems entirely possible that compensation offered to a person if he engages in one type of sport rather than in another would influence his decision between the two; this circumstance does not occur to one at first thought simply because the occasion does not ordinarily arise for offering compensation to cause a diversion from one type of nonproductive activity to another.

The third rule that Kravis suggests, that all activity resulting in a material product that satisfies human wants is economic activity, seems clearly defective. By this definition, the production of a paper doll by a child for its own amusement is production. Similarly for the creation of a mud pie, or of a picture by an amateur painter, or of a whistle by a boy handy with a pocket knife. The examples are trivial, but the principle which they illustrate is not. Activity entered into primarily because of pleasure derived from the process of creation may nevertheless result in a product that satisfies a human want, and the activity is not production merely because it has an end product.

The difficulties in dividing economic from noneconomic activities arise not from lack of care in framing a rule or rules but from the

unavoidable fact that the division is conceptually improper. Human activity is not divided into two such classes: the two classes are not mutually exclusive. Productive activities are defined as those engaged in primarily for the sake of the product which emerges (or for the sake of the product to be obtained in exchange), whereas nonproductive activities are those engaged in primarily because of satisfaction given by the process of so engaging. But most activities give both types of satisfaction, that is, they partake of the nature of both productive and nonproductive activities at the same time. Activities which are economic in one society are noneconomic in another. More generally, the degree to which the satisfaction derived from any activity is economic on the one hand or direct on the other differs between societies. One aim of any society should be that all productive activity also yield direct satisfaction to the doer; to the degree that it does not, the society is not functioning well. In fact, we sometimes draw a distinction between an activity that yields only direct satisfaction and one that is engaged in also because of the product to be obtained. But this distinction also is not adhered to rigidly, nor can it be.

As Jacob Viner suggests in the final comment, therefore, the line bounding what economists study will continue to be drawn in a manner appropriate to the specific purpose at hand. Any rule can be only empirical; a conceptually sharp dividing line is impossible.

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The purpose of Kravis's paper is "to find a concept of economic activity that will be useful in comparing national incomes" as between countries of widely different social and economic institutions. Since he takes for granted the adequacy for their purposes of the national income statistics currently computed for advanced countries, the purpose of his paper can be restated as being to find for underdeveloped countries a concept of national income which will serve to produce figures comparable (arithmetically?) with those currently available for advanced countries.

Kravis asserts, and at times argues, that significant comparisons of income as between countries differing widely in their levels of income and in their economic structures can be made. He says so little, however, about the purposes of the comparisons that I find

it extremely difficult to identify and to appraise his logical criteria of significance and of comparability.

International income comparisons, we are told, "are desired both for their inherent interest and for the contributions they can make to international economic statecraft." Who it is who desires them, what their inherent interest consists in, how they make a contribution to international economic statecraft, are all either assumed to be known to the reader or left to his unaided speculation to answer. To a reader like myself who is not already informed, this has proved to be a painful and frustrating experience.

Other contributions to the subject do provide some clues as to the purposes of such comparisons: they can be used as a basis for assessing national financial contributions to multi-national tasks, in appraising the comparative economic merits of different social systems, to provide criteria of eligibility of poorer countries to claim or to be given a share of the wealth of richer countries. I will assume that it is some such purposes which Kravis has in mind, and that in his presentation of rules and criteria to be used in making international comparisons it is always one or more of these purposes to which the comparisons are to be applied.

Assessment of financial contributions to a common purpose would presumably be based in part at least on some notion of "capacity to pay." If "income" is to be used as the measure, or as an important ingredient in the measure, of capacity to pay, this specific purpose will presumably have much to do in determining what would be an appropriate definition of "income." What would be an acceptable definition of "income" for purposes of determining "capacity to pay" might be grossly unsuitable for purposes of measuring the rightful share of a poorer country in the wealth of a richer country. If international sharing is to be promoted on the ground that an approach to economic equality is a good thing internationally, what would be most relevant, one might suppose, would be equalization of "welfare," and equalization of income could bring us close to our goal only if there was a close and stable relationship between the dimensions of "welfare" and those of "income." The most effective way of obtaining assurance that this was the case would be so to define "income" as to make it synonymous with "welfare" as previously defined, or *vice versa*. Another procedure would be to avoid clear definitions of either term, but to make use of both as if either could be freely substituted for the other without significant change of meaning or of conclusion for the pur-

pose on hand. Whichever procedure was followed, the immediate purpose would either impose special restraints on the meaning to be given to "income" or would make it inexpedient to make "income" mean anything specific and identifiable. It would seem, therefore, that either we must postpone framing our concepts until we know what use we will put them to or we must give them so amorphous and elastic a shape that they will at best be capable of giving the appearance of serving almost any conceivable purpose even though in fact being incapable of serving in logically respectable manner any significant purpose.

Kravis brings into suspiciously close association "total welfare," "economic welfare," "the flows of satisfaction-yielding commodities and services," and "income." No two of these are claimed by him to be altogether identical in meaning, or in their quantitative behavior, and there is exposition, meager exposition, of the nature of their differences, but the stress is all on their resemblances. Of the first three we are expressly told that they can be regarded as counterparts for "many practical and important purposes" and that "Indeed, the world proceeds very much on the assumption that the flow of goods is an accurate indicator of economic welfare." And throughout the paper we are encouraged to substitute any of these three for "income" when it promotes the easy flow of the argument that international comparisons of income are feasible, meaningful, and useful.

This flexible use of a familiar set of terms seems to me fairly representative of how economists talk and write and perhaps even think in this field, when they are not engaged in what the profession tends to regard as "hair-splitting." If the "income" here involved, however, refers to what is presented under that label in the computations of national income of advanced countries as carried out by authoritative national-income statisticians, it would be libelous to claim that such flexibility of terminology fairly reflects the talk or the thinking of politicians, priests, sociologists, anthropologists, and the man on the street. The statistics of "national income" take no or fortuitous account of such things as human status, dignity, security, leisure, health, degrees of toil and sweat, the necessity of using "income" to attain income, and the frequent necessity of using "income" to avoid or to moderate the flow of pain-yielding impacts instead of to acquire "flows of satisfaction-yielding commodities and services." These, however, are all things which the economically unsophisticated regard as having a good deal to

do with "total welfare" and even with "economic welfare." The "flow of goods," moreover, which "income" statistics measure is, I understand, expressly exclusive of "free goods." Not even the economist, however, would exclude them from regional comparisons of welfare if what is a free good in one region has to be toiled for or is totally unavailable in another.

It is not clear to me what ground there is in the history of the terms, in considerations of convenience, or in any logical considerations which may have become associated with these terms, for the exclusion of "free goods" from "income" if "income" is to be used as a counterpart of "welfare."¹

These semantic difficulties I am emphasizing could justifiably be brushed aside as quibbling (1) if the important things not covered by "national income" statistics accrue or can reasonably be assumed to accrue everywhere in much the same relative proportions to the things, whatever statistical conventions may have made them be, which "national income" statistics do measure; or (2) if, when important applications of international comparisons of "income" were being made, the income statistics, as computed, were only a part, and not a dominant part, of the data used in making decisions or in acquiring attitudes, and were generally handled cautiously and skilfully, that is to say with a considerable measure of scepticism as to the accuracy of measurement and the relevance to the purpose on hand of what it was that was being measured; or (3) if the making of international comparisons of "income" was primarily an esoteric game or ceremonial activity whose rules and conventions could safely be left to the discretion of its professional addicts.

I will not concede the first. Kravis, I am sure, will not concede the third. We might both subscribe to the second, but probably with widely different judgments with respect to the appropriate degree of scepticism to be applied as to the accuracy, relevance, and significance of the ratios found between national incomes. I proceed, therefore, in the belief that it is a real issue that is in discussion between us.

Kravis proposes two criteria for inclusion of items as income for purposes of international comparisons: that the items be either (1)

¹ My objection could, of course, be met by adding "free goods" and "income" together in some appropriate way, and calling the sum or aggregate "national income plus national free goods." I am not debating about words as such, but about the legitimacy of the conclusions derived by means of their use, given the meanings assigned to the words.

commodities and services exchanged for a *quid pro quo*, or remunerated, or (2) commodities and services produced and consumed in the household. These are presented as "rules," without systematic exposition of the principles which justify them. Since "practicability" is always lurking in the background as a third criterion, I will merely draw attention to the evidence Kravis himself presents of the difficulty of distinguishing "gift" from "barter" in some underdeveloped countries or fringes of developed countries, and add that I find it hard to conceive of a practical purpose which would be served by gaining expertise in distinguishing between the two. It should be noted also that "household" is not a self-explanatory term, and if overt remuneration is to be given a key role in the criteria for inclusion in "income" except where the transactions occur within the household, it perhaps should be made clear that the "large family," the tribal society, the feudal-type plantation, and the communist collective farm are to be included under the "household" rubric. It is not evident to me what purpose is served by insisting that goods and services accruing from outside the household must be paid for to be "income" or by making the "household" the touchstone by which it is decided to adhere to or to abandon the *quid pro quo* criterion. I would solve these problems—rather neatly, if I may say so—by defining *quid pro quo* transactions as all transactions which occur outside households, and household transactions as all those which do not involve *quid pro quos*. If Kravis will grant me this latitude of definition, we can arrive at complete agreement on this score, and some unnecessary difficulties will have been disposed of.

This would not satisfy Kravis, however, or would for him mean merely transfer of the problem to another area. For it is not all goods produced and consumed within the household, but only such as can be attributed to "economic activity," that he would include in income. Whether an activity is "economic" or not, says Kravis, depends on whether the motive to the activity is a desire for the end product or the pleasure in the task itself, that is, whether the activity is "work" or "play." It is apparently only with respect to activity within the household and not to activity in the market or elsewhere outside the household that he sees a need for distinguishing between work and play.

It would be an unduly grim view of life which would disregard the play elements which enter largely into even the ordinary routines of work. For a wide range of human activities in a large part

of the world, work and play tend to get hopelessly mixed up with each other (at least in the inframarginal time ranges of the various activities). This would be especially true, I should think, for "household" activities in less advanced societies.

That it is possible, nevertheless, to draw a fairly clear line between work and play is, we are told, made evident by the fact that "the selection of leisure-time activities is not governed by economic motives, but by education, income level, environment, and personal tastes." In consequence, men are inflexible in their allocation of time as between work and play. As evidence, he cites the fact that during World War II (despite the lure of unusually high wages and the pressure of patriotic considerations) average weekly hours in United States manufacturing industries increased only moderately (by some 10 per cent). Perhaps, however, this was only the increase in the average number of hours worked per week per employee in the same plant rather than in the average number of hours worked per week per worker on any job. In my limited and casual personal observation during World War II practically all the able-bodied adults I knew who were not in military service were working overtime on their regular job or holding a second job or had newly entered the labor force or were staying in it beyond the normal period. I question whether we should agree that "Leisure time does not seem to be generally available to the economy as a disposable resource" unless the word "generally" is so stressed as to make this a trivial proposition.

What purpose would be served, moreover, by requiring the income computers to distinguish between play activities and work activities even if it were practicable to do so? The only ground Kravis presents for attaching importance to the distinction is that an activity which is not "work" is not an "economic" activity and therefore falls outside "the realm of economics." Mustering all my professional loyalty, I can at most feel a slight trace of persuasiveness in the argument. But might not the noneconomists reply that if that is how we are going to do the income computing for them, they had better assign the task to some more flexible profession? And as a final question, would "income," even for economists, really shrink if the attraction of the activity gained in strength relative to the attraction of the pay? Because in newly commercializing societies social tasks move from the ceremonial and the play to the barter and the monetary-exchange phases, are we to conclude that the substitution of "work" for "play" marks of itself an increase of

"income," or of "economic welfare," or of "total welfare," as Kravis's argument seems to imply?

Aside, however, from the questions of remuneration and intra-household activities, computers of "income" have to decide what kinds of "goods" to include as income. Kravis, I gather, would in principle include only "final" goods, or goods desired or enjoyed for their own sake, but in practice would include goods desired only as means of procuring "final goods" when it was not practicable to account directly for the "final goods." This seems perfectly satisfactory to me. But it would involve radical revision of the current computations of national income for advanced countries. Out would have to go the costs of getting to and from work, the higher rentals incurred only because proximity to the work place was necessary, the cost of work clothes, of vocational education, of union fees, and no doubt many other items now included as net income in the computations for advanced countries.

Assume also with Kravis that "income" has close relationships to "total welfare," to "economic welfare," and to "flows of satisfaction-yielding commodities and services." For purposes of income comparisons between advanced and underdeveloped countries, would not this concept call for the further reduction of the "income" figures for advanced countries by the amounts of the whole broad category of cash expenditures devoted to protection from evils or replacement of the havoc wreaked by evils more or less peculiar to or prominent in the life of modern urbanized societies? Take, as examples, expenditures for police protection, for taking the taint out of drinking water, for insurance against fire and other casualties, for insulation against noise, for medical expenses, especially when they arise out of unsuccessful treatment of disease rather than out of its successful prevention or cure.

When comparisons of "income" are being made between societies of markedly different social character, it becomes open to question also whether the universal application of a convention whereby government expenditures, or government tax revenues, are assumed to be the counterpart of corresponding contributions by government to national income does not serve more to conceal significant differences between countries than to register similarities. Governments are in some cases predominantly honest, economical, and beneficent in their activities and in other cases they are largely the self-chosen instruments of corruption, gross extravagance, and tyranny.

I am not confident that even if the purposes for which interna-

tional income comparisons were being made were clearly stated, all of these difficulties would vanish or could be surmounted with reasonable effectiveness. It seems certain, however, that without such clear statement of purpose, discussion either must be hopelessly vague and arbitrary or must confine itself to a description of the operations carried out by the income statisticians, an activity which has no visible claims to "inherent interest." In the absence of clear statement of purpose, I have only one procedural suggestion to make. This would not perhaps endow international income comparisons with greater usefulness, precision, or inherent interest, but it would somewhat lessen the danger that they may be employed chiefly to diffuse dangerous counterfeits of knowledge. The listing of items should be based as far as possible on detailed observation of what is done by and what happens to representative individuals throughout the year in societies of different character. Everything of any possible consequence in the way of flows of "goods," whether associated with play or with work, whether tangible or immaterial, whether receiving a price mark or not, whether self-produced or received as gift or in exchange for goods surrendered, should as far as possible be provisionally included. There should, however, be fine subclassifications, so that users of the data can select the items *they* regard as relevant for *their* purposes, and not be at the mercy of the computers.

I turn now to some specific questions of interspatial comparability of income statistics, on the assumption that we have reached agreement on what these statistics measure for their respective countries and on why we want to make international comparisons of them.

The problem of international comparability of income becomes less formidable *if* it suffices to measure the relative rates of increase in income in different countries, and still more so if mere order of ranking of rate of increase suffices, without need for computation of exact arithmetical ratios. But for ranking as for numerical comparisons, it is necessary to reduce either price levels or arrays of particular prices to international comparability. The list of relevant goods will never be identical for any two countries. The more advanced the society, the longer, presumably, the list will be. The commodities carrying the same labels in different countries will also not be identical commodities, and their relative weights in income will be widely variant as between different countries. When income statisticians measure changes in national income through

time for a particular country, they of course have standard "solutions" for problems of this type. Acceptable as these solutions may be in dealing with year-to-year changes in income for a particular country, they are less persuasive when what is involved is the comparison of the income in a given year of a country like the United States with a country like, say, Haiti. Even as between two countries regarded as having similar degrees of economic development, price structures can be widely divergent. Foreign trade is the only powerful force tending to produce similarity in relative price structures in different countries, but it normally will not suffice to achieve this even approximately. Transportation costs, excise taxes, local monopolies, nontransportability of some commodities, import duties and other trade barriers, all of these operate to prevent direct connection between the prices of similar commodities in different countries. How this problem of relating the prices of similar commodities in different countries to each other is handled can conceivably affect very substantially the figure reached for the ratio of one country's income to another, or even their order of rank with respect to income. Is there, however, a rational solution of this problem?

Kravis discusses a related problem which is especially relevant for comparisons between market economies and subsistence economies. Kuznets has suggested that primary products consumed on a subsistence farm should be valued as if they were the equivalents of final products of similar physical content as consumed in an urban community. Kravis objects that this procedure would ignore the increased value from processing, as, for example, when corn is consumed on the farm as corn meal and in the city as corn flakes. Processing, however, in some instances may not add anything to the final satisfaction yielded by the commodity as compared to its consumption unprocessed on the farm; it may only make it possible for the commodity to be consumed at all in the city, by making it transportable and by preserving it. In still other cases it may even be appropriate to value the unprocessed commodity on the farm more highly than the processed commodity in the city, if "welfare" is relevant. The unprocessed commodity may be fresher, tree-ripened instead of artificially ripened, of greater vitamin content, and so forth. How does one find the appropriate statistical treatment of such problems irrespective of the purpose of the statistics?

The easiest way to "solve," or evade, some of these problems is to compare national incomes as a whole as computed in terms of

their own currencies, with the currencies converted into each other at the prevailing or at the official exchange rates. I am not suggesting that Kravis would approve of this procedure. It was the procedure used, however, in conducting the most comprehensive international comparison of national incomes that has ever been made, the one most frequently cited. This method, of course, involves conscious or unconscious acceptance of the purchasing-power-parity theory of the foreign exchanges, in its crudest, least qualified, and most indefensible form. Based on the official exchange rates, or on the actually prevailing exchange rates, of a particular single year, it is liable, for a variety of reasons, to produce grossly arbitrary results. Given the present instability of exchange rates, the prevalence of exchange controls, and the existence of multiple exchange rates, this is a peculiarly inappropriate time for following a method which under the best of circumstances is unsusceptible of a logical defense, regardless of the purpose of the comparison.

To persuade a country that it has a per capita income only 2 per cent that of another country may conceivably stimulate it into doing better with its human and material resources. It may also serve, however, to feed its resentment against more prosperous countries and its self-pity. On most definitions, the production of such comparisons is a "productive" activity. The comparisons themselves are on standard methods of national income accounting a constituent part of the national income of the country which hires the computers thereof, measured by the salary and other expenditures which the computations involve. The inherent biases they have are, I suspect, predominantly toward exaggerating the differences in level of economic well-being between low-"income" and high-"income" countries. This makes them, for one at least of their main applications to date, ideal products. Adam Smith, it is true, would have regarded this activity as unproductive, despite the vendibility of its output, or, in Kravis's terminology, despite its being "remunerated," because its output would not meet his criterion of durability (which I take to be the equivalent of the "tangibility" criterion with which Kravis in his paper carries on an unconsummated flirtation). But then Adam Smith also labeled as unproductive the activities of ministers of religion, doctors, philosophers, statesmen, soldiers, and projectors, without necessarily intending any reflection on their usefulness to society. My concern, in any case, has not been about the productivity of those engaged in making international comparisons of national income, but about the nature of the

product, its quality, and the possible dangers associated with its promiscuous use by a gullible and oversold public.

REPLY BY IRVING B. KRAVIS

Jacob Viner starts by taking me to task for neglecting to state the specific end-uses to which international income comparisons are to be put. He himself suggests several possible uses—as a basis for international grants-in-aid or taxes, and as a basis for comparing the performance of different social systems. For each of these purposes the essential issue is whether free goods should be included in the definition of income and if so to what extent. In terms that Hagen uses and in which Viner might concur, the issue is whether a comparison of economic welfare in its broader implications or of real income or product in the narrower sense usually used in national accounts is relevant to a particular purpose.

Now this question is one that I did discuss at the outset of my paper. I gave reasons for preferring comparisons that exclude free goods without denying the utility of those that include them. Both Hagen and Viner are, perhaps, more inclined than I to view the latter as more useful for the purposes they discuss. However, they would both agree, I think, that which definition is to be used depends on the exact way that the problem is formulated. In my opinion, account must be taken also of the political, administrative, and statistical feasibility of the alternative approaches. In strict logic, Viner's comments about the relevance of free goods for determining the capacity to pay apply to the domestic income tax of the United States, but I doubt that he would advocate trying to adjust the tax rates as between, say, Maine and Florida for the differences in the free goods available in the two situations.

The income tax illustration is only one of many that could be cited to support my statement that "the world proceeds very much on the assumption that the flow of goods is an accurate indicator of economic welfare," and I frankly admit to the belief that this convention is a useful one if employed with the proper reservations. However, Viner's claim that I tried to blur the distinction between total welfare and economic welfare is simply incorrect, and I invite the reader to judge this point for himself by reading the first paragraph following the summary in my paper.

In all this discussion of the relation between end-use and definition, consideration must be given to the limited character of the

resources that are likely to be available for international income comparisons. Both Viner and Hagen sometimes sound a little as if each comparison should be tailor-made to the specified purpose for which it is desired. This is even more impractical than it would be to devise a separate set of domestic national accounts for each possible purpose as the need arose. The solution in international income comparisons as in domestic national income accounting is to seek to establish a limited number of concepts among which will be found at least one that will serve for most purposes likely to arise. In the area of international income comparisons one such general-purpose concept, it seemed to me, was the flow of goods produced with the aid of human effort. For this reason, I did not feel it necessary to encumber my paper with a detailed discussion of possible end-uses.

I turn now to my critics' comments on my criteria of economic activity. Hagen's original criticism of my tangibility rule seemed to me to be valid, and I have revised my paper accordingly.

Of the other two criteria that I advanced,¹ both Viner and Hagen object to the rule of sensitivity to rewards and Viner questions also the rule of remunerated activities. In connection with the latter, Viner proposes to define as *quid pro quo* transactions all those that occur outside of households. I believe that his self-congratulation on this point is somewhat misplaced, since this procedure, unless supplemented by other criteria, would include transfers, which are important in developed if not underdeveloped countries, and exclude the product of households which may be important in both types of country.

As far as the rule of sensitivity to rewards is concerned, the rule will work as long as elasticities of time allocation in leisure-time activities are significantly lower than those for economic activities. Hagen's illustration with respect to the effect of overtime pay seems to be based on the notion that the rule will not work unless the elasticities for leisure activities are zero, and the same is true of Viner's comment with respect to war work.² I fully agree that work and play are intermixed in many activities, and I thought that I

¹ Viner gives an erroneous statement of these two criteria when he begins to discuss my rules, but this does not affect the substance of his subsequent argument.

² That is, I need not argue that the time spent on the leisure activity will not change *at all* in response to a change in remuneration in an economic activity, but merely that it will change significantly *less* than will the time spent in other economic activities.

had stressed this point in my paper. The only point at issue is whether it is nevertheless feasible to separate economic activity from the rest of life for purposes of international income comparisons. Viner apparently believes that it is not; Hagen, that the separation can be made only in accordance with the specific purpose at hand. The practical consequence of Viner's position is to deny that income comparisons can be made between countries in which the relative importance of the market differs, while Hagen's position constitutes a denial that general-purpose comparisons can be made between such countries.

I agree with Viner that the *ideal* solution lies in the direction indicated earlier by Kuznets³—viz. the observation of the daily activities of representative individuals in different societies to obtain a detailed list of the commodities and services that flow from such activities.⁴ It would then be possible, as Viner says, to allow each user of the data to select the items that he regards as relevant for his particular purposes.

The immediate question, however, is what if anything can be done short of this ideal solution. The exchange rate method is, as Viner points out, the most widely used one, and the direction of its error is politically expedient, but it is clearly unsatisfactory.

The provision of general-purpose comparisons requires some method of classifying fairly broad groups of activities as economic or noneconomic. I do not believe that Viner and Hagen have advanced convincing arguments against the criteria that I have suggested for doing this, or that they have indicated a more feasible basis for the making of international income comparisons in the near future.

³ Simon Kuznets, *Economic Change*, Norton, 1953, p. 152.

⁴ This seems as good a place as any to note my general agreement with Viner's comments regarding the nature of "final products" and the need to revise the current content of the national income in the accounts of the advanced countries for the purpose of comparisons with underdeveloped countries.