

ECONOMIC GROWTH AND SOCIAL WELFARE: THE NEED FOR A COMPLETE STUDY OF HAPPINESS

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Does economic growth increase social welfare? This question has been 'on the agenda', to use a modern phrase, for a long time. Recent attention to the problem by economists is particularly notable; see, *e.g.* EASTERLIN [1974], BECKERMAN [1975], HIRSCH [1976], SCITOVSKY [1976], McDUGALL [1977], MISHAN [1977]. However, we seem to be as divided and as far from a definite answer as ever. It seems to me that, in trying to answer this problem we must undertake a complete multi-disciplinary study. Before discussing the need for the complete study (*Section II*), I shall first introduce the readers to the discussion by presenting a geometrical analysis of the HARROD-HIRSCH concept of positional goods and its implication on the problem under consideration.

I. GROWTH, ASPIRATION, AND FRUSTRATION: THE HARROD-HIRSCH CONCEPT OF POSITIONAL GOODS

Not intended as a complete analysis, economics has its obvious limitations. However, many alleged limitations are actually familiar economic factors, though usually discussed under different names. For example, in discussing the 'tyranny of small decisions' KAHN [1966] explicitly noted that the undesirable results of 'small decisions' are associated with the presence of externalities, decreasing costs, *etc.* Similarly, many of the alleged costs of economic growth

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can be seen to be no more than external diseconomies and can be treated as such. (For a 'spirited defence' of economic growth along this approach, see BECKERMAN [1975].) A basic limitation of traditional economics is the neglect of the subjective factors. Since welfare depends both on objective and subjective factors, this neglect makes purely economic analysis incapable of providing a complete answer to questions concerning welfare. Partly to illustrate this point and partly for its own interest, let us consider the HARROD-HIRSCH concept of positional goods.

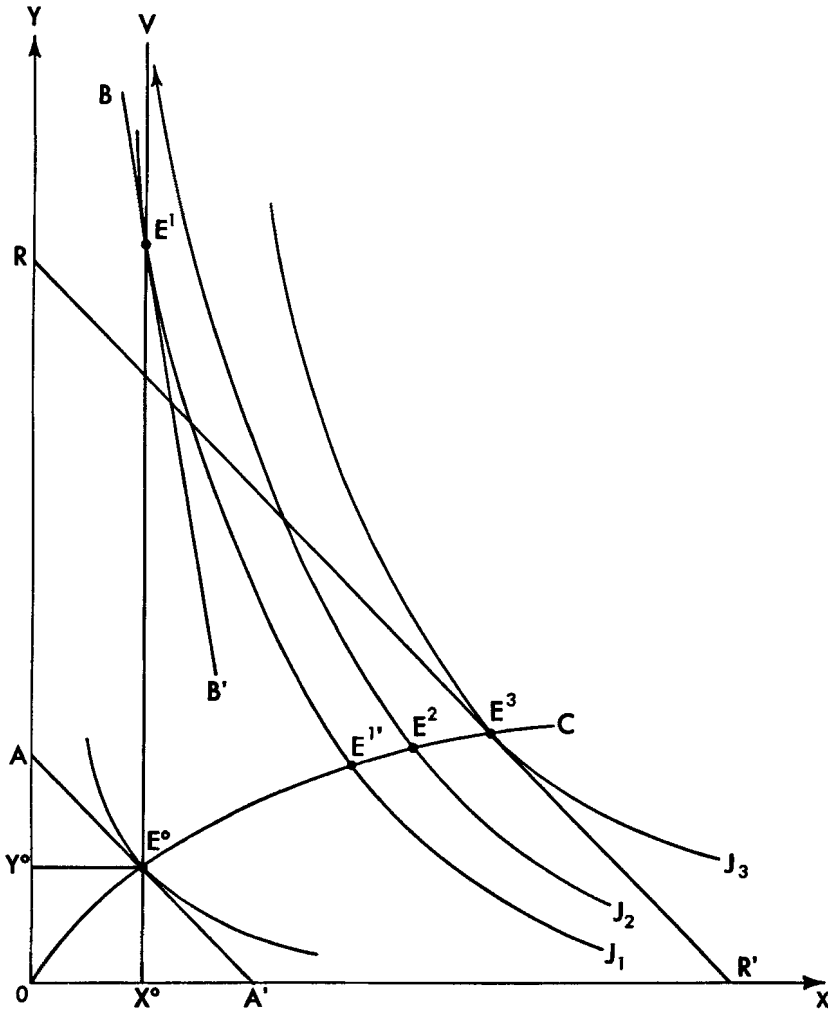
HARROD [1958] uses the concept of oligarchic wealth in connection with the problem of satiety; HIRSCH [1976] develops it into the concept of positional goods and uses it to question the desirability of economic growth. Positional goods are those goods or aspects of goods, services, work positions and other social relationships that are (1) scarce in some absolute or socially imposed sense and (2) subject to congestion or crowding through more extensive use¹. Included as positional goods are: (1) goods of more-or-less fixed physical supply such as natural landscapes, old masterpieces, and personal services on a per capita basis; (2) those valued mainly for its relative scarcity or status. For example, if we create a higher level of awards, it makes the existing awards less venerable. As more people get the bachelor degree one may need a Ph.D. to feel distinguished.

To concentrate on the contrast between positional goods and non-positional goods, let us assume that the relative prices of different positional goods do not change with respect to each other so that we may lump them into a single composite good. Similarly, all non-positional goods are lumped as Y . This permits us to work with the two-dimensional *Figure 1*.

Abstracting for the moment from the problems of possible differences and changes in tastes, we operate with the same set of indifference curves. Consider a person with average income facing the budget line AA' . He may consume an average amount of both positional goods (X^0) and non-positional goods (Y^0). (Persons of

1. Both conditions are mentioned by HIRSCH [1976, p.27] who regards either condition as sufficient to make a good positional. But it fits his argument better to make both conditions necessary. If a good is subject to congestion (as most goods are) but can be expanded in supply to relieve the congestion, then obviously it cannot be classified as a positional good.

Figure 1



average income, even on average, may have above average consumption of Y and under average consumption of X or *vice versa* depending on the consumption pattern of the whole society. This divergence does not affect the main contention below.) Since positional goods are likely to be income elastic, his rich contemporary

are likely to consume a disproportionately larger amount of X , *e. g.* at the point E^3 . In other words, the income consumption curve OC is likely to be concave. However, this is not an essential assumption for the central argument here. With economic growth, our Mr. Average can expect his income to increase, eventually catching up with or even surpassing the original rich man income. Does this mean that he can eventually consume at E^3 on the indifference curve J_3 ? The answer is negative. Since positional goods cannot be increased with economic growth, their prices will increase relative to non-positional goods as the latter become abundant. Thus, the average-man's budget line will not move from AA' towards RR' . Rather, it will not only move out but also rotate in a clockwise direction to a position such as BB' . Hence, Mr. Average can never reach the point E^3 , though he may reach the point E^1 or even some point vertically above E^1 with further growth. While E^1 is beyond the reach of even the rich man before economic growth, it may lie below the indifference curve J_3 . It is even likely that, no matter how high one travels along the vertical line X^0V , one can never reach, say, the indifference curve J_2 which may approach X^0V asymptotically or eventually becomes vertical and/or even turn rightward. Nevertheless, as we travel along X^0V upward, we hit successively higher indifference curves before they become, if at all, vertical and turn rightward. This seems to suggest that economic growth improves the welfare of Mr. Average even though it cannot make him as well off as the rich. However, this may not be true if we take account of the likely effects of economic growth in raising the aspiration levels of Mr. Average. With economic growth, Mr. Average may aspire to attain the consumption point E^3 and then find that his aspiration is repeatedly frustrated. For example, he may work hard to earn an income sufficient to provide his children with good education, hoping that they will then get good jobs. But since other people are doing the same thing, his children may have better education than he had but no better than the average of their generation. They are likely to end up with no better than average jobs. The aspiration for 'good' jobs will likely be frustrated.

To digress a little on the problem of education, it seems likely that education has an important purely competitive aspect in addition to the commonly recognized productive and consumption aspects

(internal effects) and external benefits (a better educated person may make a better citizen and neighbour). The purely competitive aspect consists both in competition for (relative) distinction and for better jobs. If competition for better jobs consists in better training, this has a productive aspect as well. But to the extent that *relative* performance in educational achievement is important in getting better jobs, it also has a purely competitive aspect. It is true that, in view of the difficulty of employers in knowing the ability of applicants, educational performance is useful as an indicator. (See ARROW [1973], SPENCE [1973], STIGLITZ [1975], WOLPIN [1977].) However, if all individuals agree not to work too hard in scoring high marks in examination, persons of highest intelligence will still come out best. Hence, to the extent that the *relative* performance counts, there is an element of external costs involved. Though the amount of the external costs is a matter scarcely anyone can be sure of, it seems not impossible that it may offset to a large extent the external benefits of education. The massive government subsidy to education in many countries may thus be quite excessive.

Returning to *Figure 1*, it can be seen that travelling along X^0V upward, the successively higher indifference curves become closer and closer to each other as measured along the income-consumption curve OC . An increase in Y from E^0 to E^1 is equivalent to the movement from E^0 to E^1 . But no matter how many times Y is increased above E^1 , the indifference curve does not lie above E^2 . Thus, even if we do not assume that the marginal utility of income is diminishing but rather constant as we travel along OC , the marginal utility of Y as we travel along X^0V must still be fastly diminishing. The small gain in utility can therefore easily be overbalanced by the loss in frustrated aspirations. Economic growth, to the extent that it increases socially unrealizable aspirations, may actually reduce social welfare.

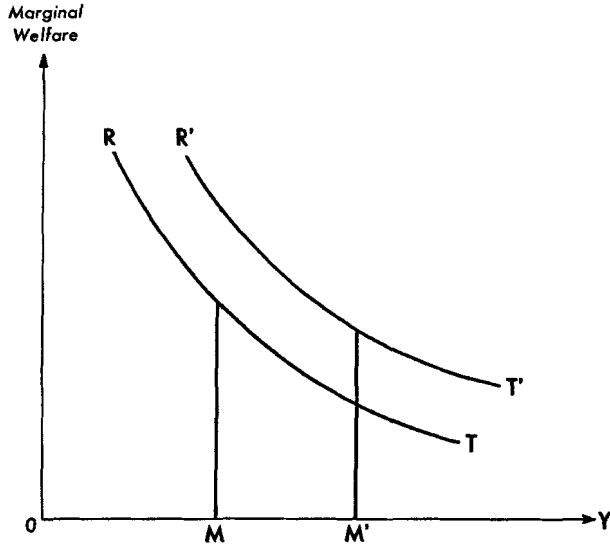
It may, however, be argued that the cause of the reduction in welfare is the unrealistic aspiration rather than growth as such. What is needed is not to stop growth but to realise that growth can make an average person better off along X^0V but not along OC , *i. e.* more non-positional goods but not more positional goods. If aspiration can stick to this realistic path, no frustration need arise. Whether this is possible cannot be answered here as it involves the psychological and sociological problems of the formation of aspirations. In any case,

it seems clear that the problem of aspiration is as important, if not more important than economic abundance, at least in the economically advanced countries.

An important consideration neglected in HIRSCH's argument presented above is that, apart from changes in aspiration, there may also be other possible changes in tastes, abilities to enjoy, *etc.* For example, as Mr. Average travels along X^0V , he may gradually learn how to enjoy non-positional goods more effectively. Thus, there may be changes in the shape of the indifference curves such that he may be consuming at a point along X^0V which, according to the new indifference map, lies above E^3 . Let us put this in terms of *Figure 2*. With X being held constant at X^0 , we may concentrate on changes in (non-positional) income Y . The curve RT measures the original marginal welfare of Y^2 . With learning in consuming, it may move upward to $R'T'$. However, as the whole curve moves upward, the minimum level of income (denoted as M) sufficient to provide a non-negative level of (total) welfare may also increase to M' . This increase in M may be due to the following interrelated factors: a change in aspiration, an increase in one's customary standard of living, and increases in the prevailing social standards of living. Whether total welfare increases or not as income per capita increases depends much on the relative magnitudes of the above two movements. Welfare may thus be more a function of the *rates* of increase in income, in aspiration, *etc.* than in the absolute level of income. Economic growth may be important

2. To speak of *marginal* welfare, welfare (*i.e.* happiness) has to be *in principle* cardinally measurable. But this is obviously true though the practical difficulty of measurement is very real. An individual can not only meaningfully say that he is happier in x than in y but also that he is *much* happier in x than in y than he is happier in w than in z . If this is so, his happiness cannot be just ordinal. Since the innovation of the indifference curve analysis, economists have been very shy of talking about cardinal utility or welfare. For the positive theory of consumer behaviour, ordinal preference is sufficient for the purpose. It is then preferable to abstract from cardinal utility. But for questions as those we are dealing with in this paper, the concept of cardinal welfare is very helpful if not indispensable. To question the use of cardinal welfare in this connection is to commit the fallacy of misplaced abstraction. On cardinal measurability and interpersonal comparability, see NG [1975]; for an argument that interpersonal comparisons of utility are not value judgments, see NG [1972].

Figure 2



more in providing a positive rate of increase in income than in providing a high level of income.

It may also be argued that if a certain change in aspiration or what not leads to a reduction in happiness, then whatever external factor that causes this change should be deemed to produce an external diseconomy. On the other hand, if the factor is internal (*i.e.* under the control of the individual concerned), then its effect will be taken into account by the individual unless imperfect foresight or irrational preference is involved. On this view, problems such as changes in aspiration, *etc.* can all be handled by the traditional concept of externality, imperfect foresight, *etc.* In a formal sense, this is so. But this seems to overstretch the concept of external economy a little. Certainly no court in the world would grant compensation for 'damages' through a change in aspiration. Moreover, the individuals affected may not know of the existence of the effects, or whether the effects are beneficial or harmful. One may then say that this is a problem of imperfect foresight. Quite so. But when we take into account long-run effects including changes in aspiration, *etc.*, the as-

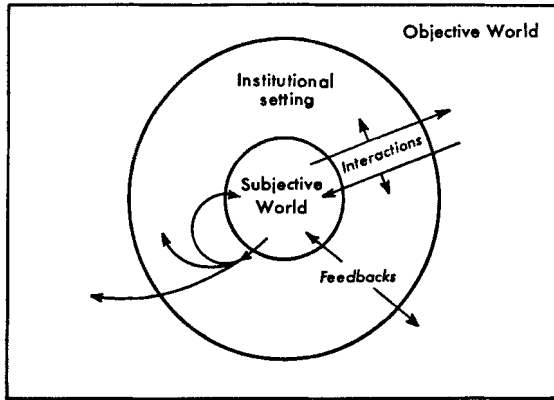
sumption of perfect foresight becomes very dubious. Just by lumping everything into externality and/or imperfect foresight is not going to solve the problems. We have to begin analysing them.

II. TOWARDS A COMPLETE STUDY OF HAPPINESS

Whether a certain measure (in promoting economic growth or any other objective) will increase or decrease social welfare depends both on its effects on the objective world (a change in distribution, more production and/or more pollution, or a change in output-mix) and its effects on the subjective world (changes in knowledge, beliefs, aspirations, *etc.* of individuals). The subjective-objective classification is exhaustive. However, it is useful to think in terms of a third group of factors which have both subjective and objective elements and are products of the interaction of these elements. These are the institutional factors, including governments, laws, religions, families, customs, various organizations, *etc.* Institutions are formed by the interactions of individuals between themselves and with the objective environment. Once formed, they serve to regulate and constrain these interactions and hence affect the future course of the subjective and objective worlds. (See arrows in the right half of *Figure 3.*) All measures are originated from the subjective world (all initiatives are taken by some individuals), working through the institutional setting to affect the objective world, the institutional setting, and/or the subjective world itself. (See arrows in the left half of *Figure 3.*) In the process, it is almost certain that not only the objective world will be affected, but the institutional setting and the subjective world will change as well. Hence, a complete analysis of any significant policy or event has to take account of all its effects on the objective world, the institutional setting, and the subjective world.

Economic analysis (including cost-benefit analysis, an application of welfare economics) is mostly confined to the study of the objective effects. Though this may include how these objective effects are evaluated by individuals, the effects on the institutional setting and on the psychology of individuals themselves are usually excluded. This is partly due to the fact that these effects are very difficult to identify (not to mention quantify) and partly due to the division

Figure 3



of the various fields of study largely isolated from one another. The confinement to the objective effects means that the analysis is useful mainly for relatively small changes whose institutional and subjective effects are negligible. For example, if the problem is to choose between two alternative routes for a freeway which will have similar social and environmental effects, a study of the direct costs and benefits is sufficient for the purpose. However, if the problem is whether the freeway should be built at all, the effects on the environment, *etc.* have also to be taken into account. For even larger problems like the desirability of economic growth, one needs a more complete analysis taking account of all significant objective, institutional, and subjective effects (using perhaps the concept of indirect externality; Ng [1975a]).

Due to increasing complexity and interrelatedness of a modern society, it seems likely that more and more problems are going to involve all objective, institutional, and subjective effects. For example, in the freeway example above, it is likely that the two alternative routes may have different social and environmental effects. If this is so, then a more complete analysis is called for even for the small problem of the choice of alternative routes. However, since the institutional and subjective effects are very tricky to analyse, we have a dilemma. We know that the effects are there but they are very difficult to study. One way out of this dilemma is to say that, since the institutional and subjective effects are almost impossible

to identify and may either be beneficial or harmful, in the absence of better information, we may disregard them and concentrate on the objective effects. This is a generalization of the theory of third best discussed in NG [1977]. This may be a valid approach for some problems at the moment but it does not mean that we should not pay more attention and resources to the study of the institutional and subjective effects, hoping to achieve a more complete analysis in the future.

To achieve a more complete analysis, it seems that an interdisciplinary study is required. One of the relevant disciplines is psychology. EASTERLIN [1974] has recently brought together the results of various psychological studies of human happiness. The conclusion of this survey is that while there is a clear and positive correlation between income and (self-reported) happiness within a country at a particular time, it is uncertain whether such a positive association exists across countries and over time. EASTERLIN also discusses some conceptual and measurement problems of using self-reports of happiness and concluded with a qualified approval. One basic difficulty is the problem of comparability. The same amount of happiness may be described as 'very happy' in a poor country or fifty years ago but described only as 'fairly happy' in a rich country now. There is a simple method to reduce this difficulty which does not seem to have been used. This is discussed below.

The most popular method used in happiness questionnaires is to ask a respondent to tick one of the following: very happy, fairly (or pretty) happy, not very (or not too) happy. This has the advantage of being very simple but it raises problems of comparability. CANTRIL [1965] devises a so-called 'self-anchoring striving scale'. A respondent is to register a number from 0 to 10 with 0 representing the worst possible life and 10 representing the best, as defined by the respondent himself. This method may be useful for certain comparative studies but it does not overcome the difficulty of comparability since the same number may represent different amounts of happiness for different people. While this difficulty is very difficult to overcome completely (see, however, NG [1975]), it can be reduced by the following simple method. Though different persons may select different adjectives or numbers to describe the same amount of happiness, there is one level of happiness that is more objectively identifiable, the level of zero

(net) happiness³. No matter how large or small gross happiness an individual may have, if it is roughly equal to, in the opinion of the individual, the amount of pain or suffering, the net amount of happiness is zero and has an interpersonal significance in comparability. Hence, an intertemporal and interregional comparable piece of information is the proportion of people having zero, positive, and negative net happiness. Such wordings as 'not too happy' may subsume both negative, zero, *and* relatively small amounts of positive happiness. Moreover, this relatively small amount is determined by the subjective judgment of the respondent and hence not interpersonally comparable. Thus a simple way to reduce the difficulty of comparability is to pin down the dividing line of zero happiness.

Different persons get happiness in different ways. Some feel happy serving God, some feel happy having a good family life, some feel happy being adventurous, *etc.* But virtually everyone like to have happiness for oneself, for his family and perhaps also for others. According to a major school of moral philosophy, happiness is the only acceptable ultimate objective in life. Yet the study of happiness is in such a primitive stage. At the risk of repetition, it may be said that more attention and more resources should be devoted to the study of happiness (Eudaimonology?) taking account of the objective, subjective, and institutional factors.

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3. 'There can be little doubt that an individual, apart from his attitude of preference or indifference to a pair of alternatives, may also desire an alternative not in the sense of preferring it to some other alternative, or may have an aversion towards it not in the sense of contra-preferring it to some other alternative. There seem to be (there certainly are) pleasant situations that are intrinsically desirable and painful situations that are intrinsically repugnant. It does not seem unreasonable to postulate that welfare is +ve in the former case and -ve in the latter (ARMSTRONG [1951, p. 269]).' Similarly, it is meaningful for someone to say, 'If I had to lead such a miserable life, I would wish not to be born into the world at all'.

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SUMMARY

Does economic growth increase social welfare (happiness)? Answers to such questions can only be provided by a complete analysis of all the objective, subjective, and institutional effects. All measures originate from the subjective world, working through the institutional setting to affect the objective world, the institutional setting and/or the subjective world. Due to the increasing complexity of the modern society, it is likely that more problems are going to involve significant institutional and subjective effects, making a complete multidisciplinary study more necessary. As an introduction to this argument, the HARROD-HIRSCH concept of positional goods and its implications on the desirability of economic growth are analysed geometrically and extended. A simple method to reduce the difficulty of comparability in happiness surveys is also suggested.

ECONOMIC GROWTH AND SOCIAL WELFARE

ZUSAMMENFASSUNG

Erhöht Wirtschaftswachstum die soziale Wohlfahrt (Glück)? Antworten auf solche Fragen können nur durch eine vollständige Analyse aller objektiven, subjektiven und institutionellen Wirkungen gegeben werden. Alle in der subjektiven Welt begründeten Massnahmen wirken, durch die institutionellen Gegebenheiten, auf die objektive Welt, den institutionellen Rahmen und/oder die subjektive Welt. Wegen der zunehmenden Komplexität der modernen Gesellschaft werden wahrscheinlich immer mehr Probleme bedeutende institutionelle und subjektive Auswirkungen haben, so dass eine umfassende, multidisziplinäre Untersuchung notwendiger wird. Um diese Forderung zu begründen, wird das Konzept der positionalen Güter und dessen Bedeutung für die Wünschbarkeit des Wirtschaftswachstums von HARROD-HIRSCH geometrisch analysiert und erweitert. Ausserdem wird eine einfache Methode vorgeschlagen, mit der die beim Vergleich von *happiness surveys* auftretenden Schwierigkeiten vermindert werden können.

RÉSUMÉ

La croissance économique accroît-elle le bien-être social (bonheur)? Seule l'analyse complète de tous ses effets objectifs, subjectifs et institutionnels permet de fournir des réponses à cette question. Toutes les mesures prennent leur origine dans le monde subjectif et évoluent dans le cadre institutionnel pour modifier le monde objectif, le cadre institutionnel et/ou le monde subjectif. Du fait de la complexité croissante de la société moderne, il est vraisemblable que des problèmes de plus en plus nombreux vont induire des effets, institutionnels et subjectifs, significatifs, rendant plus nécessaire une étude pluridisciplinaire complète. Comme introduction à cette thèse, l'auteur analyse de façon géométrique le concept de HARROD et HIRSCH des biens 'positionnels' et ses conséquences sur la désirabilité de la croissance économique, puis il élargit cette analyse. Il propose enfin une méthode simple pour diminuer la difficulté de comparaison dans les analyses du bonheur.