CHAPTER 1

THE CONTRIBUTION OF
ECONOMIC ANALYSIS TO THE DESIGN
OF ECONOMIC POLICY

1.1. Objective of this Study

1.11 This study is primarily an attempt to deal with problems of economic policy in a somewhat more systematic fashion than seems usual today. It tries to approach the subject from a scientific angle and has, therefore, to be careful in distinguishing between what contributions can be made by economic analysis and what contributions are, by their nature, not of a scientific character. The contributions this book tries to make may be presented under four headings, three of which are scientific while the fourth is based on intuition. They may be briefly formulated as:

(1) a description of the process of economic policy;
(2) methods for judging the consistency of the aims and means used in a number of types of economic policy;
(3) methods for indicating the optimum policy to attain given aims, and
(4) suggestions as to some of the aims.

1.12 The terminology used will first be explained at some length. Basic for all discussions—and discussions on economic policy are no exception to this rule—is a clear and precise setting out of the problems to be discussed. It avoids misunderstandings—which are very frequent in matters like this—and prevents those taking part in discussions from posing irrelevant questions. In the terminology to be developed in this book the setting out of the problem implies, among other things, that the aims and means of a policy should be explicitly stated before any discussion on it is started. Thus it will be found e.g. that in several
cases lengthy discussions about the "causes" of certain economic difficulties are irrelevant because of the lack of correspondence between "causes" and "cures".\textsuperscript{1} In other cases, apparent controversies appear to be due to differences in setting out of the problem discussed.\textsuperscript{2}

1.13 It should also be made clear from the outset what this book does not cover. Practical details of a legal, administrative or technical nature will not be discussed; problems of general policy will only be taken up where they are vital to economic policy.

1.14 Since this study is primarily devoted to the logical structure of the problems of economic policy, its broad subdivision is derived from the fundamentally different \textit{types of means} applied, to be called quantitative policy, qualitative policy and reforms; terms explained also in the headings of the chapters. Only the secondary subdivisions refer to the "outer form" or the particular type of means used. This does not imply, however, that no importance is attributed to the applications to practical cases. An attempt is made to clarify the main text by a large number of applications, using simplified models of some twenty types. A survey of the models used will be found in appendix I; and one of the problems dealt with in detail in appendix II. The models have been simplified for heuristic reasons. References will be made, for the specialists, to more complicated models, as needed in most practical situations. It is believed to be an advantage that most of the models are based on statistically tested relations.

1.15 The type of analysis offered will be found to vary greatly between the various chapters. Whereas it is hoped that chapters 3 and 4, dealing with quantitative policy, satisfy reasonable standards

\textsuperscript{1} In a situation without international co-ordination, where each country acts autonomously, it is irrelevant, to quote an example, whether a decline in exports of country A is due to a decline in income of country B or to a decline in income of country C; no influence can be exerted by country A on these incomes and the decline in exports has to be met by other measures anyhow.

\textsuperscript{2} A well-known example is the difference between depression and prosperity; a policy that is correct in a period of depression may be wrong during prosperity and if the phase of the cycle is not mentioned in a discussion, there may be considerable confusion.
of rigour, chapters 5 to 7, dealing with qualitative policy and reforms, are of a more sketchy nature. The author believes this to be a necessary consequence of the state of our knowledge and hopes it to be a challenge to further research. Notwithstanding this unsatisfactory state of affairs the author does believe that a summary of the kind he offers can be useful to many young economists working in the field of economic policy and planning.

1.2. Summary Description of the Economic Process and Its Determinants

1.21 The description to be given here is the economist's description; and even the theoretical economist's. The scene described is that of an economy, i.e. a group of human beings acting so as to satisfy their wants, with the emphasis on the material side, but without neglecting spiritual elements. The organization and operation of an economy is described by a number of elements, some of which are considered to be given and to come from outside the economist's realm, whereas others have to be explained by economic science and are considered to be a consequence of those in the first category. The given elements are called "data"; they refer to the natural, technical, psychological, institutional, and international elements which the economic action of man has to take for granted. Examples are climate, the crops, technical processes, human preferences, habits, laws, political agreements, world market prices and world market demand. As details which are, however, important in some questions of economic policy, one might add, among the psychological elements, the limited capacities of man, his hobbies, aversions, animosities and inertia. The elements of economic action itself will be indicated as "economic phenomena"; their quantitative aspects also as "economic variables"; examples are volume of production, prices, incomes, expenditure, capital etc. They are supposed to be logically explicable in terms of the data.

1.22 In an economy there are one or more institutions that will be called "policy-makers". They are, first of all, certain public authorities and may, in addition, be private bodies like trade unions, farmers'
unions, big private corporations. As a first approximation we shall often consider the central government as the only policy-maker.

1.23 Among the data there are some that can be changed—to a greater or lesser degree—by policy-makers. They will be called "means" of economic policy; those that cannot be changed by policy-makers are called the "other data". Not all means will be at any time actually controlled by the policy-makers; they may abstain from doing so. There are means of different types: they range from a change in the import duty on fish below 2 inches of length to the nationalization of the steel industry. We will distinguish qualitative from quantitative means; the former will again be subdivided into changes in "foundations" and changes in "structure". As every subdivision it is only a help to approximate the real character of things and its borderlines are to some extent arbitrary. Some means might be classified either as changes in foundations or as structural changes.

1.24 Foundations are, of course, the more fundamental elements in the organization of human society; those connected with spiritual values and those defining the essential relations between human beings. Examples of the former type of foundations are the freedom of confession or belief, voting rights, property rights, the opportunities for education; examples of the latter type of foundations are privileges of certain groups, the degree of division of labour and specialization, the degree of decentralization in production and in policy, the existence of certain forms of social security, and industrial democracy.

1.25 The group of elements in the organization of human society which we call structure are less fundamental; and there are qualitative as well as quantitative elements. The qualitative elements may be described as the details of economic and social organization, e.g. the number of policy-makers, the types of taxes in existence, or the system of distribution of consumer goods (rationing or free distribution), or the degree of monopolization various industries show. The quantitative elements may be exemplified by: the number of social groups and institutions, their behaviour (e.g. their demand elasticities or their

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1 For a fuller description cf. chapter 8.
2 One might prefer to consider this one of the foundations.
propensities to consume), the number of goods handled or the quantitative composition of an economy's real wealth. The futility of too precise a scheme of subdivision is illustrated by the borderline cases between qualitative changes and quantitative changes in structure. The abolition of an existing tax may be called a qualitative change as well as a quantitative one: a reduction to zero of the tax rate concerned. The transformation of a duopoly into a monopoly is another example.

The distinction between foundations and structure has not been made by most of the econometric authors writing on economic policy, but it is very common in literary economics and, in the present author's opinion, is of considerable importance. The common characteristic of foundations and structure is that they only, as a rule, change gradually or infrequently. There are many good, and some less good, reasons for this slow change, reasons which we are going to discuss later on (cf. ch. 5 and 6).

1.26 There remains the class of means which, as a rule, are of a quantitative character and are used for frequent changes, in fact for the adaptation of the economy to small and frequent changes in some of the other data. This class will be called "instruments" or "instrument variables" and may be exemplified by tax rates, items of public expenditure, the rates of discount, reserve ratios, and foreign exchange rates; in the Netherlands also the wage rate might be called an instrument of economic policy.

1.27 For all data, i.e. potential means and other data, a distinction can be made between those which, in certain problems, are considered constant and those which are assumed to vary; a datum need not be a constant. Usually the data that vary only gradually will be considered constant; but sometimes, for long-run problems, data showing rapid fluctuations, like seasonal data or crops, may be considered constant or stochastic over somewhat larger time units and then the "development data", like population and technology, will be considered to vary. As a rule, various meanings of constancy will have to be distinguished. For example, in the problem of short-term adaptation of an economy to the world market, the world market data may be considered as given and constant; constant, that is, relative to the alternative methods of adaptation studied. Once the most
appropriate method has been found, however, it will be the changes in world market data that interest the policy-maker and at the second level of investigation they are therefore considered variable. Careful distinction between such levels of analysis will eliminate misunderstandings.

1.28 The process of adaptation of an economy to changing data, being the essential problem of "economic man" in practice, and of the economist in theory, emerges as a consequence of certain behaviour of economic subjects (citizens, firms), within the framework of the "laws" of nature, technology, and the juridical laws of the area concerned as well as other rules of the game. This behaviour and these laws and rules are formulated as economic relations or equations. Examples are the "demand relation", telling us how much of a certain good will be demanded under specified circumstances; or the "balance equation for a good", saying that production plus imports equals consumption plus exports plus stock accumulation; or the "production equation", expressing that one pound of yarn can be obtained from 1.07 lb of raw cotton; or finally, the "institutional relation" saying that income tax is a certain percentage of income above the exemption limit. These relations are, mostly, approximations: demand is subject to personal whims, qualities of cotton vary and taxes are evaded.

1.29 A system of relations, describing, in an approximate way, the adaptation process of an economy is called an economic model. It describes the behaviour of the mechanism which the policy-makers have to handle, or borrowing a musical metaphor, have to "play". Models will be discussed at length in chapter 2.

1.3 The Logic of Economic Policy; the Contribution of Economic Analysis to the Design of Economic Policy

1.31 As was already stated, economic policy consists of the deliberate manipulation of a number of means in order to attain certain aims. Taxes may be lowered to stimulate employment; social security may be introduced to further an equitable distribution of the national product. Such changes in means may be used to offset the effect of changes in other data: to offset, for example, a decline in employment
caused by a change in taste or by an increased propensity to hoard. If such changes in other data have undesired effects on the economy, it may be desired to "cure" this "evil", and the "causes" of it may be seen in these changes in other data—in our example the change in taste or in hoarding habits. The cure cannot consist in reversing the initial change in the other data, however, since these latter cannot be changed deliberately. There need not, therefore, be any correspondence between causes and cures: a change in taste may be offset by a change in taxes. The causes may even be irrelevant to the indication of the "cures". The decline in employment may have been due to a change in commercial policy in some foreign country and yet the same measure will have to be taken as if the decline had been due to an internal change in taste. The causes do not always matter; what does matter, however, is how the means used will affect other phenomena in the economy.

1.32 The economic policy of a certain area may be in the hands of one or several policy-makers: to begin with, the case of one policy-maker will be considered. The problems created by the existence of several policy-makers at the same time will be studied later (cf. §§ 4.4, 4.5 and 5.6). According to the nature of the means used, we will make a distinction between reforms, qualitative policy and quantitative policy. Combinations between these types will, of course, occur. Reforms, being equivalent to changes in foundations, are the most far-reaching types of policy. An example of a reform is the introduction of a social security scheme. By qualitative policy we mean changes in structure, that is, in the less essential aspects of social organization, such as a change in the number of taxes. Finally, by quantitative policy, we mean the changes that can be brought about in the values of the instruments of economic policy. This is the least ambitious type of policy, most frequently applied, and is particularly used to quickly adapt the position of the economy to variations in those data of the frequently changing type. Examples are adaptations in government expenditure, taxes, discount rates or reserve ratios.

1.33 While qualitative changes will, in most cases, also affect the quantitative aspects of the economy, quantitative means do not, as such, change the qualitative situation, although they may lead to
qualitative changes (cf. chapter 5). Quantitative policy in our sense (i.e. the handling of quantitative means, or instruments), will be directed towards the attainment of changes in quantitative aims, that is changes in certain of the economic variables to be called target variables or just targets. It may take one of two different forms: either the targets may be fixed, or they may be flexible. With fixed targets we mean targets of which the value has been fixed numerically, as, for example, in the case where the government would aim at a level of “full” employment (say 97% employment), and balance of payments equilibrium (the deficit in the balance of payments then being equal to zero), or at a numerically specified investment programme. We shall speak of a flexible target, if the aim of policy is formulated as, for example, maximum real income per head, leaving it to circumstances what that maximum would mean numerically. This is clearly the more general type, since there is always, in some sense, the intention to attain maximum welfare, whatever its interpretation. It also represents the analogue of the action of individuals, the difference being, among other things, that the side conditions imposed on the action of the individual are more stringent than those which the policy-maker has to obey.

1.34 It is necessary to consider the economic policy at a certain time as a coherent whole, because of the interdependence between most economic phenomena. A change in one instrument will as a rule influence all target variables; the cases where a certain group of instruments acts only on a certain group of target variables and another group of instruments on another group of target variables, to be called cases of “partition”, are only exceptional. It follows that the fixation of any one of the instrument variables at a certain level should be based on the complete set of targets. A practical example is that credit policy should not, for example, be based on the requirements of the balance of payments only, but also on those of employment.

1.35 Economic policy may show a wider or a narrower “range”, this being the number of aims and means involved. Policies with a wide range, therefore, are the more ambitious types, those with a narrow range the more cautious.

1.36 The logic of finding the best economic policy, that is, of finding
the extent to which certain means should be used in order to achieve certain aims, is, in a sense, an inversion of the logic to which the economist is accustomed. The task of economic analysis is to consider the data (including the means of economic policy) as given or known, and the economic phenomena and variables (including the aims of economic policy) as unknown. The problem of economic policy considers the aims as given and the means as unknown, or at least partly unknown. Its logic is simplest in the case of a problem of fixed targets in quantitative economic policy. Here the unknowns are simply the numerical values of the instrument variables (supposed to be indicated qualitatively by the setting of the problem) whereas the numerical values of the target variables are given.

The logic of problems of quantitative economic policy with flexible targets is different: it is a maximum problem, namely to find the values of instrument variables that render a certain welfare function a maximum. Its mathematical nature is more complicated. In certain cases it can be handled systematically, in others it cannot, particularly if the instrument variables are subject to certain boundary conditions. The problem then becomes one of trial and error. For problems of qualitative economic policy trial and error is the rule: here the various alternative possibilities have to be studied separately before an optimum can be found. This is the main reason why we have chosen to treat these types of problems one after the other.

1.37 As has already been observed, economic analysis cannot provide a complete treatment of problems of economic policy. "Extra-economic" elements are involved: especially the choice of aims, and, to some extent, the choice of means. But, nevertheless, analysis can make some important contributions. It can (a) help to judge the consistency of the aims assumed, and of the aims and means as a combination; subjects to be discussed further in sections 1.4 and 3.3. By detecting inconsistencies it may (b) narrow down the possibilities and so contribute to the solution. Finally it can also, as has already been shown, and will be shown in much more detail in chapters 3 and 4, (c) determine the values of instrument variables in problems where targets or more general aims have been sufficiently specified and cannot be shown to be inconsistent.
1.38 The procedure of policy-making can be subdivided in certain phases, between which it is useful to distinguish. Since policy usually emerges as a consequence of tensions between the actual state of the economy and some desired state (the aims), the first stage consists in ascertaining the actual state of affairs. Being given that both this stage and the following stages require time, it will often be wise to try to make a forecast under the assumption of no change in policy. This means that the probable changes in "other" data have to be determined as well as their effect on the economic situation. It may, for example, be expected that population will go on rising as well as productivity, that the world market price level will fall by a certain percentage, and so on. In order to estimate the consequences of these changes for national income, employment, prices in the country concerned and other variables use will have to be made of a particular economic model, explicitly or implicitly.\(^1\) Once an estimate has been made of the prospective state of affairs, the second stage of the procedure consists of finding out whether this state diverges from what is considered the most desirable situation. If this is found to be the case, the third stage commences: the effects of possible alternative economic policies have to be estimated. To a certain extent this will also be possible on the basis of economic analysis; the more so, the simpler the policy changes are. If a fairly reliable model of the economy exists and if quantitative policies are considered, more can be said than if little only is known about the functioning of the economy or if more fundamental changes are envisaged. The first three stages may be said to represent the "planning stage". This use of the word planning has nothing to do with the type of policy involved. Planning in our sense can be applied to any type of policy, including, of course, that type of policy sometimes called "planning". This latter type of policy will be briefly discussed as a policy of "centralized production decisions" (cf. § 6.6). The fourth stage of policy-making is that of making a choice, i.e. taking a decision. The fifth stage is that of the execution. The first four stages may be indicated as the "design" of policy and are more particularly the subject of this book.

\(^1\) For examples of the operations just indicated the reader may be referred to the "Central Economic Plans" for the Netherlands, published by the Central Planning Bureau of that country.
1.4. Aims of Economic Policy

1.41 Policy-makers base their acts, consciously or unconsciously, on preferences. They choose certain aims because they think them worthwhile; they sometimes choose between alternative aims or they give reduced weight to one aim in favour of another, all of which presupposes certain preferences. They are not prepared to apply certain means if they consider the cost or trouble involved is not compensated by the aims reached. It is not certain beforehand that the preferences used in different decisions are always consistent. There will, however, be a tendency towards consistency, since inconsistency is only a lack of understanding or of foresight. If the preferences are consistent, they may be represented by some central, all-embracing, concept in the minds of the policy-makers, which we usually call welfare or utility of the economy to which the decisions refer. This welfare concept will largely, but not always completely, coincide with a certain representative individual welfare concept. In other words, the welfare function according to which the policy-maker acts will depend, among other things, on the quantitative and qualitative elements that also enter into these individual utility functions. In addition, "collective preferences" will come in, that is, preferences taken into account by the policy-maker because of feeling himself responsible for the economy in a collective sense. The elements of importance to the community as a whole will, at least, count strongly to him.

1.42 The elements entering into the policy-maker's welfare function thus refer to:

(a) elements determining individual material and spiritual well-being, such as the quantity of goods available (food, shelter, etc.), the efforts to be made, the opportunities for education, the right to take part in decisions;

(b) elements determining relations between individuals such as:

(i) the degree of freedom left to individuals,

(ii) the frequency of conflicts, or the degree of social and international peace, and

(iii) the positive elements in social relations, e.g. the degree of justice or the "social climate".

Some of these elements will be specified later on; sometimes they
take special forms, at least in the short run, e.g. the form of the maintenance of a number of constitutional rights. Many difficult problems in even the definition of these "elements" have to be solved before they can be used in a more rigorous analysis, one interesting question being how many independent elements are needed. For each element not only the "average" value or quality, but also various "distributions" are important. Not only the average quantity of food and shelter available, but its distribution over various groups of population—social, industrial, regional—are important. Not only the quantity available today, but also that for future periods, and hence, indirectly, the equipment to produce it, is relevant. Policy-makers will be interested, too, in the question as to whether future development will be regular or not. Very often they will group and summarize the interests of the population with the help of concepts which do not play a direct role in the minds of the majority, such as real national income or expenditure, national wealth, the balance of payments surplus, etc.

1.43 Policy-makers' social welfare functions are often influenced also by some general theories or "principles" concerning economic policy, these tending to summarize experience with, or scientific insight into, this complicated matter, and more or less streamlining it. Liberal politicians, for example, tend to emphasize the importance of economic freedom of the individual, since they think they can rely on a number of self-adjusting forces in the economy for letting it adapt itself to changes and blindly find its optimum state. Communists tend to doubt the usefulness of these forces and are much more impressed by deliberate organization, directed towards more equality. They stress the immorality of private property of capital, but do not consider forced labour immoral, just to quote a few examples. Nationalists are especially impressed, in most cases, by "national interests", about which they have numerous mythical concepts, not primarily economic in character. Socialists, while also sensitive to more equality between individuals, and not dogmatically in favour of free enterprise, have

1 An important attempt at formulating the fundamental human rights was made by the General Assembly of the United Nations (cf., "Universal Declaration of Human Rights," U.N. Publ. 1949 I.3).
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drawn conclusions from their experiences with dictators and have a higher valuation for freedom than communists.

1.44 In order to make comparisons between welfare functions the concept of "similarity" will be used. Two welfare functions will be called completely similar, if the same variables enter into them in the same mathematical form, but the variables in the one function refer to one individual or group and those in the other to another individual or group. Complete similarity is equivalent to equal tastes or preferences of the individuals to which the welfare functions refer; these individuals may also be policy-makers. Some of the variables in a welfare function of a policy-maker will refer to the distribution of certain phenomena (say, real income) over the individuals of the economy. Since the distribution in a large group is a more complicated concept than in a small group these variables may not be the same in both cases; this would preclude the existence of complete similarity between policy-makers' welfare functions referring to economies of different size. As an extreme example it may be stated that in an individual welfare function the concept of distribution over the individuals in the group does not even apply. However, as soon as the distribution can be characterized, with sufficient exactitude, by some statistical measure independent of the size of the group, the possibility is reintroduced of similarity between welfare functions for economies of different size.

Similarity may also be incomplete, and we shall speak of this when the same variables occur in the welfare functions of two individuals or of two groups, but with co-efficients that are slightly different; or if variables occur in them which are not exactly the same, but comparable in type; or if both things occur.

A complication may arise if, among the variables in the welfare function, there are also instrument variables (or other "means"), representing the costs and frictions involved in the use of such means (cf. § 1.7). If we have to compare a large and a small community, the use of the same instrument to the same degree may have to be valued differently in the two cases, since, for a larger community, its costs and frictions may be different from what they would be in a smaller one. On the one hand there may be "economies of scale", making it
cheaper to organize the same thing in a larger community than in a smaller one. On the other hand, and this will probably apply for such units as countries, it may become more expensive and troublesome to organize something over a very large area. Even with the same distribution of tastes among individuals there will no longer be similarity of policy-makers' welfare functions between the smaller and the larger community.

1.45 In this terminology there may be a certain degree of similarity between individual welfare functions and that of the policy-maker. The more democratic is the community, the more will the citizens be able to further this similarity, with the proviso that, for this comparison the representative individual defined in some reasonable way should be taken. It hardly pays, however, to make this definition more precise, since it is clear beforehand that the similarity cannot, and should not, be complete. As has already been observed, the policy-maker has to give a higher weight to some elements from among the community as a whole, which may be taken to mean that allowances to correct for certain inconsistencies within or between individual welfare functions have to be made. If people have a short-run preference for certain stimulants that in the long run are detrimental to their health, the policy-maker will sometimes correct for this (by imposing excises for example). If people individually tend to evade taxes, the policy-maker, nevertheless, will be in favour of measures against such evasion. If some groups of the population, because of shortsightedness, prefer not to be educated or trained, the policy-maker will perhaps force them to go to school, etc. Finally, the policy-maker may, and often will, have a more detailed knowledge about the variables that enter into the welfare function.

1.46 In the light of all this the author doubts the relevance of the question whether social welfare functions can or cannot be derived from individual ones; a question to which some high-quality analysis has been applied. For the time being the margins of inaccuracy in the above allowances for inconsistencies would seem so large, and our exact knowledge of individual welfare functions so limited, that the

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theory of economic policy would be better to take the policy-maker's welfare function as its starting point. But, no doubt, this has to be a temporary attitude only.

1.47 The aims of economic policy have changed a good deal in the course of history. This has probably been partly due to changes in individual aims generally, but fluctuations in economic convictions have been more important. In particular, the belief that the economic mechanism might have sufficient inherent forces of self-regulation did, in the nineteenth century, exert considerable influence on public opinion. To the extent that this belief is still correct, economic policy may be one of abstention. Liberal politicians, on the basis of the liberal school of economic science, held this belief very strongly and consequently reduced the range of economic policy. They did believe it was necessary, nonetheless, to have a legal framework in order to prevent excessive exploitation of the weak by the strong.

In recent decades, the strength of this belief in the economy's power of self-adjustment has shown severe fluctuations. It shrank in the face of the great depression and nobody dared to rely on it during the two wars. Opposite beliefs came up, emphasizing the necessity for all sorts of regulations; and there were swings in public opinion corresponding to the heavy swings in economic conditions. On the whole, however, the opinion has gained support that the forces of self-adjustment are not universal but dependent on a number of circumstances that can be clearly specified. Under extreme scarcity, to quote the most important example, the self-adjusting forces can be shown to work with small effectiveness only (cf. §§ 5.2; 3.7; 4.3). This may be of importance to developed countries in times of extreme scarcity and to underdeveloped countries even in normal periods.

1.48 It may be useful to give a brief summary of what would seem to be the aims of economic policy in modern times. It will be clear, however, that there is quite some difference of opinion in this respect, and that our summary, therefore, can only be meant to be an "average" of existing preferences and may have been influenced by the author's own predilections. The following points, then, would seem essential:

(a) Maintenance of international peace. This point would not usually have been considered as an item on the agenda of economic policy,
even up to a few decades ago. Today it has to be, since the very foundations of our existence are at stake. But it would have been wise if, by 1914, economists had already stressed peace as an element of human well-being and economic policy-makers had not considered it as an outside element.

(b) *Maximum real expenditure per capita with “full” employment and monetary equilibrium.* Whereas, in this phrase, real expenditure per capita stands for material welfare, full employment has been added in order to remind us of the importance of work as part of human life. A maximum material welfare at the cost of unemployment, other than temporary and restricted in size, would not be acceptable. The word “full” has been given in quotation marks, since it has to be accepted that a small percentage of unemployment will, for technical reasons, be unavoidable and need not be serious—if it does not always press too much on the same people. Monetary equilibrium, which will be defined more precisely later (cf. §§ 3.5 and 4.1), stands, roughly speaking, for the maintenance of the purchasing power of money, a point of interest to all those who have to live from savings and to the process of saving itself, and hence of development. It might rightly be doubted whether, in reality, the aim should be that of maximum material welfare; for some of the most wealthy communities it might be better that an optimum, instead of a maximum, be aimed at. Human needs are not infinite, as has been incorrectly maintained by some economists; but, in view of the utter poverty of the larger part of world population, the aim of maximum per capita real income is still a good approximation. Instead of real income, real expenditure has been chosen as the aim; the difference being only that the latter measures the quantity of goods made available after income has been spent; whereas the former measures the quantity of goods produced.

(c) *Improvement of distribution of real income or expenditure over social groups and countries.* The phrase is necessarily vague, since what means improvement to some will be what others would call a deterioration. The intention is to indicate that actual distribution is not optimal and should be a subject of study and change; the author’s opinion being that both distributions are, in almost all respects, too unequal. More will be said on this subject in sections 3.6 and 6.4.

(d) *Emancipation of certain under-privileged groups.* This point, also,
will not be considered by some as a subject of economic policy. Since economic and social life cannot, however, be separated and in view of the overwhelming significance which the social problem has for a large part of the world's population, this point does represent a major item in world welfare. It refers, above all, to the workers and peasants in the less prosperous countries, but also to some other groups, and still applies to more prosperous countries as well.

(c) *As much personal freedom as compatible with the other aims.* The significance of freedom to large groups, though more particularly to the more independent groups in the population, has been increasingly recognized since dictatorships have reappeared. The point is therefore essential, and especially so if spiritual issues are involved. A certain lack of freedom in economic matters is not too serious, if it is the necessary counterpart of other economic or social advantages. The formula given should perhaps have been that an optimum combination between (a), (b), (c), (d) and freedom should be sought. Since our knowledge, at present, about most of the qualitative elements in (c), (d) and (e) is only vague the exact phrasing is irrelevant for the moment.

1.49 In order that practical decisions on matters of economic policy can be taken it will often be necessary to know the relative importance attached to the relevant aims. In most cases such knowledge has so far not been collected explicitly, although it certainly would not be difficult to do so, with, for example, the help of interviews. In technical language, it would not be difficult to construct indifference curves of policy-makers with regard to, say, employment, balance of payments surplus, price rises and so on. The questions to be asked would be of the type: how much price rise would you be prepared to accept if you could attain a one per cent increase in employment? Such questions should, of course, be put to various policy-makers and it should be made clear that the answer will depend on the initial situation.

Apart from explicitly collecting such data one might try to discover what implicit valuations have played a role in practical decisions. Such implicit value judgments are of course made continuously; the choice of a set of targets is one example. Upon closer investigation it might, however, frequently appear that an explicit formulation would be instructive to the policy-maker himself (cf. § 1.6).
One may, of course, also try to construct welfare functions on the basis of some intuitive knowledge about policy-makers' preferences. One simple statement to be made will be that there are two types of target variables to be distinguished, namely those whose optimum values are within the field of attainable values and those whose optimum values are outside that field. In many developed countries, employment is an example of the former category; the optimum value may be 97%, a value frequently surpassed. It is less desirable to have 100% than to have 99% employment. The relation between employment and welfare in such countries will be a curve with a maximum and cannot be represented by a linear function. An example of the latter category may be, even for many developed countries, real expenditure per head. Within wide limits a rise in this target variable will be considered an advantage. The relation between real expenditure per head and welfare will have to be a rising curve and may be approximated by a linear function.\footnote{For other examples and their application cf. J. Tinbergen, Centralization and Decentralization in Economic Policy, Amsterdam 1954.}

1.5. Inconsistencies in Individual and Collective Aims

1.51 In the previous section we tried to describe the nature of the aims of economic policy and the relations that may exist between the individual preferences of the citizens and the preferences of a policy-maker with regard to the collective unit for which he is responsible, briefly called collective aims. As was set out in § 1.3, the contribution that economic analysis may make to the design of economic policy consists, among other things, of judging the consistency of aims. In the present section an attempt at such a judgment will be made.

Since the aims of economic policy are ultimately connected with the aims of individual economic activity, inconsistencies in the former will to some extent derive from inconsistencies in the latter. And because of the intimate links between economic activity and general way of life, the inconsistencies of human behaviour generally, including cultural behaviour, cannot be disregarded; if we are on the search for inconsistencies we shall meet sociologists in their search for explanations of the cultural crisis of the present. Our remarks will only be brief
indications, however, and will probably be influenced by personal preferences of the author.

1.52 By an inconsistency in aims we mean a situation in which some things are aimed at which *are ultimately incompatible* with other aims held concurrently. A very simple example is the aim to eat a cake in conjunction with another aim to have it. The aim to have a good time and hence not to save may, later on, prevent the same man from having a good time. A government may keep wages very low in order to let the country develop itself rapidly; but if it went too far it might evoke a civil war which might destroy the advantages of development so far obtained.

Speaking of collective aims, we will not class as an inconsistency the divergency that may exist between individual aims of the citizens, or even those divergencies which may exist between the individual aims of all citizens, on the one hand, and those of the policy-maker, on the other hand. It is in the nature of things that different individuals have different aims; and if too big divergencies exist between the citizens' preferences and the policy-maker's, there is an imperfection in the system of representation. Interesting and difficult though this latter problem is we do not consider it a case of inconsistency. This we assume to exist only if the above definition applies, where the fulfilment of certain aims precludes that of other aims.

1.53 In a general way one may state that inconsistencies are a consequence of imperfections in the human mind or in the control of the mind over the desires. Its ability to penetrate into the interrelations of the world is limited; a state of affairs which is recognised in such expressions as "narrowmindedness", "shortsightedness" and "superficiality", applicable to most, if not all, human beings. The state of affairs is also illustrated by the underdevelopment of science. This is true of all science, but is relatively more so in the more difficult subjects than in the easier ones; it is more true, for example, of sociology than of economics. The result is a state of affairs which necessarily entails the substitution of dogma for real knowledge.

Inconsistencies, by their nature, are most likely to occur in those problems in which there exists a marked separation between cause and effect; separations in time as well as in terms of social or geographical
distance. Where effects are far away, there is the greatest chance for decisions to be made, or desires to develop, that are later regretted.

1.54 Among the important and widespread inconsistencies in individual economic behaviour, and hence short-term aims, are those referring to the choice of education and to the creation of a family. Generally speaking, too many young people choose too little education and care too little about family planning; very evidently because of the shortsightedness of others as well as of themselves. The test of inconsistency is that, if they could have chosen again, they would have chosen differently, and that this continues to be true for successive generations.

Another important inconsistency in individual aims is the lack of concern for other people’s well-being which is characteristic for present-day civilization and which may be partly due to the teaching of the Manchester school of liberalism that it is sufficient for the good of all if every one looks only his own interests. It is associated with the belief, or doctrine, that there is no limit to man’s wants, so that it continues to be worth while to go on accumulating personal wealth even if a fairly high level has already been reached. In fact the increase in satisfaction derived from additional quantities of goods, beyond a certain limit, rapidly declines. The well-known phenomenon of over-saturation observable among wealthy individuals, or even populations, and characterized by a tremendous waste of resources and the creation of invented wants, are among the consequences. The doctrine that every country should use its own resources for its own well-being only is another expression of this state of mind which bars the way to important possible methods of improving the world’s social stability.

1.55 The inconsistencies in the aims of the citizens will, of course, be reflected, to some extent, in those of their policy-makers. This may not always be the case, for the policy-makers may successfully resolve the inconsistencies.

The most appalling inconsistencies in collective aims are those which are responsible for the outbreak of war, which, in modern times, may be said to be contrary to the aims of most governments, and of all populations. It is easy to say this, but less easy to say where the inconsistencies are to be discovered. The problems concerned are
largely non-economic in character but their importance to economic policy is so overwhelming that they should at least be mentioned. Anything that can be done to prevent war ranks very high in the whole of economic aims.

Apart from this complex of aims, the author sees important inconsistencies in the aims fostered with regard to the size of population, to the facilities of education and to social and geographic inequality. Population aims underestimate the consequences of over-population; those with regard to education underestimate the consequences of lack of education, and the consequences of present-day inequalities are also underestimated. This latter applies to social inequalities inside each country as well as to inequalities between countries. It does not apply to an equal degree to all countries, and least to the Scandinavian and Anglo-Saxon countries, and a few others of a comparable kind.

Inconsistencies which are of local importance only, but which rank high in the countries in which they apply are to be found in the aims of development policy, wherever such policy leads to serious inflation. The existence of serious inflation proves that the sum total of aims attempted has been too ambitious. In most cases this is because it is desired to develop the country and at the same time maintain the existing level of consumption. Without foreign assistance this is an impossibility; insufficient foreign assistance may itself be the consequence of inconsistencies in international economic policy, however.

1.6. Some Suggestions as to Aims

1.61 Another contribution which economic analysis is able to make to the design of economic policy is to make suggestions as to aims. The suggestions may be meant:

(i) to take account of new facts or new insight;
(ii) to remove observed inconsistencies;
(iii) to give definite shape to aims only vaguely felt; to reformulate old, or create new, aims.

A few examples will be indicated without attempting to give a coherent treatment.

1.62 Perhaps the best example of new facts, of which account needs to be taken in the design of whatever policy, is the situation created
by atomic weapons. It may be said that these weapons have introduced the probability that their use will obliterate a nation before obliterating its military power apparatus, whereas, up to date, it has been the other way round. This new situation requires a technique of international and military policy that may be quite different from what it has been so far. We will not go into important questions such as this, since they are not considered to be economic questions, but it is necessary to stress their vital importance for economic policy.

1.63 If our thesis is correct that human needs, instead of having no limit, have, in fact, a ceiling, then this thesis might constitute another example (this time of a purely economic character) of new insight whose consequences for the aims of economic policy need to be investigated. The general conclusion would seem to be that more emphasis needs to be placed on some degree of equality in distribution.

1.64 The removal of some of the other inconsistencies discussed in § 1.5 would lead to the suggestion that more family planning and more education should be included in present-day programs of economic policy. In addition, for a number of countries, more orthodox financial aims should be recommended.

1.65 The shaping or reformulation of aims which are only vaguely felt may be exemplified in the aim of social justice. Social justice, whatever its meaning, is an aim of economic and social policy which, in the minds of many citizens of many countries, ranks very high. An attempt at defining social justice, in such a way as to appeal to most people's feelings and to be amenable to scientific analysis, might be of great importance. Social justice has, essentially, to do with comparing the satisfaction of different individuals.

1.66 The contribution made to our problem by most of present-day economists has been to declare the comparison of different individuals' satisfaction an impossibility. This contribution is not very constructive, since it implies (i) that all feelings about social justice are meaningless, (ii) that the scientist cannot make any contribution, and consequently (iii) that it is left to others, who often lack scientific education, to make such contributions. The first implication is especially important since
it implies that the numerous decisions actually made about questions of distribution could just as well have been made differently.

1.67 There is another attitude with a minority of to-day’s economists. They do not preclude a priori that comparisons can be made; they only feel that, so far, no general method has been developed, even though there exist methods applicable to special hypotheses. That general methods may nevertheless be found is a possibility, for several reasons. First, decisions are continuously being taken which imply such comparisons; the simplest example being the decisions taken within the family. In the ideal case it may be said that the family head compares, in his own mind, the satisfactions of the members of the family; and if his “projection” of the welfare of the family members into his own mind is correct, the possibility of having made the comparison would have sprung from the fact that these projections are made by one individual, using one system of preferences to appraise them all. Decisons of this type are not restricted to the heads of families, but are taken by a large number of organizers, policy-makers, judges etc. The extent to which such decisions are consistent and systematic, at least, could be made the subject of serious study.

Secondly, comparisons about shifting situations are continuously being made by experienced people, when making their own decisions. The essence of this type of comparison is that those concerned have not only gone through different external situations, but may have undergone a change in internal conditions. An untrained man who undergoes a training course has been transformed from one type into another. A man who was healthy and becomes ill, a man who has lived well and then suffers a famine, both of these have undergone an internal transformation and may be able, in their minds, to make comparisons. Processes of transformation such as these are, perhaps, rare at present, but the development of medical and psychological sciences may well make it possible to expand their number and scope.

Thirdly, by the same development of medical and psychological sciences it may be possible to determine what compensations for a number of “handicaps” are sufficient to neutralize, in terms of satisfaction, these handicaps. This might be called the analytical, as distinguished from the two other synthetic, approaches. It might gradually
become possible to "build up" type $A$ man by superimposing on type $B$
a number of "handicaps"; and type $A$ man could then be given a num-
ber of compensations so as to make him "equally happy" as type $B$.

In ways like this it may be possible to make fruitful contributions
to this problem, which is not the first in the history of sciences to
have been regarded—by renowned scientists—to be insoluble in prin-
ciple.

1.7. Means of Economic Policy

1.71 It is not a matter of indifference to welfare which means of
economic policy are used: their application implies certain costs, both
material and immaterial. Material costs are all sacrifices to be made
in terms of resources, that is, the use, by the policy-maker, of man-
power, capital (in the form of buildings and otherwise) and nature (e.g.
areas for military exercises). Immaterial costs include the aversion
of the citizens to certain restrictions on their freedom, or the frictions
arising out of them: these may, indeed, also lead to material costs.
Generally speaking, the costs will depend on the extent to which
the means of policy are used, and they may be different for different
types of means. In any case they enter into the welfare function of the
policy-maker, or at least ought to. It follows that the unnecessary
application of means will be avoided and so the range of means applied
will be wider at one moment and narrower at the other. The range may
also differ from one country to another. Variations also occur as a result
of changes in prevalent ideas. During the liberal era there was a
tendency for the range to narrow down, while during the great de-
pression and during both world wars the range quickly widened: the
nature of the emergencies to be met required the application of a
greater range of means of economic policy. As we will show later, there
are good reasons to advocate an increase in intervention both during
periods of extreme scarcity, as in war time, and periods of extreme
unemployment, since in those circumstances the automatic adaptation
of the economy becomes less efficient.

1.72 Various political parties have pre-conceived ideas about the
desirable range. Such ideas may represent certain side restraints in
problems of economic policy, but most frequently they will mean a
restriction on the type of instruments to be used. Various political
groups in western countries e.g. would in principle exclude the means
of nationalization; a certain number of them would also, in "normal"
times, reject a priori the means of price control. Other groups are just
as strongly opposed in principle to any lengthening of working hours,
or to the reduction of certain social security benefits. Such dogmatic
attitudes do not appeal to the scientist, of course, and they do not
appeal, either, to those who try to find, with an open mind, the most
efficient solution of a difficulty in each particular situation. A seemingly
dogmatic attitude may have a partial justification if it is based on an
attempt to take account of those ultimate consequences of a policy
which do not bear directly on the situation in question. This element—
real farsightedness—should not, of course, be rejected. It follows from
the requirement that economic policy must always be considered as
a coherent whole.

1.73 If the effects of a measure are taken account of, and its applica-
tion is, as it should be, made dependent on its efficiency in dealing with
the "evil" to be eliminated, it follows that more means will be needed
the more difficult the situation is. In a difficult situation the advantages
to be obtained by the application of certain means are larger and it
follows that more "costs" can be borne before the optimum is reached.

1.74 The disadvantages connected with an intensive use of certain
means may be relatively much higher than those connected with a
moderate use only. This may impose limitations on their use, that is,
it may lead to the practical rule that it hardly ever "pays" to apply
them above a certain more or less well defined limit. Such a limit will
be called a "boundary condition", in accordance with existing mathe-
matical terminology. It may be, for example that when income taxes
are increased beyond a certain figure, evasion will assume large pro-
portions, leading to much extra cost in the broadest sense. For that
reason it may be wise not to raise these taxes beyond that limit—a
limit which may be different for different countries and periods. ¹

¹ Colin Clark, Welfare and taxation, Oxford, 1954, considers 25% of national
income to be a limit beyond which taxes cannot be raised without causing
inflation. Cf. also "Public Finance and Changes in the Value of Money", The
Or it may be that a wage reduction of a certain extent may arouse such opposition among workers that a certain boundary condition should be recognised here. One may say that boundary conditions sometimes represent the defence lines of certain social groups, but they need not always be justified defence lines.

1.75 Certain means may be inconsistent with regard to a given set of aims. This term we will use for the situation in which the set of means considered cannot lead to the aims assumed. Or it may be that some, or all, of them are too restricted in their effects to attain the aims set. The tobacco excise alone, to whatever levels it be raised, cannot suffice to solve a problem of a serious balance of payments deficit. The discount rate, however vigorously handled, cannot draw a country out of a deep depression. Inconsistency of a set of means and aims need not be ascribed to insufficiency of the means considered, it may also be attributed to overambitiousness in the aims set. Examples will be given in chapter 3 and 4. Inconsistency may be imperceptible in the short run but only apparent if long-term consequences are brought into the discussion. A wage increase may be a way to improve the distribution of income but it may, if too strong, endanger future employment and by so doing, adversely affect the distribution of income in some later period.