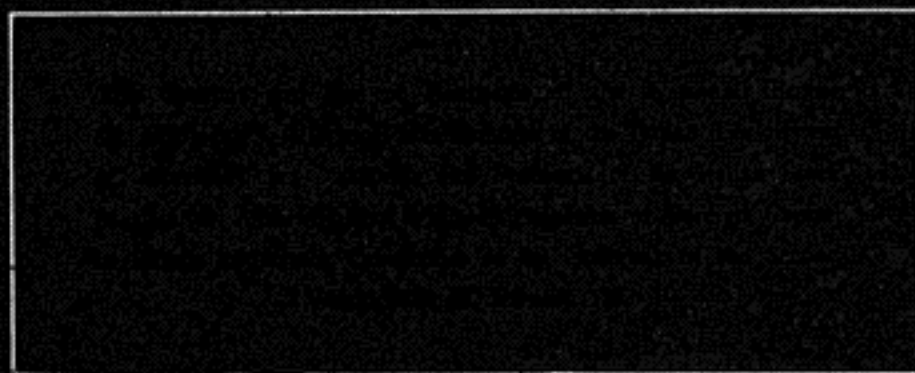


BANCA NAZIONALE DEL LAVORO
QUARTERLY REVIEW



R O M E

BANCA NAZIONALE DEL LAVORO

HEAD OFFICE: ROME
VIA VITTORIO VENETO, 119

Condensed Statement of Condition, March 31st, 1948

LIABILITIES		(Lire)	ASSETS	
Capital	1,150,000,000	Cash/Balances with Banks & Money at call	39,425,793,930	
Ordinary Reserve Fund	303,750,000	Bills Receivable	26,434,537,189	
	1,453,750,000	Investments (Govt. & semi-Govt. Securities, Treasury Bills & other Securities)	13,126,774,868	
Deposits & Current Accounts (Including Balance of Profit & Loss)	107,557,811,037	Contango, Advances on Securities & Loans	53,795,283,254	
Cheques in Circulation (<i>assegni circolari</i>)	8,456,607,592	Sundry Accounts	979,154,411	
Bills for Collection	2,460,746,704	Premises	206,765,155	
Guarantees & Acceptances for A/C of Customers	26,522,898,214	Furnitures & Fixtures	1	
Sundry Accounts	11,222,406,763	Customers' Liability for Guarantees & Acceptances	26,522,898,214	
Staff individual Retirement Accounts	2,272,159,893			
Unearned Discount & other unearned Income	544,826,819			
	160,491,207,022		160,491,207,022	
Depositors of Securities Accounts guaranteeing special Accounts	23,412,282,745	Securities deposited by Third Parties	23,412,282,745	
Bank's Securities guaranteeing staff Assistance & Retirement Fund	11,508,298	Special guaranteed Accounts	11,508,298	
	903,153,956	Staff Assistance & Retirement Fund—Securities deposited by the Bank as guarantee	903,153,956	
	184,818,152,021		184,818,152,021	

AUTONOMOUS SECTIONS FOR SPECIAL CREDITS

SECTION FOR CREDIT TO MEDIUM AND MINOR INDUSTRIES

Capital and Government Guarantee Fund L. 2,275,000,000

SECTION FOR HOTEL AND TOURIST CREDIT

Aggregate Capital and Reserves L. 197,597,664

SECTION FOR CO-OPERATIVE CREDIT

Capital L. 500,000,000 - Government Guarantee L. 2,000,000,000

SECTION FOR MORTGAGE CREDIT

Aggregate Capital and Reserves L. 99,974,926

SECTION FOR CINEMA CREDIT

Aggregate Capital and Reserves L. 383,580,304

SUMMARY

Crises are the cause of a revision of values, and it is only natural that a crisis of exceptional range, such as that of the world war, should have led to a critical revision of the basic notions of economic science and, among these, of the notion of national income. This was all the more advisable in this phase of the post-war period in which hopes are expressed on all sides, and are in part given effect, that international collaboration be established, a collaboration which calls for the comparison of economic strengths, and availabilities, and needs. But even before it was required for practical purposes, this revision was needed for theoretical reasons. To this re-appraisal Prof. Corrado Gini contributes his study "The Content and Use of Estimates of the National Income".

The conclusion to which the Author comes is that national income is a notion that has arisen and has developed in relation to normal situations; it entails hypotheses that no longer hold good under abnormal conditions, hypotheses that, even under normal conditions, only justify comparisons limited in time and still more limited in space. In particular, under normal conditions, the estimates of the national dividend and of net national production, may be considered as practically coinciding, while under abnormal conditions they may vary substantially.

In the course of the discussion the Author offers a consistent solution for the more important among the many questions that the estimation of income raises, and on the other hand throws light on the disturbing influence that the imperfection, to some extent inevitable, of these estimates exercise on international comparison and on those instituted between different periods of time, generally exaggerating the territorial and historical differences that really exist. In particular, he illustrates the practical bearing that a less correct solution of some apparently only theoretical questions may have for some countries — and more especially for Italy — in view of the international regulations still pending which affect them and therefore of the co-operation that may be looked for from them.

These imperfections should not prevent comparisons being made in space and time, but in making them they should be taken clearly into account and should be conscientiously pointed out, while the endeavours of the man of science should be directed to reducing them to the fullest extent possible, gradually bringing the estimates of income nearer to that which is their theoretical content by taking into ever greater and ever better account those factors which have hitherto been neglected.

...

In his article "A Critical Examination of the Italian Tax System" Prof. Cesare Cosciani gives a brief outline of the system now in force and illustrates and discusses the fundamental deficiencies he finds in it. 1) The Italian tax system is based essentially on objective taxes, rather than on personal taxes and therefore not only does it cut into production more markedly, thus helping to raise costs, but it does not allow of taking into account marginal cases of tax-payers who, though receiving the same income as others, yet have a lower tax-paying capacity. The Italian system should be brought into line with the progress made in the modern systems of other countries, which have

passed in the course of time from the taxation of gross income first to the objective taxation of average income, and then to personal taxation. 2) A second drawback consists in the insufficient progressive character of the taxes due both to the notable weight of indirect regressive taxes, and to the scanty weight of progressive personal taxation. 3) The third defect consists in an irrational qualitative discrimination of incomes and to defective systems of assessment.

The considerations made by the Author and his proposal are of present interest as they come within the movement for a fiscal reform now being studied by an *ad hoc* Ministerial Committee.

In the first quarter of 1948 the Italian Government issued measures of notable interest for the stock-market, regulating foreign investments, the revaluation of the capital of companies for monetary adjustment, the alleviation of certain taxes on dividends. These new measures are an important — if not conclusive — link in the work of revising the restrictions and fiscal burdens that had been accumulating in Italy during the period of war economy on investments in share-securities.

Dr. Guglielmo Mancini's article "*Aspects and Problems of the Italian Stock Market*" offers an exhaustive survey of the complicated vicissitudes of this legislation in the last ten years, of the corresponding reaction of the Italian stock-market, and of their interplay, and calls attention to the characteristic features of the present situation which, after the exceptional ups and downs of the quotations in 1947, is still in a phase of expectation and uncertainty.

On the strength of the results of a recent statistical enquiry, Dr. Emanuele Rienzi in his article "*The Participation of Foreign Capital in Italian Joint-Stock Companies at the Outbreak of the Second World War*" summarises the more significant data relating to the amount and distribution by countries of foreign investments in the several branches of Italian economy.

The Banca Nazionale del Lavoro assumes no responsibility for opinions or facts stated by authors whose contributions are published in the present Review.

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Stabilimento A. Staderini - Roma, Via Crescenzo 2

The Content and Use of Estimates of the National Income

by

CORRADO GINI

1. Distinction between the notion of net production and the notion of national income or revenue or dividend. - 2. Static goods and dynamic goods. Rational goods and goods of affection. Internal goods and external goods. Content of the notion of income. Income, happiness, and welfare of the population. - 3. Income is estimated gross of its psychic cost as represented by the quantity and laboriousness of the work. - 4. Goods or services that evade the determination of income because they are not divisible: goods or services that are strictly personal, or super-abundant, or of widespread utility. - 5. The diverse importance that such goods or services acquire in the different countries and at different times. Their exclusion tends to exaggerate the territorial and historical differences of income. - 6. Distinct and therefore exchangeable goods or services which are not taken into account in estimating income as they are not actually exchanged. - 7. They accentuate the difficulty in drawing comparisons of incomes in space and time and contribute to exaggerate the real variations. - 8. Receipts which do not correspond to increase of goods or to a prestation of services, and their diverse importance in space and time. - 9. Need of deducting from the national income subsistence costs and those of the professional education and training of the population as being costs of production. - 10. Need of deducting from national income those public expenditures that are in the nature of production costs. - 11. Need of taking into account gains and losses independent of productive activity. - 12. The definition of national income or dividend which is thus reached. Its concurrence with the notion of the income of a business concern and with that guiding the action of the Treasury. - 13. Where it differs from the current notion of income. - 14. Nations, like commercial companies, must reconstitute their capital before they can talk of a dividend. - 15. Difference between commercial companies and nations: impossibility for the latter to make a substantial reduction of their capital. - 16. Actual income and expected income. Maintenance of capital and maintenance of income. - 17. Practical coincidence of income with net production in normal times and their substantial divergence in abnormal times. - 18. Use of the data on net production in normal times and in abnormal times. - 19. Limitative notions of income: the materialistic notion; the functionalist notion; the notion of "pure" income. - 20. The duplication implicit in the current notion of income. It corresponds, however, to human psychology. - 21. Such duplication contributes also to give an optimistic impression of the dynamics of income. - 22. Consequences of the inclusion of human capital in the notion of wealth. - 23. Difficulties which arise, when drawing comparisons in time and space, from the imperfect elimination of variations in the purchasing power of money. This is another factor tending to exaggerate differences in income considered in space and time. - 24. Of income as a means of measuring the capacity of a nation to make payments. - 25. Of income or production as a means of measuring the volume of exchanges, the volume of demand or purchasing power of a country and its capacity to repair losses suffered. - 26. Summary of the results reached. - 27. Conclusion: National income is a notion that has arisen in relation to normal situations, its estimate implies hypotheses which do not hold good in abnormal situations, and which, even under normal conditions, only authorize comparisons limited in time and yet more limited in space.

1. - The more complex nature of the questions involved in the notion of income as compared to those involved in the notion of wealth is already shown by their respective denominations. While it is only in some languages that the word "wealth" (1) has a synonym in the word "fortune"—which indeed sums up the same mental reactions—the words "national income", "national dividend",

"national revenue" or "net production" are used as alternatives.

It may however be said that the three expressions "revenue", "dividend" and "income" only represent the three stages in the same economic process: the production, distribution, and consumption of wealth. But in the course of that process subterranean currents sometimes come into play as a result of which the importance of its bearing is not the same at all its stages. On the other hand, the notion of net production differs from those of income, dividend, and revenue in one funda-

(1) The words "patrimony" and "capital" have originally a more restricted meaning than "wealth", and they are only used as synonyms of "wealth" as the result of a formal extension.

mental respect, as the former implies an element of will which is absent from the latter. A proof of this is offered by the fact that we speak of "unearned income" meaning an income which is not produced. And though it is true that we often mean by the expression an "income not earned by the recipient but by others", still there are certainly some incomes that are not earned by anyone. The theory, indeed, that all income is produced by labour, however attractive it may be found, is not in keeping with facts, as I have had occasion to point out elsewhere (2).

In the following pages we shall keep to the objective notion of income, discussing further on the difference it presents when compared to the notion of net production.

2. - Income is currently defined as "a flow of goods" in opposition to the notion of wealth, defined as a "fund of goods". Wealth is thus compared to a basin in which the current of income enters. This notion corresponds to the literal meaning of the word "income".

Not all the component parts of income give rise, however, to an increase of wealth. Personal services (3) in general, unless we include human capital as part of wealth or, should we include it, superfluous personal services, make no increase in wealth; the word "income" must therefore be understood in a broad sense, not in that of a material entry, but in that of the reception of a utility.

The distinction drawn between "static goods" and "dynamic goods" comes nearer to the truth. Static goods consist of objects we desire, or in their qualities, such as a piece of land, or a house, or personal beauty or the beauty of a landscape. Dynamic goods consist

(2) See the article *Produzione e distribuzione delle materie prime*, in "Rivista di Politica Economica", November, 1947.

(3) Here and elsewhere, unless expressly stated otherwise, "personal services" refer to services rendered "to persons" (not services rendered "by persons") as distinguished from "real services" rendered to other goods, whether animate or inanimate. Thus the services of a nurse or the utility obtained from a dwelling are *personal services*; the services of a bricklayer or the utility obtained from a factory building are *real services*. Among personal services, as among real services, a distinction is drawn between "human" and "not human" services depending on whether they are rendered by persons or by other agents or objects.

in events we desire; some of these determine quantitative increases of static goods or the modification of their more or less permanent qualities, increases or modifications representing an increase of wealth, while the utility of others dies out like a will-o'-the-wisp leaving no appreciable traces behind.

Now, wealth consists of static, income of dynamic goods.

Not all the static or dynamic goods that individuals desire can, however, be classified respectively under the headings of wealth or income. There are some goods or events that we desire rationally in view of their future utility, and others again that are desired by attraction or affection, although they may become useless or harmful. The former are goods that appeal to the reason (rational), the latter goods that appeal to the emotions (goods of affection). Objects or events desired as a result of prejudices, or passions, or morbid tendencies, which do not contribute to and often run counter to our happiness, should therefore be classified neither as wealth nor as income.

The original purpose of the inquiries into both wealth and income was indeed to increase the happiness of the populations. This purpose is explicitly mentioned in the earliest discussions on the subject. If no trace of this purpose is found in modern discussions on the topic it is because, as a matter of fact, income and happiness are far from coinciding. Happiness indeed depends not only on external or, in a certain sense, physical factors, to which, obviously, we refer when talking of income, dividend, and revenue, but also and above all on internal factors, such as health, self-assurance, nervous balance, a clear conscience, and so forth, which it would be useless to try to measure. We can note every day people who enjoy plenty and are unhappy, so unhappy that they sometimes take their own lives, and it is among the higher and not among the lower classes that suicides are most frequent. Income or dividend or revenue therefore does not consist in all dynamic rational goods but only in those dynamic rational goods that we may describe as *external* to our ego, and we cannot expect from it a measure of happiness, but only of the contribution that the said dynamic external

rational goods give to happiness and that usually is called welfare (4).

3. - Before proceeding further a preliminary question must be solved.

Should the contribution made by external rational dynamic goods to our happiness be estimated gross of or net of the effort they cost? And therefore, in drawing a comparison between incomes in various times and various countries, should we or should we not leave out of account the varying amount and laboriousness of the work they entail?

The question is evidently one of definition, and the best we can do in such cases is to depart as little as possible from current terminology.

Primitive man in the tropics whose only work is to pick the fruit hanging from the trees or to draw in his nets from the river full of fish, is probably happier than his brother hired by the white entrepreneur to do hard work in the mines, but no one would say that he has a higher income. When, after the other world war, the length of the working day was reduced to eight hours, probably the happiness of the workers was increased—or their unhappiness reduced—although the result was a more or less marked decline in production. We say in such cases that net income and net production have declined. Indeed when we speak of net production or net income we mean net of their material cost, and not net of their psychic cost, represented by the amount and laboriousness of the work entailed.

We shall therefore say that income measures the contribution made by external rational dynamic goods to our happiness gross of the psychic cost of the work involved in their production. And here there is another circumstance—in addition to that above mentioned—which makes it impossible to trace back hap-

(4) The distinctions drawn between static and dynamic, rational and affective, external and internal goods, are dealt with more fully in the articles that appeared in "Giornale degli Economisti e Annali di Economia", *Obbiezioni economiche alle valutazioni della ricchezza nazionale* (March-April, 1946) and *Significato economico delle valutazioni della ricchezza nazionale* (Ibidem, May-June, 1946). A French edition appeared in the "Revue de l'Institut Intern. de Statistique", 1945, under the title *Sur les fondements des évaluations de la richesse nationale*. A Spanish translation appeared in "Trimestre Económico", Mexico, October-December, 1947, under the title *Fundamentos de las valuaciones de la riqueza nacional*.

piness to income, whether in the case of an individual or of a population.

4. - We must however now enquire whether and to what extent income or dividend or revenue is able to measure this contribution. As a matter of fact the very notion explicitly expressed by the word "dividend" implies that the goods coming under that heading are also divisible, if not actually divided, among the recipients of incomes.

Now in some cases this does not occur for several reasons:

(1) First of all, because the goods in question are strictly personal. Just the other day, reading an opening address to a course of statistics, I met with a phrase of Lord Balfour's evidently intended as a gibe at statistics. The three greatest things in the world—he said—love, beauty and happiness, are utterly incapable of measurement. The statement is true of happiness, not only because it depends largely, as we have said, on internal factors, but also because it is the unit of measurement of our goods, and one cannot measure one's unit of measurement. In the case of beauty and love (even if the latter be understood not in the sense of sexual relations but in that of the loftiest kind of affection) it is not well founded. Every day we see a price placed on the beauty of a picture, a piece of furniture, a house, a person; and we see expenses incurred to win the affection of persons whom, disinterestedly or otherwise, we wish to please, and, as generally speaking, the price one is willing to pay for the various forms of beauty and of affection is not unlimited, it follows that love and beauty can be measured.

Love and beauty, indeed, and no less than love and beauty so also esteem, honor, prestige, glory may be considered fundamentally as external goods, that is determined by factors external to our ego and therefore comparable to other external goods, and consequently appraised; but between beauty, on one side, and those other goods on the other, there is a difference. A beautiful painting is beautiful, if not for all, at least for many persons and, having acquired it, we can give it to other people, so that of the value of its acquisition account may be

taken in estimating our income. The affection of a person, on the contrary, and, like affection, esteem, honor, prestige, glory are strictly personal and as such are not susceptible of cession or division, so that we can acquire them, but not give them to others. Nevertheless they are of such importance to many persons as to induce them to sacrifice their means, their peace of mind, and sometimes their very life for them.

Even without thinking of exceptional situations, we all know that if a person finds himself well-off in a given position, that does not depend only on his salary but also on the consideration in which he is held by colleagues and superiors, on the affection that surrounds him, on the prestige the position confers on him, and this is often so important as to induce him to renounce positions that would assure him a much higher salary.

Strictly personal are also the satisfactions afforded by objects associated with our daily habits or with the memory of past pleasures or affections which tie many of us, and all the members of many primitive populations, to the places in which one was born or grew up.

We do not deny that according to the psychological inclinations of the different populations the various forms of satisfaction above considered may acquire more or less importance (this is more especially the case when considering the importance love acquires for the happiness of their members) and in this respect happiness depends on internal and not on external factors. But it must also be admitted that the external factors, whose contributions we try to measure in terms of income, have decisive importance.

No less important than the satisfactions above mentioned are the more strictly personal ones arising from the education of the consuming apparatus of man. Theoretically, we may distinguish in "economic man" a producing apparatus and a consuming apparatus. The purpose of education is to confer on both the highest degree of efficiency attainable with available means.

Now the efficiency of the producing apparatus is inferred in practice in modern society from a man's aptitude to earn; not only it can be estimated on the basis of costs or on that of yield, but his services may also be hired so that

they come to be part of the income, and precisely the part known as the income obtained from work. The efficiency of the consuming apparatus is inferred on the other hand from our aptitude to enjoy the good things of life, or in other words from the degree of refinement of our intellect and of our senses. Artistic and musical education, good taste, general culture, humanistic, historical and philosophical studies, a knowledge of games and sports, of the rules of behaviour of the society in which we live, or of those with which we are in touch, all increase the efficiency of the consuming apparatus; in many countries a large part of a girl's education is devoted to acquiring such aptitudes and no small part of that of a boy. Many of the most desirable satisfactions of life are derived from them. Here again it is possible to estimate the degree of efficiency, at least on the basis of its cost; but the satisfactions it procures cannot be ceded or divided, and they therefore do not form part of the national income or dividend.

(2) Or, on the other hand, the goods may not be divided because they are of widespread utility and therefore cannot be assigned to one or other person. Such, generally speaking, are climatic or geographical factors that may nevertheless acquire decisive importance in contributing to the happiness of individuals or groups — and thus we find many who for nothing in the world would give up the sunshine and pure air or the scenery of their own country. Others again would on no account and for no price give up the security, order, and cleanliness they enjoy in their own country which represent for them inestimable goods of widespread utility (5).

(3) - Because there is a superabundance of the goods in question, as is the case in some countries with water, or pastures, or arable land, or sand, or salt, or firewood, or snow.

(5) On this notion of widespread utility I have insisted for many years past, as on an essential point for the understanding of many questions claiming the attention of economists and statisticians. See more especially *La fase finale del processo contro il protezionismo* in "Economia", 1923, and in the Proceedings of the 1st National Congress of Pure and Applied Chemistry, Rome, 3-6 June 1923; *Prime linee di patologia economica*, IVth edition, Giuffrè, Milan, 1935, p. 712 et seq. (the Vth edition is in the press, published by the Unione Tipografica Editrice Torinese) and the articles mentioned in note (4).

In such cases the goods in question are by their nature divisible, but as the supply exceeds the demand, there is no need to divide them. Without this superabundance the whole life of the population would, in many countries, be altered and in some cases made impossible.

5. - Now, the part these strictly personal, or widespread, or super-abundant goods represent in relation to the total sum of rational external goods, varies decidedly from one period to another, from one territory to another, so that income affords an untrustworthy index to the contribution made by external factors to human felicity.

The contribution made by the moral factors of prestige, glory, esteem, honor, love that a nation enjoys in its relations with other nations, varies indeed decisively with its progress or regression, its position as victor or vanquished in international conflicts; indeed it may be that the above mentioned factors, instead of making a positive contribution to its happiness, represent a negative factor.

Some of the aforesaid factors, prestige for instance, undoubtedly vary in our society with the nation's income, but they do not depend on it exclusively, while many of the others are more or less fully independent of it. As to the importance generally acquired by moral factors in the internal life of a nation, it usually varies in inverse ratio to the nation's income. Thus the Europeans are struck by the little importance given to moral factors in American social life, where a man is valued for what he earns. Also in Italy something like this happens at Genoa, where a man is valued for what he possesses. This is because the societies in which more importance is given to material and less to moral factors are generally those in which the highest income and wealth are secured.

It is, moreover, obvious that those societies in which education is more directed towards developing the producing than the consuming apparatus are those which secure the largest incomes. Now in Anglo-Saxon and more especially in American countries, education devotes more attention than in the Latin countries to developing the efficiency of the producing apparatus and less to developing that

of the consuming apparatus, and consequently to us Latins, the populations of those countries seem less refined, and sometimes even coarse, and strike us as lacking more often in general culture than is the case with us. In our turn, we make the same impression on the Oriental peoples. The upshot of all this is that, when there is parity of the visible monetary income of the nation, the invisible income — which I have called elsewhere psychic income (6) — will be considerably smaller, or when there is parity of psychic income, the monetary income will be considerably larger.

Thus those who take income as the measure of the contribution that rational external dynamic goods make to happiness are led to neglect in international or inter-regional comparisons important compensating factors that attenuate the differences, even if in some cases they do not fully offset them.

As I remarked many years ago after the other war — and when adequate data will be available it will be possible to ascertain whether the observation holds good also for the present period — these considerations help to explain why the ratio of income to national wealth is considerably higher in the Anglo-Saxon than in the Latin countries. Obviously, other things being equal, the ratio of income to national wealth will vary inversely to average wealth, as the lower the average per capita wealth, the greater will be the importance of income from labour as compared to income from capital (7). And indeed, if we draw a comparison between the ratios of national income to wealth that we obtain for Italy, France and Belgium (and also for Holland), we find that this relation holds good; but if we draw instead a comparison between the ratios for France and Belgium and

(6) It is a psychic income which however depends on external physical factors, such as those which represent education; This extension is not therefore irreconcilable with the definition of income above given, as being the total of rational dynamic goods determined by factors external to our ego.

(7) It is also easy to give the formula for it. If P indicates that ratio, I the rate of interest (or rather the rate of yield of capital), R average per capita wealth, and L the average per capita labour income, we have $P=I-L/R$. On this matter see the speech entitled *La ricchezza comparata delle nazioni*, read on January 31, 1926, at the opening meeting of the Academy of Sciences, Letters, and Arts at Padua. The speech was published in the Proceedings of that Academy, Vol. XLII, 1926, and reprinted in the "Nuova Antologia", 1926.

those for England, or compare the ratio between national income and wealth in England with that in the United States, the relation no longer holds good. In my opinion, this depends, at least in part, on the fact that in America more than in England, and in England more than in the countries of Latin civilisation, the average monetary income from work is proportionately higher than is the corresponding psychic income.

The superabundance of all or at least of some categories of goods depends essentially on the greater or lesser tendency or capacity of man to exploit them. Such superabundance is more easily and more widely found where technology is less advanced. Primitive man, with his few needs, lives in surroundings that supply them abundantly, he has neither wealth nor income, but has all that he needs and is, in his own way, happier than civilised man, whose receipts and capital attain impressive figures.

This is the condition which tradition speaks of as the age of gold or Earthly Paradise, and this makes us understand that income can afford us a comparable, if only approximate, measure of the contribution dynamic external factors make to our happiness only when the measurement is made for populations that have reached comparable stages of technical development and economic organisation. But even in our society we meet with essential differences from place to place and as a rule between town and country, and so in many country places there is superabundance of water, in other places of firewood, and in yet others of land; while land, firewood, and water are bought at a high price in the towns. If we add to this the higher cost depending on the smaller supply as compared to demand that other goods reach in the towns, we shall understand how sometimes it may be advantageous to renounce that part of the income one can earn in towns and to live on a smaller income in the country.

Lastly, natural factors—geographical, climatic, and suchlike—which are of widespread utility to the whole population, obviously represent a widely different factor of happiness from one country to another, as is shown by the tourists and workers who flock towards places which are specially favoured in these respects.

We may however enquire in this connection whether widespread utilities in physical surroundings are not offset by the accompanying social surroundings.

In this connection, a suggestive story is current in North Italy. When the Almighty created the world and began to settle people in the various parts of Italy, those who had already had their seat assigned them began to protest. — Is this fair? — they exclaimed. — Why has a delightful climate and sea and an ideal bay and a fertile soil, and a landscape framed by mountains and lit up into the bargain by a volcano been given to that locality—which shall be nameless? — Wait a minute, replied the Almighty, I have not yet finished, and in finishing he placed on that land, until then uninhabited, and so generally desired, the inhabitants he intended for it, and the protests ceased. This story might be repeated for whole countries possessing great natural attractions but whose respective populations are not equally unobjectionable.

This fact suggests that an exceptionally favourable environment may exercise a depressing or deteriorating effect on the quality of the inhabitants, due perhaps to less severe natural selection. But apart from this, an equilibrium between physical and social environment is promoted by the movements of the populations who are naturally attracted by more favourable conditions to such an extent that congestion ensues and gives rise to drawbacks of a demographic, economic and social nature which offset natural advantages and re-establish the balance.

But, in any case, this tendency to reestablish an equilibrium is hindered by several opposing forces, especially in pathological periods.

In abnormal times of wars or depressions we find, indeed, that the more favoured countries tend to shut their doors, excluding or at least limiting the entrance of foreigners. This is what we witnessed after the first world war in the United States of America and several other countries. But apart from such restrictive measures and even under normal conditions, the trends which would re-establish the balance are hindered by transport difficulties. Thus today we see that immigration, which the South American countries would welcome, can only

take place on a very small scale owing to the scarcity of tonnage and the high cost of the voyage. Another obstacle may be offered by the ignorance of conditions prevailing among the populations naturally and artificially isolated, as is the case with many primitive peoples and sometimes even with non-primitive ones, as today in Russia. Finally, the ties of affection which bind people to their native land, or superstitions which make them unwilling to leave it, like the aversion of the Hindus to crossing the ocean or the animistic beliefs of the Australian populations who ascribe supernatural powers to the lands of their ancestors, may prove obstacles.

Even if we admit that under the pressure of population an equilibrium in the widespread utility is not attained among various countries, we must bear in mind that a great part of that utility, as I have explained elsewhere (8) gets absorbed into economic goods, and thus produces in the long run an increase in income.

Thus the utility represented by the brilliant sunshine of the South is converted into hard cash by hotel-keepers, boarding-house and health resorts whose business is fed by the money from tourists of northern countries and of invalids in search of suitable climatic conditions.

This however does not occur for all the advantages of a widespread utility. Only that part of it which is absorbed by goods used for production is translated into an increase of monetary income, not so the part directly absorbed by the human consuming apparatus.

Now it should be noted that the part of the widespread utility absorbed by producer's goods is, on the whole, less in the case of the factors forming the physical environment than in the case of those forming the social environment, so that we may expect that the widespread utility of which no account is taken, either directly or indirectly, when making the usual estimates of income is a less important item in countries with a more highly developed social organisation, and therefore the income it represents is in their case relatively exaggerated when compared to that obtained in countries that

are backward in developing their natural resources.

Indeed, when comparisons are drawn between the figures calculated for the national income of the several countries we are faced by disequilibria which seem incredible. When, after the other war, I was asked to calculate, first at the request of the League of Nations, for the purpose of forming a judgment on the differences in the industrial importance and economic power of the several countries, and then, at the request of the Italian Government, in view of the negotiations for funding the Italian war debt to the United States, I ascertained that the *per capita* income (without making a deduction for living expenses) in Italy then amounted to less than one sixth of that in the United States, and amounted in India to about one fifth of that of Italy, and therefore to about one thirtieth of that of the United States. Now, it is evident that an American citizen could not possibly live on one thirtieth of the income he actually receives, just as an Italian could not live on one fifth of his. Hence the inevitable conclusion that the significance of the figures calculated for the income of the two countries (Italy and the United States, or India and Italy) differs essentially. This, in my opinion, undoubtedly depends at least in part on the fact that the widespread utility of natural conditions prevailing in India, and first of all that arising from the temperature, makes the *per capita* income appear, when drawing a comparison with Italy and with the United States, much lower than it really is (9).

Careful analysis will show that the advantage enjoyed by India as compared to Italy, and by Italy as compared to the United States—an advantage that escapes calculation when making the estimates of income—does not depend so much on the widespread utility of the temperature enjoyed by the Indian and to a lesser extent by the Italian people, but rather on the drawbacks of the climate of the United States and to a minor extent of that of Italy which

(9) See *Quelques chiffres sur la richesse et les revenus nationaux de 15 Etats*, "Metron", Vol. III, No 1, 1-VII-1923; *A comparison of the Wealth and National Income of several important nations (Italy, France, Belgium, United Kingdom and United States) before and after the war*, Rome, Provveditorato Generale dello Stato, 1925.

(8) See articles mentioned in note (5).

must be eliminated by heating, building houses affording better shelter; wearing heavier clothing, all things that absorb no small part of the income. The traditional "lazzarone" — who if he is no longer to be seen in Naples is found in many other countries of the warm-temperate zone, basking in the sunshine—needs neither work nor expenses to procure that enjoyment; but the American, and still more the Canadian or the Northerner who wishes to enjoy the same warmth, must devote the proceeds of several hours of daily work to purchasing the fuel, amortising the heating plant, meeting the heavier expenses for his home and his clothing.

On the other hand, in a powerful, well-organised nation in which the sense of civic duty is high, each citizen can count on the safety of his person and his property, on the fulfilment of contractual obligations, on the orderly progress of public life; whereas in quarrelsome, turbulent countries, or in those threatened from without, the satisfactory working of the social organism can only be assured if a considerable part of the population is taken up with lawsuits, engaged in watching over the safety of property, in the defence of individuals and of the community, and in the maintenance of public order.

It should indeed not be forgotten that if there are some widespread utilities, there are other natural conditions representing widespread drawbacks.

This calls attention to another of the difficulties met with in estimating income.

Goods have a value for us arising not only from their objective qualities but also from our subjective need of them. But these needs in their turn do not depend only on internal but also on external factors. Should the external factors determine needs whose satisfaction requires the production of certain goods, ought we not to reckon this effect as a passive item in our appraisal of the contribution external factors make to our happiness? If we fail to enter such an effect under liabilities while entering under assets the goods produced to offset it, we shall evidently obtain an erroneous picture of the contribution made by external factor to our well-being.

Looking at the matter from another standpoint, we may say that—under like conditions of

enjoyment—such factors as the warmth of the environment, which in some cases cost nothing as they are provided by a widespread utility and as such are not included in the estimate of income, can only be obtained by others at considerable expense and are included in the income at the high cost of the goods and services needed to meet them.

Sometimes it is not a question of conditions which procure satisfactions but of conditions which are essential for life; this means that certain living costs which are not incurred or are trifling in one country, rise to a high figure in another.

We shall return later on to this matter.

Meantime, we may draw the conclusion that divisible income does not afford an accurate measure of total income understood as the contribution that the whole body of external rational dynamic goods makes to our happiness, and that the comparison of divisible incomes exaggerates the differences existing between the real incomes of the several populations.

The questions we have so far discussed may sometimes seem remote from those generally considered in discussions on the notion of income, but it is just for that reason that we have deemed it necessary to tarry over them because in making the customary statistical enquiries in this field, the fundamental purposes of an appraisal of income and the more or less unreal hypotheses on which that appraisal is made, have been somewhat forgotten.

6. Let us now examine matters more akin to the discussions that are usual in this field, and enquire whether a more or less complete account is taken of divisible income itself when making the monetary estimate of national income.

Divisible goods are evidently exchangeable, and if exchangeable they can be sold. In estimating income, should we take into account only that part of divisible goods that is sold, or their total volume? The practical solution given to this question differs for the several groups of goods, and this is one of the weakest points of the current estimates of national income.

No one denies—as far as I know—that the estimate must cover the whole volume of agri-

cultural crops, whether consumed by producers or sold (10), for evidently the amount of the income does not depend on who enjoys it, and it is axiomatic that the dividend must be fixed before the division can be made.

Likewise the total output of domestic industries such as, in many countries, spinning and weaving, is included in the calculation, even if the product is partly and sometimes mostly used for family consumption.

But of the processing that agricultural or industrial products undergo in the home before being consumed no account is taken in estimating income, even if the same products when processed by specialised industries, are on sale in the market. Thus—so far as I know—no one includes in the national income the value acquired by turning milk into butter or cheese or flour, butter and sugar into pudding for family consumption, nor of the work performed in spinning wool or knitting sweaters or stockings or pullovers for the members of family, nor of that consumed in making, remodelling, turning, mending, patching, and darning clothing, all work that took up and still in many countries takes up so much of the time of the housewife.

*Landlord A rents his apartment to tenant

(10) From a work by J. R. Hicks (*The Social Framework, An Introduction to Economics*, Oxford, Clarendon Press, 1942), remarkable from several points of view — which only came into my hands when this paper had been written and which I shall have occasion to quote several times in the following notes — I learn that even this mode of procedure, which would seem to be so obvious a one, is not adopted by all. The Author, indeed, includes in production only those things produced to satisfy the needs of others by means of exchange (cf. pp. 23, 196-197) and he adds that this definition is in keeping with that of income adopted for calculating the British national income. He only admits that, in those cases in which the progress of transport adds to the importance of the agricultural products sold, milk—may be said in favour of a wider definition, inclusive of all agricultural products, and he remarks that this is done in the case of the national income of such a country as India, and that it will be advisable to do so in general when the habit of selling agricultural products spreads. If it be true that all British statisticians adopt this definition of production and therefore include in income only that part of agricultural production which is sold, I do not think this method is followed in any other country. It is a method which may have the advantage — on which Hicks insists — of avoiding all ambiguity, but it excludes from income, goods which it cannot be denied belong to it, and whose value can be easily estimated, goods — we may add — which not only in such a country as India, but in all the countries of the world, except perhaps in England, represent a quantity which cannot be considered negligible.

B who in his turn rents his to C, and the latter — let us suppose — in his turn rents his to A. The rents obtained by A, B, and C should evidently be calculated in the income. But if A, B, and C were all to remain in the apartments they own, the respective incomes evidently would not disappear, and therefore many of the estimates of income—but not all—include not only the rents received for immovables but also the potential rents or rentable value of the dwellings inhabited by their owners, and this is the rule followed by the fisc in assessing for income-tax.

But this rule is applied only to the premises themselves. Although furniture, pictures, ornaments, etc., are also rented, and there is a market for furnished apartments, neither the Treasury nor those who estimate national income take generally into account the rentable value of furniture, pictures and ornaments used by the owners themselves, while the rent received for them, should they be let, is duly entered among the sources of income both for statistical and fiscal purposes.

The same remark applies to the use of carriages, automobiles, bicycles, and other means of transport, which is reckoned in the income when they are hired, but excluded when they are used directly by the owner himself.

Let us suppose a horse-breeder on account of old age or disability, or perhaps just because he has changed his mind and would prefer at a given moment to take up another occupation, engages a groom to attend to the jobs he used to attend to himself. To simplify our statement, let us suppose that he takes, for instance, to shoemaking, which used to be the job of his present groom, and that he receives the same pay. For the purpose of calculating the national income, the present income of the horse-breeder is the same as that of the former shoemaker, and from that standpoint no change is called for; but now, we have in addition, in estimating the national income, the pay of the groom. This represents however for the horse-breeder a new cost that reduces his private income, and therefore the amount of the national income is not affected thereby.

But if the horses were bred not for profit but for pleasure, the wages of the new groom should not then be considered as a cost of pro-

duction but as an allocation of income by the owner, and, in calculating the national income no passive item would therefore offset the new receipt entered as the groom's wage. As a matter of fact, in this second case, what should strictly speaking be counted in the national income is the pleasure the horse-breeder receives from the horses he breeds. It should be included in full when he attended to the horses himself, and net of the wages paid to the groom when it is the groom who attends to them. But as a matter of fact this pleasure is not counted.

Housework performed by servants in return for wages appears in the national income in the form of their wages; when performed by members of the family it used not to be included. It follows that he who marries his servant makes the national income decrease, even if the woman does not change her usual occupations. Now it is a debated point whether those services should or should not be counted, and some answer in the affirmative, others in the negative, while others again estimate the national income in two ways, including and excluding the value assigned to such services.

The same problem might be raised—and perhaps it has been—for the service of nursing and caring for babies. The same problem might be raised—and this would be of much wider bearing—for sexual services.

It cannot be said that there is no market for these several services. The occupations of wet-nurse or children's nurse are two important sources of income for some mountain population, and prostitution has been described as the most ancient of professions. Nor can it be objected that the sexual services of a wife cannot be compared to those of a mercenary mate. There are concubines who differ from wives only from the legal point of view, and mistresses who from every point of view are superior to wives. Moreover, if it be granted that wives are generally superior from the point of view we are considering, it would seem to be a curious mode of reasoning to attribute no value to their services, when estimating the national income, merely because they are more valuable than those of a mercenary, instead of appraising them, even if only inadequately, by the same standard. Is not that the solution adopted for rentable values, or, when they are

included in the calculation, for domestic services in the home? It is certainly a very different thing to live in one's own apartment or in an apartment leased from another, and the work of servants, now more than ever, is very unsatisfactory when compared to that of the mistress of the house. Nevertheless, the rentable value of apartments inhabited by their owners is valued for fiscal and statistical purposes by the same standard applied in the case of rented apartments, and this holds good also for domestic services performed by members of the family which, when they are valued at all, are usually reckoned by the same standards used for the services of domestic servants, as it is thought preferable to value both at a low rate rather than not at all.

On the other hand, if we admit that the services of wives should be included in a complete estimate of the national income, it is difficult to deny that the complementary services of husbands should also be taken into account, even if, in most modern societies, there is no visible market for them, at least in normal times.

Finally, there is the big group of self-services to be considered, services which people very often render themselves but which might be—and sometimes are—rendered by others, and for which therefore there is also a market price. Shaving and depilation are among the oldest activities of the human race. Some of the most ancient of the primitive peoples (such for instance as the Andamanese, isolated from the rest of mankind after one of the greatest of the glacial periods) shave and depilate themselves with meticulous care, and there are few peoples to whom the profession of barber or depilator is unknown. Among civilised peoples, the receipts of hairdressers and barbers form a not negligible item in the national income, but no less important, I believe, should be the value given to the self-shaving service most people perform each day.

Similar considerations would hold good for many other self-services: driving a car, pushing a bicycle, typewriting, shoe-polishing, brushing one's clothes, sewing on buttons, and in the case of women, curling their hair, attending to their make-up, besides making, or remodelling,

or mending their dresses and underclothing, shoes, hats and other garments or ornaments.

Leaving the domestic circle, we shall again find a large and often important number of activities that are not paid, and therefore are not included directly in the national income, and which, in as much as they amount to personal and not real services, do not appear in it indirectly in the form of an increase of production or wealth.

Such are personal services rendered by relatives and friends, more especially on the occasion of anniversaries and festivities, or in that of sickness and mourning; such are the police and protective services discharged by unpaid forces; such, in so far as they are of a personal nature, are corvées or other services voluntarily rendered on the occasion of public calamities; such, in so far as they similarly benefit consumers and not production, are the functions freely performed by charitable organisations or public offices, from that of juryman to that of member of an electoral committee, president of a university or college, or dean of a faculty, director of a scientific institute or in many other administrative, political, or syndical positions; such again, in so far as they benefit culture and not publishing firms, are unpaid contributions to newspapers or periodicals.

7. - It would be impossible to expect that in calculating the national income, account should be taken of all the services freely rendered to oneself, one's husband or wife, to the family, to relatives, to strangers, to the public as well as of the services rendered by animals or things and directly enjoyed by the owner. Yet it is evident that if such services have a market value they should be taken into account, because every service is such because of its use and not because of the person who performs it. When we fail to take such services into account it is difficult to say what economic significance should be given to the figures obtained for the national income. On the other hand, even if we admit that they only afford a rough global index of the contribution that dynamic rational external goods make to the happiness of the nation, it is certain that the figures thus obtained for different countries and different periods, are not comparable.

There are some countries in which every family has a dwelling, however miserable it may be—house, or tent, or hut, or cave—and others in which a large part of the population lives in places they rent.

In some countries, letting apartments or furnished houses, or permanent residence in hotels or boarding-houses is practically unknown, while in others it is a widespread custom.

There are Far Eastern countries or ex-colonial ones in which, if only for reasons of prestige, well-to-do persons cannot avoid keeping in their service troupes of servants whose individual duties are strictly defined and whose ranking order is well established; and others in which servants are a rarity or are unknown. Among these latter a further distinction should be drawn between the countries where the services of domestic servants can be, to a great extent, dispensed with as they are replaced by mechanical devices and the organisation of outside services, as in the United States; and countries in which they take up all the time of the women on the home as they do in so many other countries. In the North African tribes, for instance, the work of drawing water, grinding wheat or barley, and making bread keep the women busy a large part of the day and of the night.

The services of wet-nurse and children's nurse and looking after children in infant school takes up a considerable part of the time of the population in some countries, while in others such work is almost unknown.

Celebrations or festivities which play a great part in the social life of some peoples are in the case of some primitive peoples and even among certain classes of non-primitive, the collective occupation of the family and their relations, and entail no appreciable outlay on labour and therefore do not give rise to cash incomes, whereas in other countries they cannot be held without having recourse to paid labour.

Public or charitable positions and duties, scientific direction and collaboration which in some countries are filled and discharged gratuitously, in other countries are semi-gratuitous, while in yet others they are adequately remunerated.

Corvées have disappeared altogether in some countries, in others they still have some importance. Military service—and this is a capital difference—is in some countries on a voluntary and mercenary basis, while in others unremunerated conscription is the rule, and in others again it does not exist at all.

Apart from military service, the greatest differences from country to country, in relation to the matter at issue, are found in the regulation of sexual services. Mars and Venus have always been goods whom it has been difficult to control.

There are some countries in Central and South America in which most babies are born out of wedlock, not so much as the result of unlegalised unions *more uxorio*, as of extra-conjugal relations with kept women, of whom a man will often have several. If attention is called to the irregularity of such conduct, the citizens of Latin America, not disquieted by such remarks, reply by assuring you that Bolivar, their super-national hero, had this habit. The First Citizen of one of these States—the first also in this respect—thus had a hundred or more children, all illegitimate. Of course these relations are not always formed with a view to offspring, and are not always prolific. When I was in Brazil some twenty years ago I was told—I must however say that I did not check the calculation—that the passive item arising from the sums received by a hundred odd French "cocottes" weighed as much on the balance of payments of the nation as the remittances of millions of Italian immigrants. Now, for the purpose of appraising income, the expenses incurred for these mistresses or courtesans, which first figure in the man's income, should of course appear as the professional incomes of the recipients, differing in this from the expenses for the maintenance of an ordinary bourgeois family which appear only once as the receipts of the husband, and are then considered as allocations of his income, without representing a corresponding entry received by his wife.

In Japan, the houses of pleasure and those of the geishas are thoroughly well organised and socially recognised institutions. When the International Institute of Statistics held its meeting at Tokio in 1930 one of the first receptions

offered to the guests and their ladies was held, on the invitation of the Prefect of the Capital, in the house of the geishas and was in no wise inferior in decorum and elegance to the others offered us in Japan or, on other occasions, in other countries. Here again the receipts of the houses of pleasures or of the houses of geishas, which are said to amount to very high figures, should of course be reckoned as the professional incomes of the damsels and of their respective impresarios for the purposes of the estimate of national income.

There is no need of similar institutions in the United States where the emancipation of women and the equal status of the sexes has practically removed all difficulties in the way of sexual relations between unmarried people; thus bringing from this point of view (once more extremes meet) the most advanced of the Western civilisations near to the primitive Polynesian societies whose customs led the European explorers to call the Island of Tahiti the "New Cythera". But widespread as such relations may be, it is certain that neither in the one nor in the other country do they appear in the calculation made for the national income.

The disturbing factor represented by sexual services acquires marked importance in abnormal times.

Among many Polynesian and Esquimo populations the arrival of a European ship was a source of considerable contingent gains, being a return for the favours granted by their women with the full consent of their families and in conformity with local customs. And when such return took the shape of metals valuable to them, or of arms and tools of special efficiency, it sometimes reversed social relations of wealth and power. The first Esquimos and the first Polynesians who succeeded, by some means or other, in possessing themselves of a steel knife or a gun became all-powerful. A Danish explorer, who had married an Esquimo and lived with her in Greenland, tells us the spicy anecdote of a lady of that country who, duly authorised by her husband, distributed her favours to the crew of a ship which had called at that port, and who was so busy with her work that in the confusion she lost her trousers (women there wear trousers), but she accumulated such a fine sum that she made it

her business, and more than her business, her pleasure (delight in giving is characteristic of that people) to invite all the families of the community to a banquet, and among them our Dane, who was not a little embarrassed at sharing in the proceeds of such transactions.

Without crossing the oceans or going backwards in time I think it would be difficult to draw up a reliable balance-sheet for the European countries occupied by the American troops without taking account of the flow of goods received by the girl friends of the soldiers,—and extended by them to their families and acquaintances—as a return for their feminine favours. There are some localities in which we may well ask ourselves whether they were more indebted to Ceres or to Venus for helping them to muddle through the tragic winter months following their liberation. Yet all this is little compared to what happens in the Far East in times of famine (and in some regions famine is permanent!) where not only the services of the women, but the women themselves in their best years—and in other ages at least they weren't so particular about the sex either—are sold by those who can dispose of them. It is this circumstance that explains the different consideration in which the girls of the casinos are held by Japanese and by European society. In Japan they are not, as in our countries, girls who have let themselves slide down the fatal slope of the temptations of the flesh, but, generally good domesticated girls whose fathers have sold them to feed their families, or who in some cases have sacrificed themselves to save their old parents from starvation; so they are pitied as victims when they are not praised as heroines, instead of being despised as immoral or degenerate.

These examples will suffice to show that, under more or less exceptional circumstances, it would be vain to wish to leave out of account sexual services in calculating the income of a country and they show that it is incoherent and also—given the importance they constantly attain—misleading to disregard them even under normal conditions.

Differences no less marked than in the case of sexual services, are found from one country to another in the contribution made to the national income by self-services. On the one

hand we have South American countries, where anyone belonging to good society would feel degraded by carrying the smallest parcel, and on the other England where even the members of the Cabinet carry their despatch-cases themselves, and the United States, where the millionaire thinks it quite natural to carry his own suit-case to the train and where one may see, as I myself have, a president of a college house, no longer young, walk bent under the load of books he was returning to the library before going on his holidays. The richest American drives his own car, travels with his typewriter on which he himself writes, and, besides shaving himself, very generally cleans his own shoes, brushes his own clothes, and, if necessary, gets his own breakfast ready, to the delight of European servants at finding their employers so well trained. All these are services which in Europe give rise to payments on the profit side of the national income account.

Though the rule may be subject to notable exceptions (11), it can be said that the personal services not taken into account in estimates of income, tend to become less and less important with the relaxed solidarity of the family group, the ties of relationship and community ties, with the growing emancipation of women and children, with the more complex economic organisation and the division of labour, and with the progress of book-keeping technique. We may therefore expect that, territorially considered, the difference between the cash incomes of the several countries will, for these reasons also, be exaggerated when compared to their total incomes, and that comparisons between one period and another will give an exaggerated impression as to the increase of national income.

These personal services acquire exceptional importance in times of emergency and, in the economic cycles, during periods of depression, when people cut down their expenses, and on the other hand they fall below normal in pe-

(11) A notable exception may be made on the outbreak or under the menace of a war. If a preferential treatment is expected for married people as compared to unmarried—as often happens—an epidemic of marriages ensues, which to a large extent only regularises pre-existing extra-conjugal relations. If the national income, as commonly understood, could be accurately measured, it would in such cases be seen to have diminished considerably.

riods of business expansion and in times of exceptional prosperity.

If—as I have said—we cannot hope to render comparable incomes in which so many and such important factors are neglected in varying degree, it will nevertheless be possible to make them less heterogeneous by taking into account, if only approximately, another factor also generally neglected but of great importance. I refer to the cost of producing, maintaining, and amortising human capital, with which I will now deal. Not however, before speaking of another cause of errors that, under some aspects, acts in an apposite direction to the former ones.

8. - If, as we have seen, many goods and services are neglected in the estimates of national income, on the other hand there are some receipts which are included in income and which, in whole or in part, do not correspond to an increase of goods or to a prestation of services.

In this connection, we think at once of the proceeds of extorsions or swindles or thefts or plunder, and it is to exclude them that some writers define income as limited to receipts arising from activities which come within the purview of the law. This limitation is however too broad on the one hand, too narrow on the other.

Even in normal times there are some illegal activities, such as those of the smuggler, which undoubtedly represent a service rendered to the consumer, even if consumer interests fall foul of those of the Treasury, and during and after the war, the "black market", though forbidden in many countries, developed on an enormous scale, and—it has been said—that it deserves to have a monument raised in its honour as but for it a large part of the population would have starved to death.

On the other hand, there are some proceeds allowed by law from activities which produce neither services nor an increase of goods. Such in many countries are the receipts obtained by begging, and all those that are fed by alms. If the receipts of card-sharps should be included among those that are illegitimate, those honestly arising from games which are not exclusively games of chance belong to the

category of legitimate earnings, and, in the case of specially skilful players, they may be a normal source of income, but they cannot be said to correspond to a service rendered to their fellow players who lose.

It cannot however be said that all these considerations give rise to serious difficulties in estimating the national income, because it is always easy to exclude from such calculations the receipts from alms, charity or gambling and similar sources, and to include those of smuggling and the black market. But the difficulty arises—and it would seem to be one that cannot be easily overcome—when we are dealing with receipts that correspond in part to real services or to goods produced and in part only represent transfers, whether licit or illicit.

To what extent do the receipt of the forester, the speculator, and in general those of the trader understood in the widest sense of the word, really correspond to services rendered? Not without reason did the ancients consider Mercury as at one and the same time the god of merchants and of thieves. And do the services of other professional men, such as physicians, or lawyers, or accountants, always correspond really and entirely to services rendered?

The honesty of traders and professional men certainly varies, not only from person to person, but also, and radically, from country to country. Thus we Westerners claim that their honesty is much greater in our countries than in those of the Near East. On the other hand, there can be no doubt that commerce and the so-called liberal professions acquire growing importance with the development of business activities and the level of national prosperity, so that we should consider that—other things being equal—the amount of their proceeds which, viewed from the standpoint of collective prosperity may be considered as fictitious, is higher the higher the national income. This inaccuracy in the estimate of income therefore also tends to exaggerate the differences which really exist in incomes in time and space.

9. - If in estimating income we deduct from the value of the products the cost of raw materials and of the energy—physical, animal or human—employed in their production, or that

incurred for the upkeep and amortisation of the plants, there would seem to be no reason why we should not deduct from the value of human services the cost incurred for feeding, clothing and lodging the worker, for keeping him in good health, and for his training, as well as those for his replacement by rearing new workers of like number and productive yield. Do we not do this when estimating the services of animals? And was not this done, is it not done, in valuing human services where slavery prevailed or prevails? The change brought about in civilised countries in the legal position of the worker, cannot alter the economic criteria to be followed in valuing his services. The principle, in keeping with this point of view, of exempting from taxation that quota of income the taxpayer requires for his own keep and that of his family, was accepted since ancient times and is generally speaking recognised, in modern societies, even by the Treasury (12). In this respect—incredible as it may seem—the Treasury is more advanced than many economists and statisticians who object—sometimes with specious arguments—to making similar deductions in calculating the national income. The argument advanced by Pigou—generally so acute in his analyses—is a specious one when he sustains that the cost of maintenance of the workers should not be deducted because if they were not working that cost would be very little reduced (13). Just fancy what an entrepreneur of animal transport would say if, when drawing up a contract for his services, the other party were to claim that no allowance should be made, when reckoning the carrier's expen-

ses, for feeding and sheltering the animals because even if they were not working they would have to be fed and sheltered all the same! An accountant, if summoned to settle the question, would not fail to observe that, in addition to the special expenses connected with the specific work performed, there are, in all businesses or undertakings, overhead expenses inseparable from their existence, which are the premise of any form of activity and which must be refunded no less than the others.

Now, for the purposes of international comparison, it is important to observe that the subsistence expenses may weigh in a very varying degree on the balance-sheet of different countries, varying with the climatic and hygienic conditions of the country, its social habits, the length and severity of the work. The longer and heavier the work, the greater is the worker's need of food, and, other conditions being equal, the greater will be his consumption of clothes and implements. This represents a material cost of work of which, as we said at the beginning, account should be taken. Put above all, the cost of rearing the new generations weighs very differently on the economic balance sheet of the several nations, depending on whether they are emigrant or immigrant countries. It is impossible for anyone to understand how the portentous wealth of the United States has been formed and why the poverty of many industrious and intelligent European populations lasts, if account be not taken of the cost of rearing the emigrants, an expense which these populations have met for over a century to the sole advantage of the immigrant countries. Almost one third of the new generations of workers employed by the United States from 1820 to 1930 was supplied gratuitously by the emigration countries, most of which were European, and the sums that this immigration has enabled America to save, if invested at 3%—a very low rate of interest for the whole of the period covered—would definitely exceed, as I have shown, all the wealth at the disposal of the United States prior to the last economic depression (14).

(12) This is the reason generally given for the exemption of the "subsistence minimum". See ENAUDI, *Corso di scienza delle finanze*, 11th edition edited by A. NIZZO, Turin, Bocca, 1914, p. 332; F. FLORA, *Manuale della scienza delle finanze*, V. ed. Giusti, Leghorn, 1921, p. 245. The objection has been raised that the reason adduced has now been surpassed, and that this exemption is now justified by the consideration that the cost of the assessment would exceed the yield of the tax. There are however some countries in which even incomes that are below the taxable limit are assessed, and this points to the fact that the second reason adduced, even if in many cases it may run parallel to the first, is not in itself sufficient. On the other hand, the second reason adduced would justify the exemption of the smallest incomes, but not the exemption of a subsistence minimum as is often done for all incomes.

(13) See on this matter A. PIGOU, *Income, An Introduction to Economics*, London, Macmillan, 1946, and our article: *On National Income*, in a Banca Nazionale del Lavoro Quarterly Review, No. 2, July 1947, p. 63.

(14) The detailed demonstration of this is given in the article *Europa und Amerika: zwei Welten*, published in "Weltwirtschaftliches Archiv", July 1940. The results have been summed up also in the lecture: *America: stirpe di lavoratori*,

The principle that in making a comparison between the incomes of the several countries it is necessary to deduct the subsistence costs of the population, taking account of the special conditions and exigencies of each of them, was made use of by me and fully accepted by the American delegation during the negotiations concluded in 1925 for the funding of our war debts with the United States (15).

Not only should subsistence expenses be deducted, but also those incurred for professional education and training, and this is very important in the case of international comparisons, because, while it is quite true that both these items vary in time and space in the same sense as the variations in income, yet subsistence costs vary less than proportionately, whereas the total costs of rearing, inclusive of professional education and training, vary probably in a more than proportionate degree. Therefore, by deducting from income the sole costs of subsistence, the differences from one country to another and from one period to another are increased, while if we deduct also the costs of professional education and training, they are attenuated (16).

Such deductions however can only be reckoned very roughly in the best of cases, as they should not include all household expenses but only those required for the conservation of the necessary number and productive efficiency of the human capital. Therefore, not only must superfluous expenditure be excluded, but it is also necessary to ascertain whether the popu-

Centro It. di Studi americani, Rome, 1940, and in the article: *Una società lavorista*, "Rivista di Politica Economica", June, 1940 (translation in Spanish, in "Revista mexicana de Sociología", Vol. III, No. 1 and 2, 1941), and will be presented again in an article entitled *Apparent Causes and Real Causes of American Prosperity*, to be published in the next issue of this Review.

(15) See the memorandum *A comparison, etc.*, quoted in note (9).

(16) On the effect of international comparisons of the deduction of subsistence costs, see the memorandum quoted in the previous note and the address on *La ricchezza comparata delle nazioni* quoted in note (7).

As to the variations which occur with the variations in income in the costs of rearing, inclusive of professional education and training, it should be remembered that a labourer or a peasant usually bring up on their incomes large families, whereas the parents of the middle or upper classes can barely succeed, even when they make use of their incomes derived from capital, in giving three or four children an education in keeping with their social position.

ation is increasing or declining numerically, and the major or minor degree of its technical progress, so as to eliminate the bearing of such factors of evolution.

Nor is it an easy matter to discriminate between essential and superfluous expenditure. Is tobacco, for instance, to be considered superfluous when so many would rather give up bread than cigarettes? Besides the cost of physical subsistence, we must take into account that of those which have been described as "psychic subsistences", for which it is much more difficult to settle the limits (17).

Should it be possible to make this deduction, however approximately, in a satisfactory manner, it would, to a large extent, iron out the difficulty of which we have spoken in drawing comparisons between incomes in space and in time, in so far as they depend on the diverse importance that real and personal services, whether rendered by others or by oneself, have in the several countries. These services are for the most part essential to the life and efficiency of the worker and his family, and their major or minor importance will determine the major or minor deduction of the cash income that must be made for the production, maintenance and amortisation costs of labour. If this deduction be not made, not only do we not eliminate the difficulties met with in drawing comparisons, but further causes of uncertainty are introduced, in so much as subsistence costs vary from country to country—as already stated—and on the other hand, if in the course of time they tend to diminish with the diminution of the duration and laboriousness of the work, on the other, they tend, to increase—and this tendency is predominant—with the growth of technical progress and the consequent need of a longer period of professional education and training, and with the growth of psychical subsistence needs.

A conspicuous objection to the proposed deductions may seem to be afforded by the fact that the satisfactions derived from consumption decline with the quantities consumed, so that

(17) For the distinction drawn between "physical subsistences" and "psychic subsistences" see more especially *Le basi scientifiche della politica della popolazione*, a study course given at the Rome University, collected by Dr. Giulio Ruga, Rome, Istituto di Statistica, 1931, p. 212 et seq.

those which afford the greatest satisfactions are precisely those essential to the subsistence of the populations.

Following the same line of thought one might reply that the need for goods essential to subsistence, corresponds to suffering that the satisfactions derived from the said consumption only compensate.

Moreover it must be pointed out that the criterion of satisfactions is not the only one to which one must refer in deciding if certain goods should be included in income, for such a criterion would not allow of drawing a distinction between income and the consumption of capital.

When we talk of dynamic goods we mean events desired in so far as they add utility to those already existing as represented by static goods. Their estimation presupposes therefore that the static goods should not be partially consumed to obtain them, or, if partially consumed, that they be replaced, or that, in any case, the cost of such replacement be deducted from the income. And this holds good for human capital as well as for other static goods.

Another striking objection is formulated by Kuznets, an American writer who in the last few years has devoted many and important studies to the income of his country, and has also traced the matter back to considerations of a general character.

All forms of economic activity—he remarks—have as their ultimate purpose the satisfaction of human desires, and in estimating national income the purpose is to measure the contribution it makes to this end. National income is for man, and not man for the increase of national income. Man should therefore be considered as a consumer and not as a tool for the production of other goods and services, and national income must therefore correspond to the full value of the goods that economic activity places at the service of the consumers in the period considered, plus the net value of the increase of instrumental goods as shown at the end of that period. It would be justifiable to deduct the cost of production of human capital only if the ultimate purpose of economic activity were the mere increase of available goods, in which case in-

come should include only the increase of such goods (material goods and population). (18)

Now both the premise and the deduction are disputable.

As regard the deductions, it is inaccurate to say that by deducting the production costs of human capital all expenditure on consumption is eliminated from income, and that only the net increase of goods existing at the end of the period would remain included therein. The fact is that only those consumption expenses necessary for securing new products (natural or human) would be eliminated. All consumption expenditure on superfluous goods and services would remain included.

As regard the premise, it should be remembered that man is both a consumer and a producer; he is indeed the end but also the instrument of production; it is a mistake to consider only one of these two aspects, nor is it accurate to state that the ultimate purpose of economic activity is the satisfaction of human desires; the ultimate purpose is the satisfaction of those desires that exceed the needs of life and production. For this reason animals do not carry on economic activities, nor do primitive societies that limit themselves to working in order to live, form economic societies. Economic activity only arises when a society rises above the animal stage of production and work is carried on beyond the point required for assuring the mere necessities of life. (19)

As we have observed from the start, income tends to measure the contribution that external rational dynamic goods make to human happiness, and happiness only begins when the essential needs of life are satisfied. Before that point is reached, the satisfaction of desires only represents the neutralisation of the sacrifice represented by the needs.

10. - The difficulty just discussed is linked to another inherent in the estimation of income, a difficulty arising from public ex-

(18) S. KUZNETS, *National income: A summary of findings*, National Bureau of Economic Research, New York, 1946, pp. 113-116; *National Income and its Composition*, National Bureau of Economic Research, New York, 1941, pp. 57-58.

(19) See in this connection, the article *The evolution of the Psychology of Work and Accumulation*, in "Banca Nazionale del Lavoro Quarterly Review", No. 4, January, n. 1948, p. 207.

penditure (20). Should such expenditure be added to private incomes net of taxes or—and this in principle may seem to amount to the same thing—should these incomes be calculated as gross of taxes? Or, if the first system be followed, should we add only part of the taxes, or, if the second is followed, should we not deduct part of them?

As a preliminary, we would point out that—even limiting ourselves to considering ordinary taxes and expenditures—the two systems above mentioned would really be equivalent if all public expenditure were met out of taxation. But, as is well known, this is not case, as the State may, and notoriously does, have recourse to other resources provided by the industrial enterprises it operates, by rents or royalties obtained from leasing capital goods and national property, sometimes by interest earned on loans. It should be added that as far as direct taxation is concerned, the alternative of considering either the gross or the net income offers no difficulty, but when it comes to indirect taxation the incomes—if due account is taken of the purchasing power of money—are practically always estimated net of it, in as much as, when such taxes fall on the producer, they are considered as costs of production, when they fall on the consumer they lead to a rise of the purchasing prices, that is to a fall of the

(20) See on this point my report *Di alcune circostanze che nei tempi moderni tendono a far apparire l'incremento del reddito nazionale maggiore del vero* (Italian text and French translation) presented to the XXII Session of the International Institute of Statistics, London, 1934, and published in Vol. XXVIII, Part II, of the "Bulletin of the Int. Inst. of Stat.", 1935, p. 248 et seq. The reasoning holds good in so far as the index number of the purchasing power of money is correctly calculated from the purchasing prices paid by consumers majored by indirect taxation which falls on them, while, for the purpose of estimating income, account must, of course, be taken of the sales prices net of indirect taxes, and so also in view of the comparisons in space and time. We cannot, therefore, accept Hicks' suggestion to add to the data on income deduced from sales prices, the yield of indirect taxes, when we are to apply to the data in question the index numbers of the purchasing power of the currency, which are based on purchasing prices inclusive of indirect taxes (see *The Social Framework*, op. cit., p. 207). Undoubtedly income consists of that which the producer obtains from the sale of his products, and the addition which the State obtains from it does not belong to the said income, whereas the purchasing power of that income is measured by the prices the recipient must pay for acquiring goods and services which prices are, on the contrary, inclusive of the levy the State has made through indirect taxation. We must not allow ourselves to be led into error by a desire of symmetry which, in this case, does not correspond with the purpose of the research.

purchasing power of money which amounts to a reduction of the money income.

Therefore, in practice, it is advisable to follow the first method, and the problem that has to be solved is whether the total amount of public expenditures, or only a part of it (and what part) should be added to the incomes of private persons, after deduction of direct taxes.

At one time the first solution was the one mainly adopted, all taxes being considered as the equivalent of the real services rendered by the State to its citizens. I have frequently had occasion to remark that this is justified in the case of expenditures which directly satisfy consumer wants, but not of those which are of benefit to production (21), and the objection was recently presented once more in connection with the calculation of the national income of Great Britain (22). Here again there is a failure to deduct some expenditures which lead

(21) See my remarks during the discussion of the Report submitted by J. C. STAMP on the occasion of the centenary of the Royal Statistical Society of London, entitled *Methods used in Different Countries for Estimating National Income*, "Journal of the Royal Statistical Society", 1934, Part III, as well as the report quoted in the previous note, presented at the session of the International Institute of Statistics held on the same occasion. For the precedents on this matter, see the paper presented in 1930 to the Tokio session of that same Institute under the title *La determinazione della ricchezza e del reddito delle nazioni nel dopo guerra e il loro confronto col periodo prebellico*, published in the "Bull. de l'Inst. Int. de Stat.", Tome XXV, 3me Livr., p. 358 et seq., and the considerations connected therewith, contained in the volume *L'ammontare e la composizione della ricchezza delle nazioni*, Turin, Bocca, 1934, pp. 15-17. See also, in connection with these latter, the two essays by L. EINAUDI, *Del cosiddetto prelievo delle imposte e dei suoi effetti sulla valutazione del reddito e della ricchezza di un paese*, in "Riforma Sociale", May-June 1939, and *La incisione del debito pubblico nelle valutazioni della ricchezza delle nazioni*, in "Bull. de l'Inst. Intern. de Stat.", Vol. XXVIII, 11 Livr., 1935 (both reprinted in *Saggi sul risparmio e l'imposta*, Turin, Einaudi, 1941) as well the debate that took place at the International Institute of Statistics following on the presentation of the second essay ("Bull. de l'Inst. Intern. de Stat.", Vol. XXVII, 1 Livr., pp. 102-104).

(22) E. H. STERN, *Public Expenditure in the National Income*, in "Economica", Vol. X, No 38, May 1943. STERN quoted two works in support of the solution advocated by him and by me: *Das deutsches Volkseinkommen vor und nach dem Kriege*. Bearbeitet im Statistischen Reichsamt. Einzelhefte zur Statistik der Deutschen Reichs. No 24, Berlin, 1931, and G. COLM, *Public Revenue and Public Expenditure in National Income*, Vol. I of the "Studies in Income and Wealth", National Bureau of Economic Research, New York, 1937. Colm's work was followed by an interesting discussion, but neither Colm nor any of those who took part in it, nor the authors of the paper of the Reichsamt, showed a knowledge of the previous works quoted in the notes (20) and (21).

to an exaggerated estimate of the national income.

Some have replied that on the one hand it is practically impossible to draw a distinction between the two groups of expenditures and that in such conditions it proved advisable to neglect the second group, which obviously implies that this was considered secondary in comparison with the first (23).

(23) See Stamp's reply, published also in the number of the Journal of the Royal Statistical Society, mentioned in note (21), the volume, already cited, by J. R. HICKS, *The Social Framework*, and the article by K. W. ROTHSCHILD, *Public Expenditure in the National Income: a note*, in "Economica", Vol. XI, No 41, February 1944 (In that same number Stern's reply is published). Hicks in particular writes: "Being unable to draw a line, British statisticians have invariably decided to neglect the assistance given by the public services to the production of other goods; they treat the whole of the public services as direct services, ministering to consumers' wants in the same way as consumption goods do". (Op. cit., p. 135). Similar assertions are made by Rothschild, who refers also to Hicks.

Rothschild meant to defend the method followed in the English White Papers on the line of the rules proposed by J. E. MEADE and R. STONE (*The construction of Tables of National Income, Expenditure, Savings, and Investment*, in "Economic Journal", June-Sept., 1941), rules which he considered consisted in adding to private incomes, net of all tax, all public expenses. It seems however that the rule really adopted by those authors and followed in the White Papers was a different one and consisted in deducing income from private revenues inclusive of direct taxes, in as much as they allow consumption expenditures to be offset by direct taxation (which would not therefore be deducted from private incomes), and production expenses by indirect taxation (which would therefore be deducted). According to Stern, these hypotheses came near to the facts in 1938 but not in 1940 (see the reply to Rothschild above quoted).

In the case of the United States, several authors adopt a different rule, and admit that consumption expenses are equalled by the direct taxes paid by individuals (cf. the works of S. KUZNETS published by the National Bureau of Economic Research: *National Product in War Time*, 1945, p. 36, *National Product since 1869*, 1946, p. 23, *National Income. A Summary of findings*, 1946, pp. 132-133) and therefore, if I have understood them rightly, production expenses would be equalled by the indirect taxes paid by individuals, plus all the taxes paid by business firms. This rule is in contradiction with Denzén's statement, according to which indirect taxes exceed production costs, so that the difference should be added to private incomes inclusive of direct taxes (see United Nations Economic and Social Council, World Statistical Congress, *The Comparability of National Income Statistics*, by Dr. J. B. D. DENZÉN, p. 10).

On the other hand, a committee of English, Canadian and American statisticians (Kuznets was not one of them) who met in September 1944 in Washington, came to the conclusion that all taxes on corporate net income should be considered direct taxes and therefore should not be deducted from the corporate profits when calculating the national income (cf. E. F. DENISON, *Report on Tripartite Discussions of National Income Measurement*, in "Studies in Income and Wealth",

But the first of these arguments is inadequate, because, even supposing that the distinction cannot, in practice, be made, the problem involved should be solved in principle, and, on the other hand, a distinction, even if it be but approximate, can certainly be made for a large part of the expenditures, sufficient

National Bureau of Economic Research, Vol. X, New York, 1947, p. 12).

It must not, however, be forgotten that—as has already been recalled—ordinary revenues may be fed not only by direct and indirect taxation but by the proceeds of the properties of other economic activities of public bodies which in some countries are, indeed, of considerable importance, apart from the fact that ordinary expenditure is not always met—as the rules of sound finance would require—by ordinary revenue receipts but often by movements of capital.

In the case of Italy in the financial year 1934-35, Dr. Giannone has calculated that of 21.6 milliard of national revenue, 2.8 were provided by movements of capital, 1.1 by advances or reimbursements, 1.0 by the revenue from national properties or Government economic activities, 4.7 by direct taxation, and 12 by indirect taxation. The yield of direct taxation was therefore considerably below consumption expenses which, according to Giannone's calculations, discussed further on in the text of this paper, amounted to 6.8 milliard, so that, if anyone had followed for Italy during that financial year the rule laid down in the White Papers for calculating income, he would have obtained figures considerably below the real ones.

In reality, the hypothesis of an equivalence or, more generally, of a fixed ratio between consumption expenses and direct taxation on the one hand and production expenses and indirect taxation on the other has neither a theoretical nor an empirical foundation, and, if it may be approximately correct in one year or in one country, it may be very far from correct in others. It is indeed known that the relative importance of direct or indirect taxation, no less than that of revenues from properties has presented systematic variations in the course of time, and differs today very widely from one country to another (for particulars on this matter, the reader can consult, for instance, the *Manuale della Scienza delle Finanze*, already mentioned by F. FLORA). It is known in particular that in abnormal periods, and more especially in periods of inflation, the importance of direct taxation declines, as it presupposes a certain degree of stability in the monetary values of incomes and capital, and greater recourse is had to indirect taxation, which follows more closely price variations (see on this point also *Prime linee di Patologia economica*, op. cit., p. 425 et seq.), but it cannot be said that at the same time the importance of production grows in the same proportion as consumption expenses. After the previous world war it was found that in some countries (Italy, France, India)—either as the result of new legislation or of a pre-existent trend—the ratio of indirect to direct taxation was higher than in the pre-war period, while in other countries modifications in the fiscal system had occurred which had definitely raised the ratio of direct taxes, for instance in the United Kingdom from 48 to 60 per cent., in Australia from 10 to 51 per cent., in Canada from 9 to 56 per cent. (cf. G. FINDLAY SHERRAS, *The Science of Public Finance*, MacMillan, London, 1924, pp. 160-161, 344 and 407). Such differences evidently have no relation to the nature of public expenditure (satisfying consumption or increasing production), and make us understand how far we should be led from the truth by a general adoption of the criteria adopted by the aforesaid Anglo-Saxon authors.

for showing that the second argument is void of any foundation, as the second group of expenditures is never negligible and sometimes prevails over the first.

An enquiry made at my suggestion by Dr. A. Giannone into the Italian budget for 1934-35 shows that the amount of expenditure on national defence and public safety, which it is indeed difficult to distribute between the two groups, amounted to 28.2% of total expenditures. Of these a further 23.2% may be considered as expenditures on production; 28.7% as transfers (interest payments on the national debt) (24)—which should be blocked together with the expenditures on production (25) by those who, starting the calculation of the national income from the sum total of private incomes after deduction of direct taxes, include in it interest payments on the national debt on the same footing as those on private securities (26)—and lastly not more than 19.9 per cent as expenditures on direct consumption.

(24) Expenditures corresponding to capital movements have been excluded; so also have been the expenditures on pensions in so much as the salaries appear in the budget inclusive of the amounts held back for such purposes.

(25) Public expenditures which increase production may account for a variable fraction of production costs. Should they represent 100 per cent. thereof, they might be described as "transfer expenditures" or "transfers". Thus the expenditures incurred for the production of the interest on government securities are represented in their totality by the expenditures incurred by public bodies for the payment of the said interest and for administrative expenses connected therewith, expenditures which are therefore described as transfers.

It is arbitrary to consider transfers as a sub-category of production expenditures; or to place them in a separate category. I prefer, at least for the purposes now considered, to treat them as a sub-category of production expenditures, as they have in common with them the essential features that are of importance in this matter.

(26) National debt securities are included in private wealth, and therefore interest on them is included in the respective incomes, in as much as such payments are made out of the yield of the taxes levied on private wealth and for that part lower its value, or else from other revenues of the State, which proceed from capital goods not figuring as part of the national wealth, and which, if they were not absorbed by the service of the national debt, would make it possible to reduce the burden of taxation, thus raising the value of private properties. These taxes may weigh either on material wealth or on human capital. Those who include human capital as part of national wealth thus find that the increase of the wealth represented by government securities is fully offset by a reduction of the value of other assets; those who do not include it must consider government securities, for the part for which their service is covered by taxes weighing on human capital, as an addition to the other assets consequent on the capitalisation of the income from labour or, to express it otherwise, as a materialisation of human capital. See on this subject my writings quoted in notes (20) and (21) and

Granted that military expenditures may be divided roughly in half between the two groups, 34% of the total outgoings of the budget should be calculated among the expenditures on consumption and 66% among the expenditures on production. An the strength of these results it would appear that only a little more than one third of the public expenditures should therefore be added to private incomes, net of taxation.

Those who would exclude from private incomes after deduction of direct taxes, the interest payments on the national debt, and who would therefore deduct from the public expenditures to be distributed those representing transfers, would still find that more than half of such expenditures are production expenses and less than half consumption expenses to be added as such to the estimate of private incomes after deduction of direct taxes.

A similar calculation made for the Federal Budget and for the budgets of the several States of the United States, on the basis of the data partly obtained from returns and partly by calculations made by Nelson and Jackson (27),

the articles *Sul problema finanziario del dopo guerra*, in "Supplemento economico del giornale Il Tempo", January 3, 1934, note (3), (reprinted in a pamphlet of the same title, *cf. note on p. 9*); *Sulle valutazioni della ricchezza nazionale*, in "Giornale degli Economisti", July 1935 (reprinted in *Problemi sociologici della guerra*, Zanichelli, 1921), *Significato economico delle valutazioni della ricchezza nazionale*, in "Giornale degli Economisti", May-June, 1946.

(27) R. W. NELSON and D. JACKSON, *Allocation of benefits from Government Expenditures*, in "Studies in income and wealth", Vol. 2, New York, Nat. Bureau of Economic Research, 1938. An estimate of the government consumption expenditures is given also in Vol. III of the same publication by C. WARRINGTON (*Three Estimates of the Value of the Nation's Output of Commodities and Services. A comparison*).

A distribution, even if only approximate, of consumption and production expenses must have been made by Stern for the British budgets of 1938 and 1940, for he asserts — as I have mentioned above (*cf. note (23)*) — that production costs are roughly equivalent to the amount of indirect taxes in the former year but not in the latter, while an estimate of the governmental services by categories is given by T. BASSA (*Rib-tribution of Incomes through Public Finance in 1937*, Offid., 1945).

A distribution of public expenses between production and consumption expenses was also made for Sweden by Dr. KANS KOCK, but in conformity with criteria too conventional to allow of its being compared to the result obtained, in conformity with criteria more closely related to facts, for the United States of America and for Italy. In the first place, expenses relating to industrial and comparable activities were excluded in Kock's distribution as were also the subventions or contributions to different purposes. The distribution therefore refers to expenses

for 1936, has led to the following results: 41% of the budget expenditure is seen to be accounted for by consumption expenses, 19% by production expenses, and 40% by transfers. If the transfers are included in production expenses, the latter are found to account for 59% and consumption expenses for 41%. If transfers be excluded from the total expenditures, then barely one third would be accounted for by production expenses and a little more than two thirds by consumption expenses.

While not concealing from ourselves the fact that the results may be affected by the different criteria used in calculating them (28), we may conclude that the quota of consumption expenses will be found to be considerably smaller in Italy than in the United States. This can be accounted for by the less frequent intervention of American government bodies in the economic life of the country, due to a greater survival of the laissez-faire policy.

It seems likely that if we were to examine the budgets of countries where government intervention is more marked, as in Russia, we should find that productive expenditures are of greater importance as compared to consumption expenditures, whereas the reverse may be expected in the former colonial countries in which the interference of the public authorities in economic activity is still more restricted.

incurred for constitutional and foreign affairs, for national defence, the administration of the law, church and education, arts and sciences as well as public health and public institutions. In the case of the local administrations, all expenses incurred for ecclesiastical purposes, poor relief, child welfare, public health and old age pensions were allotted to consumption, while the other expenses incurred by such administration, and all the expenses for Government were considered as being half consumption expenses and half production expenses. *Cf. E. LIN-NU, E. DANLÖFEN and K. KOCK, National Income of Sweden, 1861-1930*, London, King, 1937, Part I, pp. 227-228, and Part II, pp. 556-576.

The German Statistical Office, in the publication quoted in note (22), has not distributed public expenditure into production and consumption expenses, but has merely added to the other sources of national income that portion of consumption expenses (exclusive of such mixed expenses as those for national defence) which exceeded those taxes that were not deducted from private incomes as production costs. See pp. 15-16 and 55-60 of the publication quoted in note (22).

(28) To make the data more exactly comparable, Dr. Giannone is remaking the calculations for Italy in conformity with the rules followed by Nelson and Jackson, and viceversa the calculations for the Federal budget of the United States in conformity with the criteria he has adopted for Italy.

In the course of time the action of the State — at first limited essentially to defence against external enemies and to the maintenance of order at home, to diplomatic relations with foreign countries, the administration of justice and public education — has gradually developed, at first regulating national economy and later on participating directly in it.

Now the activities of the first group are carried on to a great extent in the interest of the citizens as consumers; those of the second group are above all carried on for the benefit of production. In Italy, Dr. Giannone has ascertained that the percentage of production expenses for the Ministries of the Interior, Justice, Foreign Affairs, Aeronautics, Navy, War, the Colonies, and Education, varies between 19.2 and 55.7% with an average of 45.6%; while in the case of the Ministries of an economic character (Finance, Agriculture, Communications, Public Works, Corporations) the percentages vary from 62.8 to 98.4%, with an average of 81.5%.

In the United States, the Federal budget, which has grown more recently than those of several States, assigns a larger quota to productive expenses and a smaller quota to consumption expenses than do the budgets of the latter. Thus, according to the results arrived at by Nelson and Jackson, consumption expenses represent, in the case of the former, 27.7 per cent of the whole and in the case of the latter 53.9%, and production expenses strictly considered 21.6% and 16.8% respectively, while transfers account for 50.7% for the former and 29.3% for the latter.

The question has been asked, how should useless public expenditures be considered? It is, indeed, difficult to suppose that expenses are incurred that are deemed useless by those who make them; there may be public expenses that others judge useless, but if the Government incurs them it is because it does not consider them useless.

When such a question is asked people are thinking probably of excavating works or other similar jobs paid for in abnormal times to give work to the unemployed, which are not, so far as one can see, productive of wealth. The Government, however, expects to obtain therefrom a return in the form of social quiet which

might otherwise be disturbed. Now, in so far as such disturbances might injure production, the public expenditure in question should be considered as a productive one; in so far as they might compromise personal safety or the satisfaction obtained by the consumption of goods and services, the expenditure should be considered as made for consumption.

Until it is possible to distribute, at least approximately, public expenditures between those for production and those for consumption we shall therefore be faced by another difficulty in making international comparisons of the incomes at various times and in various countries.

And when, as is often the case, the whole amount of public expenditures is added to private incomes, after deduction of direct taxation, another circumstance arises which tends to exaggerate the estimates of national income in a measure that increases in time, and in a greater degree in countries of a more developed economic organisation, thus emphasising the real differences occurring in time and space.

And here it should be noted that the same question that arises for public expenditures arises in the case of those made by other bodies and defrayed out of contributions—not only compulsory contributions but also optional ones as in the case of some for trade or professional unions—and in some cases it also arises for voluntary expenditures such as those made for insurance policies, purchases by instalments, and for amortising debts. What indeed matters is not the character, obligatory or optional, of the disbursement, but its use for production or for consumption. If the disbursement does not represent an allocation of income but an expense incurred for the production of the income one receives, it should be deducted from receipts in order to ascertain the income in question. It should not, of course, be deducted if it is not necessary for the conservation of the income received but directed to increase it, as in that case such expenditure would amount to an investment of capital. (29)

(29) There are cases in which the Government does not spend but saves: for instance, when it accumulates gold or gold exchange bills. Obviously, such saving must be added to private income net of taxes, for the purpose of obtaining the national income. This offers no difficulty.

11. - A matter that has acquired importance, above all in relation to the post-war situation, is that of the effects on national income of gains and losses independent of human effort directed towards production.

What we have said above in relation to unearned income and to the notion of dynamic goods in relation to static goods already points to the solution to be given to this question but it will be well to stop and justify it in detail.

The entrepreneur's profits obviously arise from the value of the products, after deducting all expenses incurred for raw materials, power, and labour used, interest on and amortisation of capital, taxes and duties and so forth. It depends not only on the work of the entrepreneur but also on variations in the prices of the raw materials and other factors of production. It is the business of the entrepreneur to take the risks involved. If, in the interval, the metals used in building a machine double their prices, the market value of the machine, determined essentially by the cost of replacement, will obviously be affected. Should prices of metals rise, that value will naturally increase; if they fall, it will be lowered. Any farmer knows that profits on his livestock depend not only on the increased weight of the animals but also, and to a marked degree, on the variations of prices affected by the pressure of supply and demand. Likewise, in a silk mill profits and losses depend to an essential degree on the variations in the price of the product as compared to that paid for the cocoons. It might seem absurd to say to the farmer and to the mill-owner that their income cannot be deduced from their actual earnings, but from the earnings they should have made had it not been for the variations in the prices of the factors of production.

Now, there would seem to be no reason why the principle followed should differ if the variations have occurred during the period of production rather than after the product has been finished. And so today the losses silk-spinners are meeting as a result of the fall in the value of the silk they have in stock, evidently react on their incomes neither more nor less than they would have done if they had occurred during the period of production.

On the other hand, it should be noted that in those branches of activity in which a speculative market is highly developed, it is the speculators who take on the risk of the price variations by purchasing the goods in advance. Indeed, from the theoretic standpoint we could easily conceive of a limit within which they would take over the whole risk in all branches of economic activity, and in such a case all the contingent profits and losses would appear in national income as the result of the professional activity of this set of people. Nor can we admit that the total amount of the national income would differ because, under the present social system, profits and losses affect the income of one rather than of another group of people.

It should also be noted that if no account be taken of increases in the value of goods for the purpose of determining income, then it is difficult to see in what the income of the commercial classes consists.

Nor would it be a valid objection to say that income—apart from personal services—is represented by an increase of goods, because the increase must be understood not only as quantitative but also as qualitative and among the qualities to be taken into account there is also that of the per unit value of the goods, which is indeed the fundamental quality that has to be considered.

This justifies the method followed by those estimators of the income of the United States who, taking into account during the last world economic depression the loss in value of productive goods, arrived at a negative result for 1932.

In conformity with the same principles, account should be taken when estimating income, not only of the variations due to conjuncture but also of losses suffered or eventually gains realised for other causes during or after the period of production.

If a hurricane lodges or destroys the crops before they are ripe there is no doubt that the farmer's income is curtailed or annulled thereby and so also if the harm is done when they are ripe but before they are gathered in. There would seem to be no reason why the economic effect on the national income should be other if the loss occurs during the harvest or when

the crops have been stored. The economic results are obviously the same, and as regards the legal effects for the farmer the results depend on the time when he has sold the crop not less than on the time when the loss occurred, as he may have sold it before the cycle of agricultural production started, by leasing the farm; or when the crop was ripe but before gathering it, if he sold the growing crop; or after the harvest but before storing it, if the crop was transported by the purchaser himself; or lastly when the crop was stored in the warehouse.

What we have said for loss caused by a hurricane can be repeated for losses caused by other natural phenomena, such as eruptions, earthquakes, landslips, the advance of sand dunes, soil erosion or immersion of lands, and in this connection it should be noted that such natural phenomena do not always cause losses but sometimes lead to advantages, as occurs in the case of the emergence of lands which in some countries, as has been the case in Sweden, acquire no small importance, even over relatively brief periods.

Nor is there any reason to draw a distinction between the losses caused by nature and those caused by man, all the more so as in some cases, such as fires, it may be uncertain whether they were natural, or due to culpable negligence or fraud. Obviously, the economic effects of such events do not depend on the agent or on his intentions, but on the result. Moreover, do not those laws and administrative acts which affect sometimes favourably—as they always should—but unfortunately often hinder and injure production, depend on man? And production, as is moreover natural, is calculated for what it is, as obtained under existing laws and administrative regulations, whether their effect be to increase or curtail it.

Obviously the destructions and losses caused by riots or by wars must be treated in the same way as those caused by nature or by fires, whether due to natural, culpable, or fraudulent causes. And in the case of loss due to war, it is not always necessary that the hostilities take place on the territory of the State that suffers the loss, which may be caused by the interruption of supplies, or by reduced production, or by the use of production for military pur-

poses, all circumstances which may fundamentally upset market conditions.

In this connection some would like to draw a distinction between curtailments and increases of income brought about, even if independently of the productive activity of man, during the period of production, and the losses or advantages affecting capital. But, as we have already remarked, it is often difficult to decide when the product ceases to be income to become capital. Should we consider that the ultimate product which is awaiting sale has been passed over into capital account? And should we not deduct from income rather than from capital the losses that so many products, and more especially animal and plant products, suffer during the period of waiting? It should be noted that in the case of many products a more or less long period of waiting is normal and the deterioration thus suffered is foreseen and calculated.

On the other hand, there are some products (as, for instance, certain kinds of wine) that require a long period for ageing or at least are improved thereby. When can the product be said to be finished? And should not the increased value acquired by the products as the normal result of ageing be calculated in the income? But if normal rise in value is reckoned as an asset, how is it possible not to reckon normal deterioration or exceptional losses as a liability?

On the other hand, what we have said about dynamic goods shows that they are such, only in so far as they are considered as an addition to pre-existing static goods.

We are led to the same conclusion when we consider that income represents a contribution of a continuous nature, as this presupposes the permanence of the capital, and consequently its replacement if it has been cut into.

Income account is certainly different from capital account, even if the line of demarcation between the two is not clearly defined. But income account is subordinate to that of capital, and one cannot open the chapter on income until the account for capital has been balanced.

It should, moreover, be noted that the independence of income from conjuncture or from other variations foreign to the act of production may to a large extent—and so indeed it actual-

ly is, though to varying degrees in the several countries—be secured by insurance. The variations arising from such factors are thus taken into account when calculating the income of the insurers, and here again we may repeat what we said in the case of speculators: the fact that the variations in income are distributed in different measure over the several members of the community cannot lead to a different valuation of its total amount.

In addition to outside insurance there are the inside insurances, made by forming security depreciation reserves, reserves for indemnities to dismissed employees, and so forth.

Therefore those writers who refuse to take into account, when calculating income, the losses or curtailments of capital independent of the process of production, find themselves compelled to make an exception for all insurable losses, by which they mean all those losses against which the entrepreneur normally protects himself either by a formal insurance policy or by other prudential measures (30). But the entrepreneur protects, or at least tries to protect, himself against all losses, whether caused by natural agencies, such as a hurricane, or by human action, such, for instance, as bombardments, or torpedoing, or breakage of windows, or theft, or those caused sometimes by nature and sometimes by man, such as fires.

The conclusion we are led to is that in order to avoid uncertainties and incongruities, account must be taken, in estimating income, of the losses and also of the advantages arising from all kinds of causes. These, indeed, modify the national dividend which, as we observed at the start, is an objective data. We should add—and this argument, even if there were no other, would in itself be decisive—that, if they be not taken into account, income would no longer answer the purpose of measuring welfare, i.e. the contribution made by external rational goods to our happiness. The contribution depends indeed on the physical qualities of the goods and not on the means by which these have been obtained. To justify the exclusion from income of any increase of goods not due to productive activity, we should have to prove that a ton of iron, laboriously excavated from

(30) Cf. PIGOU, *op. cit.*, p. 4.

the bowels of the earth, contributes—intrinsic qualities and accessibility being equal—more to our prosperity than a ton of iron of a meteorite fallen from heaven.

12. - The income, or dividend, or revenue of a nation in a given period of time therefore corresponds to the real increase (which under exceptional circumstances may even be negative) of wealth resulting at the close of the period, to which must be added the wealth the community has consumed during the interval and the value of the superfluous services enjoyed by it during the same period, the increase of wealth including not only the material increase of goods and their physical modifications, but also the increase of their value. Should there be productive services which have not yet had the time to have an effect on the value of material objects such as, in the opinion of some, the goodwill of undertakings, their value also should be included in the calculation.

The notion of national income or dividend we thus reach, coincides with the notion of income or dividend adopted by accountants in calculating the economic situation of a business (31). The divergency that some saw fit to find between the two notions depended in reality on an insufficiently deep analysis.

It corresponds moreover, in so far as this is compatible with practical exigencies, to the policies guiding the action of the Treasury. That action affords a valuable touchstone for testing theoretical structures as it arises from the logic of facts which is often superior to the logic of reasoning.

13. - If we compare the definition at which we have arrived with that currently adopted, we shall find that it differs therefrom in two particulars.

Income is currently defined as the sum of goods that are added, in a given community or on a given territory, during the interval of time considered, to pre-existent goods, plus the personal services that have been enjoyed during that period, or else—which amounts to the same thing—to the increase of the sum total

(31) See, above all, GIRO ZAPPÀ, *Il reddito di impresa*, Giuffrè, Milan, 1939.

of goods ascertained at the end of the period considered, increased by the goods consumed and by the services enjoyed by persons during that same period.

Our definition differs from the latter in the first place because it specifies that goods and services which form part of income should be considered in function of their value and not of their volume; this is moreover necessary if we are to have a measure which will allow of summing them up.

It differs from it in the second place because it specifies that the services to be added to the increment of goods, resulting at the end of the interval, are not all personal services but only superfluous ones — for services essential or useful to people must be considered as the cost of production of the human capital. This restriction is a consequence of the extension of the notion of human capital, repeatedly advocated by economists and by statisticians and which is advisable not only for reasons of coherence, but also for practical considerations, as not only in the appraisal of income but also in the kindred appraisal of wealth, it eliminates difficulties and incongruities. (32).

The other observations made in this article on goods that escape the possibility of appraisal either because they are superabundant, or strictly personal, or of widespread utility, or are generally not included in the calculation because, although exchangeable, they are not exchanged, and viceversa on receipts which are illegitimately included in the income, although they do not correspond to any production of goods or prestation of services, and likewise the observations on the incomplete deduction of production costs, refer not to the theoretical content of the notion of income but to its practical determination.

It is worth while noting that the deduction of the production costs of human capital, while presenting many difficulties and uncertainties, yet reduces the range of many of the other difficulties to which we have called attention, in as much as a large part of the superabundant or strictly personal goods or of those of widespread utility, as well as many goods exchan-

(32) On the advantages of including human capital for the purposes of estimating wealth, see our articles cited in note (4).

geable but not exchanged which we enjoy, and also a large portion of the personal services rendered by the State and by public bodies, are necessary for the maintenance of the population and, as such, are part of the production costs of human capital.

14. - In this connection it is well to remember that the notions of income, revenue and dividend did not arise with reference to the nation, but with reference to a business, and more especially as regards the notion of dividend, they arose with reference to a business company and were subsequently extended to the nation. If in using these expressions we lose sight of their original meaning it can but give rise to misunderstandings and confusion.

In considering two commercial companies, both of which close the business year with the same net product, but one of which comes out with capital and reserves intact, while in the case of the other its capital is impoverished and its reserves eaten into, nobody will say that they have the same dividend. The first company may indeed distribute the whole of its net proceeds among its shareholders; but were the second to do so its directors would incur, under Italian law and I believe under that of all civilised countries, very serious responsibilities. The law indeed prescribes that no distribution of dividends may be made other than on profits really realised, and therefore only when the company's capital and reserve fund have been replaced.

15. - It may be said in this connection that the arguments brought forward may be accepted but that their consequences should not be exaggerated. Let us admit that to ascertain the national income or dividend over a certain period of time we should deduct from net production (or possibly add to it) the liabilities (or respectively the assets) obtained as a result of causes independent of the production secured during the period of time considered, without however deducting the liabilities left by the past. It may therefore be that, in a given year, the national income may be negative, as in 1932 in America, owing to conjuncture, or in 1943, 1944, and 1945 in Italy owing to the war; but this does not mean that before ascer-

taining the Italian income in 1946, 1947, or 1948, the war losses suffered during the previous years must be fully repaired. Each annual balance sheet must be drawn up independently of the past.

This is certainly not the system followed by a business company: the losses of one year, when they exceed the possibility of the balance-sheet to repair them, are distributed over future years, and dividends are not distributed until capital losses have been completely wiped out and the reserves replaced.

In reply to this it may be said that, when a commercial company's capital is impoverished or destroyed, it need not necessarily be reconstituted. The company may very well reduce its capital, or be wound up and reorganised on a more limited basis. Thus, after losing the war, the former Italy could be ideally dissolved and a smaller and poorer Italy, resigned to the losses suffered, could be reorganised in her place.

But such a view of the problem is fundamentally erroneous.

The old organismic school—exaggerated and artificial and sometimes puerile in its conceptions as it was—had one great merit which redeems all its faults, that of having shown the indissoluble tie that binds together the several organs and apparatus and the several functions of modern society, making it impossible to destroy or injure one without endangering the working of the whole. This is a truth that has been taken up again and developed by the neo-organismic school with special reference to civilised nations, and applied by the functional school to primitive societies, and extended by the ecological conception to all communities of living creatures.

Nations indeed are not, like commercial companies, artificial creations of man: they are organisms deeply rooted in history and, as such, they have their requirements and characteristics of life. They either live and gradually reconstruct their capital, or they cannot reconstruct it and they die. What should we say of a doctor who, when treating a convalescent who has lost half his weight in an illness, were to calculate his food needs without taking into consideration his need of putting on flesh? Referring to nations, I have already observed on

another occasion that the curve of the growth of the wealth of modern States, if studied over periods of a certain length, proceeds on lines practically independent of the wars that each has suffered, and no substantial difference will be found between those that have fought most wars and those that have been almost free of them. Such States are those which have survived in the struggle for life, and after each war all of them have reconstructed their wealth, more or less easily, more or less laboriously. Those who have been unable to do so have disappeared from the stage of history.

Let us come back to Italy.

Italy had at last attained—at none too high a level, it is true—her economic equilibrium as determined by her territory, her climate, the number and quality of her inhabitants. The mutilation of her territory imposed on her—though painful for us and objectively considered unjust, and injurious also to the international community—is not however such as to upset fundamentally the conditions of equilibrium (just as the former territorial aggregations following on the victory of 1918 and more important than the present amputations, did not fundamentally alter them) and equilibrium will be restored at much the same level when the national capital will have been substantially replaced.

Nor is it any good to say that there are many nations poorer than Italy which are nevertheless alive and vital. Each nation, like each organism, has its own equilibrium. Because there are healthy and robust persons whose normal weight is 50 kgs, that does not mean that a person who normally weighs 80 kgs can safely bring his weight down to 50. His organism cannot survive when his weight is reduced to 50 kgs, and if illness or hunger has brought him down to that weight temporarily, he must in a reasonable length of time either regain his equilibrium or die.

Italy has come out of the last war like an organism which, when well, weighed 80 kgs and which, reduced by illness to 50 kgs, is in a serious pathological condition and therefore unable to rely solely on its own efforts to live. And indeed, if Italy has so far survived the crisis this is due to the help given her by benevolent nations and more especially by America.

How can Italy be said to have—apart from that help—a positive national income or dividend, when all agree that her production is not even enough to afford a living to her population? It is indeed true that the thoughtlessness of the people and the foolishness or weakness of the Government is such that many non-essentials are purchased which a poverty-stricken country ought not rightly to afford; but, if a convalescent patient wastes his strength foolishly, that does not justify us in describing him as cured; if a person full of debts wastes part of the money he has succeeded in scraping together from the charity of others, that is no reason for saying that his accounts balance. It is useless to deceive oneself into supposing there is something to divide when one has not yet enough to live on, and it is extremely dangerous to go about saying so at a time when so many—who are also needy even if less so than we are—desire to secure a part of what we still have.

16. - When statisticians and accountants speak of income they mean an objective sum that can be ascertained at the close of each business year.

Some economists have remarked that calculations of income thus understood, have their place in economic and statistical history; they are a useful measuring-rod for economic progress, but they have no significance for human conduct, which is based instead on the expectation of income, and so are of no use to theoretical economics, which endeavour to determine the regularities of economic behaviour. (33)

It goes without saying that the income forecasts, that may be made before or during the business year, entail difficulties and raise further problems in addition to those we have examined, as when, for instance, the yield of capital or the price level varies during the year; undoubtedly such problems must be studied and may give rise to interesting discussions. But all this does not authorise us to change—as is nevertheless done—the definition of income, describing as such not the objective quan-

(33) See J. R. Hicks, *Value and Capital, An inquiry into some fundamental principles of economic theory*, Oxford, Clarendon Press, 1939, Chap. XIV, *Income*.

tity defined by accountants and statisticians but the expected amount, which must inevitably be more or less subjective. Our whole conduct is guided by expectations, the expectation of sun or rain, of crops, of imports and exports, of production and of strikes, of the course of political events, of peace and war; but that does not mean that the students of human conduct must change the definition of these events, replacing their objective notions by subjective expectations entertained about them by individuals. Such a procedure would not contribute to the progress of science and can only be a source of misunderstandings.

No more acceptable is the proposal—brought forward by some other distinguished economists—which when determining income would replace the condition of the maintenance of capital by the condition of the maintenance of the income itself (34). An attempt is made to justify this proposal by the consideration that the maintenance of capital is of importance not in itself but in so much as the variations of capital would entail variations of the income.

From the standpoint of logic the thesis is no more sustainable than it would be for those who believe that heavenly life is the purpose of earthly life to exchange the latter for the former. Behaviour here and now must not be confused with the purposes it has in view. In practice, the proposal would lead us to take into account, when determining income, not all the active or passive incomings and outgoings independent of human productive effort, but only the interests on their amount, and would come up against the difficulty, in many cases practically insuperable, of deciding what part of the assets or of liabilities is due to human work and what to conjuncture and other accidental factors.

17. - There is a net difference between the notion of national income or dividend or revenue and the notion of net production. The latter may be defined as the whole body of

(34) See F. A. HAYEK, *The Maintenance of Capital*, in "Economica", August, 1935, and *The Pure Theory of Capital*, Macmillan, London, 1941. Cfr. also on this subject A. GAMBINO, *La teoria pura del capitale e la politica bancaria*, in "Giornale degli Economisti e Annali di Economia", Year VI, May-August, 1947.

goods for consumption or production secured during a given time by means of human activity, net of the costs necessary for securing them, plus the personal services rendered in the same unit of time. It implies a voluntary act, and therefore, strictly speaking, should be deduced from the value added by labour, excluding all causes raising or lowering values, all causes of gains or losses, extraneous to the human activity expended on it.

It is however the current—if not the logical—habit to take also into account gains and losses incurred as the result of causes extraneous to human productive activity, when they come into play in the course of production, whose term on the other hand is not always easy to delimit. This procedure is justified by the fact that in the act of production human labour does nothing but set in motion and supervise the action of natural agents, an action which in many branches of production, as, for instance, in the case of industry, is surely predictable, thus enabling man to ascribe the results to himself, but which in others, as, for instance, in agriculture, hunting, fishing, is not predictable, so that it is practically impossible to say what portion of the results should be ascribed to the work applied to production and what to natural unforeseen factors. And not less impossible is it to say what would be the result of the human economic activity, apart from the legislative and administrative provisions of the society in which it is carried on.

We may grant that in normal times the two notions of net production and income or dividend coincide pretty closely. They coincide—of course—for global income or dividend on the one side, and global net production on the other; not for individual branches of production such as the silk industry, for instance, or stock-breeding.

But in exceptional times, net production and national dividend may differ decisively. Even in such times it is, of course, possible to calculate net production, but it must be kept clearly apart from the calculation of national dividend, and it may be extremely dangerous, as I have shown elsewhere, to confuse the two notions. (35).

(35) See more especially the article *Intorno al reddito e alla capacità di pagamento dell'Italia nell'ora presente*, in

18. - Having admitted that the determination of net production cannot, in exceptional times, afford a measure of the national dividend, we must enquire of what use it may be.

It can serve several purposes. In the first place it can be used for measuring one of the components, which is usually the most, and certainly in any case one of the more important components of the said dividend; it can furnish—better however, as we shall show, as gross rather than as net production—an essential datum for calculating the volume of the exchanges or that of the demand or purchasing power of nations; and lastly it can supply a factor for calculating—even if on the basis of some suppositions—the time required for repairing war losses.

It should however be borne in mind, for this as for any other purpose, that until the national organism has reconstituted its normal wealth and thus reacquired its economic equilibrium, the data on production can only have a contingent significance, so that one is not authorised to extend them to the future as though they provided a permanent substantial characteristic of the nation.

Apart from a curtailment of the national capital, many other circumstances may intervene, in pathological periods, to make the economic future of a country uncertain, thus depriving the data on net production of that characteristic of expected permanence which makes them an index of the productive potential of the nation.

Normally, while net income and production practically coincide, income is said to give the measure of the productive potential of the nation. It would however be erroneous for the reasons above explained, to deduce from this that when this coincidence is missing—because part of production, before being reckoned in the income, has been set aside to cover the losses suffered by national capital—net production nevertheless always supplies the index whereby to measure the productive potential of the nation.

Thus, it is quite impossible for Italy to deduce now her productive power from her pre-

"Economica e Commercio", Rome, No 4, 1946. A Spanish translation appeared in "Anales de la Academia de Ciencias Economicas", Series 2, Vol. IV, No 3, Buenos Ayres, 1946.

sent production. Her present production is secured not by her own means but by means of external help, whose continuance in the future does not depend on the will of the nation, and the cessation of which might lead to the collapse and disintegration of her economic organisation. This is clearly realised abroad, and it is on the basis of this presumption that help is given her. Let us be careful not to give, by ill-considered calculations that may lend themselves to divergent interpretations, a different impression.

19. - The notion of income that we have stated may be called a "dynamic" notion in as much as it includes in income all desired events or even, as was said, a "transformist" notion in as much as all events of such a description consist in a permanent or transitory modification of static goods.

This notion, which after all only defines more accurately the current one, differs from the two extremist notions, the materialistic and the functional notions of income, which we must take into consideration so as to show the differences between them and the current notion, and examine each of them to see if it is founded or unfounded.

The so-called materialistic notion of income has the support of the Hungarian school and more especially of Prof. Frederick von Feller (36) and it is adopted in the present official estimates by Soviet Russia (37). The definition of income given by Adam Smith was also given this interpretation. (38)

(36) See more especially: *Die Schätzung des Volkseinkommens*, "Bulletin de l'Institut International de Statistique", Vol. XIV, 3rd issue, 1905, p. 109 et seq.; *Das Volkseinkommen Österreichs und Ungarns*, "Statistische Monatschrift", XXI Jahrgang, 1917.

(37) See P. A. BARAN, *National Income and Product of the U.S.S.R. in 1940*, in "The Review of Economic Statistics", Vol. XXIX, No 4, Nov. 1947, pp. 226-227; S. N. PROKOROVICH, *Russlands Volkswirtschaft unter den Sowjets*, Europa Verlag, Zürich-New York, 1944, Kap. VI: *Das Volkseinkommen*, p. 352-366; P. STUDENITSKY and J. WYLER, *National Income Estimates of Soviet Russia - Their Distinguishing Characteristics and Problems*, in "Papers and Proceedings of the LIX Annual Meeting of the Amer. Econ. Ass., Atlantic City, January 23-26, 1947, American Economic Review", Vol. XXXVII, No 2, May 1947, p. 505 et seq.

(38) The definition reads as follows: "The gross revenue of all the inhabitants of a great country comprehends the whole annual produce of their land and labour; the neat revenue, what remains free to them after deducting the expense of

According to this notion, income is limited to the increase of wealth.

"Real" services, *i.e.*, those directed to the production, conservation or improvement of wealth, are not included in income. Their exclusion however is only apparent, as the expenditures on services that have produced increments of wealth would not be deducted from them as costs of production, nor would the services which have conserved pre-existent wealth be deducted as amortisation costs. Personal services are likewise excluded — and this is where this notion differs essentially from the current notion of income.

On the other hand, the extent of the latter services will depend on whether we limit the notion of wealth to material goods, movable or immovable, or whether human capital also is included in it. In the former case, indeed, useful personal services would be placed on the same level as real services in so far as they increase the human capital, and only superfluous personal services, which pass without leaving any permanent trace in the shape of an increase of human capital, would be excluded.

The practical acceptability of this exclusion may however be easily contested.

Indeed, the personal services which would thus be excluded are constantly exchangeable on the market with real services and material goods. The economic equivalence the exchange establishes cannot therefore be ignored nor be unrecognised by statisticians.

The functional notion of income was proposed by Irving Fisher, the well known Ame-

rican economist (39). He limits the income to services, taking the word "service" in its broad sense as meaning a utility derived from human labour as well as from movables and immovables, animate or inanimate objects, and not only, as is usually done, from durable goods but also from such single-use commodities as bread and coal, for which the value of the service is the same as the value of the commodity itself.

At first sight this notion seems complementary to the materialistic one, as it leads to the exclusion of increments of wealth; but as a matter of fact it superimposes itself on it, as the increment of single-use producer's or consumer's goods is computed in both cases, though at different moments: according to the materialistic notion, at the time of their formation, according to the functionalist, at the time of their utilisation.

The difference between the functionalist notion and the current notion of income consists in the increase of durable goods of production and consumption, which would be reckoned by the current and not reckoned by the functionalist one. Thus a house, a machine, a utensil, a dress, produced during the year would not form part, according to the functionalist notion, of the annual income except

(39) See *The Nature of Capital and Income*, MacMillan, New York, 1919.

Indeed, Fisher has only driven to its logical conclusion a theory of John Stuart Mill's on the double taxation of saved income. If — observed Mill — a tax is levied on all income, whatever be the use to which it is put (consumption or savings), saved income will be taxed twice: once when it is earned and after it has been saved, in as much as the interest it earns will be taxed. Fair treatment therefore — he concluded — requires to exempt saved income and tax only consumed income (cf. J. STUART MILL, *Principles of Political Economy*, Vol. II, § 4).

This theory has been revived and fully developed by Einaudi (L. EINAUDI, *Intorno al concetto di reddito imponibile e di un sistema di imposte sul reddito consumato. Saggio di una teoria delle imposte dedotta esclusivamente dal postulato dell'uguaglianza*, memorandum submitted to the Academy of Sciences of Turin, Turin, Bocca, 1912; reprinted in *Saggi sul risparmio e l'imposta*, Turin, Einaudi, 1941) and by Prato (G. PRATO, *Di alcune recenti teorie sul capitale e sul reddito e delle loro conseguenze tributarie*, in "Riforma Sociale", November, 1912).

Now, Fisher remarks that the so-called saved income should not be considered as income at all, as it is not consumed and therefore not enjoyed. It will become income when it will be enjoyed and little by little as it is enjoyed, income would therefore be produced only by services rendered to man by things and persons.

to the extent to which their use is enjoyed during that year, while their future utility will be reckoned in future incomes.

To this notion also it may be objected that the goods in question, which would be excluded from the calculation of income except in so far as the utility they represent is enjoyed during the year, may be exchanged on the market with services which would be included in the reckoning of the income, and may be thus exchanged for their whole value, inclusive not only of their present utility but also—even if duly discounted—of their future utility.

And a similar objection may be raised to a third restrictive notion of income known as "pure income" or "net income", a notion which has the support in Italy of some distinguished students of economic sciences, in whose opinion only increases of consumption goods, whether of single or durable use, and human personal services should be included in income (40).

As consumer's goods would be reckoned at their full value, without deducting production costs, their value thus reckoned would be inclusive of single-use producer's goods (*i.e.* raw materials) and real services, whether human or not (*i.e.* both the human labour used in their production and the use of durable producer's goods), so that the difference from the current notion of income would depend on the increase of durable producer's goods and on non-human personal services (*e.g.* the services rendered by a dwelling house or by a picture), which in the current notion of income are included, and in the notion of "pure income" would be excluded.

On the other hand, the exclusion of these personal services would be reduced to that of superfluous personal services, should human capital also be included under the heading of wealth.

(40) See A. DE VITI DE MARCO, *Principi di Economia finanziaria*, Turin, Einaudi, 1934, p. 150 et seq.; G. MASCI, *Corso di Economia politica corporativa*, Vol. I, Rome, Edition of the "Foro Italiano", p. 217 et seq. G. U. PAPI, *Sul concetto di reddito*, in "Atti della VI e VII riunione scientifica della Soc. It. di Statistica", Rome, January 1943 and June 1943, Rome, 1945, p. 417 et seq. The addition of human personal services is not always explicitly made, but in such cases it is understood that they are included as consumption goods. See, on this point, PAPI, p. 418 et seq.

In addition to the said incongruity, which it shares in common with the other restrictive notions of income, the notion of pure income presents the difficulty of determination for brief intervals of time, such as the usual one of a year, as consumer's goods often mature in years other than those in which the raw materials and the labour were utilised, or in which the instruments, machinery, and other durable producer's goods were used. If we were to reckon such consumer's goods in the year in which they mature, instead of computing the duly discounted quotas, imputable to the year, of the consumer's goods that will mature in future years (which ultimately are equivalent to the value of the producer's goods obtained in the year), we should obtain the same result in the case of a stationary economy. In a different case—which is the normal one—we should obtain a result inferior to the real one if the economy is progressing, and superior to it if it is declining, and, in international comparisons, it would lead to more favourable results for the more highly advanced or less seriously regressive nations. (41)

20. - All the three restrictive notions of income—materialistic, functionalist and pure—start from the objection that the current notion of income is one which allows of duplications these restrictions are intended to eliminate. The three restrictive notions of income correspond to different solutions—more or less consistent—offered for securing this elimination.

Income, as understood by the current notion, may be divided into 8 component parts: 1) increase of single-use producer's goods; 2) increase of durable-use producer's goods; 3) increase of single-use consumer's goods; 4) increase of durable-use consumer's goods; 5) real human services; 6) real non-human services; 7) personal human services; 8) personal non-human services.

The materialistic notion would exclude—as we have explained—the components 7 and 8; the functionalist notion the components 2

(41) Cf. on this matter the discussion following the aforesaid communication by Prof. PAPI, on p. 748 of the volume above cited.

and 4; the pure income notion the components 2 and 8.

From a logical standpoint, the objection raised by the restrictive notions of income seems to be well founded.

Indeed, if the current notion be accepted, there is undoubtedly duplication when we include in the income of a given year the real and personal services and, at the same time, the value of durable producer's or consumer's goods. There is duplication in as much as present value of the durable goods is but the sum of their present services and of all their future services duly discounted, which in their turn will be reckoned in the income of the year in which they will be utilised.

But however logical this objection may seem, it is unfounded in as much as the current notion of income responds to human psychology. It is a fact that our psychology values the durable producer's or consumer's goods for the sum of their present utility duly discounted, and later on will value in future income their future utility little by little as it matures. (42)

It should be noted that in conformity with this psychology, the Treasury levies taxes on the present increase of durable goods and also on their future utility. Thus, if this year you are in receipt of a certain amount of money, it is calculated, for the purposes of income-tax, inclusive of the portion saved, just as in future years the interest you will receive on the portion saved will be included.

Leaving this psychology out of account, all saved incomes should be exempted from taxation, because, when turned into capital, they

will pay taxes through the future incomes which that capital will yield; or else all incomes from capital should be exempted, because capital is nothing but saved income, and as such has already paid the tax when it was earned. (43) Now, the statistician and the economist cannot undertake to modify human psychology, but must register its proceedings and their effects as they occur in reality.

Indeed our psychology, in estimating the value of goods commits not only one but sometimes several duplications.

An enterprising agriculturist, by means of patient labour devoted to irrigating, tilling and fertilising, succeeds in turning a sterile dune into a promising orchard. The increased value of the earth thus obtained undoubtedly represents, to human psychology, an increase of wealth and is included in the income of the period in which it is obtained. But this value is attributed to the earth in view of its possibility of producing in the future fruit-trees whose value will be reckoned in the income of their respective years. In their turn, the fruit-trees have a value not so much in themselves, but above all in so far as they will succeed in producing fruit in future years, whose value in its turn will however be reckoned in the income of the years in which it will be available for consumption. Thus the utility of the fruit had been discounted directly in the valuation of the fruit trees, and before, indirectly, through the valuation of the fruit-trees in the valuation of the earth itself, and in spite of this it is valued in the income when it is enjoyed.

The illogical character of human psychology depends on the fact that, in the last resort, we enjoy goods not only in the form of the consumption to which they give rise, but also, before that, in the expectation of such

(43) If it be difficult to give effect to the first solution, the second presents no special practical difficulties. Indeed, in many countries incomes from labour and incomes from capital are taxed separately. It may therefore seem surprising that the second solution has not been proposed, so far as I know, either by Stuart Mill, who referred to the difficulties of carrying out the first solution, nor by Einaudi who dealt at length with those difficulties. Evidently the second solution runs counter to the modern trend of financial policy and in general of social policy, that it has not even occurred to the authors in question, although it is theoretically no less justified than the first. This affords proof that in this matter as in others the logical solution is not always the one that can be considered.

consumption, or in the mere idea that we shall be able, if we so wish, to consume them in the future.

The miser does not consume his wealth; on the contrary, he avoids the idea of consuming it, but meantime he enjoys it. The millionaire knows very well that he will never consume all his property—indeed he would be unhappy at the idea that it might be consumed; but the mere idea that he could, if he so wished, consume it, makes him satisfied in spite of the work, the bothers, and the annoyances that its administration entails on him.

The primitive man who lives in forests full of valuable trees from which hang wild fruits, and on land which yields spontaneously, by the banks of rivers full of fish, with abundant game around him, is considered by us as poor because he does not know how to foresee the use he might make of those goods in the future. A Westerner takes possession of his lands, and apart from the fact that he may or may not be actually enjoying their resources, he is held by us to be rich for the mere fact that he has the idea that he could enjoy them.

The idea of being able to enjoy accumulated wealth is, however, disturbed when public order no longer assures its conservation and future use, and then the value of goods declines and disappears.

We may say that expectation multiplies wealth, but it is public order that conditions both.

Here is a society which is prosperous and in the full enjoyment of the abundance of accumulated wealth. But a barbarian invasion or an unsuccessful war strikes it, or a rapid decline in the population progressively undermines the efficiency of the government, and that wealth disappears like mist before the sun. Or rather it is the sun of the future which is hidden by the mist and our view is restricted to the enjoyment of immediate services.

As a result of this, work gains in value as compared to accumulated wealth. Many look upon this relative appreciation as being a recognition of human values and consequently as an index of progress, but in reality it is an index that the very foundations on which the wealth of a society rest have been shaken.

An idea! What a shaky foundation—when is it not protected by order—for human wealth, and for our society which is based on it!

21. - It should be noted that in the course of time there is an increase of the portion of income represented by the increase of durable production and consumption goods whose inclusion in income, in so far as their value represents the capitalisation of services to be enjoyed in future years, would represent a duplication. And this duplication is greater in the richer than in the comparatively poorer countries. It is in the increase of such goods that the savings of a nation substantially consist. Therefore, even the duplication which arises from their inclusion in the estimate of income contributes to accentuate the differences which occur from land to land and from one age to another.

We are led to the same conclusion if, instead of referring the duplication to the act of saving, we refer it to the act of enjoying the services of durable goods. With the exception of pathological periods, average wealth increases in the course of time and it grows from one country to another along with average income, and in both cases, the portion represented by durable goods is the one which grows most. This means that, the efficiency of human and material capital being equal, the importance of the services—which come to be included twice—rendered by such goods grows in time and space with the growth of income more than does the importance of the services rendered by work and by the consumption of single-use goods.

22. - We have already referred to the influence exercised on the determination of income by the inclusion or exclusion of human capital in the reckoning of wealth. In the first case, useful personal services should be treated by the same standard as real services, and therefore they are implicitly taken into account, even by those who adopt the materialistic notion of income, and they are also implicitly taken into account by those who accept the notion of pure income, not only when

rendered by men but also when rendered by animals or inanimate objects.

Another consequence is that an increase or decrease of the population represents for those who include human capital under the heading of wealth, an increase or decrease of wealth, although neither the one nor the other of these alternatives exercises in itself an influence on wealth in the opinion of those who exclude human capital from that notion.

This is a circumstance of capital importance in times like these when the dynamism of population differs so widely and promises to differ yet more widely in the future from one nation to another. And as in our day this dynamism has manifestly declined and is generally speaking less marked in the higher income countries, we may say that the result of the exclusion of human capital from the items representing wealth is to cause, under like conditions, the increase of wealth to appear greater today than formerly, and greater in the richer than in the poorer countries.

Moreover, as civilisation advances, there is a marked tendency to replace man by machinery both for purposes of production and consumption, that is to say, to replace real or personal human services by real or personal services rendered by mechanical apparatus. This tendency has become particularly marked, in some countries—more especially in North America—but it is making itself felt more or less in modern times in all countries. The technological progress of mankind consists largely in this.

Now for the purpose of estimating income it is of no consequence whether the services be rendered by man or by other animated beings or by machines, and it is also a matter of indifference to those who include human capital in their definition of wealth whether there be a corresponding increase in the number of machines or of animals rather than of men; but this is not a matter of indifference to those who exclude human capital, as in their opinion an increase of services corresponds to an increase of wealth if they are rendered by machines or animals, whereas there is no increase if they are rendered by men.

Those who would exclude human capital from wealth, will therefore find themselves in

a serious difficulty when they are asked to compare the wealth or income of countries where slavery exists with those of countries in which it is abolished. — The question—it may be objected—is one of exclusively historical interest as slavery no longer exists in civilised countries.—Even if we admit that this be true, the question anyhow arises when making historical comparisons, as, for instance, when comparing the incomes of the present-day European countries with those of the populations of antiquity or of the Middle Ages. In reality, however, this is not true, because—whether authorised by law or protected by custom—slavery really does exist in many countries, and in some forms, even in countries which no one refuses to consider civilised and which indeed boast very ancient civilisations. We have already recalled that in the Far East in times of famine, fathers sell their daughters, and that there are areas where famine is chronic. The proceeds of the sale of a daughter provide a receipt for the family, considered legitimate, if not by law yet by custom, and which corresponds undoubtedly to a service rendered. Why not include them in income? And how can we draw up the profit and loss account of the family if we fail to take them into account? It should be remembered that, in the Far East, Japan and China are countries for which estimates of wealth and income have been made, and which moreover acquire, from many points of view, a special interest in international comparisons.

Thus both for the purposes of estimating income and for those of estimating wealth, the inclusion under wealth of human capital leads to more logical solutions.

23. - Before closing, some remarks are called for on the purchasing power of money, as affecting the estimates of income and their comparison.

In modern times the greater consideration in which human personality is held in conjunction with the higher yield of work has led to an upward trend in the remuneration of services, this increasing more or declining less than the prices of other goods, so that if we reduce the nominal income to terms of real income, using for this purpose the corresponding price and cost of living index numbers,

which are not inclusive of such remuneration, we obtain an optimistic impression of the dynamics of national income. This perturbing circumstance is absent from those estimates based on the materialistic notion which excludes services from national income.

In the case of territorial comparisons, index numbers for the general purchasing power of money are not calculated, nor could they be without overcoming serious difficulties. Therefore, in making international comparisons of income the results are usually unified on the basis of exchange rates. But a whole series of factors which have been repeatedly analysed, the principal of which can be reduced substantially to the inertia or stickiness of prices on the one hand, and to the diversity in the remuneration of labour in the several countries on the other, generally make the purchasing power of the depreciated currency lower on foreign markets than on the home one (44). And as depreciated currency countries are generally the poorer ones, the result of this is that the unification of the estimates of income made on the basis of exchange rates, exaggerates the differences that occur in income from one country to another.

Variations in price may also exercise an influence on the estimates of war losses which, as we have seen, cannot be neglected in determining the national dividend. So as to have a synthetic index of the diminution of wealth we must indeed weigh the various categories of wealth on the basis of prices, and in doing so, it is not a matter of indifference whether we use for this purpose pre-war or post-war prices. As, generally speaking, the prices which have increased most from the one to the other period are those for the categories of wealth that suffered most from the war, the synthetic index of the reduction of wealth is substantially lower when quantities are weighted on the basis of pre-war prices, and higher when they are weighted on the basis of post-war prices. And as pre-war prices are better known than post-war, and as the latter, given the limited validity of fiat prices, are often

difficult to determine, the pre-war prices are those generally used a basis, with results which as I have had occasion to show, may lead us far from reality (45).

24. - Estimates of income are often used for other purposes besides that of measuring the degree of welfare of the population.

First of all, as an index of the capacity of a country to make foreign payments for debts, reparations, tributes, or for making internal payments in the shape of taxes and duties. And in this connection one should specify what is meant by capacity of payment. Does the expression refer to lump payments made once and for all, or to payments of a continuous nature? And is the capacity to make them subordinated or not to certain conditions, such as that of assuring the life of the population, or of not cutting into its wealth or not lowering its standard of living? The answer will evidently differ with the adoption of one or other of these hypotheses.

If the enquiry refers to the capacity of making lump sum payments not subject to any condition, such as an inexorable enemy might demand of the vanquished for war reparations, then not only the income of one year but all the accumulated wealth of the country may be called on to contribute.

If made subject to the condition of assuring the life of the population, payments, if they be of a continuous nature, may be made out of income, net of direct taxation and of the maintenance costs of the population; if the payments are to be made in a lump sum, they may be made by drawing also on wealth, exclusive of the part necessary for paying those taxes and expenses.

If, on the other hand, the condition is that wealth should remain constant, then the amount that can be counted on is that assigned for optional expenditure and for the annual increment of wealth, in which case however it is further necessary to specify whether we intend or not to exclude human capital in our definition of wealth, as in the second hypothesis we may count for the purposes of transfer abroad, in countries where slavery exists or where emi-

(44) This subject has been dealt with more especially in *L'Enquête de la Société des Nations sur la question des matières premières et des denrées alimentaires*, in "Metron", Vol. II, N° 1 and 2, June 1, 1922, p. 122 et seq.

(45) See the article cited in note (35).

gration is possible, on the economic value of the surplus population, and also for these purposes as for those of internal levies, if the nation should renounce increasing its population, on the saving of the expenditure that would have been necessary to secure such increase.

Finally, if the condition be that the standard of living is not to be lowered, the only amount available will be that representing the increase of wealth.

It is true that very often the levy, even if it have not the declared purpose of lowering the standard of living, does not shrink from that result: indeed it often counts on it, as when taxes and duties are expected to lead to a reduction of superfluous expenditures.

Nor have the questions thus been exhausted.

We must enquire if we are justified in considering the variations of population by the same standard as the variations of wealth, and therefore as dependent on human volition: or whether they should not rather be considered as dependent on practically uncontrollable biological and social factors, in which case the maintenance of the population must be replaced by that of the maintenance of its rhythm of increase, and the condition of the maintenance of wealth by that of the maintenance of average *per capita* wealth.

We must look to the consequences of international competition, as a result of which a stationary country in a progressive world is losing ground, so that the conditions for the maintenance of the population or for its growth, for the maintenance of total wealth or average *per capita* wealth, should, if regression is to be avoided, be replaced by conditions which will avoid the danger that in such respects the country remain below the level attained in the generality of other countries.

In any case, the difficulties that stand in the way of levying large portions of income or large lots of goods must be considered, difficulties whose range has been shown by the experience of many countries in which church property was sequestered.

These difficulties are, of course, more keenly felt in pathological periods in which the organism is less resistant, and any sacrifice it is required to make may end by causing it an

injury much greater than the momentary advantage secured thereby.

In addition to all this we have to consider, in the case of payments to be made abroad in foreign exchange, the effects of the disequilibrium created on the exchange market by the economic disequilibrium of the nation, which reduces the purchasing power of the national goods on international markets as compared to their purchasing power on the home market. Foreign payments can but accentuate these effects. We have moreover the difficulties besetting the transfer abroad of large quantities of goods. The range of all these difficulties and their results were indeed amply experienced in the case of the German reparations payments at the end of the first world war. (46)

Lastly, in international relations one should not ignore the consequences that the absolute or relative impoverishment or the arrest or retarded growth of one country may have on others, so that the payments it is called on to make, particularly when its economy is in a precarious condition, may represent for the claimant not an advantage but a loss. This is a truth often forgotten that always ends, sooner or later, by forcing itself on the attention, compelling the creditor countries, in the last resort, to come to the help of their debtors to correct the effects of the payments demanded, as happened, in a covert manner after the first world war, and as is now, when this truth has been recognised, happening openly.

We must convince ourselves that now all the countries of the world form one sole economic body, whose parts are solidary in their development. Fortunately this conviction has made great headway, and is becoming generally accepted, even if all are not yet willing to draw all the necessary conclusions.

25. - The data on income are often used for other purposes for which they are also ill-suited.

They are used, for instance, for measuring the amount of exchanges (47) or the volume

(46) Many of the questions above considered are examined less cursorily in the speech on "La ricchezza comparata delle nazioni", cited in note (7).

(47) Denison refers to the fact that in the opinion of the English, American, and Canadian statisticians who met at Washington in September 1944, already mentioned in notes (13)

of demand or the purchasing power of a country.

It is not income but production which counts for exchanges, and not net but gross production, and not the whole of the gross production but only that part of it which is not used by the producer, which part must moreover be multiplied for this purpose by the average velocity of circulation of goods.

Likewise it is production, and not income, which must be taken into account for the purpose of ascertaining the demand or purchasing power of a country, and here again not the net production, but the gross, and always the part not used by the producer himself. It is indeed production costs that determine the more urgent demand. This is in keeping with the well-known aphorism that products are exchanged for products. If net production and savings be equal, it is obvious that the greater volume of purchases will be made by countries that incur the heavier expenses for raw materials and power.

Production—reckoned, according to the purposes of the enquiry, inclusive of or net of costs to be specified in each case—may therefore serve many purposes but it must always be borne in mind that when, in abnormal times, the national capital has been substantially impoverished or when, for other reasons, serious uncertainties are impending over the economic future of the nation, it can only have a contingent significance, and cannot afford a measure of the productive power, nor an index of other substantially permanent characteristics of the country.

The estimates of national income or dividend have also been used for measuring the time required for repairing the destruction or deterioration of national economy, such as that caused by war; but that implies a vicious circle if we accept the above said definition of income, from which it follows that such losses must be

deducted before the income can be calculated. On the contrary, one can rightly make use for this purpose of the data on net production, after deducting therefrom the ordinary charges for direct taxation and the maintenance and education costs of the population.

26. - Let us draw the conclusions from this long study and see what use can be made and what cannot be made of the estimates of income.

They cannot be used to measure the happiness of the respective populations, as happiness depends essentially on internal factors which entirely escape estimates of income and any other estimate, and also on the length and heaviness of the work necessary to realise the income.

They might measure the contribution made to happiness by external factors, *i.e.* by what is generally called welfare or prosperity, provided it be possible to include in income all external-rational dynamic goods, or, in other words, events external to our ego that are rationally desired.

But, as a matter of fact, these factors can only be partially taken into account. Thus, all strictly personal goods, which as such are not exchangeable, and superabundant goods which also cannot give rise to exchanges, and goods of widespread utility in so far as this utility is not included in other productive goods, escape such estimate, and so also do goods of direct enjoyment which are exchangeable but as a matter of fact are not exchanged, with the exception, in many estimates, of rentable values and, in some, of domestic services.

On the other hand, the account in which these estimates are taken differs from country to country, so that they cannot supply an accurate measurement nor even a reliable index of the varying degrees of prosperity of the several countries. As a matter of fact, between goods of widespread utility depending on natural factors, and those depending on social factors, there is some degree of compensation, but the former escape inclusion in estimates of income to a much larger extent than the latter. Superabundant goods no less than goods and services directly enjoyed by the owners, which are not estimated in cal-

and (26), "the fundamental purpose of assembling the body of data usually termed, rather loosely, 'national income statistics', is to present a set of accounts that portray, in summary form, transactions in the national economy and facilitate analysis of its structure and development". The statisticians who were convened were R. Stone, English, G. Luxton, Canadian, M. Gilbert, E. P. Denison, G. Jasi, Ch. P. Schwartz, W. H. Shaw, D. B. Yastema (Cfr. the report already cited of Denison, p. 3 and 4).

culating income, are, though with some exceptions, of less importance in the countries where technology, economic organisation, and the division of labour are most advanced. And the importance of strictly personal goods is, to some extent, independent of monetary income and some are in a negative relation thereto. Thus, for various circumstances, we may expect that the monetary estimates of income exaggerate the differences that exist from country to country between real incomes, understood as being the sum total of external rational dynamic goods, and exaggerate also their growth in time.

Estimates of income are vitiated not only by the undue omission of factors which should be taken into account, but also by the failure to deduct factors which should be omitted, such as receipts which, fully or partly, do not correspond to a production of goods or a prestation of services, expenses incurred for the maintenance of the number and economic efficiency of population and that part of taxes and other contributions, obligatory or optional, or of other public and private expenditures the proceeds of which are not used for the advantage of the consumer but constitute a cost of production necessary for securing other categories of income.

These drawbacks also tend, as a general rule, to exaggerate the differences existing between incomes in space and their growth in time.

Fortunately, a means of correction, however approximate, exists: a great part of the aforesaid goods of which account is not taken when estimating income in terms of money, are needed for the maintenance and economic efficiency of the population, so that if the estimates of income are made net of the costs of maintenance and of professional education and training of the population, which must be considered by the standard of the costs of production, maintenance, and amortisation of human capital, we can correct—even if only approximately—the factors of perturbation above referred to, and thus make the estimates of income of the several countries less heterogeneous.

We should not however disguise the fact that the estimation of the costs of maintenance and of professional education and training is anything but easy, as they depend on physical,

physiological, and social factors from the estimation of which we cannot eliminate subjective bias, and if such an estimate can be made with some degree of reliability by persons well acquainted with their own countries, it is difficult to find anyone capable of making it with like reliability for several countries. We should add that the line of demarcation between superfluous and essential maintenance costs is in some cases a very uncertain one.

The objection, raised on many sides and well founded in logic, that the current notion of income implies a duplication in as much as it includes the value of durable producer's or consumer's goods which are added to the pre-existing wealth during the interval considered, and at the same time the services they render in the said interval or will render in the future. This objection can be answered by observing that this inclusion is in keeping with human psychology which indeed leads us to enjoy durable goods twice over, first when obtaining possession of them through the expectation of future utilization, and a second time when they are actually utilized.

This, however, does not remove the fact that the duplication exists, and acquires growing importance with the growth of wealth, thus leading us to exaggerate the differences in income from one country to another and one period to another, as compared to those which would otherwise be obtained.

Inaccuracies in the measurement of income due to the varying purchasing power of money in time and space lead to the same result.

For many reasons, therefore, monetary income is an untrustworthy index of the prosperity of a population, and one which systematically tends to exaggerate historical and territorial variations.

The notion of net production is different from that of national income or dividend.

National income, or dividend, and net production may practically coincide in normal times, but they diverge widely in exceptional periods, for in income we must take into account not only net production, but also the gains and losses that wealth undergoes apart from the actions directed towards its production.

To confuse net production with national dividend, without taking into due account war

losses, leads to a fallacious and dangerously optimistic view of a country's possibilities.

In estimating production of the individual or business concerns we leave out of account, moreover, the effects of contingent or otherwise accidental factors only in so far as they come into action when the product is finished, but not when they come into action during the process of production, whereas variations in value, determined by such factors, are neutralised to an ever greater extent by external and internal measures of insurance, so that they influence through other ways national net production.

The data on net production, if they cannot in normal times replace data on the national income or dividend for the purpose of measuring national prosperity, have however their field of application, no less than those of gross production. We must have recourse to the latter for measuring the amount of exchanges and the volume of the demand or purchasing power of a nation; we have recourse to the former—on the supposition that they can extend, even if with congruous variations, to the future—so as to realise the time required for reconstituting the national capital which has deteriorated or been destroyed.

27. - The analysis we have so far made allows us to draw one safe conclusion.

The traditional notion of national income is an instrument which has been devised in normal times and which answers the needs of normal situations. Proof of this is offered by the characteristic of continuity which is at the basis of that notion. It is also certain that the condition of the maintenance of capital was generally understood as implying the repair of normal wear and tear or obsolescence, and that, in speaking of the increase of goods, one usually meant to refer essentially, if not exclusively, to the increase of goods determined by economic activity, *i.e.* by production, so that the expression "dividend" and "net production" were constantly used as synonyms. Therefore, the traditional notion of income presupposed, if not a stationary situation of a country, at least a situation developing on uniform lines; it supposed if not a static equilibrium, at least a dynamic equilibrium in the production of income.

All these hypotheses, explicit or implicit, no longer held good in abnormal times, characterised by a lack of equilibrium. The flow of goods and services is subject to alarming interruptions. Capital suffers far severer curtailments than those entailed by normal wear and tear and obsolescence. Economic activity is no longer the practically exclusive cause of the variation of goods and as a result of both these circumstances, dividend and net production follow definitely divergent lines.

We must admit if not the divorce at least the separation of the two notions, whilst hoping that the re-establishment of normal conditions will allow them to unite once more in the near future.

When the two notions are separated, it is desirable that the attention, of the statistician, while neglecting neither, should be directed, in making estimates of income for which he is qualified, more especially on the notion of "dividend", which not only avoid theoretical uncertainties and incongruities but presents the advantages of being more practical, less exposed to personal appraisements, and more precise in its meaning, as, in abnormal periods, monetary estimates of net production no longer afford an index of the productivity of a country, *i.e.* an index of the efficiency of a country's economic system, and only have a contingent value.

The comparisons of the customary monetary estimates of income imply moreover implicitly that the component parts of the said income are stationary, so that the importance of the super-abundant, strictly personal goods, or goods of widespread utility, which escape such estimates, may remain constant, as should also be the case with the importance of unpaid services, whether rendered by oneself or by others, of the use by their owners of durable consumption goods, the cost of production of human capital, the assignment of public expenditures for the benefit of production or else of consumption.

Roughly speaking, in normal times these conditions are assured in the several countries for brief periods of time, and therefore the usual monetary estimates of income may be used for comparisons, even if only approximate, of the prosperity of the population at different periods provided the interval between one and

the other be not very long. But in abnormal times none of these premises exist.

On the other hand, it must be admitted that these premises often do not exist even approximately in normal times for the comparisons between different countries, and that in abnormal times they are more than ever distant from reality.

The use also of data on income and wealth for the purpose of measuring a country's capacity of payment—always subject to limitations—becomes problematic in abnormal periods of economic disequilibrium, and more than ever so when the payments have to be made abroad.

This explains why, after world war II, as after world war I, it has been thought necessary to call the attention of students of such matters to the necessary precautions to be observed in the use of monetary estimates of income and more especially in drawing comparisons in space and time between incomes and between wealth, which is their premise (48).

Crises always lead to a revision of values. It would seem only natural that crises of exceptional importance such as those represented by the first and second world wars should lead to a revision—let us hope a not useless one—of the basic notions of economic science.

Such a revision was, indeed, all the more necessary in this post-war period in which there is such a general desire, now to some extent being fulfilled, for international collaboration which requires a comparison between economic forces, available resources and needs of different countries.

But even before practical needs called for it, this revision was required on theoretical

grounds. It is not enough for scientific purposes to make use of current terms or to adopt some of the terminology used in technical language, and then define them. It is above all necessary that the notions so defined be logically connected with the needs to meet which they were introduced and to the other notions which recur in the same science, and with the purposes to which they are applied for securing practical results, and if possible they should be coordinated also with the definitions given of them in kindred branches of science.

Therefore, in writing this dissertation, I have had in view two essential purposes: to find a consistent solution, by following a guiding line, to some questions (49) raised by the estimates of national income; and, in the second place, to call attention on general lines to the disturbing influence that the avoidable or unavoidable defects of such estimates exercise on international comparisons, and on the comparisons of one period with another, and also to the practical bearing that a defective solution given to some questions (which apparently is of only theoretical importance) may have for some countries, and more especially for Italy, as affecting the settlement of pending matters that concern them, and consequently the co-operation they are expected to give to a future international settlement.

(49) The main purpose of this dissertation has been to examine some questions, which seem to us fundamental, relating to the content and the use of the monetary estimates of income, with special reference to some pathological post-war situations. It does not claim to examine all these questions, and still less to discuss all the opinions expressed or mentioned in the very numerous works on the subject, which have been the result of the present importance this matter has acquired during the last war and the present post-war period. Besides the publications to which we have had occasion to refer, we wish to mention, among those written in the last few years, the *Studies in National Income*, edited by A. L. BOWLEY (National Institute of Economic and Social Research, Cambridge, University Press, 1944) and the volume *Le Ressen National*, containing contributions by F. PERRoux, P. UZÉ, J. MARCZEWski, published by the Institut de Science Economique Appliquée, edited by Perroux (Presses Universitaires de France, Paris, 1947), both works of a specially comprehensive character.

(48) See the speech on *La ricchezza comparata delle nazioni*, cited in note (7), the two reports cited in notes (20) and (21), presented to the XIX and XXII sessions of the International Institute of Statistics, and the lecture *La comparabilità del tempo e nello spazio delle valutazioni del reddito nazionale*, held at the General Confederation of Italian Industry on February 19, 1948, and published in "Rivista di Politica Economica", March 1948.