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surance carriers (unearned premiums less unpaid premiums) and that these are in effect invested by the carriers in income-producing assets. Income from the investment of prepaid insurance might be imputed to policyholders in the belief that premiums are lower by the amount of earnings on prepaid insurance funds. An amount well under $50 million might be imputed on this basis. In comparison with the ordinary industry treatment commonly applied to the group,[9] the effect would be to increase income originating in the industry. This would be accomplished very largely by shifting relatively minor amounts of property income from other industries to nonlife insurance carriers. Since most of the imputed income would accrue to business (including home owners) rather than to individuals, the national income total would be affected little.

Despite possible merits of the refinement, it seems preferable to use the ordinary property income procedure in the case of insurance carriers other than life. It is much simpler and the amounts involved are relatively small. Netting out of property income received from factor earnings does, of course, give rise to negative net interest figures for the industry and also negative property income (profits plus interest paid minus interest and dividends received). But the amounts involved are relatively small and, as noted above, national income is substantially the same by both procedures.

COMMENT

Solomon Fabricant

All who have tried to make international comparisons of economic or social statistics have learned to fear differences in concept and terminology. They would wish to sing hymns of praise to the three government agencies whose agreement on so many points is embodied in Mr. Denison's paper. Although I would join in that chorus, I shall not now take the time for congratulations. The very importance of such an agreement makes it imperative that it be reviewed carefully by this Conference,

[9] The treatment applied until now by the Department of Commerce made a special case of nonlife mutual companies. Dividends received by mutual companies in insurance carriers other than life went to individuals on an aggregates assumption. Consequently, there was no deduction for them (as estimated).

preferably before it is acted upon. I shall use what time I have to start the ball rolling by outlining some of my own reactions to the report.

I

The report is, I think, one of the most important that has been presented to the Conference in its ten years of existence. It is also, I am afraid, one of the more tantalizing and less satisfying of those we have had the duty and pleasure of reading.[1]

Owing to the brevity of the report (whose deficiencies Mr. Denison himself quite frankly emphasizes), it is impossible to come to close grips with the Department of Commerce or the other national agencies on the issues raised. If no explanation, or no adequate explanation, is given of the basis on which the decisions were made and agreement reached or not reached, what can one really do by way of criticism? It seems futile merely to repeat the discussion already published in five volumes of Conference papers and a host of other reports, with which all members of the Conference are familiar. Progress cannot be made along that line.

Yet we shall have to live with the decisions of the three agencies participating in the agreement, and therefore something must be done to keep the issues open. What I say below is said not because I believe for a moment that the three governmental agencies are unfamiliar with the points of view outlined, but because I assume that the more specific my comments, the more effectively will my purpose be attained. That purpose is, simply, to suggest that differences of opinion persist; that it may be argued that much has not been settled by the agreement and that some of the steps it proposes even appear to be backward; and, therefore, that a fuller statement by the three official agencies, individually and collectively, as a basis for much more detailed discussion, is urgently needed.

Since there is not much point in discussing concepts in a vacuum, I hope that the agencies will ask, at every stage of these fuller statements, what difference does it make? What will this

[1] I need hardly say that my dissatisfaction is not with Mr. Denison, who had the difficult job of recording points of agreement and disagreement on many complex matters, on the basis of inadequate records, more than a year after the discussions had been held.

omission or addition or change mean in terms of the comparative level of aggregate national income, internal relations among the components of national income, cyclical and secular change in the aggregate and components? If the quantitative importance of each decision is estimated, I think that it will more easily be seen that many a camel has been swallowed while straining at a gnat.

II

As presently defined by the Department of Commerce, national income includes: A, the value of consumer goods and services purchased by consumers from business enterprises, farm products consumed by their producers, and paid domestic service (including payments in kind); plus B, private net capital formation, including all residential buildings but excluding other consumer durable goods purchased by consumers, unadjusted for inventory revaluations or the difference between current and book value of depreciation charges; plus C, government expenditures; minus D, business taxes. The significance of the deduction of business taxes is noted below.

The Department of Commerce now proposes to redefine national income by making the following changes in its present concept:[2] (1) add to consumers' outlay (Item A, above), (a) income in kind received by the armed forces; (b) imputed net rent on owner-occupied dwellings; (c) the value of 'free' services rendered consumers by banks and other financial institutions; (2) add to private net capital formation (Item B), depletion charges (i.e., include in national income additions to capital gross rather than net of depletion charges); (3) deduct from government expenditures (Item C), the interest paid on the federal debt; (4) reduce business taxes (Item D), by excluding taxes on corporate profits.

The following remarks take the form of comments on the Department of Commerce proposals and on the differences between it and the other agencies.

III

The first addition to consumers' outlay, the estimated amount of payments in kind to servicemen, would improve the value of

I omit a few changes listed in Mr. Denison's paper.

consumers' outlay as a measure of consumption. Since war outlay would not be reduced by the addition to consumers' outlay, the grand aggregate also would be increased. This would accord with the view that war outlay is a legitimate part of national income. The proposal is therefore to be welcomed for two reasons.

The second change in consumers' outlay would remove an inconsistency from the Department of Commerce's current treatment of owner-occupied residences. The Department of Commerce proposes to follow what most of us would consider the more acceptable path to consistency.

Interest on consumer debt is already included by the Department of Commerce in national income; but it is not to be fully included by the other countries. This item strikes me as rather different from interest on the public debt, to which it is compared in justification of its exclusion. As I do not find the procedure to be followed with respect to interest on government debt a satisfactory substitute for a more rational treatment of the government area, as indicated below, I am skeptical about the value of any analogy. Apart from this, it seems to me that the analogy would be correct only if we could assume that government debt in effect represented borrowing from group A of the population by group B, the interest and principal to be paid by taxes levied on group B. I doubt the validity of such an assumption. The exclusion of imputed rent on consumer durable goods from national income, mentioned by Mr. Denison as possible support for the inclusion of interest on consumer debt,[3] seems to pose an entirely different issue, which would exist even if there were no consumer borrowing, just as the problem of consumer debt would be with us even if there were no consumer durable goods. The real question is whether the nation's economic welfare is raised when people borrow for consumption. To this, I think, the answer must be yes; and, as usual, we measure the increment by its total market value. I agree with the Department of Commerce treatment and feel that the treatment to be followed by Canada (and possibly Britain), in which only the expenses of handling the loans are included in national income, is unacceptable.

[3] It is interesting to compare Mr. Denison's reaction to the assumption that interest on state and local government debt reflects the imputed rent on government property.

As far as I can make out, the change in the treatment of financial intermediaries proposed by the Department of Commerce would mean an increase in consumers' outlay and in national income, to the extent of a part of the cost of banking and other related services. The new procedure would avoid the undesirable changes in national income that may now arise merely, for example, from the establishment or disestablishment of family corporations to handle a family's investments.[4] On the other hand, the proposed way of avoiding these undesirable changes seems to me to be a step backward in the practical solution of the problem of distinguishing between net and gross income. I think we already overstate the former. I would prefer to move in the other direction, that is, subtract brokerage charges, bank service charges, trade union dues, and a large fraction of street car fares and similar expenses of working in cities.

IV

With the addition of depletion charges in the measurement of private net capital formation, I am afraid I must quarrel too. I agree, of course, that the depletion permitted by current tax laws undoubtedly overstates the amount properly chargeable for the depletion of mines. The solution is then to reduce the amount, rather than to eliminate it entirely.[5] The fact that current discoveries may not be included in gross capital formation is an inadequate reason for the choice suggested by Department of Commerce, since most discoveries were made a considerable time ago. Current (unrecorded) discoveries do not offset current depletion, if there is any truth in the widely held opinion that our mineral and other natural resources are shrink-

[4] Similar undesirable changes may arise because of Kuznets' identification of taxes on corporate profits (in peacetime) with government services rendered business, while peacetime taxes on partnership or sole proprietorship profits are identified with government services rendered consumers. Both are cases of the house-wife paradox.

[5] If depletion in current prices is measured as suggested in my report on *Capital Consumption and Adjustment*, p. 184, then it is necessary to estimate its level for a single year only, figures for other years being derived from that level via changes in mineral output and an appropriate price index. For the base year's estimate, recourse might be had to the published income accounts of mining companies that compute their published profit figures on the basis of rational depletion charges (cf. the Senate Hearings on the Extension of the Emergency Price Control and Stabilization Acts of 1942, held February–March 1945 by the Committee on Banking and Currency).

ing. We must take that shrinkage into account in our estimate of national income.[6] Indeed, an allowance should be made also for the depletion of farm land, if at all possible, though this is less important, in a sense, owing to the relative stability of this type of depletion compared with that of mines and forests.

The Department of Commerce does not propose to change its current treatment of revaluations of inventories and depreciation charges. In this respect it differs from Kuznets' practice, and (with reference to inventories) from the proposal of the other governmental bodies. I think the Department of Commerce is inconsistent in making an adjustment for inventory revaluation in its estimate of gross (and net) national product but not of national income, and (as Kuznets has pointed out) in adjusting for realized capital gains and losses but not for these revaluations.[7] I suspect an inconsistency also in the Department's decision to include emergency and contingency reserves, although at the same time it deducts depreciation on wartime facilities at its full tax value.

V

Two related problems are involved in the treatment of Item C, the government portion of the final products making up national income, and Item D, business taxes. The first is whether to include in national income only government services to final consumers, excluding government services to business as 'unfinished'; and, having decided to exclude the latter, how to measure them. This is the chief problem in defining Item C. The second problem is what to do with taxes paid by business concerns, Item D. Are these taxes to be treated entirely as a duplicating item that inflates the value of Items A, B, and C, on the ground that these taxes are already represented in national income in the form of government expenditures financed by them; and, if this view is taken, should they not all be sub-

[6] I can recall some talk in Washington a few years ago concerning the desirability of preserving our domestic copper reserves for emergency use and meeting current needs from imports. If these are alternatives, clearly any depletion is a current charge.

[7] In this connection, note the principle reported by Mr. Denison that "adjustments must be made . . . for the failure of actual accounts to reflect real decisions and for the inadequacy or utter lack of actual accounts for a fraction of the economy".

tracted? [8] Or, are these business taxes all to be treated as an income share, seized by government before it reaches the pockets of income recipients, as are personal income taxes today, and therefore — like personal taxes — not to be considered a duplication? Or, is some half-way ground tenable?

So far as I can tell, at present the Department of Commerce includes all services rendered by government in its estimate of national income, on the ground that services rendered to business cannot be estimated separately. The value of these services, including war operations, is assessed at cost (including, in cost, interest on the public debt), and is combined with government capital formation, also assessed at cost, to yield Item C. (Government capital formation is measured by expenditures on government construction and purchases of producers' durable goods, gross of depreciation and exclusive of increase in inventories.) The Department has thus answered in the negative the first question posed above. It has answered the second question by asserting that all business taxes are duplicative and eliminates them by subtraction.

The Department of Commerce now proposes to exclude interest on the federal debt from what we may take to be the measure of government services rendered consumers (the services, together with services rendered business and government capital formation, are included in Item C); and to substitute for total business taxes, Item D, business taxes other than those on corporate profits, as a measure of the duplication claimed. These revisions are obviously prompted by flaws, aggravated by the war, in the old procedures and the assumptions on which they are based. I agree with the Department that the proposed revisions will improve the figures. But should not the Department go the full length of the path of revision it has entered upon; and until it does so, will not the new measures remain at least in part still somewhat arbitrary?

First, with respect to Item C: I think most of us would want to include in Item C (1) some direct approximation of the goods and services provided consumers by government, including free goods; (2) some estimate of government capital formation, net

[8] There could be duplication in Item C, as well as A and B, because governments indirectly pay taxes to one another; e.g., by buying goods from business concerns which pay such taxes.

of depreciation and depletion and including inventories; (3) perhaps some estimate of war outlay. Apparently, in view of its proposed treatment of interest on the public debt, the Department of Commerce would go along with this as a goal. But can we say that the sum of these quantities would in any sense be truly approximated by the Department of Commerce proposal?

I would like to recall a statement that appears in the very first volume of *Studies in Income and Wealth*, and in the first paper of that volume (p. 28). Morris Copeland, its author, wisely repeated this remark in Volume Six (p. 38); and I find it repeated also in Volume Eight (p. 81), by Mr. Liu. Here it is again, in Volume Ten: "The possibility of making accurate estimates of a theoretically untenable item is not an argument for substituting it for a tenable item that can be estimated only roughly." To be quite explicit, I would prefer the complete omission of an item than to see just any old figure put down for it; though I would much prefer some rational, even if rough, estimate of an item to its complete omission. I consider the proposed Department of Commerce figure for government's 'finished' services and capital formation, and that proposed by Canada and Britain, still too close to being 'just any old figure'. If it is felt that publication of the figures cannot be postponed until a real estimate of that portion of the nation's product has been prepared, then let that portion be omitted. Let a total excluding the finished services of government be published. And let it be noted that the published total is incomplete since it does not include any estimate of government services to consumers; that because of difficulties with the basic data, no adequate estimate of these services has yet been derived, but that work on one is proceeding. Perhaps this position is extreme. But it may at least stimulate more discussion!

As for Item D: I am sceptical of efforts to determine what portion of business taxes is duplicative and what is not. The shift in the Department of Commerce's position with respect to corporate income taxes is an indication of the arbitrariness involved in getting away from market values in this case. The usual talk about excises on tobacco products is unconvincing. In some countries the sale of tobacco is a state monopoly, and the 'excise tax' is inseparable from monopoly profits. As a matter of fact, if Item C, the government service and capital formation portion of the national product, is estimated 'rationally', as I suggest above, a correct decision with respect to business taxes has already been made in part. Business taxes would be treated as the purchase price of services government renders business, to the extent that government uses these taxes to finance such services. The residue, it seems to me, should be considered an income share, used by the government to finance free consumer services, governmental capital formation, or retirement of the public debt. According to this view, there would be no Item D; but there would be an additional income item in the calculation of national income on the income side. If total business taxes should prove to be smaller than government expenditures on services to business (which is unlikely), to bring total national income calculated on the income side into agreement with the total calculated on the product side, the income side would have to include a negative item equal to the difference.[9]

VI

'National income' and 'net national product' have been used interchangeably in the English and American literature. Once certain preliminary decisions have been made — for example, whether or not to cover the family economy — the terms refer to a unique quantity: the net volume of economic commodities and services available to a nation in a given period, the adjective 'economic' being defined in accordance with the pre-

[9] In either case, or even if total business taxes exactly equaled the value of total government services to business, taxes paid by any particular industry would not necessarily equal governmental services to it. This means that income originating in an industry, as ordinarily calculated, does not necessarily equal the industry's true contribution to national income. Through 'excessive' tax payments, for example, an industry may be subsidizing other industries, as well as consumer services. But this problem is not peculiar to business taxes; it arises also because interest payments to 'associations of individuals' are not a true net income, since their expenses have not been deducted; nor for that matter, as argued above, are wage payments, since trade union fees have not been deducted.

Perhaps a word should be said about government deficits. Because he measures the value of government output (delivered to consumers and to producers) by tax receipts, Kuznets must include on his income side an item for government savings. Because it measures the value of government output by expenditures on goods and services, the Department of Commerce does not require an item for government savings on the income side of its calculations. The position I am setting forth is similar to that of the Department of Commerce, in that government savings need not be taken into account.

liminary decisions. The present proposal, to divorce the two terms and apply them to different quantities, would mean a shift away from the current meaning of at least one of them.

I would hesitate to change the meaning of any currently accepted term, especially in a field where it is difficult enough to get people acquainted even with present meanings, unless there were some real advantages in doing so.

I can see certain advantages in retaining 'national income' in its present usage, and making 'net national product' mean the net volume of economic goods produced in a given national area in a given period. The difference between the two would be currently earned claims to goods produced abroad, minus currently earned claims of other nations to goods produced domestically; that is, the net international balance on income account. But the agreement does not propose this change. Instead, it proposes that net national product equal the proposed national income, plus bad debt allowances, business transfer payments, and business non-income taxes, minus subsidies and inventory revaluations.

I would, myself, put some of these items (each with its proper sign) into national income; others I would exclude from both, thereby bringing national income and net national product to the same level. But I am not interested at this point in arguing the merits of including or excluding certain individual items. My immediate concern is to indicate doubt concerning the usefulness of the proposed distinction between the two terms.

This doubt, in addition to the doubts already expressed about the measurement of national income, makes it difficult for me to see the advantages to be derived from the changes proposed. They would alter the meaning at present attached by members of this Conference to 'national income' and 'net national product'; they would bring the terms no closer to any 'popular' meaning they may have; and, if carried out, they would leave, in my opinion, the basic concept in the field with which this Conference is concerned nameless and innocent of measurement by the three leading official national income units.

VII

National income, as measured, does not cover the results of all productive activity. The output of the family economy, for example, is largely omitted. This being the case, even complete identity of coverage of various categories of production, as well as identical treatment of each, will not ensure full comparability among the national income figures of different countries. The relative importance of the omitted categories will vary from country to country, and accordingly the effective percentage of coverage of total production by the national income figures.

The differences will be greater between countries far apart in their structures of production, their social customs, and their habits of consumption, and less between countries such as Canada and the United States. But I doubt that they would really be negligible in any comparison.[10]

I hope that if and when an agreement is put into practice it will be made clear, even emphasized, that national income figures for two or more countries cannot be assumed to be strictly comparable in all senses merely because they are based on identical categories and concepts. Such identity is by no means a guarantee of strict comparability.

VIII

I have touched on the more important proposals of the Department of Commerce. I shall not be surprised if my comments strike Mr. Denison and his colleagues and their opposite numbers in the other two agencies as too brief — even too superficial — to be of much value to them. If that is the case, I hope they will realize that that is how Mr. Denison's report strikes me; and that in the absence of more detailed statements by them, nothing more than a brief — and undoubtedly superficial — set of comments is possible.

As a matter of fact, I am not hopeful that there will be any really satisfactory discussion of the proposals before they are acted upon.[11] 'Pressure of other work and geographical dis-

[10] If structures of production, etc. are correlated with levels of per capita income, then comparisons of national incomes, whether or not based on common concepts, are systematically biased, most probably in the direction of overstating international differences.

[11] However, I can imagine that a rather voluminous, even acrimonious, discussion by the general public might develop after the proposals are acted upon. This possibility is certainly one reason, and an important one, why the fullest advance discussion is desirable.

tance' will prevent this, as they prevented the preparation of the paper by Messrs. Stone and Gilbert describing the underlying rationale of the agreements. It has already been indicated that the Department of Commerce is now well advanced in revising its measures in accordance with its proposals. I am hopeful, however, that the Department will advertise in detail to its consumers what is and is not included in its figures, and warn them that they must always consider the relevance of these inclusions and omissions to their specific problems. Indeed, I am hopeful that the Department will make it possible for them to determine in what direction the figures might be off in a particular use, and, even if roughly, how far. This means, of course, the provision by the Department of various alternative data on items that may be treated in more than one way; estimates of omitted items; segregated figures on included items.

It means more, too. Not many consumers of national income figures are in a position to select wisely between alternatives, and to decide what is or is not relevant to their purposes. I hope, therefore, that the Department — and the other two agencies — will not only provide the necessary supplementary data but illustrate their use as well. Indeed, this is something that is desirable no matter how much agreement there may ever come to be on some single 'general measure' of national income. The fact that the agreement includes provision for a plurality of aggregates suggests that simplicity is not considered an essential requirement in government-issued statistics.

MORRIS A. COPELAND

The international agreement set forth by Mr. Denison marks a long step forward. It is clearly important to have income estimates for the United Kingdom, the United States, and Canada on an approximately common conceptual basis. It is clearly important, too, to recognize unequivocally that the concept of national income must be defined in accounting terms. And it is clearly important to make not only totals but also components comparable. Indeed, in view of the difficulties in attaining complete conceptual comparability for the official totals of the three countries, it is especially important that each country provide such detail as may be needed to permit special purpose adjustments of official national totals that can be used for international comparisons.

For all these points the tripartite agreement makes suitable provision. All three countries seem to be moving promptly to improve international comparability along these lines, and it is to be sincerely hoped that this movement will continue.

But under present conditions this falls far short of what is needed. Instead of comparability on a three-country basis, there is need for comparability on a 50 or 60 country basis. Despite the technical difficulties inherent in achieving the international agreement described by Denison, it seems clear that this agreement was greatly aided by the close cultural kinship of the three countries that were parties to the agreement. It will be far more difficult to agree upon a global concept of national income that can be closely approximated from the official figures (or for want of these, from the best estimates available) for countries representing upwards of 75 percent of world income. For purposes of such an international standard concept much additional attention will have to be turned to conventions with respect to imputed income. And for the three countries that are parties to the tripartite agreement, there may be need for special segregations of property income and income derived from service enterprises. It may seem ambitious to aim at such an international concept of national income. But we can hardly be satisfied with anything less; and pending international agreement on such a concept, all changes in national conventions of official measurement should certainly be regarded as tentative.

With these considerations in mind two comments may be offered on the specific proposals for changes in the United States figures. One has to do with the modified procedures proposed for property income derived from financial enterprises which are explained by Yntema. For the sake of simplicity, banks may be used as an illustration. The proposal recognizes the double counting involved in the present procedure for banks and would do away with the unrealistic fiction of 'associations of individuals'. In this respect the proposed procedures are distinctly preferable to those followed in the past. They have advantages also from the viewpoint of the United States alone over the closely related proposal I made some years ago;[12] that is, it is somewhat easier to get separate figures for the income derived from each industry on the basis proposed. But the proposal involves the inclusion in national income of an imputed property return which at the outset and perhaps for some time to come will be unique among nations. In other words, it will add another item to the adjustments that will have to be made in United States figures if they are to be compared with the national incomes of other countries.

Denison's paper emphasizes the importance of various detailed allocations. These undoubtedly need emphasis. But it seems important, too, to avoid unnecessary confusion regarding the total it is proposed to subdivide. There has been confusion in recent years regarding United States figures, because of the competing concepts of national income. This confusion has not been lessened by the Commerce Department procedures, particularly the different bases on which national income and gross national product have been estimated and the prominence given income payments to individuals.

There will be more rather than less need for special purpose concepts of income as time goes on, but it will not be less important, if confusion is to be avoided, to focus attention on one or two basic concepts. For example, it would seem desirable to emphasize chiefly a single national income total and a single gross national product total defined on a consistent basis. It had been hoped that the tripartite agreement would be made the occasion for moving United States procedures in this direction, but it now appears that instead of three United States concepts we may have four.

It seems unfortunate to add to existing confusion. If it is feasible to focus attention on a single national income total and a consistent gross national product, I strongly urge that this be done. But there may be good reasons why a simplification of United States official concepts is not now advisable. If so, I strongly urge that the proposed additional concept be set up as National Income Adjusted for Intercountry Comparability and be designated by some such title rather than adding to confusion by creating a Net National Product.

[12] *Journal of Political Economy*, Feb. 1932, XL, 1–51.

O. C. STINE

While the tripartite agreement suggests several modifications that are definite improvements, it is regrettable that the participants did not arrive at a consensus on some points that remain in confusion. It is regrettable also that it does not contribute more to the simplification of concepts and procedures. It is very confusing to the public to have so many estimates of 'national' income or product. I hope that the participants will reconsider some points, with a view to making compromises where necessary to clarify and simplify concepts and procedures.

The first and most important point I wish to discuss concerns the definition of *national income* and *net national product.* I hope that the representatives of the United States will accept the preliminary usage of the Interdepartmental Committee of the Dominion Bureau of Statistics. Net national product and national income should be synonymous. The distinctions indicated by the United States representatives are not basic, and should be adjusted for the sake of simplification in public use. Furthermore, I would suggest that a modification of phrasing of the concept *income payments to individuals* be considered. The series might be described as 'consumer income', 'receipts of' or 'payments to individuals', and adjusted, if necessary, so that it would be the sum of the receipts of individuals, or of income received as it would be reported in a survey of families and individuals.

National income, net national product, and/or *consumer incomes* may be analyzed in terms of the contributions of, or returns to, production factors. This is to suggest a shift in emphasis from primary concern with returns to the factors to greater concern with the annual national flow of goods and services and the goods and services annually available to individuals and families, on whatever account.

The agreement proposes some improvements in the treatment of interest. It seems obvious that if interest paid on the national debt is to be classified as a transfer payment, interest paid on the debt of other governmental units also should be classified as transfer payments. I would go further and treat all interest payments as transfer payments. I do not see the logic of not extending the proposed practice for public debt to private debt. It seems absurd to me to impute interest on all bank deposits as proposed.

The proposition that saving is a public service and that anyone who defers consumption to provide capital earns something might justify the imputation of interest on all capital investments or capital goods. But the figure resulting from such a procedure is of no practical significance. I would adopt the principle that financial institutions, like governments, are service institutions that earn what they cost. Therefore we should include in the national income account the payrolls and other costs of operating all financial institutions, and at the same time treat all interest payments as transfer payments. To complete the coverage of services of those who lend, it will be necessary to devise an appropriate method of imputing the value of the services of individuals and other private agencies not classified as financial institutions. This could be done by applying to such lending a service rate based upon the average cost of the financial institutions.

The principle of valuing physical changes in inventory at year-end prices, or costs adjusted to the year-end price level, should be adopted across the board. The objective, of course, is to account for the new goods and services becoming available in the course of the year, or the net reduction of stocks in relation to what was carried over from the preceding year. If it is impossible to determine the physical quantities, the value figures may be used as a basis for determining the probable changes in volume, which at current prices at the end of the year will approximate the value of the changes in inventory. The degree of inaccuracy that may be inherent in such a procedure seems to me less important than the confusion that arises from treating some sectors of the national economy one way and others differently.

JEROME ROTHENBERG

Mr. Denison explicitly denies that the purpose of the Commerce Department gross national product series is to measure welfare. He claims that the purpose of the Department is to show 'the structure of the national accounts'. This means that the Department of Commerce is trying to avoid any special purpose narrowness in its concept, so that the gross national product may not be limited in usefulness. For example, a deflated series — which is appropriate to a measure of welfare — may be of little use in questions concerning the servicing of the government debt.

It is indeed doubtful that a series can be 'unbiased' merely because it professes to measure the 'structure of the national accounts'. Are all accounts to be consolidated? Which accounts should be omitted? What is the nature of the accounting theory to be used in consolidating the accounts? The necessity for answering such questions indicates that some arbitrary decisions will be required: the resulting series will not be purely 'objective'.

Perhaps a more important criticism of Denison's position is in the nature of the bias that arises from an attempt to show the 'structure of the national accounts'. Any accounting procedure depends upon what a consolidation of accounts is expected to show, i.e., it depends upon the purpose of the consolidation. In deriving a series such as the gross national product, which cuts across most segments of the economy, it is quite likely that different accounting purposes are met, and hence different accounting procedures applied. If the income estimators uncritically accept each procedure they uncritically accept each purpose. The resulting series will have the conglomerate — and perhaps conflicting — purposes implied in the procedures. Thus, instead of using a tool to perform the specific task for which the tool was fashioned, the Department of Commerce professes its willingness to use any bunch of tools and to take its chance as to what task can actually be accomplished.

These criticisms, while applying to Mr. Denison's — and others' in the Bureau of Foreign and Domestic Commerce, including Milton Gilbert's — pronouncements, are not meant as a criticism of the gross national product series. I do not think that this series measures only the 'structure of the national accounts'. Notwithstanding its *alleged* purpose, I think it approximates a measure of economic welfare. It is evident that neither gross national product nor any other series can measure the total satisfactions arising from the annual national production of goods and services — for no utility calculus has been developed that is cardinally applicable to human experience. The most feasible index, therefore, is that derived from an estimate of the total stock of goods and services that have conceivably added to the sum of satisfactions during the year; and this total stock should be expressed in terms of a standard that represents an approximation to the magnitude of use-values (the satisfactions derived from the use of a good or service). (No good or service not forbidden by law can be excluded from this stock of 'useful' goods merely because, although it brings satisfaction to some, it is distasteful to others ethically or esthetically: universal satisfactoriness is not a valid criterion for inclusion in national income estimates.) In this regard, and in the absence of direct measurement of satisfaction, the behavioral manifestation of use-value, i.e., the overt action based on the expectation of use-value, can be used as a reasonable first approximation. It is the amount of the standard commodity, money, people are willing to exchange for a unit quantity of any nonstandard commodity: the market price of the commodity. Market price theoretically represents marginal utility to the buyer [13] (in partial equilibrium theory; in general equilibrium theory market price represents the 'marginal rate of substitution' of the commodity for money at that combination of the two, given a budgetary limitation, which maximizes satisfaction).

In the private sector of the economy gross national product *does* measure a total stock of goods and services (except illegal and household products), and these goods and services *are* weighted according to their market prices. Moreover, the special reasons for evaluating government output at cost are not

[13] More exactly, market price equals the marginal utility of the commodity multiplied by the marginal utility of money. This refinement is necessary because the purchasing power of the dollar in terms of satisfactions is not the same at all times, in all places, for all persons, at all price levels, etc. Of these qualifications, the price level is susceptible of adjustment. The series deflated by an appropriate price index will yield a figure indicative of physical quantity. However, the present gross national product series is not deflated. This is a serious limitation of GNP as a measure of welfare. Moreover, GNP does not take into account the consumption of capital equipment during the productive process. But as I do not consider these the essential features of the series, I am taking their omission for granted in the above discussion (thus, my basic argument would be unchanged if a *deflated net* national product series were being discussed). By leaving out of consideration the varying purchasing power of money, and those other — at present unmeasured — factors that determine the marginal utility of money (of which only the distribution of income could conceivably be put into numerical form), I am able to consider market price as equal to marginal utility.

inconsistent with the above discussion. In its *essentials*, therefore, gross national product *is* a measure of welfare (within the limitations of any such measure).

Clark Warburton

Four questions are raised here concerning the proposed treatment of income from banks: the classification of banks as financial intermediaries; the concept of imputed income on bank deposits; the concept of income originating in the banking industry and elsewhere; and the treatment of banks and financial 'intermediaries' as aggregates of individuals rather than as business concerns.

To treat banks as financial intermediaries is like classifying General Motors or United States Steel as merchants rather than as manufacturing establishments. It implies that bank deposits are something individuals possess and place at the disposal of the banks for lending or investing. This is the reverse of the real situation. Deposits are something banks bring into existence and place at the disposal of individuals and business.

How does the concept of imputed income on bank deposits differ from that of imputed income on the coal in the bins of individuals and business concerns, or of imputed income on the rugs in our houses and offices, and why should it be selected for special consideration? Any possible line of demarcation between items which, as a practical matter, we wish to include or exclude in our measurements is, of course, somewhat arbitrary, but we should, I think, have some reason behind our arbitrariness. I cannot see any more reason for including imputed income on our stockpiles of deposits than on our stockpiles of coal or rugs. But if we do include imputed income on deposits, should we not also include income or interest on our holdings of currency? To include the former but not the latter is like including imputed income on our stocks of bituminous coal but not on our stocks of anthracite coal, or including imputed income on our domestic rugs but not on our orientals.

If we do include imputed income on deposits, why should it be treated as income originating in the banking industry? We might as well attribute imputed income on our floor rugs to the rug-making industry, or imputed income on our bins of coal to the coal-mining industry. This question leads to a comment on the concept of income originating in an industry, in which, I believe, is inherent a fundamental misconception of economic processes. Under current national income concepts and measurement, the attempt is made to obtain for each industry a net value of its product, which is then labeled as 'originating in' that industry. That is not where the value originates. The value originates in the market; the goods originate in the industry. Take the case of the two publishing firms whose editors have equal judgment. One published a book that is a best seller, perhaps because of some event occurring just before publication; the other, a book that is a failure. The factor costs of the two books, in the sense of the outlay for the acquisition of the production factors, are equal. The difference between this cost and the net value of the product originates in the market, not in the publishing industry; and it is the latter, not the former, that is reflected in national income by industries.

Banks and financial institutions, like other business concerns, are enterprises producing and selling particular types of service — partly to other business concerns and partly to individuals. Why, then, should the services bought from banks and other financial concerns be treated in national income measurement differently from those bought from mining companies or laundries? If a manufacturer, for example, buys coal or laundry service from another concern, the payment is not included in the items added to obtain the net value product of, or income derived from, the manufacturing concern. But if the manufacturer makes a direct payment to an individual for getting coal from underneath the soil to his factory, or for washing his workmen's uniforms and cleaning his office furnishings, the payment is included in the items added to obtain the net value product of, or income derived from, the manufacturing concern. Similar treatment of interest paid would, of course, require an estimate of the amount paid to banks and other financial enterprises, on the one hand, and the amount paid to individuals, on the other. Is the practical problem of making such a division, and the probable error in the estimate, so much more serious than in other phases of national income measurement as to warrant the introduction of a technique that is so roundabout, complicated, difficult to understand, and divergent from the general methodology as that proposed by Mr. Yntema?

The solution of the problem of handling income from banks and other financial concerns, I believe, lies in replacing the illogical concept of income originating in an industry by the concept of income derived from an industry; and in replacing the present illogical treatment of interest paid to a business concern by the method of treating payments to business concerns for other types of service. Income derived from the banking industry could then be obtained by the same direct process as income derived from other industries: as the sum of wages, salaries, dividends, etc., including interest actually paid on deposits.

REPLY

Mr. Denison

In examining the comments offered by various members of the Conference, I find that the same points have been made by several discussants. To avoid repetition I shall therefore organize my reply by subjects rather than attempt to reply to each member directly.

I

Messrs. Copeland, Stine, and Fabricant dislike the establishment of separate series for national income at factor cost and net national product at market prices. Copeland and Stine object primarily on the ground of expediency: that is, they fear that the existence of two series whose levels will be fairly similar will confuse users of the data.

Granting this possibility, I still cannot believe that the proposal can be anything but an improvement over the present condition. In response to a request for the net value of production at market prices, the Department of Commerce must now reply that it has no such series. The inquirer must either subtract depreciation from gross national product or wrongly use gross national product or national income as a substitute. Since I think the net value of total production measured at market prices is perhaps the most important single economic series that can be constructed, I believe the Department has an obligation to make such a series, net national product, available to the public.

Some critics will ask why we do not then adopt net national product as our basic series and discontinue the national income series. This could be done without dropping the present income-share table by adding to employee compensation, profits, etc., lines to show business taxes, business transfer payments, bad debt allowances, subsidies (as a negative item), and the statistical discrepancy, without showing even a subtotal excluding them.

Despite my own belief that net national product at market prices has greater analytical value than national income when each is viewed as a single series purporting to measure the aggregate value of production, I certainly do not think that the national income series should be discontinued — for two reasons.

First, national income has significance as an aggregate measure of earned income; and, especially important, it provides the appropriate concept for comparison of the net value added by the various industries and of the various types of earned income. In comparing retail trade with other industries, there seems little reason to magnify its importance because many excises chance to be collected at the retail level, or to suppose that the relative importance of retail trade has increased because sales taxes have been widely adopted. Whatever its defects, income originating is by all odds the best available measure of the distribution of economic resources among the various branches of the economy, and it should be made as accurate a tool for this purpose as is possible. Again, while one may wish to know what proportion of the total market value of private production employee compensation constitutes (and this is provided for in our third account), one may also legitimately wish to compare the size or movement of one type of earned income with that of all earned income, and for this purpose the inclusion of business taxes or the exclusion of subsidies is inappropriate.

Second, most British economists who have worked in the national income field, including Richard Stone and J. R. Hicks, as well as at least one prominent American member of this Conference, Albert Hart, consider factor cost superior to market price as a general measure of the value of production. I disagree with this position both because it seems contrary to what has always been understood by value and because a factor-cost series is not susceptible to deflation by the price indexes ordinarily available. Nevertheless, I think that an official agency should give sufficient weight to the opinions of respected experts to furnish them with the series they consider of primary importance. Furthermore, if it had been necessary to eliminate either the factor cost or the market price measure, rather than to present both, agreement on the presentation of data would have been unattainable at the Washington meetings.

For these reasons I believe it not only justifiable but essential for the Department of Commerce to publish both national income and net national product figures.

Mr. Fabricant, in Part VI of his comments, objects to applying the terms 'national income' and 'net national product' to different series, chiefly on the grounds that they "have been used interchangeably in the English and American literature". As applied to any single writer this is generally true, although modern authors have tended to clarify their meaning by qualifying the terms 'national income' or 'national product' by adding the phrase 'at market prices' or 'at factor cost'. However, some writers, chiefly in England, have used both terms in the sense of what we call 'national income', while others, whatever the estimating technique, have defined their concept like our 'net national product'. The simple fact of the matter is that the two are different concepts, and that the attempt to force them into a single mold has given rise to much pointless discussion over the items to be included in the single aggregate — in particular, whether business taxes should be included. It is evident that there is now no generally accepted meaning of either national income or national product, and agreement among three principal estimating agencies would seem to be one way of progressing toward this goal.

II

Mr. Fabricant discusses in Section V of his comments the place of government in national income and national product. His discussion is somewhat confusing because he does not argue within the framework of our general definitions. His remarks about the treatment of government services to business and of business taxes in national *income* are, it seems to me, for the most part, irrelevant in view of our definition of national income: "National income measures the earnings accruing to residents of the country for the participation in production of factors of production they supply . . . national income may be viewed also as a measure of the value of goods and services produced by the economy valued at factor cost".

In filling in the figures required to meet this definition the question of government services to business never arises. Factor income, or cost, is measured directly. Indeed, this avoidance of the whole question of government services to business has been urged as a principal advantage of measuring the value of production at factor cost rather than at market prices.[14]

Indirect business taxes are omitted from national income because they are not considered to be factor income or factor cost. Admittedly, certain taxes are difficult to classify as direct or indirect. But this difficulty in classification is similar to problems encountered throughout national income measurement.

There is no relation whatsoever between the treatment of indirect business taxes and the absence of any problem created by government services to business.

III

In measuring net and gross national *product* at market prices, consideration of intermediate government services is indeed relevant. If such services exist, and if they can be isolated and their cost measured, I agree with Mr. Fabricant (though some of my colleagues would not) that they should be deducted from government expenditures since they are already embodied in the price of products privately sold. This, it may be noted, implies that the market price of privately produced commodities is less than their cost of production (including profit) in the amount of the factor cost of free government services to business.

Unfortunately, no one has ever furnished a definitive criterion by which such intermediate services can be recognized. This is

[14] However, if one wishes a product allocation of national income, which the Department of Commerce does not propose to make, the question of government services to business reappears in the allocation of factor cost to different products.

not surprising since there is no way of identifying them except by deductive reasoning. Nothing in the way of records can furnish a solution.

It seems self-evident, however, that the following categories of government expenditure, among others, cannot be considered services to business in any relevant sense: (1) all expenditures for national defense and war; (2) all expenditures for health and education; (3) all expenditures for the construction of new buildings, roads, etc., and for durable equipment. The last class of expenditures constitutes capital formation and must be included in national product regardless whether individuals or business ultimately enjoy the benefits of the capital.

It should also be noted that all government services to business for which a specific price is charged, including in particular postal services, water, electricity, gas, and transportation, are now and will continue to be omitted from national product.[15]

To test the possible magnitude of 'government services to business' I have deducted from total government expenditures 1929–45 the three types listed above, other than expenditures for durable equipment for which data were lacking, and found that the residual comprised 4 percent of gross national product.[16] This 4 percent includes general government administration, police and fire protection, welfare and relief activities, recreation, aids to agriculture (noncash), and pensions to government employees as the largest components, together with a host of minor activities. Any thousand individuals sitting down to allocate these expenditures between services to individuals and services to business would inevitably reach one thousand answers, and none could adduce objective criteria to defend his answer against the others. Personally, I think very little of this residual represents services to business, and am convinced that the possible duplication in national product arising from this source is a fraction of 1 percent. But it does not seem to me any

[15] Even this deduction involves a grave statistical problem of consumer allocation. But the problem is purely statistical. The necessary data exist and in theory can be collected. Not so with free government services.

[16] In this calculation I eliminated government interest and payments to farmers from both gross national product and government expenditures, since they are to be excluded from the revised gross national product series. I did not deduct subsidies other than payments to farmers although they will be excluded from our future government expenditures series — which will further reduce the size of this controversial residual.

part of the business of a government agency to engage in such subjective guesswork.

If anyone is 'straining at gnats' I think it is Mr. Fabricant in his suggestion that a national product total excluding government expenditures be published. The problem of intermediate government services is unimportant and no amount of research will lead to a solution more acceptable than simply to let whatever duplication exists remain.

Finally may I point out that our definitions of gross and net national product are deliberately worded to avoid the question of intermediate government services; i.e., they are defined as the market value of private production plus 'government services valued at cost'. I do not emphasize this point, however, because if intermediate services were really important and identifiable, it could be argued that our definitions are inappropriate. It may also be noted that if the government itself is viewed as a final consumer (see note 1 to my report) intermediate government services cannot exist.

IV

Several comments center about phases of the treatment of interest. Mr. Stine suggests, as an extension of the treatment accorded government interest, that all interest be omitted from national income. The distinction between public and private interest payments rests on the phrase 'participation in production' in the definition of national income — the implication being that private borrowings are used in production while government borrowings are not. This distinction may be somewhat dubious, but the challenge might better be directed to the exclusion of government interest — long a controversial subject — than to the inclusion of private interest. There can, of course, be no question about the inclusion of private interest (in the sense that it is not deducted) in national product at market prices.

Several members have supported my own position, expressed in note 2 to my paper, that the inclusion of interest paid by state and local governments has no justification if federal interest is to be excluded. I am glad to report that the Department of Commerce has now decided to exclude all government interest from national income and national product.

Several members have also registered disagreement with the proposed treatment of banks in national income. While Mr. Yntema will undoubtedly discuss these suggestions in detail, I would like to try to clarify one aspect of the matter.

The Department of Commerce, like the National Bureau of Economic Research, now treats banks as aggregates of individuals, which means that long term interest received by banks is counted as flowing directly to individuals and included in national income. The new method is approximately equivalent to treating banks as aggregates of individuals and businesses, and including in national income only the fraction of the interest they receive, which is credited to individuals. Whether Mr. Copeland, who says that the change will lower national income, or Mr. Fabricant, who says that it will raise it, is correct cannot be readily determined because the conceptual and statistical assumptions underlying the present estimates cannot be unscrambled.[17] Since both Canada and the United Kingdom agreed to follow this procedure, it should not create international incomparability, as Mr. Copeland fears.

With Mr. Fabricant's justification for the inclusion of consumer interest I have considerable sympathy. I could wish, however, that it could be more sharply distinguished from interest on government debt.

V

Messrs. Fabricant and Stine object to the omission of an adjustment for the revaluation of nonfarm inventories. In reply I can only amplify the statement made in my paper. The Department of Commerce does not believe this adjustment can be made with sufficient accuracy to justify its inclusion in the basic profits series. The Department, taking full advantage of Mr. Fabricant's own work in this field, is, however, well advanced in the preparation of the best estimates of which it is capable, by industries, and these will be made available for general use.

The reason for omitting an adjustment for the revaluation of depreciation, which Mr. Fabricant criticizes, is also statistical.

[17] The main change in the private interest figures will actually come from the direct measurement of the desired interest flows in place of the present inclusion of all long term interest.

This omission is, of course, far less serious from the standpoint of measuring year-to-year changes.

Mr. Fabricant objects to the inclusion of depletion charges in national income, although agreeing that book depletion is meaningless for our purposes. In my opinion depletion is properly included in national income as a net factor income share, part of the economic rent accruing to the factor land. 'Land', in this connection, need not be defined as the 'original and indestructible properties of the soil'. To qualify depletion (like the economic rent portion of net rents, and of corporate and noncorporate net income) for inclusion in national income, it is only necessary that 'land' be 'original', not 'indestructible'. Other reasons for including depletion are stated in the body of my report.

VI

I concur fully with Mr. Fabricant's caution in his Section VIII against invalid comparisons of the national product of different countries. I think that the argument for uniform procedures among countries in national accounting is not so much to facilitate international comparisons of statistics as to make it possible for students in one country easily to follow the literature and understand the data of another.

VII

I wish I could agree with Mr. Rothenberg's conclusion that gross national product is a tolerable measure of economic welfare. I do not think that it, or any other Commerce Department series, is such a measure although the national income accounts present most of the available data bearing upon economic welfare. If I were to attempt to derive a series that measures, as well as may be, changes in economic welfare — or rather the 'income' as contrasted to the 'income net of disutility' concept of welfare — I would include only consumption expenditures and current government services to individuals (excluding private and government capital formation and probably war expenditures). To these series I would make numerous adjustments. I would exclude almost all the 'employment expense and personal business' component of the Department of Commerce consumption expenditure series, as well as transportation to work and many other items. I would put consumer durable goods on a depreciation instead of a purchase basis. I would make some guess concerning the worth of the output of the family economy and add it in. In deflating, I would abandon the price index technique and let a Ford or a beefsteak be counted as of equal value whether used or consumed in Detroit or California, on a farm or in a city. Probably many other adjustments would also come to mind. When I finished, I would have a highly personalized measure of welfare bearing little resemblance to any existing national product or national income series.

Whether any significant comparison of welfare can be made at all between periods in which consumer desires differ so radically as they do between peace and war years, I leave open. Aside from other problems, both the inclusion and exclusion of war expenditures from a welfare measure seem unsatisfactory.

MR. YNTEMA

In response to comments on the treatment of financial intermediaries, I should like to turn first to the brief remarks of Mr. Fabricant who tentatively concludes that the new proposal means an increase in consumers' outlay and national income estimates. This point deserves attention. The outcome, it should be recognized, depends upon the effect of a shift in procedures from the aggregate-of-individuals treatment as applied in the past (including assumptions concerning certain interest flows going to individuals and computations for financial intermediaries) to the proposed treatment. On an a priori basis, we cannot be sure of the effect; it may be in either direction. In turning to statistical findings for an answer, we are certain to be disappointed. True, the new interest estimates, when available, will be different from earlier estimates. Differences, however, will reflect not only changed concepts with respect to the measurement of property income flows but also differences arising from estimation processes. Among the latter, differences in coverage, source materials, and developmental procedures must be mentioned. These can have substantial effects on numerical results, and the task of making adjustments to eliminate such effects would be complicated and time consuming. Comparison of statistical findings, consequently, will give no better than a rough answer.

Mr. Fabricant raises also the issue of the grossness of the national income concept. In particular, he would classify bank services purchased by individuals among the business expenses of individuals, thereby obtaining a 'netter' national income. Bank services to individuals then become intermediate products, not part of consumer expenditures. While I sympathize with Mr. Fabricant's wish for a more net concept, I find myself compelled to take the opposite stand. There is great difficulty, for example, in establishing a reasonable stopping point short of the final position, which would be after all production costs of individuals, including the replacement of human capital.

Mr. Copeland, in qualifying his acceptance of the proposed methodology, states that the procedure would be unique among nations for some time to come and that adjustment would be required in making international comparisons. In comment, I can only say that the new methods for financial intermediaries will presumably make various details available that should greatly facilitate adjustment for international comparability. Certainly, one must not claim that the old method provided a solution, for it was not generally adopted by other countries, either explicitly or implicitly. Of course, differences between numerical findings under the two methods cannot be large when viewed in the light of inter-country differences in income estimates due both to underlying institutional dissimilarities and to incomparabilities in estimation practices. If the proposed procedure for banking comes to be generally adopted, the treatment of financial intermediaries would be on a sound basis, and comparability among countries with respect to this area would finally be achieved. In the case of the 'other finance' industry, it will of course be necessary to standardize methodology for finer international comparisons. Standardization would preferably be in the form of either some aggregate-of-individuals treatment or the proposed treatment as against the ordinary industry procedure. Most countries, however, do not yet have sufficiently precise national income estimates to warrant adjustment for differences in measuring income originating in financial intermediaries.

The remarks of Messrs. Stine and Warburton raise much more fundamental questions. Mr. Stine prefers to treat all interest payments as transfers, thereby automatically obviating any need for imputation (of services or interest) on bank deposits. Substitution of some service cost figures for financial institutions plus some imputed lending-service cost for individuals and related lenders does not seem to me to be a particularly neat way out of the dilemma, either conceptually or in terms of preparing estimates. I take it that Mr. Stine does not wish to go the whole way, i.e., eliminate all property returns from national income computations. Yet it seems difficult to stop, as Mr. Stine would do, short of the terminal position. In refusing to accept interest as a factor return, Mr. Stine is proposing a change that strikes at the level of things axiomatic to national income work. The question is whether, in our country and times, interest qualifies as a distributive share. In so believing, I must defend myself by resort to expressions used in speaking of axioms and say it is 'self-evident'.

Mr. Warburton's remarks, as I understand them, are directed mainly at establishing the case for an allocation of national income showing the distributive shares returned to individuals by each industry. He would obtain national income as an industry total of distributive share returns to individuals (defined to include quasi-individuals). This stands in contrast to the compilation showing the value of net factor use, industry by industry. If statistical processes are equivalent, the two all-industry totals should, of course, be the same. Differences are at the individual industry level and two questions are pertinent: (1) For most economic study, which industry figure is more useful? (2) Can statistical calculations be made and, if so, how accurately?

Without prejudicing the answer to the first question, which may be considered in its own right, it is only fair to state frankly that statistical calculations by industries under the Warburton proposal are substantially impossible, because we simply do not have the necessary data on property income flows (see note 4 to my paper). Preparation of the required estimates for interest and profits would be little better than sheer guesswork.

Theoretically, the choice is between industry figures showing distributive shares returned directly to individuals as against figures indicating a value added in the sense of net factor returns. Practically speaking, the two methods give different results only in the case of property returns (interest and corporate profits). As far as I can see, there is little use for the Warburton industrial allocation except for the few cases that are concerned with the industrial composition of individuals' receipts of property income.

The Warburton allocation does not show value added in the sense of the value of an industry's product over purchases from other enterprises, charges for the consumption of capital goods, and business taxes. This total is identical with the income originating total which is comprised of the earnings of resources — labor and capital — used in the industry. And this is the kind of a value measure for an industry that is basic to most appraisals of an industry's position and performance. The merit of the ordinary industrial distribution of national income lies in the fact that it gives a useful industrial allocation. In consequence, I find myself compelled to reject Mr. Warburton's proposal even as a desirable theoretical formulation.

There remains the entire question of imputation in the financial intermediary area. If national income is to be strictly a total of factor returns to individuals that appear in the form of money, then there need be no imputations, such as have been made for wages in kind, net rents of owner-occupied houses, and property returns in financial institutions. As far as financial intermediaries are concerned, this kind of national income total may be obtained by the application of the ordinary industry treatment in the financial areas (with negative income originating totals for banking). The same all-industry total might also be obtained by Mr. Warburton's suggested procedure, were it statistically possible. The result, however, is incomplete as a national income aggregate because some factor returns clearly appear in the form of commodity or service returns or as 'income in kind' rather than in the form of actual money flows. For example, a farm laborer who receives $20 in cash plus board and lodging worth $10 is assigned a wage return of $30, of which $10 is imputed. Similarly, the home-owner whose house would yield him $500 in net rent if leased to a tenant will have an imputed net rental return of $500.

In the banking area the problem is perhaps more complicated, although basically the same. By the aggregate-of-individuals procedure, the flow of long term interest plus dividend income into banks is treated implicitly as if it went directly to individuals. The proposal in my paper envisages a transformation in banks of total interest and dividends received so that these appear in the form of services rendered business and individual depositors (in the amount of property income receipts minus interest paid). In the income compilations, these services are said to be in the form of imputed interest. Judged by fundamental intent, these two approaches are not far apart and failure to impute in the financial area would give an incomplete national income total.