

PRIME MINISTER

Please put this back  
to CSO with A.W.'s  
comments.  
mt

USE OF INPUT-OUTPUT TABLES

These tables are used for three primary purposes.

1. To check the base data of the national accounts.
2. To serve as a basis for enquiries concerned with external shocks, such as the oil price increase, or changes in policy, and their effects on different industries.
3. As a basis for planning models of the United Kingdom. (Such as the Cambridge model.)

In my view the data have been unequivocally useful only with respect to the checks of the national accounts. The input-output tables, in their use in various enquiries into inter-action effects, have been disappointing and have often produced nonsense results. In modelling complete economic systems it has been shown that the predictions of the input-output model are superior to simple alternatives only for a period of three years after the date of the data. Since the data normally take longer than three years to process, the models have been of little or no use in practice.

It is conceivable that if these input-output tables were produced very promptly that they would be of some use in analysing some of the problems of much current interest, such as the interaction of the private and public sectors. But with the present rapid advance in technology and efficiency out of date tables can be quite misleading.

As a general point, however, I would stress that the main economies in statistical services should be found in reducing the collection of data rather than in reducing the analysis of what data have been collected. (Collection, of course, is largely paid for by the private sector.)

AAW

2 March 1981



Gorb Mach.

FILE

dl



10 DOWNING STREET

*From the Private Secretary*

MR. HIBBERT  
CENTRAL STATISTICAL OFFICE

The Prime Minister has seen your minute to me of 17 February, about the uses of input-output tables. She has asked me to send you the attached copy of some comments on the subject made to her by Alan Walters here.

M. A. PATTISON


4 March 1981

PRIME MINISTER

When you discussed the Rayner report on Statistics, you queried the use made of input/output tables.

The Departments of Trade and Industry (through their common statistical services), the Department of Energy, and NEDO are the main users of the tables, although other Departments draw on them from time to time.

I attach a note from the CSO summarising the case for maintaining the tables, as it emerges from these enquiries.

*Let AW  
have a look  
mf* 

20 February 1981





2 pages

GovMad

Treasury Chambers, Parliament Street, SW1P 3AG

01-233 3000

23 February 1981

M.A. Pattison, Esq.,  
Private Secretary,  
10, Downing Street

Dear Mike *MAJ*

I promised to send you a note of the way  
the Treasury uses CSO input-output  
tables in my letter of 19 January.  
This note is attached.

I am copying this letter to the  
recipients of yours of 8 January.

Yours ever  
Peter.

P.S. JENKINS



## TREASURY USES OF INPUT-OUTPUT ANALYSIS

The Treasury does not regard itself as the principal direct user of input-output tables, although it does use them widely. The main customers within Government are the Departments of Industry and Energy, but to the extent that the Treasury uses their analyses it is a user of the underlying input-output data by proxy. In this category comes for example studies of the industrial inputs to energy production and the employment consequences in supplier industries of BL closures.

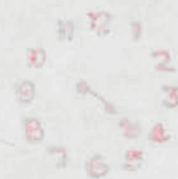
2. Although they do not use them every day, Treasury economists rely on input-output analysis to calibrate a significant proportion of the Treasury model of the economy. This is of course used very frequently. Sections of the model which depend critically on input-output data for quantification, and which are themselves crucial to the model, include the following: manufacturing output, in particular the net manufacturing effect of expenditure categories like consumption and investment; prices and costs and the way they are influenced by the mix of wages, taxes and material costs; and the apportionment of indirect taxes to demand sectors. Of the Treasury's direct uses of input-output material this is probably the most routine. The quality of the model's forecasts obviously depends on the quality and timeliness of the data on which it is based.

3. Other direct Treasury applications of input-output analysis are concerned mainly with industrial forecasting and with a range of ad hoc microeconomic problems. In the first area comes work on the differential effects of policy and tax changes across industries. In the second, input-output tables frequently provide all that is required in gauging indirect effects. Where this is not the case the CSO statistician concerned can often supply relevant information not yet published.

4. There is no obvious sign that reliance on input-output data is likely to decline, or that data from other sources could do the same job. It may also be the case that only input-output tables can provide the basic material for certain kinds of new work on the supply side of the economy.



21 FEB 1981





## CABINET OFFICE

Central Statistical Office

Great George Street, London SW1P 3AQ Telephone 01-233 7514

MR PATTISON (10 Downing Street)

A22/45

c Mr Lockyer

USES OF INPUT-OUTPUT TABLES

I minuted you on 16 January about the uses, in government, of input-output tables to which your letter of 8 January to the Treasury and other main economic departments had referred.

2. Although you have not, I understand, yet received a reply from Treasury, I trust that the replies from the Departments of Trade, Industry and Energy indicate the wide variety of important uses to which the input-output tables are put including, as Department of Energy noted in their reply, economic analysis for Cabinet Committees.

3. The response from the additional departments approached by me has been mixed. Without exception the value of the benchmark input-output tables is accepted though some departments use them only occasionally and not always, of course, in connection with issues of major policy concern. You will wish to note that the Ministry of Defence use the input-output tables in assessing both the direct and indirect employment consequences of changes in defence spending; one would expect the other major spending departments to use a similar approach for such analyses.

4. You will see from the attached copy of the letter dated 4 February from Mr Husain that the National Economic Development Office attaches particular importance to the availability of input-output tables. He mentions their use in connection with analysing the problems of particular industries such as textiles, for evaluating the micro-economic implications of macro-economic changes, for studying the effects of sudden exogeneous changes (such as the 73/4 oil price increases), as well as for other types of economic analysis. Mr Husain also draws attention to the fact that in all other advanced countries Government accepts the responsibility for compiling this material; he mentions the United States and Japan in particular as countries where the work is carried out on a more ambitious scale than in the United Kingdom with, in his view at least, very beneficial results.

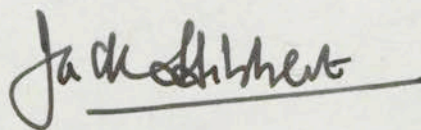
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Terry Barker  
Cambridge  
Economic

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5. As we see it, the crucial question is whether the tables are of such value as to justify the costs of compiling them. The reply from the Departments of Industry and Trade notes that the marginal costs of compiling the five-yearly benchmark tables are small compared with the costs of collecting the basic data used, which are virtually all required for purposes other than input-output analysis. The CSO is in no doubt that the work is worthwhile when judged on value for money criteria. Please let me know if I can be of any further assistance.

A handwritten signature in dark ink, appearing to read "J. Hibbert", with a horizontal line underneath it.

J HIBBERT

17 February 1981



National Economic Development Office

Millbank Tower, Millbank, London SW1P 4QX  
Direct line 01-211 5609 or 4782 Switchboard 01 211 3000

Mr. Hibbert %



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between private  
and public sector

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FILING INSTRUCTIONS  
FILE No. H21/H3

4 February 1981

Dear Jack

USES OF INPUT OUTPUT TABLES

You wrote to Roger Gibbs and myself in January asking for a statement of our interest in the collection and analysis of input-output data by Government. You told us that the Prime Minister had questioned the usefulness of this work to Government. Roger and I combine our views in this letter with those of our colleagues in Economic Division.

You will already have seen my statement of 4 June 1980 about general NEDO interests in the context of the discussions then going on about proposed economies. We do not want to change the view given then on input-output and purchases enquiry work. We will in fact expand that view by describing our current and past needs for such information in some detail. But first we feel we should restate with renewed force the opinion that the framework in which economies are decided upon should be long term; and that judgements placing too much weight on current uses could prejudice future enquiries requiring particular kinds of analytical information. Even if we made only occasional use of some forms of statistical information (I-O or any other type) as analytical users, we have to consider the potential value of such material, whether it uniquely describes an aspect of the economy, and whether continuity must be preserved to provide time series.

In my note of 4 June I put that point as follows:

"Moreover, the Office is well aware, as others are, that the emphasis to be placed on this or that particular aspect of the statistical service varies greatly from one period to another. The problem is therefore not only one of current requirements, but of anticipation of valuable analysis which will almost certainly be of interest. Once abandoned, a strand of economic information may only be revived at great cost and effort, while continuity may never be revived."

We feel that this statement has particular relevance to input output work.

Having emphasised this general approach, our detailed experience will perhaps benefit from being placed in its perspective.



You will know well our interest in longer term developments of the supply side of the economy. Central to this interest must be studies of changing economic structure and of inter-sectoral flows. Such studies are not only concerned with static influences of demand changes in particular sectors, but also the more important dynamic processes requiring information about relative supply elasticities, investment flows and changes in technical coefficients. Moreover, our interest cannot be confined to the UK alone, and the comparison of interactive sectoral performance with that in economies more successful than our own must be part of our work in support of understanding the reasons for secular deterioration relative to competing economies. That sort of concern is clearly not exclusive to NEDO and reflects uses outside Government.

Our overall commitment to structural studies has produced a number of specific applications of I-O material over the years, and we summarise these below under general headings. If it would be useful we could give more specific descriptions of work done in every case.

#### 1. Industrial demand and supply patterns

I-O tables have been frequently used by EDCs and SWPs as an indication of the quantitative structure of markets and supply systems for the sectors they cover. Guidance in forecasting and product development are specific objectives to be added to general descriptive ones. This material is particularly useful to industries with complex supply and market structures such as agriculture/food, textiles and chemicals. Textiles is a particularly good example of an industry which has linked upstream and downstream sectors in a sectoral flow model - at a more disaggregated level than official data provided and with volume units added. This work clearly exposed inter-dependence, links subject to import pressure, and the need to intensify maker/user contacts in a way which no other type of data could have done.

#### 2. Micro-economic implications of demand and supply changes

Whatever opinion one has of past industrial reviews and so called planning exercises, the information base had to be an I-O one if attention was to be paid to sectoral implications of macro-economic policy. Perhaps the policy was incomplete, or the approach wrong, but the information base can hardly be blamed for that. Whatever alternative policy or process of regeneration is adopted, its balance and success at micro level can conveniently be monitored only through a similar statistical structure. Indeed such a structure is also essential to the simulation of policy options, in which detailed analysis of the supply side is required.

We at NEDO are occasionally under some pressure to evaluate potential changes in supply side behaviour and possible changes in technical coefficients. Our experience from the Neddy plan in the early 60s through successive studies to the present has consistently involved us in being aware of both the micro



implications of macro changes, or (more important in recent studies) the macro implications of improvements in performance at detailed sector level.

### 3. Study of exogenous changes

Sudden and major exogenous influences may have to be studied quickly for their likely effect on sectoral behaviour and performance. The prime example is the price propagation study carried out by the Office for its report on the industrial effects of the first oil price rise in 1973/4. No such work could even have been contemplated without I-O data.

This kind of ad hoc investigation may not take place often, but in our case that is rather a function of the resources they absorb than their usefulness. Nevertheless requests for such enquiries could emerge and demand the necessary priority at any time. Possible subjects are exchange rate changes, further energy price movements, the effects of protection, and many others.

### 4. International comparisons

We have been trying to find resources to compare and analyse the UK's input-output structure with those of close competitors for some time. Staff shortages have been the main constraint, not the value of such a project. The comparison of product and investment flows, and the rate of change in technical coefficients would raise important questions for industrial consultation to resolve. We have comparable I-O tables for EEC countries, and we need to examine them.

### 5. Industry and financial models

Besides the solution of ad hoc problems raised by individual industry groups, we try to meet demands for sectoral simulation models. One of these - the textile model has already been mentioned. Input-output data were also used in another type - a financial structure model - for Chemicals, which has been intensively used by the EDC. Further sector projects are under discussion.

### 6. Trade investigations

Import penetration is a particular aspect of EDC/SWP work in which I-O studies can help. One clear example is a study which was done for the Distributive Trades EDC on the import content of consumers expenditure analysed by the full range of commodities covered in the I-O tables. Complete studies of import penetration are impossible without I-O type data.

### 7. Direct requests from Council

Some studies in this category call upon I-O data casually as an aid to general analysis. Others use I-O as a major resource. Such data for example made a significant contribution to the support studies for the Office's report on the Nationalised



Industries. Again, in May this year we are committed to producing a paper for NEDC on the interdependence of the public and private sectors. Work is already in hand drawing on the new I-O data about to be published. Another example, though not directly for Council, is a general study for the Building and Civil Engineering EDC being conducted by Professor Stout at Leicester, on the influence of infrastructural investment on industrial costs and efficiency.

These undertakings also, could not be or could not have been done without I-O data.

In conclusion we want to make three points. The first, and vitally important in our view, is that there is no conceivable substitute for I-O information. If we want to examine structural positions, movements and interactions, we have no alternative but to continue the collection of purchases data and the compilation of I-O tables.

Second, there is really no substitute for central collection of such data which is remotely cost effective. In the preparation of national information we do not know of any advanced country whose Government does not accept the responsibility for the collection of such material, nor any country which does not value its analytical possibilities. Indeed we strongly suggest that where sophisticated I-O data and systems have been built up (e.g. in the US and Japan) a significant contribution has been made both to Government analytical work and to corporate planning.

Third, far from condoning the reduction or abandonment of I-O work by Government we must urge improvements. NEDO was disappointed that the plans of the early 70s to extend disaggregation and frequency had to be abandoned, and we must still point out that the delay in publishing I-O data will have been an important factor in reducing their usefulness - though not eliminating it by any means. It would border on the tragic if a reduction in analytical uses arising out of delay should prejudice the continuity of a unique body of data. With best efforts brought to bear, tables based on the 1974 purchases enquiry are only now appearing; seven years after the structural situation which they describe. Bearing in mind the major structural developments which we more than suspect have accompanied oil price changes and the growth of NSO production, it will surely be important to analyse closely the changes which have taken place in the late 70s. It would be difficult enough to accept that the major source of data for such analyses could possibly be delayed until 1986. It would be unnerving indeed to think that they might never emerge at all.

We hope these comments are of some value.

*With best wishes*

*Rafi.*

R A HUSAIN  
Head of Statistics Section



17 FEB 1957

