

PART I INTRODUCING POST KEYNESIAN MICROECONOMICS

CHAPTER 1

The Disaggregated Framework of the British Economy

Economics is a social science which has as its purpose the study and explanation of how a capitalist economy works. But what is meant by an economy? Some people, including many economists, define economy as "a mechanism that allocates scarce resources among competing uses;" and then there is the dictionary definition--the administration of the wealth and resources of the community. As stated, both definitions are so abstract and vague so as to be useless. Of course there are other definitions of economy, but they would be equally abstract and vague and useless to you. The way around trying to define economy is not to define it at all for the moment. Instead let us paint a picture of what an 'economy' might look like and to make this picture breath life, let us paint it of the British economy. The way we shall start our artistic endeavour is to start with an 'input-output' representation of the British economy and then look more closely at the industries, enterprises, and labour force which constitute the backbone of the representation.

The Input-Output Representation of the U.K. Economy

The production system constitutes the very core of the modern capitalist economy in that it produces nearly all of the economy's output. The system consists of many different industries and the flow of material goods and services among them. To represent this system of production it is necessary to turn to a particular production schema known as input - output table. To construct such a table it is necessary to first start

with the make matrix which shows the mix of products produced by each industry at a given date. Each column in the make matrix represents a specific industry and each row represents a specific product group or service--see Table 1.1. Thus, reading the chemical industry column, the sales of the chemical industry included £5,000 of agricultural products and £658,000 of chemical products for total industry sales of £663,000. On the other hand, reading the chemical product group row, the agriculture, chemical, transport,

Table 1.1

Hypothetical Make Matrix
(in £000)

Sales by Product Group	Sales by Industry	Agriculture	Chemicals	Machines	Transport	Books
Agriculture		383	5			
Chemicals		7	658		5	7
Machines				343		
Transport		3		7	250	
Books						364
Industry Totals		393	663	350	255	371
Product Group Totals		388	677	343	260	364

and book industries produced £7,000, £658,000, £5,000, and £7,000 respectively of chemical products for a total of £677,000. Such a table can be obtained for the 1990 U.K. economy--see Table 1.2.

The distinction between the definition of an industry and a product group is important. An industry is composed of business enterprises, the major part of whose sales comprise a specific group of products or services. These are called the principle

product group of the industry. Therefore, there are as many product groups as there are industries. Most enterprises also

Table 1.2
The Make Matrix for the 1990 U.K. Economy
(£ million)

Sales by commodity	Sales by industry							Total
	Agr	Energy	Manuf	Constr	Distr	Trans	Serv	
Agriculture 19,110	19,110	-	-	-	-	-	-	-
Energy 62,875	2	62,521	352	-	-	-	-	-
Manufacturing 271,133	23	207	270,902	-	-	-	-	-
Construction 90,101	155	1,140	417	88,389	-	-	-	-
Distribution 135,697	120	727	9,456	952	123,386	433	217	-
Transport 69,310	0	211	981	-	-	68,118	-	-
Services 321,115	300	504	6,541	525	2,123	1,532	309,588	-
Industry Output 969,340	19,711	65,310	288,649	125,509	125,509	70,083	309,805	-

produce, as a subsidiary activity, products characteristic of other industries. The subsidiary activity is known as the industry's secondary production. Figures for the sales of each industry therefore relate to all production, both principal and secondary product groups. These cover, in general, a range of product groups. The make matrix shows which industries make which products.¹

¹This distinction between industry and product group is specific to constructing the make matrix. However, it is possible to argue that enterprises span industries instead of being restricted to a single one. Since the competitive activities of a capitalist economy take place in terms of

The make matrix shows what products each industry produces; the converse of this is the use matrix which shows the uses to which each product is put. The categories of use include intermediate demand which shows the transactions within the industrial sector; final demand which shows the use of the products in terms of consumer expenditure, capital investment, government expenditure, and exports; and external inputs² which shows the use of labor and imports. For example, in Table 1.3 the machine industry purchased £50,000 worth of agricultural products as

Table 1.3

Hypothetical Use Matrix
(in £000)

Sales by Product Group	Purchases by Industry	A	C	M	T	B	Final Demand
Agriculture		100	100	50		50	88
Chemicals		50	100		50	50	427
Machines		50	50	100		50	93
Transport		50	100		50		60
Books			50	50	100	50	114
Intermediate Demand		250	400	200	200	200	
External Inputs		97	146	97	27	97	

enterprises and products, the product group constitute the industrial framework in which to analyze the micro workings of capitalism.

²External inputs are defined as those inputs which are not produced within the production system. Imported products are clearly not produced within the production system; and labor power is not a produced product as say a machine is. Other external inputs include land, minerals, and other contributions of nature which are given to the production system.

Total inputs	19,711	65,310	288,649	89,866	125,509	70,083	310,213	-	969,340
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Now it is possible to decompose the external inputs row into an import matrix and a labor power matrix. The former would indicate what imports were used in each industry as part of their intermediate inputs in the production of their output and were used as intermediate inputs and final demand--see Tables 1.5 and 1.8. The latter would indicate the various types of labour power used in each industry as part of their inputs in the production of their output and were as employed labor power and as unemployed labor power--see below.

Table 1.5

Commodity imported	Agr	Energy	Manuf	Constr	Distr	Trans	Serv	Total
Agriculture	644	-	1,930	-	387	6	-	2,967
Energy	63	6,284	1,342	-	59	502	32	8,282
Manufacturing	749	978	43,671	4,182	1,675	695	298	52,247
Construction	-	-	-	-	-	-	-	-
Distribution	-	-	-	-	5	7	-	12
Transport	4	757	322	29	494	1,725	288	3,619
Services	10	50	747	107	85	92	3,275	4,368
Total intermed	1,470	8,069	48,013	4,318	2,705	3,028	3,893	71,495

It is also possible to decompose the final demand column, which consists only of those products produced within the economy, into a final demand matrix--see Table 1.6--which details the

Table 1.6

Hypothetical Final Demand Matrix

(in £000)

Sales by Product Group	Consumer Expenditure	Capital Investment	Government Expenditure	Exports
Agriculture	60		28	

Chemicals	100	100	50	177
Machines		60	10	23
Transport	20	20	20	
Books	60		30	24
Total	240	180	138	224

various uses to which the final demand products are put. The final demand matrix for the 1990 U.K. economy is found in Table 1.7 below. The final demand matrix can also be broken down into tables which show what products consumers spent their income on, what products the government spent money vis-a-vis the various categories of government expenditure, and the products brought by

Table 1.7

Final Demand Matrix for the 1990 U.K. Economy
(£ million)

	Cons exp	GGFC	GDFCF	Stocks	Exports	Total FD	Total gross output
Agriculture	4,702	146	-	94	1,597	6,539	19,110
Energy	15,464	2,465	-	-194	8,983	26,718	62,875
Manufacturing	41,651	11,697	22,732	-1,313	84,287	159,053	271,133
Construction	5,395	4,802	51,269	881	60	62,407	90,101
Distribution	88,287	1,869	2,376	-	15,657	108,189	135,697
Transport	14,344	2,503	612	-	9,287	26,745	69,310
Services	86,006	82,311	8,663	-	8,716	185,695	321,115
Total	255,849	105,793	85,652	-533	128,586	575,348	969,340
Imports	43,968	10,091	21,294	-585	2,022	76,790	148,285

Cons exp - Consumers' expenditures
GGFC - General government final consumption
GDFCF - Gross domestic fixed capital formation
Stocks - Value of physical increase in stocks
Exports - Exports of goods and services, fob
Imports - Imports of goods and services

industries for capital formation. It is also possible to show the extent to which imports directly make up final demand purchases--see Table 1.8.

Table 1.8

The Import Final Demand Matrix for the 1990 U.K. Economy
(£ million)

	Cons exp	GGFC	GDFCF	Stocks	Exports	Total FD	Total Imports
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Agriculture	1,083	-	-	18	40	1,142	4,108
Energy	554	31	-	-29	-	556	8,838
Manufacturing	31,041	7,969	21,200	-574	1,982	61,619	113,865
Construction	-	-	-	-	-	-	-
Distribution	5,943	-	-	-	-	5,943	5,956
Transport	4,059	483	93	-	-	4,635	8,254
Services	1,287	1,609	-	-	-	2,895	7,263
Total	43,968	10,091	21,294	-585	2,022	76,790	148,285

Now let us also decompose the external inputs and profit and taxes rows--see Table 1.9. As can be seen, the amount of profits and wages in the various industries differ as well as the amount of imports used and the amount of taxes paid. You should also note that there is a connection between Tables 1.6 and 1.9 exists in that total imports, wages, profits, and taxes can be related to total exports, consumer expenditures, capital investment, and government expenditures. The numerical example used in this chapter is contrived to have total imports equal total exports, total wage income equal total consumer expenditures, total profits equal total capital investment, and total taxes equal total government expenditures. Hence the economy pictured in the numerical example is one in which the government budget and trade are in balance, the consumers spend all their income on consumer goods, and enterprises spend all their profits on investment goods. Thus from the use matrix and its derivatives, it is possible to derive a picture of an interdependent economy which shows the interindustry flow of intermediate products used for production, the role of imports in production, and the relationship between categories of income and expenditures.

Table 1.9

(in £000)

Industry	Imports	Wages	Profits	Taxes
Agriculture	49	48	26	20

Chemicals	106	40	67	50
Machines	45	52	30	23
Transport	15	12	16	12
Books	9	88	41	33
Total	224	240	180	138

From the above make, use, import, and final demand matrices it is possible to derive an input-output table for the economy based on product groups which highlights the flows of the various inputs used to produce the various outputs.³ Table 1.10 represents such an input-output table and shows both the use of inputs produced within the production system--that is the interindustry flows of intermediate products, the use of imports in the production (marked in parenthesis), and the use of labor power inputs to produce the output. The Table also shows the profits and taxes associated with each product group. Thus, the production of machine products, requires £66,000 of agriculture products (of which £16,000 is imported), £125,000 of machine products (of which £27,000 is imported), £48,000 of books (of which £1000 is imported), and £52,000 worth of labor power. Further £29,000 in profits and £22,000 in taxes are obtained from selling the machines. Finally, the Table shows that the difference between the £1474.00 of intermediate inputs and the £2,032.00 of sales is equal to the £782.00 of final demand which

³The product groups should also be viewed as 'industries' since they bring together all the business enterprises which produce the same products and therefore are in competition with each other. See chapter ? for further discussion.

is also equal to the total value of

Table 1.10

Hypothetical Input-Output Matrix
(in £000)

Sales by Product Intermediate Group	Purchases by Product Group	A	C	M	T	B	Total
Agriculture		99 (8)	102 (25)	50 (16)		49	300 (49)
Chemicals		49 (29)	102 (63)		52 (7)	47 (7)	250 (106)
Machines		49 (8)	51 (10)	98 (27)		52	250 (45)
Transport		50 (3)	101 (8)		49 (4)		200 (15)
Books			51 (2)	48 (1)	103 (4)	48 (2)	250 (9)
Total Inter. Inputs		295	515	240	219	205	1474
Total Inter. Imports		48	108	44	15	9	224
Wages		47	41	52	13	87	240
Profits		26	69	29	16	40	180
Taxes		20	52	22	12	32	138
Total Sales		388	677	343	260	364	2032

Sales by Final Product Demand Group	Consumer Expenditure	Final Demand (in £000)		
		Capital Investment	Government Expenditure	Exports
Agriculture 88	60		28	
Chemicals 427	100	100	50	177
Machines 93		60	10	23
Transport 60	20	20	20	
Books 114	60		30	24
Total 782	240	180	138	224

wages, profits and taxes. Such a table for the 1990 U.K. economy

can be obtained--see Table 1.11. The Table clearly shows for example that imports exceeded exports by 19,699 million pounds and

Table 1.11

The Product x Product Input - Output Table of the 1990 U.K. Economy
(£ million)

Purchases								Total
Sales	Agr	Energy	Manuf	Constr	Distrib	Trans	Servs	Interm
Agriculture	2,853	0	9,059	3	536	32	88	12,571
Energy	550	22,203	5,377	598	2,670	2,241	2,518	36,157
Manufacturing	3,774	2,896	60,613	14,961	13,372	4,290	12,173	112,080
Construction	186	-	791	23,022	760	128	2,807	27,695
Distribution	873	1,220	12,171	2,891	4,438	2,700	3,214	27,507
Transport	266	1,253	7,251	846	12,956	8,091	11,902	42,564
Services	1,385	1,979	25,235	9,411	19,466	8,285	69,659	135,419
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Domestic inter	9,888	29,550	120,498	51,732	54,197	25,767	102,361	393,993
Imports inter	1,453	8,005	47,084	4,334	3,190	3,019	4,411	71,495
Total interm	11,341	37,555	167,582	56,066	57,387	28,786	106,772	465,488
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Sales by f d	10	52	1,889	136	109	184	1,491	3,881
Taxes less subs	-434	3,096	2,690	273	8,427	1,022	6,012	21,086
Income from empl	2,966	7,918	69,787	16,703	50,599	22,953	141,432	312,358
Gross profits etc	5,228	14,255	29,176	16,923	19,175	16,365	65,406	166,527
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Total sales	19,110	62,875	271,133	90,101	135,697	69,310	321,115	969,340
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								Final Demand (£ million)
	Cons exp	GGFC	GDFCF	Stocks	Exports	Total FD	Total gross output	
Agriculture	4,702	146	-	94	1,597	6,539	19,110	
Energy	15,464	2,465	-	-194	8,983	26,718	62,875	
Manufacturing	41,651	11,697	22,732	-1,313	84,287	159,053	271,133	
Construction	5,395	4,802	51,269	881	60	62,407	90,101	
Distribution	88,287	1,869	2,376	-	15,657	108,189	135,697	
Transport	14,344	2,503	612	-	9,287	26,745	69,310	
Services	86,006	82,311	8,663	-	8,716	185,695	321,115	
Total	255,849	105,793	85,652	-533	128,586	575,348	969,340	
Imports	43,968	10,091	21,294	-585	2,022	76,790		

that employment income exceeded domestic consumer expenditures-- what do you think are the implications of this. Are there other relationships which can be drawn out of the Table?

British Industry and Enterprise

In the above input-output table, the economic activity of the U.K. is classified in terms of product groups and by the use to which products were put, either as intermediate products or as final demand. However, product groups are not adequate categories for the analysis of microeconomic activity. In particular, the competitive, social, industrial environment of

the business enterprise is both more general than the product groups and more specific. Therefore, it is necessary to recast the product group into categories which are appropriate for economic analysis of the activity of the business enterprise. Using the framework of standard industrial classification of economic activity as a basis, the product group will be recast in terms of industries and markets, after which the competitive industrial environment of the business enterprise will be briefly discussed. The last part of this section will deal with the location of natural resources used by British enterprises and the location of economic activity within the United Kingdom.

Industry and Market

The economic activity of the U.K. economy has been classified into sixty areas or divisions, each represented by a Standard Industrial Classification number--see examples in Table 1.12.⁴ Each division includes those products which broadly speaking have the same general social use value.⁵ However, while

⁴The Standard Industrial Classification (SIC) of economic activities was first introduced into the United Kingdom in 1948 for use in classifying business establishments and other statistical units by the type of economic activity in which they are engaged. The classification provides a framework for the collection, tabulation, presentation and analysis of data about economic activities. Since 1948, the classification has been revised in 1958, in 1968, and in 1980. The 1980 SIC was used largely unchanged until the revision in 1992. This last revision was necessary because, over the twelve years, new products and the new industries to produce them emerge and shifts of emphasis occur in existing industries, so that the existing classifications were having to be twisted and turned to accommodate them. Since this was not always possible, it became necessary to update the classification.

⁵The use value of a product is simply what economic or non-economic activity for which the product can be used. The use value of a product can be defined from the vantage point of the individual or society. The implication of a socially defined use

public administration, defense, education, social work, and the other 2-digit divisions 75 and above involve economic activity, they mostly take place outside capitalist markets. Therefore, they will be ignored and attention will be focused on the rest of the divisions whose economic activities are conducted through the intermediation

Table 1.12

Examples of Classification of U.K. Economic Activity

Division--2-Digit Level

SIC Number	Division
01	Agriculture, Hunting and Related Services
02	Forestry, Logging and Related Service Activities
10	Mining of Coal and Lignite; Extraction of Peat
13	Mining of Metal Ores
14	Other Mining and Quarrying
15	Manufacture of Food Products and Beverages
17	Manufacture of Textiles
21	Manufacture of Pulp, Paper and Paper Products
24	Manufacture of Chemicals and Chemical Products
25	Manufacture of Rubber and Plastic Products
26	Manufacture of Other Non-Metallic Mineral Products
27	Manufacture of Basic Metals
32	Manufacture of Radio, Television and Communication Equipment and Apparatus
37	Recycling
51	Wholesale Trade and Commission Trade, except of Motor Vehicles and Motorcycles
65	Financial Intermediation, except Insurance and Pension Funding
73	Research and Development
80	Education

capitalist markets. As noted above, each division covers a very broad range of products but with a common social use value. For example, the SIC division 26 manufacture of other non-metallic mineral products covers eight different and distinctive product groups--see Table 1.13. The product groups are denoted by a 3-

value is that the usefulness of a product is determined independently of any single individual in the society.

digit SIC number represent a more narrowing grouping of products (and social use values) and hence a more precisely delineated industrial environment in which the economic activities of the business enterprise takes place. Yet, even the product group contains a very broad range of products,

Table 1.13

Product Groups of SIC Division 26

SIC number	Product Group
261	Manufacture of Flat Glass
262	Manufacture of Non-refractory Ceramic Goods Other than for Construction Purposes;
	Manufacture of Refractory Ceramic Products
263	Manufacture of Ceramic Tiles and Flags
264	Manufacture of Bricks, Tiles and Construction Products, in Baked Clay
265	Manufacture of Cement, Lime and Plaster
266	Manufacture of Articles of Concrete, Plaster and Cement
267	Cutting, Shaping and Finishing of Stone
268	Manufacture of Other Non-Metallic Mineral products n.e.c.

as for example the SIC product group 261 contains five distinct narrower groupings of products with correspondingly narrower social use values--see Table 1.14. The narrower 4-digit product group

Table 1.14

Industries of SIC Product Group 261

SIC number	Industries
2611	Manufacture of Flat Glass
2612	Shaping and Processing of Flat Glass
2613	Manufacture of Hollow Glass
2614	Manufacture of Glass Fibres
2615	Manufacturing and Processing of Other Glass Including Technical Glassware

contains, broadly speaking, relatively similar products and therefore can be seen as encapsulating the relevant industrial

environment facing the enterprise when undertaking its economic activity. Consequently, the 4-digit product group can be viewed as the industry in which the business enterprise operates.

Industry

For introductory purposes, we shall define industry as consisting of business enterprises which operate similar kinds of production processes, produces similar kinds of products, and distributes them in the same general manner. Thus, there are many products within an industry and an enterprise can produce any or all of them; and for those products it does not produce, it can with minor modifications to its production processes produce them as well. In short, industry is defined in terms of enterprises producing similar or identical products and therefore competing in terms of selling them.

Market

Each SIC 4-digit industry includes a large number of similar products--see Table 1.15. Order can be imposed by first loosely grouping the products according to their similar social use values.

Table 1.15

Products of SIC Industry 2611

Antique Glass	Blown Glass	Glass Cast
Coloured Glass	Sheet Glass Drawn	Figured Glass
Glass Flat	Float Glass	Flat Glass
Glass Plate	Glass Rolled	Tinted Glass
Glass Window	Glass Wire	

In turn, each group of products can be decomposed into subgroups with results that the social use values becomes more narrow or, conversely, the specific social use value become more pronounced.

Eventually the point is reached where the subgroup contains a

single product which has a specific social use value which is designed to meet a particular social need whether it be for consumption, production or investment. A second way of ordering the products is by the income class they are designed for. Thus the products within an industry are distinguished according to their technical (specific use value) and income dimension and hence can be considered as well defined islands. Thus, for now we shall define a market an abstract concept which collectively denotes all the exchanges of a specific product - that our "island" product - between buyers and sellers.

Enterprise and Industry

As noted above each industry consists of a number of markets and in general there is more than one enterprise in a market and certainly more than one enterprise in an industry. While it is not possible to get public statistics on enterprises at the level of the market, it is possible to at the level of the industry as well as at the product group and division level. Thus, to provide an understanding of the relationship between the business enterprise and the market, let us first look at the level of the Division. From the 1992 census of production (which uses the 1980 SIC numbers), it is possible to given the total number of enterprises, their gross output, and volume of employment for all the divisions engaged in production, manufacturing and construction--see Table 1.16. An inspection of the Table shows that construction is the

Table 1.16

1992

<u>Division</u>	Enterprises	Gross	Employment
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		number	Output £million	000
11	Coal extraction	9	2,902.7	48.6
12	Coke ovens	3	126.0	1.4
13	Extraction of oil/gas	170	12,132.6	30.0
14	Oil processing	113	18,605.7	13.4
15	Nuclear fuel	1	1,471.0	16.1
16	Production/distribution of electricity/gas		39,187.0	197.2
17	Water supply		3,234.5	37.2
21	Extraction/preparation of metalliferous ores			
22	Metal manufacturing	1,165	12,318.8	112.1
23	Extraction of minerals n.e.s.	367	637.4	7.6
24	Manufacture of non- metallic mineral products	3,883	10,865.2	179.5
25	Chemical	2,886	35,050.0	278.4
26	Production of man- made fibres	21	1,081.5	7.5
31	Manufacture of metal goods n.e.s.	13,021	14,054.2	293.1
32	Mechanical engineering	23,201	31,223.4	521.2
33	Manufacture of office machinery & data processing equipment	1,330	8,735.6	64.3
34	Electrical & electronic engineering	9,574	26,049.2	439.6
35	Manufacture of motor vehicles & parts	1,955	23,526.6	233.9
36	Manufacture of other transport equipment	2,138	17,040.1	233.7
37	Instrument engineering	2,475	4,217.6	77.0
41/	Food, drink & tobacco	8,212	61,826.4	563.9
42	manufacturing industries			
43	Textile	4,060	7,543.9	172.5
44	Manufacture of leather & leather goods	959	746.7	15.4
45	Footwear & clothing	9,210	7,557.9	242.5
46	Timber & wooden furniture	13,767	9,447.7	185.8
47	Manufacture of paper & paper products; printing & publishing	21,546	30,168.5	437.6
48	Processing of rubber & plastics	4,969	13,922.8	224.2
49	Other manufacturing	8,749	3,501.2	79.1
50	Construction		62,389.6	1,015.5

largest division in terms of gross output and employment,
followed by food, drink, and tobacco division. On the other

hand, aside from construction where the number of enterprises is not given, the mechanical engineering division has the most number of enterprises followed by the timber and wooden furniture division. At the other extreme, there is only one enterprise, British Nuclear Fuel, in the nuclear fuel division and twenty-one in the man-made fibres division, while the three enterprises in the coke ovens division have less than fifteen hundred employees and have a gross output of £126 million.

Turning our attention to a single division, the census of production data provides a picture of the distribution of businesses,⁶ employment and gross output by employment size--see Table 1.17. In the case of the non-metallic mineral products

Table 1.17

Distribution of Businesses, Employment, and Gross Output
by Employment Size of Business, 1992

Division 24

Manufacture of Non-Metallic Mineral Products

Size Group	Businesses Number	Employment 000	Gross Output £million
1-9	2,744	8.6	
10-19	531	7.5	£2,941.4
20-49	448	14.0	
50-99	262	18.5	
100-199	158	21.6	£1,424.9
200-299	53	13.0	£ 787.8
300-399	29	10.1	£ 752.5
400-499	23	10.0	£ 575.1

⁶The census of production defines an enterprises as one or more businesses under common ownership or control. A business is defined essentially as a plant, factory, or a discreet unit of economic activity. Thus, where an enterprise has only one plant or factory, it is the same as the business; however, if the enterprise owns many plants, then the enterprise and business will not be the same.

500-749	25	14.5	£ 880.6
750-999	16	13.2	£ 868.0
1,000-1,499	11	13.3	£ 771.3
1,500-2,499	7	13.0	£ 742.9
2,500-3,999	3	8.9	£ 481.8
4,000 and over	3	13.4	£ 639.0
Total	4,313	179.5	£10,865.2

division, we find that 92% of the businesses have less than one hundred employees and account for 27% of the total employment and gross output. On the other hand, less than 1% of the businesses have 750 employees or more, account for 34% of the total employment, and produce 32% of the gross output. Further, since the total number of enterprises in the division (3,883) is less than the number of business, it is clear that a number of enterprises have more than one business or plant. Businesses with less than fifty employees generally coincide with the enterprise; thus, a number of enterprises control four or more businesses.

Descending below the division to product group, the same profile of distribution of enterprises, employment, and gross output is repeated--see Table 1.18. In the case of the glass

Table 1.18

Distribution of Enterprises, Employment, and Gross Output
by Employment Size of Enterprise, 1992

Product Group 247⁷

Glass and Glassware

Size Group	Enterprises Number	Employment 000	Gross Output £million
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⁷Product group 247 includes industries 2471 - flat glass, 2478 - glass containers, and 2479 - other glass products including domestic and ornamental glassware, glass envelopes and illuminating glassware, glass tubing and scientific glassware, glass fibre and glass fibre products, and other glass products.

1-99	804	8.3	£ 375.1
100-199	18	2.5	£ 110.3
200-499	14	4.5	£ 214.7
500-1,999	9	6.8	£ 335.4
2,000 and over	5	17.7	£1,031.5
Total	850	39.8	£2,067.0
5 largest enterprises % of total	.6%	44.5%	49.9%

and glassware product group, 95% of the smallest enterprises account for 21% of employment and 18% of gross output, while the five largest enterprises (which constitute .6% of all enterprises) account for 44.5% of employment and 49.9% of gross output. The degree of concentration in employment and gross output by the five largest enterprises for a sample of product groups is given in Table 1.19. If all the product groups were represented in the Table, then it could be seen that in 40% of the product groups the five largest enterprises account for 40% or more of the employment;

Table 1.19

5-Enterprise Concentration Ratios of Employment and
Gross Output by Product Group

Product Group	Number of Enter- prises	Employ ment	Gross Output
140 Oil Processing	113	52.2	61.9
221 Iron & Steel	27	90.9	95.3
231 Extraction of Stone, Clay, Sand, & Gravel	196	26.6	28.7
243 Building Products of Concrete, 37.2 Cement, or Plaster	794	28.3	
244 Asbestos	18	90.5	89.8
247 Glass and Glassware	850	44.5	49.9
248 Refractory & Ceramic 26.9	839	31.2	
256 Specialised Chemical Products for Industry & Agriculture	819	24.1	28.8

257 Pharmaceutical	340	31.5	43.5
258 Soap & Toilet Preparations	415	44.8	58.8
260 Man-Made Fibres	21	88.6	92.7
316 Hand Tools & Finished Metal	8,281	8.4	15.1
323 Textile Machinery	358	28.5	37.1
342 Basic Electrical Equipment	1,844	39.9	41.2
351 Motor Vehicles	185	80.4	82.9
372 Medical Equipment	354	25.2	33.8
416 Grain Milling	88	52.1	62.3
429 Tobacco	22	97.7	99.5
438 Carpets etc.	413	30.6	21.8
464 Wooden Containers	1,141	13.6	14.4
475 Printing & Publishing	18,828	12.8	14.5

and in 46% of the product groups the five largest enterprises account for 40% or more of gross output. Finally, below the product group we have the industry, where the census of production provides data on the number of enterprises and amount of employment and gross output--see Table 1.20. From the Table we see that the flat glass industry had 270 enterprises in 1992 with 17,100 employees and produced £905,100,000 worth of output.

As noted above, the flat glass industry consists of fourteen different products (see Table 1.15), which themselves comprise of more uniquely defined products; hence the industry has a number of markets. Given the number of enterprises in the industry, it is

Table 1.20

Enterprises, Employment, and Gross Output

Industry 2471

Flat Glass

Year	Enterprises Numbers	Employment 000	Gross Output £million
1988	245	19.0	£1,012.8
1989	262	19.9	£1,039.9
1990	255	17.9	£ 938.7
1991	228	17.3	£ 923.6
1992	270	17.1	£ 905.1

clear that many enterprises are engaged in the production of each of the fourteen 'general' products and that many enterprises are engaged in the production of the unique products as well. Thus, we can say that the flat glass industry consists of many markets and that more than one enterprise inhabits each of the markets. Finally, if the distribution of enterprises in the industry is the same as for the product group, then the five largest enterprises will account for over 40% of employment and gross output.

Location of Natural Resources and Economic Activity in the United Kingdom

To determine the geographical location of economic activity, the United Kingdom is divided into eleven regions: North, Yorkshire and Humberside, East Midlands, East Anglia, South East, South West, West Midlands, North West, Wales, Scotland, and Northern Ireland. The amount of economic activity in each region is suggested by the amount of manufacturing activity it contains, as measured by the amount of employment--see Table 1.21. Each of these regions have at least some economic activity that is located in each of the SIC 2-digit divisions. However, the spread of economic activity is uneven in that the activity of a 2-digit division will be concentrated in some geographical area(s) and not others. This can be seen in Table 1.22.

Table 1.21

Geographical Location of Total U.K. Manufacturing Activity, 1994, by Employment

Region	Employment
North	243,742

Yorkshire and Humberside	437,862
East Midlands	437,801
East Anglia	160,027
South East	1,019,432
South West	324,874
West Midlands	592,413
North West	538,534
Wales	219,133
Scotland	350,322
Northern Ireland	107,761
Total	4,431,901

Table 1.22

Examples of Geographical Concentration of Economic Activity
at the 2-Digit Division, 1994

Division Concentrated	Region Most
Chemical Industry	South East
Manufacture of Metal Goods, n.e.s.	West Midlands
Mechanical Engineering	South East
Manufacture of other Transport Equipment	South West
Textile Industry	East Midlands
Timber and Wooden Furniture Industries	Yorkshire and Humberside

[MORE]

Labour in the United Kingdom

The role of labouring activity in the British economy is quite complex and difficult to picture. In terms of delinating the types of jobs, occupations, or labouring skills in the economy, there are two major categories within the Standard Occupational Classification (SOC) of the economy: non-manual and manual. Each category is broken down into major groups, sub-major groups, minor or occupational group, and then into specific occupations. There are nine major occupational groups and twenty-two sub-groups--see Table 1.23. Within any sub-major group, there are a number of

Table 1.23

Standard Occupational Classification of the U.K. Economy

Major Group

Sub-Major Group

Managers and Administrators (NM)

corporate managers and administrators
managers/proprietors in agriculture and services

Professional Occupations (NM)

science and engineering professionals
health professionals
teaching professionals
other professional occupations

Associate Professional and Technical Occupations (NM)

science and engineering associate professionals
health associate professionals
other associate professional occupations

Clerical and Secretarial Occupations (NM)

clerical occupations
secretarial occupations

Craft and Related Occupations (M)

skilled construction trades
skilled engineering trades
other skilled trades

Personal and Protective Service Occupations (NM & M)

protective service occupations
personal service occupations

Sales Occupations (NM)

buyers, brokers and sales reps.
other sales occupations

Plant and Machine Operatives (M)

industrial plant and machine operators, assemblers
drivers and mobile machine operators

Other Occupations (M)

other occupations in agriculture, forestry and fishing
other elementary occupations

M - manual; NM - non-manual

occupational groups (see Table 1.24 for an example) and there are in total seventy-seven occupational groups. Finally within each

Table 1.24

Occupational Groups of the Industrial Plant and

Machinery Operators, Assemblers Sub-Major Group

Food, drink and tobacco operatives
Textiles and tannery process operatives
Chemicals, paper, plastics and related process operatives
Metal making and treating process operatives
Metal working process operatives
Assembler/lineworkers
Other routine process operatives
Plant and machine operatives n.e.c.

occupation group there are a number of more specific occupations adding up to a grand total of 374--see Table 1.25.

Table 1.25

Occupational Group

Chemicals, Paper, Plastics and Related Process Operatives

Chemical, gas and petroleum process plant operatives
Paper, wood and related plant process operatives
Cutting and slitting machine operatives (paper products etc)
Glass and ceramics furnace operatives, kilnsetters
Rubber process operatives, moulding machine operatives, tyre builders
Plastics process operatives, moulders and extruders
Synthetic fibre makers
Other chemicals, paper, plastic and related process operatives n.e.c.

In New Earnings Survey, the government presents statistics on the gross weekly pay for each specific occupation as well as occupational group with regard to male and female full-time workers as well as weekly hours. For example, for full-time male glass and ceramics furnace operatives, their average gross weekly pay in 1996 was £320.80 and they worked on average 44.6 hours a week. The survey also gives the manual and non-manual male and female average gross weekly pay and hours worked for 2-digit divisions and 3-digit product groups. In the case of the SIC division 26, for example, the average weekly gross pay of the manual male worker was £309.80 and the weekly hours worked was 44.6; in contrast the average weekly gross pay of the manual

female worker was £214.20 and weekly hours worked was 41. The comparable statistics for the non-manual male and female workers were £417.00 and £228.40 for average weekly gross pay and 39.8 and 37.8 weekly hours respectively. These latter statistics gives us a better picture of the labour costs found in the input-output tables. [MORE]

Terms

Make Matrix
Use Matrix
Intermediate Inputs
Intermediate Outputs
External Inputs
Intermediate Demand
Final Demand
Final Demand Matrix
Import Matrix
Labour Power Matrix
Input-Output Table
Use Value
Social Use Value
Industry
Market
Division
Product Group
Standard Industrial Classification

Exercises and Questions

1. Working with the 1990 U.K. make matrix, answer the following:
 - a. what products does the glass industry (18) make?
 - b. what industries make glass products?
 - c. what is the value of output of the glass industry and of glass products? Why do these amounts differ?

2. Working with the 1990 U.K. domestic use and import use matrices, answer the following:
 - a. how many different intermediate inputs are used in the production of the output of the glass industry? What are the five most important inputs in value terms?
 - b. what is the total value of the external inputs used in the glass industry?
 - c. what is the ratio of gross profits to the total value of the output in the glass industry?
 - d. how many different import products are used in the production of the output of the glass industry? What are the five most important imports in value terms?

3. Working with the 1990 U.K. input-output table (commodity x commodity domestic use matrix), answer the following:
 - a. what are the values of the output of glass products, of the total intermediate inputs used to produce the glass products, of the wages paid to the workers involved in the production of the glass products, and of the profits obtained from selling the glass products?
 - b. how much of the total output of glass products is used as intermediate inputs? how many different products use glass products in their production? and what are the five most important products with regard to their usage of glass products in their production?
 - c. how much of the total output of glass products is used as final demand? and how much of glass products is demanded for consumer expenditure, general government final consumption, gross domestic fixed capital formation, stocks, and exports?
 - d. what are the five most important products for consumer expenditure, for government expenditure, for fixed capital formation, and for exports?
4. What do you think is the relationship between the industry, market, enterprise, and competition?
5. The five largest enterprises control various amounts of employment and gross output in the various products groups. Why would this be the case? Also would competition be affected if the largest five enterprises increased their control of gross output?
6. Working with Size Analysis of United Kingdom Business, 1994 (which can be found in the library), determine the five most important 2-digit divisions in terms of their contribution to employment for the East Midland, Wales, Scotland, South West, and East Anglia.
7. Using the New Earnings Survey 1996 (which is found in the library) compare the average weekly pay and hours worked, of males and females manual workers, male and female non-manual workers, and of manual and non-manual workers. Why do you think that the differences you found exist?
8. Using the New Labour Survey 1996 find the average gross weekly pay and hours worked for manual and non-manual male and female workers for SIC divisions 14, 18, 22, 32, 50, and 80. Why do you think that the differences you found exist?

Readings

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