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Abstract

In this paper attention is directed at the effects of the ageing of the Scottish population. Expenditure patterns vary with the average age of household members Data from Family Spending is used to disaggregate the household column of the Scottish input-output table into three sub-sectors (a) Younger households (Age of head of household less than 65), (b) Mature households (Age of head of household between 65 and 74) and (c) Older households (Age of head of household 75 or more). A comparison of the published Type II multipliers with those using the disaggregated household sector is made. The second part of the paper uses household projections produced by the Registrar General for Scotland to forecast the relative changes that might be expected (ceteris paribus) in the three household expenditure columns. Alterations in the relative frequency of each type of household will have implications for individual industries. Holding total income constant, an increase in older households and a decrease in younger households would increase final demand for some commodities and lower it for others. Given the implicit multiplier effects, the industries that are relatively advantaged by the demographic change are identified.

Keywords: Input-Output, Household projections, Scottish economy

JEL Classification: C67, D57, J11, R15

1. Introduction

Recently increased attention has been directed towards the challenges that face developed countries due to ageing and in some cases declining populations (see, for example, Börsch-Supan, 2004, Fertig and Schmidt, 2004, Onofri, 2004, and Poole and Wheelock, 2005). Much of the research has concentrated on the labour market effects and has highlighted potential problems arising in the pensions market. Although it is recognised that this "pensions time-bomb" may prove to be a substantial problem that developed economies need to solve there are other facets to the ageing of the population that may prove to be beneficial to some.

The expenditure patterns of the young and the elderly in our society differ. Retirees do not exhibit the same consumption patterns as those in employment. Parents with young children have different requirements to those whose children are older and may indeed have left home. Any ageing of the population will shift patterns of demand away from the patterns exhibited by younger persons and towards those exhibited by older persons thus increasing the demand for some goods and services whilst lowering the demand for others. This changed pattern of demand and the consequent multiplier effects throughout the domestic economy will present opportunities for expansion in some sectors whilst admittedly give rise to contraction in others. An obvious way to analyse these possibilities is by using an input-output framework, though it should be immediately noted that this framework will only reflect demand considerations and cannot, without substantial modification, reflect supply side adjustments. This paper explores this facet of ageing using data for the Scottish economy. The Scottish Executive has regularly produced input–output tables for the Scottish economy. In this study, primarily to ease reconciliation of different data sets, the tables analysed are those calculated for the year 2001.[1] Note that throughout this paper a commodity by commodity framework is adopted for the analysis.

In the first stage of the paper an analysis is made of the effects of disaggregating the household sector in the Scottish input-output tables into three categories according to the age of the reference person in the household. It is shown that although the expenditure patterns of households with differently aged reference persons do vary this has little effect on the properties of the disaggregated input-

[1] http://www.scotland.gov.uk/about/FCSD/OCEA/00014713/index.aspx

output table. The disaggregation is effected in the following section and the implications for the input-output table properties discussed in Section 3.

The second purpose of the exercise is to be able to shed light on some of the possible economic consequences of the ageing of the Scottish population. The projected changes in household structure and distribution can be used to construct new household demand columns within the input-output framework in order to estimate the possible consequences for sectors within Scotland. Section 4 of this paper describes how the household projections lead to projections of consumer demand vectors and comments on the results of applying these to the input-output table. The final section of the paper offers some comments on the approach adopted and the possible policy implications of the work.

2. Disaggregating the Household Sector

The set of input-output tables published by the Scottish Executive for 2001 gives details for some 128 intermediate sectors in the economy as well as for a six way disaggregation of primary inputs and a ten way disaggregation of final demand. However, only one column of these tables pertains to the household sector. The household expenditure column, in terms of the demand for domestically produced commodities, is given in Table 1. Because attention here is directed at the effects of the ageing of the population it is important to differentiate between households on the basis of the age of their members. If one wishes to examine the distributional effects of Scotland's demographic make-up it is necessary to disaggregate the column measuring the final demand by households into separate components. Similar disaggregations exist in the literature. Batey, Madden and Weekes (1987) disaggregate the household demand column into columns for the employed, the unemployed and for migrant workers. The Scottish Executive disaggregated the household demand column in the 1999 tables to reflect households with different incomes.

The disaggregation of the household expenditure column is done in several stages. First, information from the Expenditure and Food Survey is used to provide a household expenditure breakdown by age of head of household for Scotland using COICOP [2] headings. Second, these are reclassified into Input-Output

[2] European Standard **C**lassification **O**f **I**ndividual **Co**nsumption By **P**urpose

commodity headings by means of a UK correspondence table. Third, wholesale, retail, motor vehicle and catering margins are calculated for each commodity, subtracted from the expenditure on that commodity and added to the commodities corresponding to the four margin sectors. Finally the household expenditure column in the original table is divided in proportion to the age of head of household specific figures obtained in the previous stage. Each part of the process is discussed in greater detail below.

2.1 ESTIMATING EXPENDITURE PATTERNS DISAGGREGATED BY THE AGE OF THE HEAD OF HOUSEHOLD.

ONS Family Spending 2000 – 2001[3] provides a detailed breakdown of the estimated average weekly expenditure of Scottish households into 127 commodity groupings. However as the conversion matrix used in the second stage of the process below contains only 39 COICOP larger commodity groups it was not necessary to work with the highly disaggregated data.

Further the same publication gives a detailed breakdown of the expenditure patterns of households according to the age of the reference person of the household, though this time for the UK as a whole rather than for Scotland. In this paper the reference person is taken to be equivalent to the head of the household although it is recognised that this may not always be the case. Five divisions are reported for households; where the age of the reference person is below 30, between 30 and 49, between 50 and 65, between 65 and 74 and finally 75 and over. In what follows the most important distinction is between those households where the age of the reference person is greater that 65 and those where it is not. Thus the expenditure estimates for the first three groups may be combined (using suitable weights) to give the expenditure patterns for households where the reference person is under the male retirement age. The three way division of households that is used will be referred to as (1) Younger households (Age of reference person less than 65), (2) Mature households (Age of reference person between 65 and 74) and (3) Older households (Age of reference person 75 or more).

By assuming, for each of the 39 COICOP larger commodity groups that the relative relationship between any sub group and the whole population is the same in Scotland as it is in the UK as a whole one may estimate the expenditure patterns of

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[3] http://www.statistics.gov.uk/StatBase/ssdataset.asp?vlnk=5636&Pos=4&ColRank=2&Rank=272

Scottish households disaggregated by the age of the reference person. If X_{UK} is the expenditure on a commodity group in the UK, X_S is the expenditure on the same commodity group in Scotland and $X_{UK,k}$ is the expenditure of UK households in group k (k = 1, … ,5) then

$$X_{S,k} = X_S \cdot \left(X_{UK,k} \Big/ X_{UK} \right)$$

Although the application of this exercise will be to make a distinction between the retired and non-retired in the work force, it is recognised that the use of a disaggregation based on the age of the reference person introduces a margin of error, for it need not be that the reference person in mature and older households is retired. Regrettably data for households with retired persons is not available at a suitable level of commodity disaggregation.

Two of the commodity groups proved problematic. The first was Imputed rentals for housing. Understandably this is not recorded in the Expenditure and Food Survey. This category of expenditure was proxied by the COICIOP commodity class Mortgage interest payments, water, council tax etc. The second was Financial Services n.e.c. which was taken to be equivalent to Bank, building society, post office, credit card charges.

Finally the figures for average weekly expenditure were multiplied by the number of households of the corresponding category to give total weekly expenditures by each of the household groups (Younger, Mature and Older). The resultant estimates are given in Table 2.

2.2 CONVERTING TO THE IO COMMODITY CLASSIFICATION.

The Office for National Statistics use a correspondence matrix to convert from COICOP categories of expenditure to the commodity framework adopted in the UK Input-Output tables. Fractions of the expenditures in each of the thirty-nine COICOP commodity groups are allocated to one of the 123 distinct input-output commodity classifications. There is no separate conversion table for Scotland so the UK correspondence matrix was used to apportion the Scottish expenditures across the Input-Output commodities. This resulted in a 3 x 123 matrix of expenditures where the columns are for younger, mature and older households. To these 123 commodities were added four commodities for which there was no household expenditure in 2001. Finally the expenditures on Alcoholic drink were divided

between Spirits and wines and Beer and ales by means of figures from *Family Spending*. This gave a 3 x 128 matrix of estimated expenditures.

2.3 ADJUSTMENT FOR MARGINS

Expenditure figures derived from *Family Spending* relate to amounts spent on average by households on commodities. In a number of respects these do not correspond to figures that are typically included in input-output tables. First, the expenditure estimates include both domestically produced commodities and imported commodities. Second, expenditure estimates for any good are likely to include an element of reward for services which are incurred in selling the good to the customer. The Office for National Statistics and the Scottish Executive identify four production activities that tend to be rewarded for their services indirectly in this way; Motor vehicle distribution and repair and automotive fuel retail, Wholesale distribution, Retail distribution and Hotels, catering and pubs etc. In order to make the disaggregated household estimates conform to the input-output accounting framework it is necessary to adjust the figures for these two factors.

The Scottish Executive have provided a breakdown of household expenditure on commodities into expenditures on domestically produces commodities, imports from the Rest of the United Kingdom and Imports from the Rest of the World. Assuming that, for each commodity, the propensity to import (both from the Rest of the UK and from the Rest of the World) is the same across the different types of household, the expenditure estimates can be split into expenditure on domestically produced commodities, imports from the Rest of the UK and Imports from the Rest of the World. For each household type the imports may be summed to give totals for the Rest of the UK and for the Rest of the World. The Scottish Executive have provided tables whereby the margins for the four distribution activities can be subtracted from the expenditures on individual commodities and from total imports from the Rest of the UK and from total imports the Rest of the World. These margins are subtracted from the estimated expenditure figures for individual commodities and added to expenditure on the relevant distribution sector.

2.4 THE DISAGGREGATION OF THE INPUT-OUTPUT HOUSEHOLD EXPENDITURE COLUMN.

The estimates obtained in the manner described above may be used as relative expenditures by the three household groups and the implied ratios applied to the input-output household expenditure column in order to disaggregate that column

into expenditures by younger, mature and older households. The resultant disaggregation is shown in Table 3.

3 The Effect of Disaggregating the Household Column

Disaggregating the household column into the expenditures for the three different types of household has little effect on the properties of the table. Under the assumption that the wages and salaries row in the table (entitled Compensation of Employees) should be allocated entirely to the working age households and not to the retired households, the only difference in the Type 2 multipliers derived from the table arises through altered consumption induced effects that arise because the expenditure patterns of the working age households are different from those of the retired households. However, as working age households account for the large majority of household expenditure, approximately 86%, this effect is slight being less than 0.5% in the case of income multipliers. In future work it is hoped to disaggregate working age households further in which case, assuming a suitable division of compensation of employees can be found, greater differences may become noticeable.

It is though worth highlighting the major differences in expenditure patterns between the three sets of households. Contrasting only those commodities for which expenditures are relatively high, the older the reference person of the household the greater is the average propensity to consume out of total expenditure for Insurance and pension schemes, Gas distribution, Electricity production and distribution, Water supply, Sewage and sanitary services and Health and veterinary services and the lower is the propensity to consume out of total expenditure for Railway transport, Other land transport and Ancillary transport services. Broadly speaking one may conclude that expenditure on utilities and health related services increases and expenditure on public transport decrease as proportions of total expenditure as the age of the reference person in the household increases.

4 Household Projections, final demand changes and commodity production.

Household projections for Scotland are produced by the General Register Office for Scotland[4]. Currently such forecasts are made until 2016. In this latter part of the paper an attempt is made to estimate the effect the projected change in the distribution of the type of households in Scotland might have on individual production sectors in the economy.

In the analysis that follows the number of households in Scotland is disaggregated by the age of the head of the household [three categories: below 65; From 65 to 74; Above 74] and by the composition of the household or household type [Four categories: One adult - No children; Two or more adults - No children; One adult – One or more children; Two or more adults – one or more children]. In order to provide a starting point for the analysis this twelve way disaggregation of the data for 2001, the year for which the input-output table used is constructed, is taken from the census results of that year.

Although the projections for 2016 are published in a comparable fashion the disaggregation is not complete. For households consisting of adults only a complete disaggregation by age of head of household is given. It is therefore a straight forward matter to extract the relevant figures for 2016 for cases where the age of the head of the household is below 65, between 65 and 74 and 75 or above. However the projections for households with children do not contain sufficient information to allow for a similar division between differently aged heads of household. In order to estimate the number of mature and older households with children two alternative assumptions are considered. First, it is assumed that the ratio of the number of mature (or older) one parent households with children to the number of mature (or older) one parent childless households remains constant between 2001 and 2016. Second, it is assumed that the ratio of the number of mature (or older) two parent households with children to the number of mature (or older) two parent households without children remains constant. As can be seen in Table 4 these assumptions result in rather different estimates. As a result the average of the two estimates is taken as the final estimate of the relevant populations.

Mature and older households comprised 25.3% of total Scottish households in 2001, by 2016 it is forecast that these categories will comprise 27.7% of Scottish

[4] http://www.gro-scotland.gov.uk/statistics/library/household-estimates-projections/2002-based-household-projections.html

households. Perhaps more striking is the forecast that the proportion of all households that are households with one adult is likely to rise from 38.5% to 46.3%.

In conjunction with the earlier results of Section 2 of this paper, these projections may be used to produce forecasts of household expenditures in 2016 disaggregated by the category of household (younger, mature and older). In order to estimate the expenditures by, for example, older households one could multiply the expenditures in 2001 by the ratio of the projected number of older households in 2016 to the number of older households in 2001. However that procedure would neglect any consequences of the changing composition, with respect to household size, of older households between the two years. Recognising that, normally, households with fewer members will consume less, one way to take account of this, at least partially, is to weight the different sizes of households differently. The weights used in this exercise are given in Table 5. Although the original McClements scores are based on ten categories of person, because the household projection differentiate only four categories of household the scores have to be combined. This is done using data on Scottish households taken from the British Household Panel Survey.

These weights are then used to adjust the raw household figures to allow for variations in household size and composition. These figures together with the percentage changes in the McClements adjusted household numbers are given in Table 6.

By multiplying the three household expenditure columns of the disaggregated input-output table by the rates of growth given for the McClements adjusted figures in Table 6, one may investigate the implications for different production sectors within Scotland of the projected change in household age and composition. However it should be noted that in doing so the total household expenditure figures would go up. It might be argued that as average household size declines average expenditures per household might increase, but in order to eliminate effects due to this the figures are scaled so that the net effect on total household expenditure is zero. Thus what is measured is the effect of changing household composition on, firstly, final demand and, secondly, commodity outputs. The largest effects are shown in Table 7. As might be expected the commodities for which final demand alters most are, by and large, the commodities that are affected most overall. It should be noted that the overall effect on the production of a commodity may be less than the change in final

demand as the system reflects all changes in final demand and their multiplier effects. Although the particular values reported in Table 7 should not be regarded as precise forecasts the results are interesting. The results suggest that the effect of the changing age structure and composition of households in Scotland might lead to increasing demand for Utilities, Social work services, Health and Insurance services. On the other hand the changes are estimated to have a marked negative effect on domestic demand for Hotels, catering and pubs etc., Letting of dwellings and Education.

5. Conclusion

The results of the analysis in this paper depend on the assumptions implicit in the input-output framework that is used. Especially in evaluating the effects of the changing demographic structure of the Scottish population between 2001 and 2016 these assumptions are likely to be questionable. New technologies, changes in relative prices and changing patterns of behaviour may all act to confound the results. It is also pertinent to ask to what extent pension provision will allow households to maintain the lifestyles they would wish. Although therefore the results of the paper should be taken, at best, in a qualitative sense there is a message for policy makers in them. Agencies responsible for stimulating the Scottish economy might note that changing demographics is likely to increase demand for some commodities and services whilst reducing the demand for others. Other considerations aside, this suggests that there are some industries which will face increased demand for their outputs in the future. However it is not just Scottish domestic demand for these commodities and services which will increase. Given that the UK as a whole is likely to face a similar demographic future as Scotland, increased demand for these commodities and services will be at least UK wide. To the extent that such commodities and services are tradable, it might be beneficial if such sectors were supported so that they were in a position to take advantage of this increased demand. On the other hand intervention to support or foster development in those sectors for which the demographic projection suggests demand will fall is possible unwise.

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Table 1: Scottish Household Final Expenditure on Domestically Produced Commodities 2001

	COMMODITY	EXPENDITURE £m
1	Agriculture	100.23
2.1	Forestry Planting	0.00
2.2	Forestry Harvesting	6.41
3.1	Sea Fishing	6.28
3.2	Fish Farming	0.00
4	Coal Extraction etc	2.20
5	Extraction - Oil and Gas	0.00
6	Extraction - Metal Ores	0.00
7	Other Mining and Quarrying	0.00
8	Meat Processing	55.01
9	Fish and Fruit Processing	93.37
10	Oils and Fats	0.85
11	Dairy Products	54.46
12	Grain Milling and Starch	1.76
13	Animal Feeding Stuffs	0.80
14	Bread, Biscuits, etc	69.50
15	Sugar	0.03
16	Confectionery	26.88
17	Miscellaneous Foods	36.72
18.1	Spirits and Wines, etc	11.83
18.2	Beer Brewing	13.86
19	Soft Drinks	129.12
20	Tobacco	0.00
21	Textile Fibres	0.01
22	Textile Weaving	0.00
23	Textile Finishing	0.91
24	Made-up Textiles	21.72
25	Carpets and Rugs	2.55
26	Other Textiles	0.20
27	Knitted Goods	24.78
28	Wearing Apparel	38.57
29	Leather Tanning	1.39
30	Footwear	0.12
31	Timber and Wood Products	16.97
32	Pulp, Paper and Board	0.00
33	Paper and Board Products	0.61
34	Printing and Publishing	77.97
35	Oil Process, Nuclear Fuel	273.90
36	Industrial Gases	0.00
37	Inorganic Chemicals	0.00
38	Organic Chemicals	0.00
39	Fertilisers	0.34
40	Synthetic Resins	0.00
41	Pesticides	0.01
42	Paints, Dyes, Printing Ink, etc	0.29
43	Pharmaceuticals	0.27
44	Soap and Toilet Preperations	6.60

45	Chemical Products nes	4.11
46	Man-Made Fibres	0.00
47	Rubber Products	1.84
48	Plastic Products	2.39
49	Glass and Glass Products	1.50
50	Ceramic Goods	5.05
51	Structural Clay Products	0.00
52	Cement, Lime and Plaster	0.64
53	Articles of Concrete etc	1.82
54	Iron and Steel	0.00
55	Non-ferrous Metals	0.01
56	Metal Castings	0.00
57	Structural Metal Products	0.00
58	Metal Containers, etc	0.05
59	Metal Forging, Pressing, etc	0.00
60	Cutlery and Tools	0.01
61	Metal Goods nes	0.23
62	Mech Power Transmission Equipment	0.14
63	General Purpose Machinery	9.06
64	Agricultural Machinery	0.00
65	Machine Tools	0.48
66	Special Purpose Machinery	0.00
67	Weapons and Ammunition	0.00
68	Domestic Appliances nes	17.16
69	Office Machinery	19.81
70	Electric Motors and Generators	17.50
71	Insulated Wire and Cable	0.00
72	Electrical Equipment nes	0.32
73	Electronic Components	0.00
74	Transmitters for TV, Radio and Phone	0.10
75	Receivers for TV and Radio	7.38
76	Medical and Precision Instruments	0.96
77	Motor Vehicles	14.70
78	Shipbuilding and Repair	12.14
79	Other Transport Equipment	22.78
80	Aircraft and Spacecraft	0.00
81	Furniture	10.17
82	Jewellery and Related Products	12.29
83	Sports Goods and Toys	5.16
84	Miscellaneous Manufacturing nes	8.95
85	Electricity Production and Distribution	458.98
86	Gas Distribution	466.47
87	Water Supply	241.07
88	Construction	183.38
89	Distribution and Motor Repair, etc	1191.18
90	Wholesale Distribution	1311.67
91	Retail Distribution	6400.98
92	Hotels, Catering, Pubs, etc	2777.89
93	Railways	210.09
94	Other Land Transport	589.62
95	Water Transport	49.00
96	Air Transport	38.76

97	Transport Services	118.55
98	Postal Services	66.96
99	Telecommunications	668.82
100.1	Banking	80.50
100.2	Other Financial Institutions	0.00
101	Insurance and Pension Funds	561.69
102.1	Auxiliary Financial Services nes	103.14
102.2	Auxiliary to Insurance	0.00
103	Owning and Dealing in Real Estate	0.00
104	Letting of Dwellings	6665.87
105	Estate Agent Activities	16.17
106	Renting of Machinery	523.29
107	Computing Services	0.00
108	Research and Development	0.00
109	Legal Activities	26.11
110	Accountancy Services	5.67
111	Market Research	0.00
112	Architectural etc Activities	25.68
113	Advertising	8.06
114	Other Business Services	18.43
115	Public Administration	127.37
116	Education	271.41
117	Health and Veterinary Services	186.58
118	Social Work	164.89
119	Sanitary Services	217.64
120	Membership Organisations	77.77
121	Recreational Services	710.88
122	Other Service Activities	385.20
123	Private Households with employed persons	119.14
	Imports from Rest of UK	10478.44
	Imports from Rest of World	6848.27
	Taxes less subsidies on products	4222.67

Source: Scottish Input Output Tables 2001, http://www.scotland.gov.uk/about/FCSD/OCEA/00014713/index.aspx

Table 2: Estimated Scottish Weekly Household Expenditure by age classification (£th)

COMMODITY GROUP	Younger Hhlds	Mature Hhlds	Older Hhlds
Food	67699.84	10052.28	6368.85
Non-alcoholic drinks	7370.66	925.61	511.36
Alcoholic drinks	12530.74	1281.29	763.28
Tobacco and narcotics	15403.49	1488.59	590.40
Clothing	37185.27	3198.18	1507.26
Footwear	8767.21	693.19	338.21
Actual rentals for housing	35556.00	3817.59	4234.39
Imputed rent	81080.25	4510.85	2642.65
Maintenance and repair of dwelling	8389.46	1342.96	754.38
Water supply and misc servs for dwelling	682.87	128.78	102.27
Electricity, gas and other fuels	20822.50	3585.39	2612.88
Furn and furnish, carpets and floor cover	29774.44	2618.60	1835.93
Household textiles	3631.67	407.79	246.23
Household appliances	9759.07	1094.67	839.17
Glassware, tableware and household utensils	2236.12	259.27	86.24
Tools and equipment for house and garden	5808.83	641.87	236.51
Gds and sevs for routine hhld maint	6287.08	939.62	910.83
Medical products, appliances and equipment	3716.51	732.06	326.34
Out-patient services	1701.05	334.30	193.82
In-patient hospital services	0.00	0.00	0.00
Purchase of vehicles	43618.47	3531.03	1304.68
Operation of personal transport	39089.94	3910.09	1473.10
Transport services	17994.72	1192.15	592.27
Communication	17731.67	1716.70	1074.78
Audio-visual, photo and info proc equip	15887.58	991.61	434.58
Oth maj durables for rec and culture	822.61	0.00	0.00
Oth rec items and equip, gardens and pets	16152.19	1713.91	778.88
Recreational and cultural services	29363.58	3228.64	1202.97
Newspapers, books and stationery	11494.73	1700.58	1061.55
Package holidays	19671.71	3030.52	990.25
Education	8141.12	0.00	0.00
Catering services	54184.05	3845.89	1835.80
Accommodation services	4438.04	683.49	211.14
Personal care	14601.55	1627.57	988.60
Personal effects	5343.00	370.23	316.07
Social protection	4046.25	78.71	816.14
Insurance	17110.30	2215.85	1374.13
Financial Services n.e.s	737.08	40.67	35.60
Other services	6896.21	711.77	187.75
TOTAL	684673.96	69121.03	40116.29

SOURCE: Derived from Botting, B. (ed), 2003

Table 3: Disaggregated Household Expenditure by Commodity

COMMODITY	Younger Hhlds	Mature Hhlds	Older Hhlds
Agriculture	81.6	11.5	7.1
Forestry Planting	0.0	0.0	0.0
Forestry Harvesting	5.4	0.6	0.3
Sea Fishing	5.1	0.7	0.5
Fish Farming	0.0	0.0	0.0
Coal extraction	1.7	0.3	0.2
Oil and gas extraction	0.0	0.0	0.0
Metal ores extraction	0.0	0.0	0.0
Other mining and quarrying	0.0	0.0	0.0
Meat processing	44.3	6.6	4.2
Fish and fruit processing	75.5	11.0	6.9
Oils and fats	0.7	0.1	0.1
Dairy products	43.8	6.5	4.1
Grain milling and starch	1.4	0.2	0.1
Animal feed	0.7	0.1	0.0
Bread, biscuits etc	55.9	8.3	5.3
Sugar	0.0	0.0	0.0
Confectionery	21.6	3.2	2.0
Other food products	29.9	4.2	2.6
Spirits & Wines	10.2	1.0	0.6
Beers and Ales	11.9	1.2	0.7
Soft drinks and mineral waters	108.1	13.6	7.5
Tobacco products	0.0	0.0	0.0
Textile fibres	0.0	0.0	0.0
Textile weaving	0.0	0.0	0.0
Textile finishing	0.8	0.1	0.0
Made0up textiles	18.5	2.0	1.2
Carpets and rugs	2.2	0.2	0.1
Other textiles	0.2	0.0	0.0
Knitted goods	22.0	1.9	0.9
Wearing apparel and fur products	34.2	2.9	1.4
Leather goods	1.2	0.1	0.1
Footwear	0.1	0.0	0.0
Wood and wood products	14.1	1.9	1.0
Pulp, paper and paperboard	0.0	0.0	0.0
Paper and paperboard products	0.5	0.1	0.0
Printing and publishing	65.4	8.0	4.6
Coke ovens, refined petroleum & nuclear fuel	238.7	24.9	10.3
Industrial gases and dyes	0.0	0.0	0.0
Inorganic chemicals	0.0	0.0	0.0
Organic chemicals	0.0	0.0	0.0
Fertilisers	0.3	0.0	0.0
Plastics & synthetic resins etc	0.0	0.0	0.0
Pesticides	0.0	0.0	0.0
Paints, varnishes, printing ink etc	0.2	0.0	0.0

Pharmaceuticals	0.2	0.0	0.0
Soap and toilet preparations	5.4	0.7	0.5
Other chemical products	3.8	0.2	0.1
Man0made fibres	0.0	0.0	0.0
Rubber products	1.5	0.2	0.1
Plastic products	2.0	0.3	0.1
Glass and glass products	1.3	0.2	0.1
Ceramic goods	4.4	0.5	0.2
Structural clay products	0.0	0.0	0.0
Cement, lime and plaster	0.5	0.1	0.0
Articles of concrete, stone etc	1.5	0.2	0.1
Iron and steel	0.0	0.0	0.0
Non0ferrous metals	0.0	0.0	0.0
Metal castings	0.0	0.0	0.0
Structural metal products	0.0	0.0	0.0
Metal boilers and radiators	0.0	0.0	0.0
Metal forging, pressing, etc	0.0	0.0	0.0
Cutlery, tools etc	0.0	0.0	0.0
Other metal products	0.2	0.0	0.0
Mechanical power equipment	0.1	0.0	0.0
General purpose machinery	7.6	0.9	0.6
Agricultural machinery	0.0	0.0	0.0
Machine tools	0.4	0.0	0.0
Special purpose machinery	0.0	0.0	0.0
Weapons and ammunition	0.0	0.0	0.0
Domestic appliances nec	14.4	1.6	1.2
Office machinery & computers	18.2	1.1	0.5
Electric motors and generators etc	15.2	1.7	0.6
Insulated wire and cable	0.0	0.0	0.0
Electrical equipment nec	0.3	0.0	0.0
Electronic components	0.0	0.0	0.0
Transmitters for TV, radio and phone	0.1	0.0	0.0
Receivers for TV and radio	6.8	0.4	0.2
Medical and precision instruments	0.8	0.1	0.1
Motor vehicles	13.2	1.1	0.4
Shipbuilding and repair	12.1	0.0	0.0
Other transport equipment	20.7	1.5	0.6
Aircraft and spacecraft	0.0	0.0	0.0
Furniture	8.8	0.8	0.5
Jewellery and related products	10.9	0.7	0.6
Sports goods and toys	4.5	0.5	0.2
Miscellaneous manufacturing nec & recycling	7.7	0.8	0.5
Electricity production and distribution	353.7	60.9	44.4
Gas distribution	359.5	61.9	45.1
Water supply	180.1	34.0	27.0
Construction	146.7	23.5	13.2
Motor vehicle distribution and repair, automotive fuel retail	1041.0	105.1	45.1
Wholesale distribution	1124.4	120.4	66.8
Retail distribution	5492.7	583.6	324.7
Hotels, catering, pubs etc	2496.2	192.2	89.5

Railway transport	191.1	12.7	6.3
Other land transport	536.4	35.5	17.7
Water transport	44.6	3.0	1.5
Air transport	35.3	2.3	1.2
Ancillary transport services	105.9	8.9	3.7
Postal and courier services	57.8	5.6	3.5
Telecommunications	577.9	55.9	35.0
Banking	72.9	4.0	3.5
Other Financial Institutions	0.0	0.0	0.0
Insurance and pension funds	463.9	60.4	37.4
Auxiliary to Baking	93.5	5.2	4.5
Auxillary to Insurance	0.0	0.0	0.0
Owning and dealing in real estate	0.0	0.0	0.0
Letting of dwellings	5899.0	420.4	346.4
Estate agent activities	14.3	1.5	0.4
Renting of machinery etc	466.4	41.5	15.4
Computer services	0.0	0.0	0.0
Research and development	0.0	0.0	0.0
Legal activities	23.1	2.4	0.6
Accountancy services	5.0	0.5	0.1
Market research, management consultancy	0.0	0.0	0.0
Architectural activities and technical consultancy	22.6	2.3	0.8
Advertising	7.1	0.7	0.2
Other business services	16.1	1.7	0.6
Public administration and defence	108.3	12.6	6.5
Education	270.6	0.6	0.2
Health and veterinary services	150.8	18.2	17.5
Social work activities	135.0	2.6	27.2
Sewage and sanitary services	162.6	30.7	24.4
Membership organisations nec	68.6	7.0	2.1
Recreational services	618.0	67.8	25.1
Other service activities	332.4	35.4	17.4
Private households with employed persons	93.1	11.6	14.5
TOTAL	**22825.7**	**2157.7**	**1338.8**
RUK Imports	8956.8	973.8	547.8
ROW Imports	5951.2	591.6	305.4
TOTAL	**37733.7**	**3723.2**	**2192.0**
Taxes on Products	3650.4	360.2	212.1
TOTAL	**41384.2**	**4083.4**	**2404.0**

TABLE 4: Household Estimates and Projections

2001

	1 Adult only	1 Adult & Children	2 or more Adults & Children	2 or more Adults
Head 65 or less	424694	120969	444896	647197
Head between 65 and 75	130115	785	1921	186059
Head 75 or over	166021	802	419	68368

Taken from Census.

2016

a) Assuming constant one adult only to one adult & children ratio for mature and older households

	1 Adult only	1 Adult & Children	2 or more Adults & Children	2 or more Adults
Head 65 or less	582660	170479	349481	619520
Head between 65 and 75	149460	902	3058	198010
Head 75 or over	198520	959	1731	106320

b) Assuming constant two or more adult only to two or more adults & children ratio for mature and older households

	1 Adult only	1 Adult & Children	2 or more Adults & Children	2 or more Adults
Head 65 or less	582660	168386	351574	619520
Head between 65 and 75	149460	1916	2044	198010
Head 75 or over	198520	2038	652	106320

c) Final Estimates – Average of preceding two.

	1 Adult only	1 Adult & Children	2 Adults & Children	2 or more Adults
Head 65 or less	582660	169433	350527	619520
Head between 65 and 75	149460	1409	2551	198010
Head 75 or over	198520	1499	1191	106320

TABLE 5: McClements Scale

Household Member	McClements Scores
Head of Household	0.61
Spouse of head of household	0.39
First "other" adult	0.46
Each additional "other" adults	0.36
Each child ≥ 13 years, < 16 years	0.27
Each child ≥ 11 years, < 13 years	0.25
Each child ≥ 8 years, < 11 years	0.23
Each child ≥ 5 years, < 8 years	0.21
Each child ≥ 2 years, < 5 years	0.18
Each child less than 2 years	0.09
Household Type	
One adult	0.61
One adult with one or more children	0.935233
Two or more adults	1.045862
Two or more adults with one or more children	1.356229

TABLE 6: McClements adjusted household numbers.

		Younger	Mature	Older
2001	Actual	1637756	318880	235610
	McClements Adjusted	1652457	277302	174095
2016	Actual	1722140	351430	307530
	McClements Adjusted	1637209	303039	235311
% Change	Actual	5.15	10.21	30.16
	McClements Adjusted	- 0.92	9.28	35.16

TABLE 7: Significant Final Demand and commodity production changes

Sector	Final Demand	Commodity Production
Electricity Production and Distribution	9.92	22.08
Gas Distribution	10.08	14.94
Social Work	5.67	7.84
Sanitary Services	6.08	7.08
Water Supply	6.73	6.65
Health and Veterinary Services	3.17	5.30
Insurance and Pension Funds	4.59	4.59
Retail Distribution	5.01	4.09
Private Households with employed persons	3.22	3.20
Agriculture	1.04	2.32
Railways	- 2.07	- 2.11
Recreational Service	- 3.11	- 3.22
Renting of Machinery	- 4.24	- 4.15
Distribution and Motor Repair etc.	- 4.95	- 5.29
Other Land Transport	- 5.82	- 5.97
Education	- 7.14	- 7.08
Letting of Dwellings	- 10.90	- 11.91
Hotels, Catering, Pubs, etc	- 22.61	- 22.98