

Updating the RPI Weights for 2002

At the beginning of each year the weights used to compile the Retail Prices Index (RPI) are updated using the latest available information on spending patterns, which mainly comes from the Expenditure and Food Survey (EFS). The weights shown in Tables 20, 21 and A3 are for use over the next year (February 2002 through to January 2003 inclusive). This article explains how these weights are calculated.

Background

The RPI measures the changes from month to month in the cost of a 'basket' of goods and services bought by a typical household. Goods and services included in the 'basket' are selected to represent a typical household's spending, as it would be impracticable to monitor the prices of everything on sale in every shop. These items are known as 'price indicators'. Each year the ONS reviews the basket of goods, and updates the weights used to aggregate prices to ensure that the selection of products in the basket and their weights remain representative of the overall pattern of expenditure of the typical household.

Following the review of these indicators for 2002, some items have been dropped, such as canned salmon, loose tea, pipe tobacco and blank audio cassettes. However, several new items have been added including; frozen prawns, aluminium step ladder, will drafting fees and recordable CD-R. Further details are given in an article entitled 'Price Indicators used in 2002' which can be found on the National Statistics website at www.statistics.gov.uk/rpi

The spending pattern underlying the general RPI weights is that of an average household, though certain types of household are excluded. These are:

- a The top 4 per cent of the income distribution, i.e. those households with a gross weekly income above a specified level (approximately £1370 in 2000/2001);
- b 'Pensioner' households, consisting of retired people who derive at least three quarters of their income from state benefits.

These households are excluded because they have very different spending patterns from most households.

For the 2002 weights, information about spending patterns was obtained from the last three quarters of data from the Family Expenditure Survey (FES)¹ (July 2000 - March 2001) and one quarter of the new Expenditure and Food Survey (EFS) (April - June 2001) which has replaced the FES. The EFS and FES before it, is a continuous household survey which monitors the spending patterns of around 6,500 households across the country each year. From this survey the changing pattern of household spending can be monitored at regular intervals. The EFS classifies spending according to COICOP definitions (Classification Of Individual COnsumption by Purpose), the international classification of household expenditure used in the National Accounts.

Pensioners largely dependent on benefits, tend to have different spending patterns when compared to the remainder of the population and thus, special indices have been compiled for them since 1968 (separately for one and two-person pensioner households). These special indices differ from the 'general' RPI in being quarterly rather than monthly and, because of measurement problems, they exclude housing costs. The separate weights calculated for these pensioner indices are shown in Table 20.

Why are weights used?

Price increases for certain items have a bigger effect on the overall change in the cost of the 'basket' than others. For example, the average household spends about ten times as much on electrical appliances as on postage, so a 5 per cent increase in the prices of electrical appliances would have ten times as much effect on the total cost of the basket than a five per cent increase in postal charges. The weights for the RPI reflect these varying degrees of importance. Each item in the Index is weighted to reflect the amount or proportion of household expenditure spent on the item.

Section weights

Each item included within the Index belongs to a 'section', which comprises a group of similar or related goods or services. It is the lowest level of aggregation for which FES/EFS expenditure weights can be reliably and consistently estimated.

For example, expenditures on loaves of bread and rolls are aggregated together to produce the bread section. In total there are 85 sections for which weights are produced (see Table A3).

Weights for most sections of the RPI are based on FES/EFS data for the latest available 12-month period (mid-2000 to mid-2001). For certain components of the index, notably furniture, and repairs and maintenance charges, three years' worth of data are used because of the large sampling errors that can arise from a single year's FES/EFS data for these items. Item weights are calculated from a variety of sources, in addition to the FES/EFS, these include; the National Food Survey¹ (NFS), market research information, and other government sources. Due to the smaller FES/EFS sample size, all pensioner weights are based on the latest available three years' worth of data (mid-1998 to mid-2001).

Section and item weights for the RPI are updated every year. The reasons for this are twofold. Firstly, it allows the introduction of new items and deletion of old items thus keeping the basket representative of the changing consumer market. Secondly, using up to date expenditure data ensures that the RPI is as representative of current expenditure patterns as possible. To achieve this, the recorded FES/EFS expenditure for each component is revalued to current January 2002 prices using the appropriate indices from the RPI before the weights are calculated. Table A1 shows the underlying expenditures used in calculating the section weights.

For a few sections - soft drinks, confectionery, alcoholic drink and tobacco products - the amounts recorded in the FES/EFS are known not to reflect the actual expenditure on these items, therefore appropriate adjustments are made using the Household Final Expenditure component of the National Accounts, which is derived from a variety of sources. In addition, the weights used for alcohol and tobacco products this year reflect the changes made to the 2001 National Accounts Blue Book to include estimates of household expenditure on smuggled alcohol and tobacco.

Weights for the costs of owner-occupation, comprising mortgage interest payments and depreciation, are not based on FES/EFS expenditures. The weight for depreciation is calculated from National Accounts estimates of the capital consumption of the private sector housing stock. The weight for mortgage interest payments is modelled by a standardised mortgage incorporating both repayment and endowment components over an average 23 year term.

Changes in the volume of expenditure

For each component, any change in total expenditure between 2001 and 2002 can be caused by either changes in prices or changes in the quantities or volumes of the items bought. By revaluing the expenditure used in determining the 2001 weights to January 2002 prices, the price change element can be eliminated to reveal how volumes have changed. Table A2 shows the percentage volume change in the expenditure for each of the main RPI groups from 2001 to 2002.

While the average household consumed around the same amount of food compared with last year, spending on motoring expenditure (in volume terms) rose by around 7 per cent whilst spending on fares and other travel fell by around 8 per cent. Over the same period, spending on tobacco rose by just over 8 per cent by volume.

Changes in patterns of expenditure

Changes in the weights of components over time reveal changes in the expenditure pattern of households. For instance, the weight for food has dropped from over a third of total spending in 1956 to around one eighth in 2002, while over the same period the weight for housing has more than doubled. Table A3 shows the changes over the last five years: though most components change only gradually over time, even over this comparatively short period, declines in the proportions of spending on food and fuel and light and increases in spending on leisure services are discernible.

Table A3 also shows that there have been a few large changes in the weights between 2001 and 2002. The only sections to have changed by 4 parts per thousand or more are; wines & spirits "on" sales, mortgage interest payments, purchase of motor vehicles and petrol and oil. The main effect on the change to the weight for mortgage interest payments comes from the fall in interest rates. The change in weight for petrol and oil is due to lower prices and for purchase of motor vehicles it is due to an increase in the volume of sales. The increase in the weight for wines and spirits "on" sales results from improvements in the method of adjusting for under-recording of alcohol consumption, which has the effect of redistributing the overall alcohol weight within the alcohol group.

¹ From April 2001 the FES and National Food Survey (NFS) have been replaced by the Expenditure and Food Survey (EFS) following the merger of the two surveys.

Further information about the construction of the weights can be obtained from:

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1 Drummond Gate
London SW1V 2QQ

Tel: 020 7533 5822

Results of the Family Expenditure Survey are published in the annual report, “Family Spending”, published by The Stationery Office. For further information, please contact:

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Weights

20 Pensioner indices - section weights for use in 2002

parts per 1000

	Weights used			Weights used	
	1 person pensioner households	2 person pensioner households		1 person pensioner households	2 person pensioner households
Food	270	265			
Bread	14	13	Household goods	118	111
Cereals	7	6	Furniture	32	33
Biscuits and cakes	24	22	Furnishings	26	17
Beef	9	11	Electrical appliances	12	14
Home-killed lamb	2*	3*	Other household equipment	8	10
Imported lamb	2	3	Household consumables	30	27
Pork	4	5	Pet care	10	10
Bacon	7	8			
Poultry	8	9	Household services	111	64
Other meat	21	21	Postage	5	3
Fresh fish	7*	8*	Telephones, telemessages, etc	41	26
Processed fish	5	5	Domestic services	38	15
Butter	4	3	Fees and subscriptions	27	20
Oils and fats	4	5			
Cheese	7	7	Clothing and footwear	52	46
Eggs	3*	3*	Men's outerwear	4	9
Milk, fresh	19	16	Women's outerwear	24	16
Milk products	7	7	Children's outerwear	3	2
Tea	6	5	Other clothing	11	12
Coffee and other hot drinks	5	4	Footwear	10	7
Soft drinks	8	8			
Sugar and preserves	5	5	Personal goods and services	68	65
Sweets and chocolates	12	13	Personal articles	17	15
Unprocessed potatoes	6*	7*	Chemists goods	25	23
Processed potatoes	5	5	Personal services	26	27
Fresh vegetables	17*	17*			
Processed vegetables	5	5	Motoring expenditure	48	129
Fresh fruit	18*	16*	Purchase of motor vehicles	12	32
Processed fruit	3	4	Maintenance of motor vehicles	11	29
Other foods	26	21	Petrol and oil	13	39
			Vehicle tax and insurance	12	29
Catering	40	36			
Restaurant meals	27	27	Fares and other travel costs	18	15
Canteen meals	—	—	Rail fares	1	1
Take-aways and snacks	13	9	Bus and coach fares	7	5
			Other travel costs	10	9
Alcoholic drink	31	40			
Beer "on" sales	11	14	Leisure goods	50	52
Beer "off" sales	3	5	Audio-visual equipment	4	5
Wines & spirits "on" sales	3	4	Records, tapes and CDs	2	2
Wines & spirits "off" sales	14	17	Toys, photographic and sports goods	4	7
			Books and newspapers	30	27
Tobacco	30	27	Gardening products	10	11
Cigarettes	28	23			
Other tobacco	2	4	Leisure services	55	74
			Television licences and rentals	25	20
Fuel and light	109	76	Entertainment and other recreation	6	8
Coal and solid fuels	8	6	Foreign holidays	10	27
Electricity	54	37	UK holidays	14	19
Gas	44	29			
Oil and other fuels	3	4			

* Seasonal Foods have a total weight of 53 for 1 person pensioner households and a total weight of 54 for 2 person pensioner households.

Source: National Statistics

Weights

21 All Items index - section weights for use in 2002

parts per 1000

	Weights used		Weights used
Food	114	Fuel and light	31
Bread	5	Coal and solid fuels	1
Cereals	4	Electricity	15
Biscuits and cakes	7	Gas	13
Beef	3	Oil and other fuels	2
Home-killed lamb	1*	Household goods	73
Imported lamb	1	Furniture	22
Pork	1	Furnishings	13
Bacon	2	Electrical appliances	10
Poultry	5	Other household equipment	7
Other meat	7	Household consumables	14
Fresh fish	2*	Pet care	7
Processed fish	1	Household services	60
Butter	1	Postage	1
Oils and fats	1	Telephones, telemessages, etc	21
Cheese	3	Domestic services	10
Eggs	1*	Fees and subscriptions	28
Milk, fresh	5	Clothing and footwear	51
Milk products	4	Men's outerwear	11
Tea	1	Women's outerwear	17
Coffee and other hot drinks	2	Children's outerwear	6
Soft drinks	10	Other clothing	7
Sugar and preserves	1	Footwear	10
Sweets and chocolates	11	Personal goods and services	43
Unprocessed potatoes	2*	Personal articles	13
Processed potatoes	4	Chemists goods	16
Fresh vegetables	8*	Personal services	14
Processed vegetables	2	Motoring expenditure	141
Fresh fruit	6*	Purchase of motor vehicles	62
Processed fruit	1	Maintenance of motor vehicles	21
Other foods	12	Petrol and oil	36
Catering	52	Vehicle tax and insurance	22
Restaurant meals	26	Fares and other travel costs	20
Canteen meals	5	Rail fares	5
Take-aways and snacks	21	Bus and coach fares	5
Alcoholic drink	68	Other travel costs	10
Beer "on" sales	30	Leisure goods	48
Beer "off" sales	6	Audio-visual equipment	12
Wines & spirits "on" sales	19	Records, tapes and CDs	7
Wines & spirits "off" sales	13	Toys, photographic and sports goods	11
Tobacco	31	Books and newspapers	12
Cigarettes	28	Gardening products	6
Other tobacco	3	Leisure services	69
Housing	199	Television licences and rentals	13
Rent	47	Entertainment and other recreation	18
Mortgage interest payments	36	Foreign holidays	32
Depreciation	40	UK holidays	6
Council Tax / Community charge and rates	34		
Water and other charges	11		
Repairs and maintenance charges	10		
Do-it yourself materials	14		
Dwelling insurance and ground rent	7		

* Seasonal Foods have a total weight of 20.

Source: National Statistics

A1 Average weekly expenditure of households underlying 2002 weights at January 2002 prices

pounds

	General index households	1 person pensioner households	2 person pensioner households		General index households	1 person pensioner households	2 person pensioner households
Food	47.31	21.02	37.34				
Bread	1.92	1.05	1.79				
Cereals	1.58	0.53	0.90	Fuel and light	12.22	8.38	10.85
Biscuits and cakes	2.89	1.88	3.15	Coal and solid fuels	0.31	0.60	0.85
Beef	1.45	0.66	1.56	Electricity	6.01	4.15	5.22
Home-killed lamb	0.31	0.17	0.46	Gas	5.25	3.38	4.16
Imported lamb	0.33	0.18	0.48	Oil and other fuels	0.65	0.25	0.62
Pork	0.60	0.33	0.73				
Bacon	0.92	0.58	1.11	Household goods	29.65	9.14	15.68
Poultry	1.98	0.64	1.21	Furniture	9.07	2.46	4.64
Other meat	3.01	1.66	2.99	Furnishings	5.20	2.00	2.43
Fresh fish	0.85	0.56	1.08	Electrical appliances	4.00	0.92	1.93
Processed fish	0.61	0.38	0.73	Other household equipment	2.77	0.59	1.42
Butter	0.26	0.28	0.43	Household consumables	5.67	2.36	3.85
Oils and fats	0.59	0.31	0.64	Pet care	2.93	0.81	1.41
Cheese	1.39	0.53	0.95				
Eggs	0.39	0.26	0.43	Household services	25.14	8.54	9.17
Milk, fresh	2.22	1.46	2.31	Postage	0.48	0.35	0.47
Milk products	1.45	0.59	0.98	Telephones, telemessages, etc	8.80	3.15	3.69
Tea	0.48	0.45	0.68	Domestic services	4.32	2.91	2.13
Coffee and other hot drinks	0.70	0.35	0.54	Fees and subscriptions	11.54	2.13	2.88
Soft drinks	4.14	0.63	1.19				
Sugar and preserves	0.46	0.37	0.67	Clothing and footwear	21.17	4.06	6.32
Sweets and chocolates	4.40	0.91	1.78	Men's outerwear	4.38	0.33	1.21
Unprocessed potatoes	0.93	0.49	1.00	Women's outerwear	7.00	1.84	2.23
Potato products	1.47	0.40	0.70	Children's outerwear	2.57	0.27	0.22
Other fresh vegetables	3.30	1.31	2.44	Other clothing	2.92	0.86	1.68
Processed vegetables	0.91	0.38	0.71	Footwear	4.29	0.76	0.97
Fresh fruit	2.55	1.43	2.23				
Processed fruit	0.45	0.24	0.51	Personal goods and services	18.10	5.32	9.22
Other foods	4.79	2.00	2.96	Personal articles	5.59	1.33	2.14
				Chemists goods	6.69	1.94	3.19
Catering	21.75	3.10	5.05	Personal services	5.82	2.05	3.89
Restaurant meals	10.81	2.09	3.77				
Canteen meals	2.16	0.00	0.00	Motoring expenditure	58.58	3.74	18.32
Take-aways and snacks	8.78	1.01	1.28	Purchase of motor vehicles	25.69	0.94	4.55
				Maintenance of motor vehicles	8.73	0.89	4.13
Alcoholic drink	27.87	2.30	5.77	Petrol and oil	15.02	0.98	5.49
Beer "on" sales	12.35	0.82	1.98	Vehicle tax and insurance	9.15	0.92	4.16
Beer "off" sales	2.35	0.20	0.75				
Wines & spirits "on" sales	7.83	0.22	0.57	Fares and other travel costs	8.42	1.40	2.27
Wines & spirits "off" sales	5.34	1.06	2.47	Rail fares	2.17	0.06	0.21
				Bus and coach fares	1.96	0.55	0.74
Tobacco	13.17	2.35	3.94	Other travel costs	4.29	0.79	1.32
Cigarettes	11.75	2.19	3.32				
Other tobacco	1.42	0.16	0.62	Leisure goods	19.59	3.78	7.47
				Audio-visual equipment	4.77	0.28	0.71
Housing¹	81.70			CDs and tapes	2.81	0.13	0.32
Rent	19.43			Toys, photographic and sports goods	4.57	0.30	0.95
Mortgage interest payments	14.74			Books and newspapers	4.79	2.31	3.89
Depreciation	16.53			Gardening products	2.66	0.77	1.59
Council tax and rates	14.10						
Water and other charges	4.41			Leisure services	28.85	4.28	10.49
Repairs and maintenance charges	4.13			Television licences and rentals	5.52	1.93	2.82
Do-it yourself materials	5.60			Entertainment & other recreation	7.48	0.49	1.19
Dwelling insurance and ground rent	2.76			Foreign holidays	13.25	0.78	3.86
				UK holidays	2.60	1.09	2.62
				ALL ITEMS	413.53	77.41	141.89

¹ Housing costs are excluded from the pensioner indices because of measurement problems.

Source: National Statistics

A2 Volume change in the average weekly expenditure of General index households between 2001 and 2002

	Expenditure underlying 2001 weights at January 2002 prices (pounds)	Expenditure underlying 2002 weights at January 2002 prices (pounds)	Volume change from 2001 to 2002 (per cent)
Food	47.63	47.31	-0.7
Catering	21.57	21.75	0.8
Alcoholic drink	27.68	27.87	0.7
Tobacco	12.15	13.17	8.4
Housing	80.74	81.70	1.2
Fuel and light	11.64	12.22	5.0
Household goods	28.72	29.65	3.2
Household services	23.60	25.14	6.5
Clothing and footwear	20.26	21.17	4.5
Personal goods and services	17.97	18.10	0.8
Motoring expenditure	54.87	58.58	6.8
Fares and other travel costs	9.11	8.42	-7.5
Leisure goods	18.98	19.59	3.2
Leisure services	27.36	28.85	5.5
ALL ITEMS	402.28	413.53	2.8

Source: National Statistics

A3 RPI: Weights used over the last five years

parts per 1000

		1998	1999	2000	2001	2002		1998	1999	2000	2001	2002	
Food	CZGZ	130	128	118	116	114	Fuel and light	CZHG	36	34	32	29	31
Bread	CZVO	5	5	5	5	5	Coal and solid fuels	CZXX	1	1	1	1	1
Cereals	CZVP	4	4	3	4	4	Electricity	CZXL	18	17	16	15	15
Biscuits and cakes	CZVQ	9	8	8	7	7	Gas	CZXM	16	15	13	12	13
Beef	CZVR	4	4	4	4	3	Oil and other fuels	CZXXN	1	1	2	1	2
Home-killed lamb	CZVS	1	1	1	1	1							
Imported lamb	CZVT	1	1	1	1	1	Household goods	CZHH	72	74	72	71	73
Pork	CZVU	2	2	2	2	1	Furniture	CZXO	20	20	20	21	22
Bacon	CZVV	3	2	2	2	2	Furnishings	CZXP	13	14	12	13	13
Poultry	CZVW	6	6	5	5	5	Electrical appliances	CZXQ	9	10	9	10	10
Other meat	CZVX	8	8	7	7	7	Other household equipment	CZXR	7	8	7	6	7
Fresh fish	CZVY	2	2	2	2	2	Household consumables	CZXS	15	15	15	14	14
Processed fish	CZVZ	2	2	2	2	1	Pet care	CZXT	8	7	9	7	7
Butter	CZWA	1	1	1	1	1							
Oils and fats	CZWB	2	2	1	1	1	Household services	CZHI	54	57	56	57	60
Cheese	CZWC	4	4	3	3	3	Postage	CZXU	2	2	1	1	1
Eggs	CZWD	1	1	1	1	1	Telephones, telemessages, etc	CZXV	16	17	18	19	21
Milk, fresh	CZWE	7	6	6	5	5	Domestic services	CZXW	9	11	10	9	10
Milk products	CZWF	4	4	4	3	4	Fees and subscriptions	CZXX	27	27	27	28	28
Tea	CZWG	2	2	1	1	1							
Coffee and other hot drinks	CZWH	2	2	2	2	2	Clothing and footwear	CZHJ	55	55	58	53	51
Soft drinks	CZWI	10	10	10	11	10	Men's outerwear	CZXY	11	13	12	11	11
Sugar and preserves	CZWJ	2	1	1	1	1	Women's outerwear	CZXXZ	18	17	20	16	17
Sweets and chocolates	CZWK	12	12	12	11	11	Children's outerwear	CZYA	6	6	7	7	6
Unprocessed potatoes	CZWL	2	3	2	2	2	Other clothing	CZYP	10	9	8	8	7
Processed potatoes	CZWM	4	5	4	4	4	Footwear	CZYP	10	10	11	11	10
Fresh vegetables	CZWN	6	7	6	6	8							
Processed vegetables	CZWO	3	2	2	2	2	Personal goods and services	CZHK	40	40	43	43	43
Fresh fruit	CZWP	6	6	6	6	6	Personal articles	CZHD	11	11	12	12	13
Processed fruit	CZWQ	1	1	1	1	1	Chemists goods	CZYE	19	19	17	17	16
Other foods	CZWR	14	14	13	13	12	Personal services	CZYP	10	10	14	14	14
Catering	CZHC	48	51	52	53	52	Motoring expenditure	CZHL	136	139	146	140	141
Restaurant meals	CZWS	24	25	26	26	26	Purchase of motor vehicles	CZYG	53	58	58	57	62
Canteen meals	CZWT	7	7	6	6	5	Maintenance of motor vehicles	CZYH	24	23	23	21	21
Take-aways and snacks	CZWU	17	19	20	21	21	Petrol and oil	CZYL	39	38	43	41	36
							Vehicle tax and insurance	CZYJ	20	20	22	21	22
Alcoholic drink	CZHD	71	69	65	68	68	Fares and other travel costs	CZHM	20	21	21	23	20
Beer "on" sales	CZHW	33	33	30	31	30	Rail fares	CZYK	4	5	5	6	5
Beer "off" sales	CZWX	10	8	8	6	6	Bus and coach fares	CZYL	5	5	5	5	5
Wines & spirits "on" sales	CZWZ	10	11	11	15	19	Other travel costs	CZYM	11	11	11	12	10
Wines & spirits "off" sales	CZXA	18	17	16	16	13							
Tobacco	CZHE	34	31	30	29	31	Leisure goods	CZHN	46	47	46	49	48
Cigarettes	CZXB	32	29	28	27	28	Audio-visual equipment	CZYN	10	10	10	11	12
Other tobacco	CZXC	2	2	2	2	3	CDs and tapes	CZYO	6	6	6	6	7
							Toys, photographic and sports goods	CZYP	11	13	12	13	11
Housing	CZHF	197	193	195	205	199	Books and newspapers	CZYQ	12	12	12	13	12
Rent	CZXD	47	47	46	47	47	Gardening products	CZYR	7	6	6	6	6
Mortgage interest payments	CZXE	45	42	40	46	36							
Depreciation ¹	DOGX	32	30	36	40	40	Leisure services	CZHO	61	61	66	64	69
Council tax and rates	CZXF	30	33	33	34	34	Television licences and rentals	CZYS	10	10	10	10	13
Water and other charges	CZYG	12	12	12	10	11	Entertainment and other recreation	CZYT	18	18	20	18	18
Repairs and maintenance charges	CZXH	10	10	10	11	10	Foreign holidays	CBXQ	25	25	30	29	32
Do-it yourself materials	CZXI	14	12	11	11	14	UK holidays ²	DOEE	8	8	6	7	6
Dwelling insurance and ground rent	CZXL	7	7	7	6	7							

1 Depreciation was introduced into the RPI, within the Housing component, with effect from February 1995. 2 UK holidays were introduced within this component from February 1994.

Source: National Statistics