

CREATION OF OUR CHNS CONSUMER PRICE INDEX FOR EQUATING INCOME IN THE CHNS

There is no published absolute consumer price index for China that provides a way to compare provinces or urban and rural areas. Rather the State Statistical Bureau (SSB) publishes annually a consumer price index ratio that shows for urban and rural areas in each province the shift in the cost of living within that geographic area. Thus, we had to create our own cost of living index. To do this we use a consumer goods basket created by the government and urban price data published to create urban costs of this consumer goods basket. Then CHNS urban and rural price data are used to create a ratio of urban and rural costs for elements of this consumer goods basket, and thus we create our own yuan costs of this consumer basket for each time period for urban and rural areas in each province in the CHNS. We summarize below the steps we go through.

We wish to add that all income measures used in the CHNS come mainly from the previous calendar year. The custom of Chinese is to create and balance their income measures for the previous year. The CHNS income data were collected with this in mind. Hence, income data collected in 1989 reflect calendar year 1988. And therefore our deflator is based on 1988 prices.

The steps:

1. We obtained a consumer basket and used this to create the cost of living for consumers in urban areas in each province in each time period. This is presented in Table 1.

a) From the book: Caifang Ren, Cuifang Liao, Langhui Huang, et al. The income and expense survey in Chinese urban households. Chinese Statistical Press, Beijing, 1989:100-139, we obtained the 1989 consumer basket based on the urban areas in 29 provinces. This is the consumer basket we used to create urban costs of living for all time periods.

b) The basket includes 57 items of goods, from which we calculate the cost of the consumer basket. We do this for each time period with the SSB data on urban prices. These books provide for each province the current costs in yuan for each good in this basket of consumer goods. We use this same basket of consumer goods and the current prices for each year from the urban areas of each province in the CHNS to create the urban consumer costs for 1989, 1991, 1993, 1997. These data on urban prices come from these State Statistical Bureau volumes:

Table 7-18-19, 1991 Statistical Yearbook of China

Table 7-18-19, 1992 Statistical Yearbook of China

Table 7-19-20, 1993 Statistical Yearbook of China

Overall Urban Residents Consumer Price Index by Category (table 8-10-11), 1994 Statistical Yearbook of China, Chinese Statistical Press, Beijing.

Residents Consumer Price Indices and Retail Price Indices of Commodities by Region (table 8-5), 1995 Statistical Yearbook of China, Chinese Statistical Press, Beijing.

Residents Consumer Price Indices and Retail Price Indices of Commodities by Region (table 8-5), 1996 Statistical Yearbook of China, Chinese Statistical Press, Beijing.

Residents Consumer Price Indices and Retail Price Indices of Commodities by Region (table 8-5), 1997 Statistical Yearbook of China, Chinese Statistical Press, Beijing.

Residents Consumer Price Indices and Retail Price Indices of Commodities by Region (table 9-5), 1998 Statistical Yearbook of China, Chinese Statistical Press, Beijing.

2. The next step is to calculate 1991, 1993, 1997 Urban/Rural Ratio respectively. (Because the 1989 CHNS price data was not adequate, we used the 1991 ratio for 1989.)

The CHNS food price survey averages for rural and urban areas were used to create the ratio. We used only those components of our community price survey that fit the consumer basket noted above. The items used for this work are noted in the attached consumer goods table.

3. Using the cost of the consumer basket based on the SSB basket and price data and U/R ratio, we calculated the rural cost for the same consumer basket for each year for each province. In Table 2 we attach the costs of the urban basket and the urban/rural ratios for each year we use for the CHNS.

4. Finally we set China food costs for urban Liaoning province for 1988 equal to 1.00 (100%) and made all other prices relative to this. The index for all urban and rural areas in each province is calculated based on this. Thus, in Table 2 we present for 1988, 1989, 1990, 1991, 1992, 1993, 1996, and 1997 the final calculated consumer price index we use for the income creation for the CHNS. This is published with the urban area of Liaoning 1988 = 1.00 (100%).

TABLE 1 1989 basket of goods (Urban)

Goods	QPY	PLN	PHLJ	PJS	PSD	PHN	PHB	PHUN	PGX	PGZ
*coarse grain kg	10.283	0.37	0.33	1.31	0.73	0.86	1.1	1.06	0.76	0.55
*flour kg	39.81	0.53	0.47	0.39	0.45	0.41	0.43	0.47	0.46	0.45
*rice kg	59.08	0.67	0.83	0.3	0.87	0.81	0.32	0.32	0.39	0.38
*vegetable oil kg	6.16	2.46	2.68	3.49	3	3.38	2.42	3.33	6.16	1.75
*pork kg	17.53	5.53	5.86	6.02	5.6	5.47	5.53	5.67	7.7	5.52
*beef/mutton kg	2.73	6.78	6.02	8.29	6.42	6.27	5.45	6.1	7.17	5.64
*poultry kg	3.65	6.06	6.56	6.86	6.87	6.02	5.9	6.43	8.94	6.03
*fish/shrimp kg	7.61	4.45	4.56	5.21	4.53	4.49	3.99	4.72	5.12	6.88
canned meat kg	0.28	6.57	6.53	7.2	5.99	6.29	6.08	6.7	6.3	6.7
other canned kg	0.68	4.15	4.31	4.74	3.81	3.89	4.16	5.01	3.15	4.32
*vegetable kg	144.56	0.53	0.41	0.61	0.56	0.46	0.58	0.64	0.69	0.63
melon kg	19.14	0.73	0.42	0.42	0.47	0.37	0.38	0.51	0.59	0.69
fruit kg	19.71	1.67	2.16	1.85	1.58	1.6	1.76	1.51	1.52	1.62
dried vegetable kg	3.09	4.24	3.57	2.77	3.12	2.74	2.71	3.18	2.64	3.6
dried fruits kg	2.88	3.26	3	4.29	3.26	2.78	3.05	3.78	3.6	2.2
*milk kg	4.24	1.04	1.05	1.22	1.04	0.96	1.06	0.91	1.6	1.19
*eggs kg	7.05	4.64	4.79	4.96	4.54	4.67	4.74	5.26	5.65	4.82
*sugar kg	2.38	2.64	2.68	2.53	2.73	2.54	2.46	2.33	2.25	2.66
sweets kg	0.77	5.66	5.53	6.41	5.38	5.46	5.92	5.75	5.7	5.51
pastry kg	3.5	3.72	3.48	4.35	3.52	4.05	4.64	4.88	5.53	5.13
*tea kg	0.24	14.85	25.94	24.88	25.04	22.01	18.01	14.31	14.75	11.12
*wine spirits kg	3.01	4.73	3.68	5.02	7.37	7.87	4.19	2.77	3.11	4.52
*beer kg	4.79	1.67	1.52	1.75	2.12	1.76	1.52	2.58	2.37	2.64
other liquors kg	1.2	1.84	4.75	1.97	3.37	2.48	3.51	3.58	4	2.65
*cigarettes (pk)	34.24	1.17	0.99	1.27	0.98	0.94	1.26	1.1	1.1	0.97
tobacco kg	0.065	5.4	4.99	5	4	5.4	5.67	5	12.46	4.29
*cotton cloth m	1.53	2.74	3.08	2.85	2.26	2.37	2.8	2.56	3	2.79
chem fiber cloth m	1.45	8.85	9.13	8.25	8.18	7.83	9.07	7.76	7.53	8.5
silk satin m	0.4	10.27	10.28	12.06	8.9	11.46	11.88	9.15	11.55	12.6
wool fabric m	0.24	34.29	34.1	25.42	20.23	22.75	28.37	25.45	31.73	21.71
knitted clothing (piece)	1.39	5.76	5.32	4.9	6.12	4.68	5.82	5.03	4.85	5.14
bed sheet (set)	0.12	24.69	17.4	22.8	28.46	21.88	22.64	25.33	24.22	24.56
all clothing (set)	0.15	27.59	28.3	23	24.62	22.87	24.28	21.98	17.43	22.7
all shoes (pair)	2.09	14.11	17.14	12.01	12.41	10.79	10.32	10.41	8.65	13.14
laundry soap (piece)	5.06	0.41	0.4	0.39	0.45	0.42	0.41	0.52	0.44	0.48
toilet soap (piece)	1.2	1.24	0.92	0.92	1.01	1	0.88	0.77	0.87	1.02
detergent kg	1	2.4	2.43	3	2.22	2.25	3.27	1.51	3.26	2.19
vacuum flasks (unit)	0.03	9.88	13.4	8.74	6.55	7.88	8.02	9.47	12.5	11.89
pot (unit)	0.03	24.8	28.63	15.97	18.68	21.87	26.11	32.27	34.72	20.68
*coal kg	217.53	0.05	0.04	0.05	0.06	0.04	0.05	0.05	0.05	0.07
*petroleum gas kg	8.26	0.62	0.55	0.57	0.57	0.59	0.66	0.51	1.27	0.83
wardrobe (unit)	0.00123	145	150	215.59	261.6	241.6	146	183.5	233.27	182.86
writing desk	0.00147	110.15	102.5	156.96	215.2	136.4	95.05	171.5	74.4	79.4
bike (unit)	0.03165	234.65	252.1	240.32	298	256.5	221.4	227.1	237.12	219.06
sewing machine	0.00163	238.51	290.2	289.08	262	220.8	226	177	275.88	
mechanical watches	0.0215	75.03	89.24	71.34	86.69	62.09	66.55	66.66	68.97	76.06
quartz watches	0.026	28.73	12.35	22.57	17.75	12.49	13.45	12.65	9.22	8.98
clocks	0.0143	65.96	62.9	50.26	52.37	54.81	60.47	60.48	44.34	31.61
electric fan	0.029	249.07	284.8	98.58	149.5	131.7	115.2	107	85.92	181.09
washing machine	0.00759	519.56	596.6	545.46	632.7	539.1	539.8	515.2	624.75	499.82
refrigerator	0.01617	2265.38	2233	1727	1981	1958	1971	1921	1663.2	1828.7
electric cooker	0.014	98.35	81.24	105.47	129.1	83.07	100.9	88.06	73.62	92.22
radio	0.00483	26.73	34.72	26.41	60.34	30.09	22.58	22.8	26.14	18.06
color TV	0.01415	2818.03	2923	2680.7	2876	2654	2522	2609	3024.9	2574.1
black TV	0.00202	387.24	262.5	673.24	605.2	608.4	553	616.7	525.85	588.43
recorder	0.01136	410.46	475.7	322.84	424.2	359.2	288.6	331.7	272.64	220.9
camera	0.00336	289.56	280.8	198.04	258.7	237.5	210.2	177.2	200.85	204.15

Note:

1. QPY is the consumer quantity per person per year for the country of China. The first row: In the basket for overall China, there is 10.283kg coarse grain. The price of it is 0.37 yuan/kg in Liaoning province and 0.33 yuan/kg in Heilongjiang province.
2. The urban prices for each province in China are indicated by PLN for Liaoning province, PHLJ for Heilongjiang province, etc.
3. The items marked with * are the items in the CHNS community survey that match these items and were used to create the urban-rural ratio.

TABLE 2 **1988-1997 expenditure (Yuan) for the 57 goods (1989 basket of goods)** (1988 Liaoning Urban=100)
 Liaoning Jiangsu Shandong Henan Hubei Hunan Guangxi Guizhou Heilongjiang REFERENCE

1988	Urban	627.63	640.61	646.25	610.88	606.4	611.76	672.51	618.2	644.07	
	R	100.00	102.07	102.97	97.33	96.62	97.47	107.15	98.50	102.62	
	Rural	565.08	561.83	571.71	535.55	518.36	537.47	513.99	490.6		
	R	90.03	89.52	91.09	85.33	82.59	85.63	81.89	78.17		
1989	Index(U)	117.1	115.7	115.2	114.5	113.9	116.2	119.1	116.8	114.2	1
	Index(R)	120	118.2	118.5	122.2	118.1	117.6	122.4	117.1	114.4	1
	Urban	734.95	741.18	744.48	699.46	690.69	710.87	800.96	722.06	735.53	
	Rural	678.1	664.08	677.48	654.44	612.18	632.06	629.12	574.49		
1990	Index(U)	102.1	102.6	101.6	99.8	102.3	99.2	97.4	100.4	104.8	2
	Index(R)	103.3	102	101.6	100.4	103.5	99.4	103.7	102.7	105.7	2
	Urban	750.38	760.45	756.39	698.06	706.58	705.18	780.14	724.95	770.84	
	R	119.56	121.16	120.52	111.22	112.58	112.36	124.30	115.51	122.82	
	Rural	700.48	677.36	688.32	657.06	633.61	628.27	652.40	590.00		
	R	111.61	107.92	109.67	104.69	100.95	100.10	103.95	94.00		
1991	Index(U)	104.6	107.8	106.1	105	105.6	104.4	102.5	103.4	107.5	3
	Index(R)	102.8	101.7	104.1	99.6	103.3	103.7	103	105	104.7	3
	U/R	1.09	1.19	1.12	1.12	1.14	1.13	1.19	1.21		
	Urban	784.9	819.77	802.53	732.96	746.14	736.21	799.64	749.6	828.65	
	Rural	720.09	688.88	716.54	654.43	654.51	651.51	671.97	619.5		
1992	Index(U)	107.5	107.2	108.1	107.5	108.4	111.4	106.2	108.2	108.6	4
	Index(R)	102.3	103.3	103.8	102.2	104.1	107	103.9	106.9	105.3	4
	Urban	843.77	878.79	867.53	787.93	808.82	820.14	849.22	811.07	899.91	
	R	134.44	140.02	138.22	125.54	128.87	130.67	135.31	129.23	143.38	
	Rural	736.65	711.61	743.77	668.83	681.34	697.12	698.18	662.25		
	R	117.37	113.38	118.50	106.56	108.56	111.07	111.24	105.52		
1993	Index(U)	114.4	116.6	112.3	108.5	116.2	115.7	121.9	113.6	113.5	5
	U/R	1.13	1.22	1.32	1.11	1.17	1.19	1.15	1.27		
	Urban	965.27	1024.67	974.24	854.91	939.84	948.9	1035.2	921.37	1021.4	
	Rural	854.22	839.9	738.06	770.19	803.29	797.39	900.17	725.49		
1994	Index(U)	126.1	125.3	125.4	127.4	127	124.8	125.4	122	122	6
1995	Index(U)	116.1	116.2	116.8	116.9	120.1	118.1	118	119.5	115.9	7
1996	Index(U)	108.2	110.8	110.5	109.5	110.2	107.2	105.5	110.6	107.6	8
	Index(R)	106.8	107.1	109	110.9	107.9	108.2	107.4	107.8	105.8	8
	Urban	1529.06	1653.03	1576.77	1394.18	1579.73	1499.27	1616.06	1485.65	1554.00	
	R	243.62	263.38	251.23	222.13	251.70	238.88	257.49	236.71	247.60	
	Rural		1403.16	1393.95	1272.26	1348.70	1298.78	1523.07	1280.74	1409.44	
	R		223.56	222.10	202.71	214.89	206.93	242.67	204.06	224.57	
1997	Index(U)	103.8	101.3	103.2	102.4	102.6	103	100.7	103.4	104.5	9
	Index(R)	102.1	102	102.4	103.9	103.6	102.5	100.8	103.4	103.8	9
	U/R		1.17	1.14	1.08	1.16	1.16	1.06	1.16	1.11	
	Urban		1674.53	1627.23	1427.63	1620.81	1544.25	1627.36	1536.17	1623.93	
	Rural		1431.22	1427.4	1321.88	1397.25	1331.25	1535.25	1324.28	1463	

Note:

1. Urban: The expenditure for the 1989 Basket of Goods (yuan) in urban areas
2. Rural: The expenditure for the 1989 Basket of Goods (yuan) in rural areas
3. R: The relative value if Liaoning 1988 urban expenditure=100
4. Index(U): Urban Consumer Price Indices (just for consumer goods)
5. Index(R): Rural Consumer Price Indices (just for consumer goods)
6. U/R: The ratio of urban and rural expense

Reference:

1. Table 7-18-19, 1990 Statistical Yearbook of China
2. Table 7-18-19, 1991 Statistical Yearbook of China
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4. Table 7-19-20, 1993 Statistical Yearbook of China
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