

An analysis on household income and consumption in rural Hubei

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Abstract:

This paper uses a household survey data collected from 3,300 households in 33 counties in Hubei, China, to analyze structures of household income and consumption in rural Hubei. Firstly, it investigates household income and its sources and household consumption and its structure by geographical locations, respectively; secondly, it analyzes household income and consumption and its structure in terms of household income quintile; thirdly, it explores household income and consumption and its structure in terms of household consumption quintile; fourthly, it looks at household income and its structure in terms of different household types.

The study shows that income and consumption vary greatly from households in mountainous area to households in plain area and hilly area; there are a high share of family-based income and a relatively low share of wage income in high income households; food expenditure decreases as the income increases, while the housing expenditure is on the contrary; looking in terms of income quintiles, consumption of the lowest income group may exceed the current income, and so does the highest consumption group; looking in terms of consumption quintiles, average consumption and income patterns are different from one looking in terms of income quintiles. It is essential to conduct in-depth analysis on the sources of income and its impact in different income groups and on households whose consumption is higher than income.

Keywords: household, income, consumption

This paper aims to investigate difference of household income and its sources, as well as the changes of household consumption and its structure. Data comes from household survey in 2004 of Hubei Statistical Bureau (Hubei Data, hereinafter), it is collected from 33 counties in Hubei, and the samples consists of 3,300 households. Statistical analysis on household income and consumption according to different classification criteria such as geographical location, income level, consumption level and business type are carried out, and changes of household income and its sources, as well as household consumption and its structure are investigated.

1 Household income and consumption by geographical locations

1.1 Household income and its sources by geographical locations

Hubei Data contains variables of geographic locations: plain area, hilly area and mountainous area. Among total 330 sample villages, 124 villages are located in plain area, while 122 are in hilly area, and the rest in mountainous area. There are 1,240 households in plain area (Plain Households, hereinafter); 1,220 households in hilly area (Hilly area Households) and 840 households in mountainous area (Mountainous area Households). Household size in hilly area is the largest, and second is that in mountainous area, while the smallest is in plain area. According to the classification by State Statistical Bureau, the sources of household income include: wage income, family-based business income, transfer income and property income. Table 1 lists household income and its sources in different geographical location.

Table 1 Household income and its sources by geographical locations

	Plain area	Hilly area	Mountainous area	Average
Average household income (Yuan)	12,602	13,075	8,356	11,696
Wage %	21.46	26.68	35.31	26.13
Family-based business%	76.08	70.60	60.53	70.99
Transfer %	0.66	0.44	0.60	0.56
Property %	1.80	2.28	3.56	2.32
Total household number	1,240	1,220	840	3,300
Household size	3.97	4.12	4.05	4.05

Income of Hilly area Households and Plain Households are both higher than the average, what's more, the income of Hilly area Households is 472 Yuan higher than that of Plain Households, but the income of households in mountainous area is obviously low. Among various types of income sources, the proportion of wage income and family-based income vary greatly from one geographical type to another. Household income of all types of geographical location comes mainly from family-based income, and its proportion of both Plain Households and Hilly area Households are strongly higher than of Mountainous area Households. In absolute terms, family-based income of Mountainous area Households equates to only 53% of that from Plain Households. The proportion of wage income of Mountainous area Households is quite higher than that of Plain Households and Hilly area Households.

1.2 Household consumption and its structure by geographical locations

Household consumption is classified into food, clothes, housing, household appliance, health care, transportation and communication, education and entertainment and others. Table 2 lists household consumption and its structure.

Table 2 Household consumption and its structure by geographical locations

	Plain area	Hilly area	Mountainous	Average
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	area			
Average household consumption (Yuan)	8,633	9,256	7,026	8,454
Food %	49.52	51.65	54.92	51.53
Clothes %	4.62	4.73	3.73	4.48
Housing %	14.67	12.55	10.60	12.85
Household appliance %	3.39	3.70	3.78	3.60
Health care %	7.87	8.31	6.64	7.79
Transportation and information %	12.38	11.56	11.01	11.76
Education and entertainment %	5.08	5.60	5.12	5.30
Others %	2.49	1.89	4.19	2.71
Total household number	1,240	1,220	840	3,300

Consumption level of Hilly area Households and Plain area Households are notably higher than that of Mountainous area Households, and Hilly area Households' is slightly above Plain area Households'. Food expenditure occupies most of the total expenditure, and expenditures on improvement of human capital take up low proportion. Housing expenditure holds a quite high proportion. Expenditure on food of Mountainous area Households is higher than that of plain and hilly area, while on the clothes, housing and health care, it is lower. In absolute terms, expenditures in mountainous area are lower.

2 Analysis of household income by income quintiles

2.1 Household income analysis

Household income is grouped by quintiles, in which the first group is with the lowest income and the fifth group with the highest, as can be seen in Table 3.

Table 3 Households income and its structure by quintiles

Income quintile	Lowest group	Second lowest	Average	Second highest	Highest group	Average
Average household income (Yuan)	4,507	7,961	10,645	13,605	21,762	1,1696
Wage %	25.28	25.58	28.64	24.91	26.05	26.13
Family-based business %	70.43	71.45	68.80	72.43	71.11	70.99
Transfer%	0.77	0.42	0.68	0.74	1.01	0.56
Property%	5.32	3.75	3.04	2.93	2.98	2.32
Total number of households	660	660	660	660	660	3,300
Household size	3.72	3.92	4.11	4.20	4.30	4.05

Average household income of the highest quintile is 4.8 times as much as that of the lowest quintile. Overall household income is mainly from family-based business and wage. For the highest and second highest quintiles the proportions of family-based business

exceeded the average. For the average group the proportion of wage is apparently higher than that of other quintiles.

Distribution of households among different quintiles and geographical locations are noteworthy. From low quintiles to high quintiles the number of Plain area Household and Hilly area Household gradually increases while the number of Mountainous area Household gradually declines.

Table 4 Distribution of households by income quintiles and geographical location

Income quintile	Lowest group	Second lowest	Average	Second highest	Highest group	Number of household
Plain	203	222	245	274	296	1,240
Hill	118	214	281	298	309	1,220
Mountain	339	224	134	88	55	840
Number of household	660	660	660	660	660	3,300

2.2 Household consumption analysis

By analyzing household consumption in different income quintile and studying its patterns, one can analyze consumption behavior of households with different income.

Table 5 Household consumption and its structure grouped by income quintile

Income quintile	Lowest group	Second lowest	Average	Second highest	Highest group	Average
Average household income (Yuan)	4,507	7,961	10,645	13,605	21,762	11,696
Average household consumption (Yuan)	5,313	7,134	8,232	9,272	12,320	8,454
Food %	59.30	56.03	53.16	50.70	45.10	51.53
Clothes %	4.26	4.42	4.85	4.56	4.29	4.48
Housing %	8.85	11.48	11.00	13.57	16.99	13.12
Household appliance %	4.03	3.57	3.67	3.30	3.59	3.60
Health care %	6.05	6.36	7.53	8.19	9.23	7.79
Transformation communication %	9.48	10.59	12.46	12.22	12.61	11.76
Education entertainment %	5.66	5.48	4.84	5.16	5.45	5.30
Others %	2.38	2.08	2.49	2.29	2.73	2.43
Number of household	660	660	660	660	660	3,300

There is significant difference in consumption among households in different income quintiles. It is 5,313 Yuan in the first quintile while 12,320 Yuan in the fifth quintile. It is noteworthy that household income in first quintile is lower than its consumption, indicating these households may have employed previous savings or borrowed money. There are certain differences of various expenditures among different quintiles. The higher household income is the more household consumption expenditure is.

3 Analysis of household consumption by consumption quintiles

Households are grouped in terms of consumption quintile, and it is showed in the following table. There is a distinct difference between consumption quintiles and income quintiles. Household in the lowest consumption quintile is with consumption lower than their income. Households in the highest income quintile have an average consumption of 16,548 Yuan, close to their income. The above two consequences are both different from results of income quintiles analysis. Households classified as the lowest income quintile may use savings or borrow to offset income insufficient.

Table 6 Consumption structure by consumption quintiles

Consumption quintiles	Lowest	Second lowest	Average	Second Highest	Highest	Average
Average consumption (Yuan)	3,732	5,551	7,150	9,290	16,547	8,454
Average income (Yuan)	7,180	9,890.38	11,632	12,939	16,840	11,696
Consumption items:						
Food %	70.35	65.71	59.97	53.49	37.76	51.53
Clothes %	4.30	4.68	5.14	5.20	3.75	4.48
Housing %	7.13	7.03	7.71	8.03	21.72	13.12
Household appliance %	3.54	3.61	3.58	3.50	3.66	3.60
Health care %	4.48	5.31	6.76	8.49	9.41	7.79
Transportation communication %	4.75	7.11	9.45	13.69	14.82	11.76
Education entertainment %	3.62	4.50	5.13	5.06	6.15	5.30
Others %	1.82	2.04	2.26	2.53	2.72	2.43
Number of household	660	660	660	660	660	3,300

4 Income and its structure by household types

Households are classified into four categories: fully farm household, farm and partial non-farm household, non-farm and partial farm household and fully non-farm household. Fully non-farm household has the highest income while fully farm household has the lowest. Family-based business is the main source of income for all households, while wage is the second. The higher the proportion of labor force occupied in agricultural activity the higher the proportion of family-based business income, oppositely the lower the proportion of wage income.

Table 7 Income and its structure by household types

Household types	Fully Farm	Farm and partial non-farm	Non-farm and partial farm	Fully Non-farm	Average
Average income (Yuan)	10,714	12,317	12,290	12,670	11,696
Wage %	9.87	28.02	39.05	41.31	26.13
Family-based business %	86.85	69.14	58.50	55.68	70.99
Transfer %	0.72	1.17	0.61	0.78	0.79
Property %	3.06	2.95	3.57	4.63	3.26
Number of household	1,307	708	1,070	215	3,300

5 Conclusions

Household income in rural Hubei differs from mountainous area to plain and hilly areas. Main source of income is family-based income and wage income, with the former proportion of 70%, and the latter of 20%. Further research can investigate impact of various production and business activities on household income. In terms of geographical locations, households with high income mainly located in hilly area and plain area, while the low income households in mountainous area. There are a high share of family-based income and a relatively low share of wage income in high income households. Further research can investigate sources of income and its impact in different income groups.

There are differences in household consumption in terms of geographical locations, among which the most significant one is the lower consumption of Mountainous area Households. Food expenditure is the highest, with a high proportion ranging from 45% to 60%. Proportions of expenditure on housing, education and entertainment will gradually hold a higher proportion as household income increases.

Looking in terms of income quintiles, consumption in the lowest income quintile exceeds its income, and this is a matter deserving to further investigation. Households in low income quintiles may use their previous saving or borrow. Analysis of households in the highest income quintile shows that income and consumption are both obviously higher than other groups.

Looking in terms of consumption quintiles, average consumption and income patterns are different from one looking in terms of income quintiles. Grouped by consumption quintiles households with the lowest income have a lower consumption than income while those with the highest income have a consumption exceeding income. Further investigation of households with consumption exceeding income can explain the reason. Households with the highest consumption have a higher consumption than income, the reason for which may be that those households are able to use previous savings, or they successfully established mechanism in some ways in coping with the current shocks. This may suggest that further investigation in household risk management mechanisms is worthwhile.

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