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Online Appendix: "The Price of Growth: Consumption Insurance in China 1989-2009"

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Contents

A Details on Data Construction

In this Section, we provide step-by-step descriptions about the construction of the household income and consumption variables. There are three sets of surveys that we use in constructing the variables of interest. The first set includes the Household Survey (1989-2009), the Adult Survey (2004-2009) and the Child Survey (2004-2009). These surveys contain most of our income variables and some consumption variables, some at the household level and some at the individual level. From the 1989 wave to the 2000 wave, only the Household Survey was used to elicit information on the household as a whole as well as the members of the household. A single respondent from the household, who may or may not be the head and the identity of whom may change across the waves, answered the questions in the survey. Starting in 2004, the original Household Survey was split into three component surveys, a new Household Survey, an Adult Survey (for adults age 18 and up) and a Child Survey (for children below age 18). The new Household Survey still surveyed one respondent from the household, but the questions about the individual members of the household in the other two surveys were asked directly to each member of the household, except for children under the age of 10, in which case their parents answered the questions on the child's behalf.[1] The second is the Nutrition Survey, which records in detail the daily food consumption. We rely on the Nutrition Survey to obtain the quantities of food consumed during the survey period in the household. Thirdly, we use the local price information in the Community Survey to construct the monetary value of goods consumed or possessed. All Surveys, except the Community Survey, are freely available to the public. The Community Survey can be obtained from the CHNS Data Center upon signing a Data Use Agreement due to some privacy issue and paying a small fee.

In what follows, we strive to clarify the following data issues for each variable that we construct. First and foremost, harmonizing an economic variable across waves. The CHNS questionnaires have undergone numerous changes along the way. Some of the changes reflect the changing economic environment and others reflect a lack of consistent survey design. Either way, we do our best to preserve the consistency of our constructed variables over time. Secondly, standardizing units of measure. We make it explicit our conversion of non-standard measures (such as a cup, a can or a bottle) to standard volume or weight measures. In the case of ambiguous units of measure, we discuss how we infer the units from the data. Thirdly, whenever we can, we check our variables against the comparable ones from other sources. For our income variables, we check them against the imputed income measures supplied by the CHNS.[2] For our measure of food consumption, we compare our derived household expenditure on food with those reported in the China Statistical Yearbooks.

A.1 Household and Individual Characteristics

We first document the construction of the individual characteristics, including the demographic information, the marital, education, occupation and the health status. Next we derive the household characteristics partly from

[1] We expect the precision of the answer to improve since household members are now asked about their own information. However, following this change in survey design, there is a loss of information for the individuals who are listed in the household roster but are not available for interview. For example, the percentage of missing report on individual employment status and labor income rises from less than 1% before 2000 to more than 10% for 2004, 2006 and 2009. This creates potential under reporting of labor income from household members. Note that if the major source of household income is from agricultural production or small business operation, we have complete and consistent information from the Household Survey. This would be a problem for households who rely mainly on labor income and especially if the individual with missing information is the household head or the spouse of household head. As a robustness check, we drop the households whose main income source is from labor market and whose head or spouse of the head have missing employment and wage information from the sample and re-estimate the model. There are a total of 118 such households, 77 rural and 44 urban. The estimation result, which is available upon request, is quite close to what we report in the paper.

[2] The CHNS Data Center supplies not only the raw data and questionnaires, but also some derived variables. In particular, it makes available a set of imputed measures of household income, to which we can directly compare our measures of household income described in Section A.2. We do not perform as much imputation as the CHNS staff does. We discuss the issues associated with the imputed income measures supplied by the CHNS.

the household head's characteristics and partly from some household-level aggregate statistics.

(a) Individual demographic information The individual demographic information includes the date of birth, gender, ethnicity, birth place and old home (i.e. father's birth place). We consider all this information as individual fixed effects that do not vary over time.

The respondents are asked about their date of birth in both western and lunar calendar forms (i.e. the variables *west_dob* and *moon_dob* in *c10mast*). We rely mainly on the reported dates in the western calendar. For the 48 individuals whose dates are only available in lunar calendar form, we manually convert the dates to the corresponding ones under Gregorian calendar. From the date of birth we construct a measure of age, an integer number, by taking the difference between the interview year and the year of birth implied by the date of birth. The *m10educ* file comes with a variable *age* with a precision up to two decimal places for all individuals. We verify that the age derived from the date of birth is consistent with the variable *age*. We rely on the provided *age* for its higher precision and only use our constructed integer age for the individuals whose variable *age* has a missing value.

The individual's gender is contained in the variable *gender* and the ethnicity is contained in the variable *nationality* from the file *c10mast*. We observe an individual's ethnicity as one of the following: Han, Mongolian, Hui, Tibetan, Vaguer, Miao, Yi, Zhuang, Buyi, Korean, Man, Dong, Yao, Bai, Tujia, Hani, Hasake, Dai, Li and Other. We also construct a variable, *minority*, which is 0 if an individual is Han and 1 otherwise.

The individual's birthplace (*a20*) and "old home" (*a21*) are available from the data file *m10rst*.

(b) Individual education, work, marital and health status We construct the individual's educational attainment, *educ*, from the variable *a11* (the number of years of education completed) in the data file *m10educ*. Our *educ* takes three values: 0 - zero education, 1 - completed the 9th grade and 2 - beyond the 9th grade. The data file comes with a variable *a12* (the highest level of education attained). However when comparing a12 to a11, we find that there is a general misconception about educational attainment among the respondents (or interviewers). For example, a respondent who reports to have completed 2 years in a primary school also claims to have an education attainment of primary school degree. Hence we rely on *a11* to construct the educational attainment.

In the data, about 3% of urban and 4% of rural individuals' education attainment is not consistent over time in the sense that the educational attainment is not weakly increasing over the life-cycle. This could happen if the respondent of the household is not familiar with the individual under question or the respondent himself has low educational attainment. We replace the problematic individual's educational attainment by the mode of the reports for that individual where we can and replace it with missing otherwise. Since we focus on individuals over age 25 in this paper, we suppose one's education attainment is fixed after age 25 and impute the missing value accordingly. This is innocuous considering the low bar we set for the highest category of *educ*, i.e. middle school graduates.[3]

The individual's occupation related information is available from *m10jobs*. We construct an employment status variable, *work_now*, from the variable *b2*, which takes a value of 1 if currently employed and 0 otherwise. In the 1989 wave, a student or a home-maker (for example a house-wife) is surveyed as an occupation, while in later waves, these are reasons of unemployment. We treat student or home-maker as unemployed and correct the 1989 entries of *work_now* accordingly. Each individual is asked both the primary and the secondary occupation. We focus on the primary occupation. We collect three pieces of information, the primary occupation *pri_occu* (from *b4*), the employment position in the primary occupation *pri_posi* (from *b5*) and the type of work unit in

[3]The current education system in China consists of nine years of mandatory education (which covers the primary and middle school education), vocational education, three years of high school education, four years of college and beyond. At the end of the nine years of mandatory education, students face the options of pursuing a vocational education or continuing their study in a high school. The former leads to a professional degree, while the latter to the college and beyond. For most of our household heads, however, they were born before the implementation of the nine-year mandatory education and therefore their educational attainment in general is low.

the primary occupation *pri_type* (*b6*). The coding of none of the three variables is consistent over time. We consolidate the codings in different waves to maximize the information retainment subject to consistency.[4]

The individual's marital status is available from *a8* in *m10rst*: never married, married, divorced, widowed or separated. In addition, whenever *a8* is missing, if that individual also reports to have a spouse in *a8a* or provides a line number of the spouse in *a8b*, we replace the missing marital status with "married". If an individual's relation to the head is "spouse", we regard that person "married". In addition, in 1989 alone, individuals are asked the age at the first marriage. We replace the marital status of the 4 observations, who indicates a positive age at the first marriage but a "never married" status in 1989, to missing. In view of the legal minimum marriage age, we replace the marital status of all males below 22 to never married and that of all females below 20 to never married.[5] If an individual's marital status is missing from one wave but non-missing from the previous wave, we impute his marital status from the previous wave. This is to assume the marital status of an individual does not change unless explicitly reported. Finally, there are 1.05% of the observations, whose marriage history is inconsistent in the sense that they report "never married" after having reported any other marital status. We flag these observations.

To measure the degree of health risk for an individual, we use information in his or her medical history recorded in *m10pexam*. In particular, the respondent is asked whether or not he or she has the following: high blood pressure (*U22*), diabetes (*U24A*), myocardial infarction (*U24J*) and apoplexy (*U24L*). These questions are asked in all waves.

We attribute to the household the household head's demographic characteristics and education, work, marital and health status. The identification of the household head is however non-trivial, which we turn to next.

(c) Household head The household head is defined to be "the person recognized by all household members who plays a decisive role in household affairs, and under most circumstances, is the chief economic provider for the household".[6] However, in practice, two types of problems exist. One, there are cases where two generations live in the same household and the self identification of the head looks somewhat arbitrary. For example, at times an elderly parent and a middle-aged son are both reported as heads in a given wave, and at other times the head of a household, whose structure does not change over time, swings between the father and the son several times. Second, we also observe households identify both husband and wife as heads. We follow the rules below to establish the head of a household.

The identification of the head relies on the variable *a5*, the relation to the head. The coding of the variable *a5* from the data file *m10rst* is already consolidated based on the coding in the Household Surveys after 1993. We correct a dozen of obvious data entry errors manually. For example, the structure of the household with id 211208020 remains constant throughout the 2000 to 2009 period – a couple (line numbers 1 and 2) lives with their son (line number 3), daughter-in-law (line number 4) and grandson (line number 5), except that in 2000 the relation to head of the grandson appears as "spouse". All these data entry errors are spotted for households with a relatively constant household structure.

[4] The coding of occupation is based on the 1993 coding: 1 - senior professional or technical personnel, 2 - junior professional or technical personnel, 3 - administrator or executive or manager, 4 - office staff, 5 - farmer, fisherman, hunter, 6 - skilled worker, 7 - non-skilled worker, 8 - army officer, police officer, 9 - ordinary soldier, policemen, 10 - driver, 11 - service worker, 12 - athlete, actor, musician and 13 - other. The coding of the employment position is based on the 1997 coding: 1 - self-employed with employees, 2 - self-employed with no employees (including farmer), 3 - permanent employee, 4 - contractor, 5 - temporary worker, 6 - paid family worker, 7 - unpaid family worker and 8 - other. The coding of the type of work unit is based on 1993 coding: 1 - state, 2 - small collective enterprise, 3 - large collective enterprise, 4 - family contract farming, 5 - private or individual enterprise, 6 - foreign invested enterprise or joint venture and 7 - other.

[5] This should have no effect on the empirical part of this paper, since we focus on household heads who is above 25 year old.

[6] See the Interviewer Manual supplied together with the 1993 questionnaire. It also says "if it is difficult to decide on the household head, then go by the family register". The same principle applies to the household surveys administrated by the National Statistical Bureau.

Next, we manually assign the household head for 46 households who report two heads in a given wave with age more than 16 years apart. The priority for cleaning these households is due to the fact that the ambiguity of the head messes up the relation to head for all other household members. This is more problematic than a household who designate a married couple as heads. We verify that these 44 households assign in some wave heads to a parent-child combination. The general rule we follow is that we assign the head to a self-identified head who is present in most waves of the survey. In the case where the older self-identified head is above age 65, which means this household will be dropped out of our sample, we assign the head to the younger self-identified head. We modify the relation to head for all other members according to the new head we establish. There is one household (hhid 322104016) that report two brothers to be the heads in 1997. We attribute the head to the older brother who is the single head in all other waves.

In the next step, we find households whose head(s) is above 65 year old and who have either son(s) or daughter(s) present in the household for at least two waves[7]. We choose from the son(s) and daughter(s) the head based on the following criteria (in descending order of importance): (1) surveyed in the sample most frequently; (2) a male and (3) the oldest. For those households whose head we change, we create a new household id for them, which prefixes a 9 to the old hhid. In our estimation, we treat a household which is headed by the old generation in earlier waves and by the young generation in later waves as two different households with different household (or head) characteristics.

In the final step, for all the households that report both husband and wife as heads, we follow a similar set of criteria in selecting the head: (1) surveyed most frequently; (2) a male. This is to maximize the sample size for our estimation.

(d) Household structure and characteristics. We compute from the individual demographic information two household-level statistics about the household structure: the household size and the dependency ratios. The size of a household in a given wave is the number of individuals present (with a line number) in that household in that wave. Given the sex and age information of all household members, we can compute four dependency ratios: the weak dependency ratio, the strong dependency ratio, the children dependency ratio and the old adults dependency ratio.[8]

We use the variable *urban* supplied with the imputed income measures in *c10hhinc* by the CHNS as the indicator of whether a household has rural or urban status. This is a more accurate measure than the urban or rural status of the observation site, which covers a much broader geographical area. The Surveys do ask about the *Hukou* registration status of the individuals, but only after 1993. For this reason, we do not use the *hukou* variable (*a8b1* in *m10rst*).

Another household level characteristics that we use is whether the household has a member with a cadre status (i.e. *a14* and *a15* in the file *m10rst*)[9]. This question is asked from 1989 to 2000. We construct a dummy variable that is 1 if the household has at least one member reported to have the cadre status.

A.2 Household Income

The household annual income includes labor market income, wh, agricultural income, ai, business income, bi, and capital income, ci. That is, for each household z income at period t is,

$$y_{z,t} = wh_{z,t} + ai_{z,t} + bi_{z,t} + ci_{z,t}. \tag{1}$$

[7] We need two waves to compute the growth rates of income and consumption for a household.

[8] The weak dependency ratio is defined to the number of children (below age 15) over all adults (above age 15) in the household. The strong dependency ratio is the number of children (below age 15) and old adults (above age 60) over all working adults (age between 15 and 60). The children dependency ratio is the number of children over working adults. The old adults dependency ratio is the number of old adults over working adults.

[9] The cadre status refers to some one who is employed in a government or state agency and has an administrative rank within the political nomenclature system.

All variables are annualized. All monetary values are deflated to 2009 Liaoning urban yuan using the deflator supplied by the CHNS. This deflator incorporates adjustments specific do province and residency (urban vs rural). We next describe each of these income sources in detail.

A.2.1 Labor market income.

Detailed wage data is available in the file *m10wages* for all working individuals with regular wages in all waves. We define the wage/salaries (*c8*) and cash bonuses (*i19*) from the employment as the components of labor market income. Each member in a surveyed household reports wage/salaries and cash bonuses for a primary occupation and a secondary occupation (if any). Household labor market income is the sum of labor income reported individually by all household members. A major change in the survey design occurred in 1991. In 1989, an individual was asked whether he was paid by time or by piece for a given job (*c4_89*). If he was paid by time, then the wage for a usual day's work (*c5_89*) was asked. If he was paid by piece, then the wage per piece (*c6_89*) and the number of pieces completed per week (*c7_89*) were asked. An imputed monthly wage (*c8*) in 1989 is provided in the *m10wages* file. Some tabulations suggest that the monthly wage (*c8*) in 1989 is roughly 26 times daily wage if the respondent is paid by time or is roughly 4.25 times weekly wage if the respondent is paid by piece. It is fairly consistent with the 6 working days per week schedule in 1989.[10] Hence, we use the variable *c8* instead of the *c*_89*'s to compute the annual labor income in 1989. Since the respondents were not asked the number of months worked in 1989, we assume all worked 12 months in 1989. Tabulating the months worked (*c3*) for later waves shows that the average number of months worked has fallen from 11.12 in 1991 to 9.07 in 2009. We feel it relatively safe to assume 12 working months in 1989. From 1991 on, the monthly wage (*c8*) was asked directly in the survey, together with the number of months worked (*c3*). It is straightforward to compute the annual labor income.

In 2006 and 2009, all individuals were asked to report "other income" (*i101* and *i103*) than income from the agricultural business, the primary and secondary occupation and the small business in the Adult Survey. Though these variables are included in the *m10wages* file, it is not clear whether this unclassified income is the compensation for irregular (or part-time) employed work or simply a kind of transfer or subsidy. We set this unclassified income separately in the "Other Income" category of the household income.[11]

A.2.2 Agricultural Income

The household agricultural activities are reported separately for farming (in files *m10cropt*, *m10farmh* and *m10farmg*), gardening (in *m10gardh*), livestock/poultry raising (in *m10livet* and *m10livei*) and fishing (in *m10fishh* and *m10fishi*). The agricultural income is defined to be the total agricultural net production from farming, gardening, livestock/poultry raising and fishing. For each agricultural activity, the net agricultural production is the difference between the total income from that activity and the cost of production. For farming, livestock/poultry raising and fishing, the income side includes output from household production and income from working for the collective. The income side of gardening consists solely of output from own garden or orchard production.

Farming. The farming output and cost on contracted land are reported in *m10cropt* for years 1989 to 1997 and in *m10farmh* for years 2000 to 2009. The individual income from collective farming is reported in *m10farmg*. The file *m10cropt* is organized by types of crop, households and waves, the file *m10farmh* is organized by households

[10] The five working days per week schedule was not enacted in China until 1995.

[11] The imputed market labor income measure supplied by the CHNS, or the non-retirement wage, includes the variables *i101* and *i103*. This means the definition of our labor market income is the same as that of the non-retirement wage from 1989 to 2004 and differ from the latter in 2006 and 2009 only by excluding the two kinds of "other income". As is clear from Figure A-1, it is in 2006 and 2009 that the two measures have a major discrepancy. Including the two kinds of "other income" lowers substantially the mean of the non-retirement wage and increases its variance. This suggests that a number of observations that do not have regular wage income report positive "other income" that is smaller than typical wage income. Including these observations lowers the mean and increases the variance of the non-retirement wage.

and waves and the file *m10farmg* is organized by individuals and waves.

The structure of the survey on the farming output from the contracted land has undergone two changes: from 1989 to 1991 and from 1997 to 2000. In 1989, a household was asked the value of the output sold (*e15b*), the value of the output kept for own consumption or animal feed (*e17b*) and the value of the output given away (*e19b*) for up to four crops (*e11*) that generated the greatest income for the household in the last 12 months. The total value of farming output from the contracted land is then the sum of the output sold, kept and given way, aggregating over all reported crops. For the years 1991 to 1997, a household was asked, for up to four most profitable crops (*e11*), the quantity of each crop produced in kg (*e13*), the quantity (in kg) sold to the government (*e14*) and the government purchase price (*e15*), the quantity (in kg) sold in the market (*e16*) and the market price (*e17*) in the last year. We infer the amount of each crop kept as the difference between the total output of that crop and the sum of quantity sold to the government and in the market. The value of a crop kept is the quantity kept times the average of the government purchase price and the market price of that crop. Hence, the total value of output is the sum of the sales revenue of a crop sold to the government, the sales revenue of the crop sold in the market and the value of the crop kept, aggregating over all types of crops. The derived variable, value of crops kept, is important, since it is a measure of consumption of agricultural good from own production (see A.4). For the years after 2000, a household was asked directly the total income, or the value of output, from crops including grains, tobacco and greenhouse flowers last year (*e14a*) and the value of the consumption from the crops grown last year (*e16a*).

The total cost of production, including the cost of leasing the land, purchasing seedlings, fertilizer, tools, insecticides and hiring labor, is available in all years except 1989 (*e12*). According to the questionnaire, the cost of production was asked in 1989 and should have been stored in the variable *e13*. However *e13* was used for other purposes in later waves and the cost information in 1989 was not integrated to cost variable *e12* used in later waves. We impute the cost of production in 1989 as follows. We first compute the cost to output ratio of the farm production in 1991 for different levels of geographical divisions: community-, village-, observation site- and province-level. Then the cost of production in 1989 of a household that reports positive output is imputed by multiplying the non-missing cost to output ratio in 1991 in the lowest level of division possible where the household reside to the farm output of that household in 1989.[12]

To compute the income from the collective farming, we use the payment from collective farming in cash (*e7*) and in kind (*e9*) last year stored for all members who had participated in collective farming in *m10farmg*. The total household income from collective farming last year is then the sum of the cash and the reported value of in-kind payment from the collective, aggregating across members of the household. This is available in all waves.

Gardening. All relevant information is in *m10gardh*. In each wave, a household respondent was asked to report the sales revenue (*d4*) last year from home vegetable garden or orchard and the estimated value of consumption (*d6*) of the produce from own production. The total output from home gardening is the sum of the sales revenue and the annualized value of consumption from own production. No question has been asked about the income of gardening from collective farms. The net gardening production is the total output net the cost of gardening.

There is some ambiguity with regard to the variable *d6*. In the *m10gard* file, the label of the variable says "avg monthly produce cost if not grown". In the English version of the questionnaires from 1989 to 2000, the question is indeed consistent with the label of *d6*:"on the average, during the past year, how much money would you have to spend per month to buy from the market the vegetables and/or fruits that were grown in this home plot and consumed by your household?" Starting 2004, however the question is changed to "your household would normally consume some of the vegetables/fruits grown in your home plot. If the vegetables/fruits consumed by your household last year had been sold, how much money do you think you would have received?" If we check these questions against the those in the available Chinese versions of the questionnaires (i.e. 2000-2009), we find that monthly estimates are asked from 2000 to 2006 and only in 2009 the annual estimates are elicited. From the data, the mean of *d6* increases from 55.3 in 1989 to 164.2 in 2006 in a reasonable way and suddenly jumps to 731.7 in 2009. We follow the label, treating *d6* as a monthly estimate for all waves, which is what the CHNS

[12]The CHNS imputed measure of agriculture income from farming uses the same idea to impute the cost of farming in 1989.

did to construct the imputed income measures.

The cost of production in gardening (*d7*) for the past year was asked in all years except 1989. The cost includes expenditures on seedlings, fertilizer, tools, insecticides and hired labor, but excludes farming tax and big machinery valued at more than 500 yuan. We impute the cost of gardening in 1989 in the same way we impute the cost of farming in 1989.

Livestock/poultry Raising. The output from raising livestock/poultry includes both the livestock/poultry and the derivative products such as eggs, milk, meat and wool. The output and cost of raising livestock or poultry are from *m10livet* and are organized by types of livestock/poultry, households and waves. The information of individual income from the collectives is from *m10livei*, which is organized by individuals and waves.

In each wave, a household was asked the value of the output sold (*f17*), the value of the output kept for own consumption (*f21*) and the value of the output given away (*f21*) for up to four types of livestocks/poultry (*f11*) whose production has the largest scale in the household. The only exception is 2009, when the respondent was asked about the production activity of the following four categories (*f11_new*): pig and sheep, chicken, duck and goose, ox, horse and dog and others.

The cost of production has two parts: the money spent on purchasing, feeding and caring for the livestock or poultry (*f14*) and the money saved from homemade feed to the livestock or poultry (*f15*). The total cost is the sum of the two. It is available for all waves.

Like in farming, the total household income from collective farming last year is the sum of the cash (*f7*) and the reported value of in-kind payment (*f9*) from the collective, aggregating over members of the household.

Fishing. The output and cost information is from *m10fishh* and the individual income from the collective is from *m10fishi*. The structure of the data is the same as the data on livestock/poultry. The total value of output has three components: the value of the output sold (*g11*), the value of output kept for own consumption (*g13*) and the value of output given away (*g15*). The total operating expenses of fishing (*g16*), which includes gasoline, nets, lines, food, fry, drugs, insurance etc, are available in all waves. The total income from collective farming last year is the sum of the cash (*g7*) and the reported value of in-kind payment (*g9*) from the collective, also available in all waves.

A.2.3 Business Income

A household reports business income if it privately operates businesses (potentially more than one) including carpentry, shoe repair, house-keeping/child care service, tailoring, hairdressing, electrical appliances repairing, restaurant, store, family child care center, family hotel, family clinic etc.. The file *m10busn* contains the income information by wave, household and business number.

Each household was asked to list up to three small businesses that it currently operated in all waves. Monthly revenue (*h3*) and monthly expenditure (*h4*) were asked about each of the listed businesses. We multiply the monthly revenue and expenses by 12 to obtain the annual figures. The difference is the annual income from each of the small business(es) of that household. Aggregating over the businesses, we get the annual business income.

A.2.4 Capital Income

The household capital income includes income from land lease (*j2*), asset rentals (*j3*) and income from boarders (*j4*), recorded in the file *m10oinc*. The rent from leased land is only available for 1989. The rental income from assets include houses, farm vehicles and equipment. Both rental income from assets and income from lodgers or boarders are available for all waves.

A.2.5 Other Income

As we have mentioned in the labor market income Section, in 2006 and 2009 all adults were asked whether they had received income from other sources than agricultural business, wage/salary employment and small business. There are two components of this income measure, other cash income (*i101*) and other non-cash income (*i103*), stored in *m10wages*. The other income of an individual in a household hold is then the sum of the two components. We then aggregate other income across members of a household to get the household-level other income.

A.3 Household Transfers

The transfer system governing Chinese households mostly consists of the following five transfer types which CHNS captures: rationed food coupons, $fcoupon$, subsidies from the work unit, sub^{wu}, subsidies from the government, sub^{gov}, pension, pi, and private transfers received, $transf^{pri}$. The set of public transfers potentially received by each household is formed by $fcoupon$, sub^{wu}, sub^{wu} and pi. Household z transfers in period t are computed as:

$$transf_{z,t} = fcoupon_{z,t} + sub^{wu}_{z,t} + sub^{gov}_{z,t} + pi_{z,t} + transf^{priv}_{z,t} \tag{2}$$

The rationed coupons were distributed to the households in the 1989, 1991 and 1993 waves. Valuing these coupons is a delicate issue and the CHNS does not supply a measure of value of these coupons in the imputed income measures. We discuss the construction of the value of food coupons next.

A.3.1 Food Coupons

Food coupons were a transitory phenomenon, extant from 1955 to 1993, under the planned and rationed economy. The bearer of a food coupon with a specific denomination in *jin* was allowed to purchase the said amount of that food at a below-market fixed price in a state store. Under the Dual Track Price System, there were generally two prices for the same commodity even in the same state store, one the fixed price for the coupon bearers and the other the market price which was determined by supply and demand forces. Conceptually, in a perfectly competitive market, the value of a 1-*jin* rice coupon, for example, should be the difference between the market price and the government fixed price of 1 *jin* of rice. However, in the last few years of its circulation, the coupons were in general in excess due to the change in diet, and therefore the resale value of coupons was generally lower than this price difference. Based on the data availability, we construct two measures of the value of food coupons: one based on the resale value and the other based on the government-market price wedge. The former measure uses entirely public data from the CHNS Household Surveys and the Chinese Statistical Yearbooks, while the latter measure uses the Community Survey from the CHNS with restricted access.[13]

Resale-value-based Measure The coupon-related information from the Household Surveys is stored in *m10subf*. In each of the 1989, 1991 and 1993 waves, households were asked the quantity of coupons in *jin* they obtained in a month in the past year for a variety of food items (*i2*): rice, wheat flour, other cereal grains, cooking oil, eggs, pork, chicken, sugar and others. However the exact wording of the question differs across waves. In 1991, both the amount of coupons received in a month and the number of months in which the households received coupons were asked. In 1993, the monthly average of the amount of coupons received was asked. In fact, an instruction to the interviewer on how to derive the monthly average of coupon amount from the total annual coupon amount and the number of months received is included on the 1993 questionnaire. Annualization in this case is simple. The question is however ambiguous in the 1989 wave. We annualize the coupon quantity by simply multiplying the monthly quantity by 12. This tends to overstate the income from coupon in 1989. To the extent that the food coupons did not start phasing out in the early 1990s, we feel this upward bias in 1989 less problematic.

[13]The Community Survey data is available at a small fee upon signing a Data Use Agreement with the CHNS. We will rely mainly on the first measure in this paper for reasons we will explain in the paper. The second measure serves as an independent check on the value of unit coupon we constructed from the Household Survey and the price data from Statistical Yearbooks.

In addition to the quantity of food coupons received, in 1991 the households were also asked what the value of one unit of the coupon they received were if sold to others. We construct the resale value of 1-*jin* of coupon in 1991 by type of food, province and area of residence in the following way. We first compute the reported value of a coupon for 1 *jin* of food in 1991 by dividing the value of coupons received (*i5*)[14] by the units of 1-*jin* coupons received (*i4*). We trim the top and bottom 1% of these 1-*jin* coupon values and take the average by type of food, province and area of residence. This is the value of 1-*jin* coupons in 1991. Apart from the concern about measurement errors, we need trimming also because there is some unobservable quality of coupon that affects its intrinsic value. For example, a coupon issued by the Ministry of food (usable in the entire country) will generally be more valuable than coupons issued by the provincial government.[15]

Our strategy is to construct a food coupon value index to be applied to the resale value of 1-*jin* of food coupons in 1991 to derive the value of food coupons in 1989 and 1993. We construct such a coupon value index from the price information published in the provincial statistical yearbooks (SYBs) from 1989 to 1993.

There are in general three kinds of price indices reported in the provincial SYBs, even though the availability of the three indices varies slightly by province and by year:

- The dual price ratio: market price δ_{it} (the same-year fixed price = 100);
- The market price index: market price π_{it} (the previous year market price =100);
- The fixed price index: fixed price ϕ_{it} (the previous year fixed price = 100);

where i indicates the type of food and t indicates year.

With δ_{it} and π_{it}, we can derive the coupon value index, κ_{it}, as follows. Normalize the value of a coupon per *jin* of the food i in 1991 to 100, i.e. $\kappa_{i,91} = 100$. Let the market price (or fixed price) in terms of coupon value be denoted p_{it} (q_{it}) with coupon value in 1991 being 100. Since the value of the coupon is $(\delta_{i,91} - 100)$ with the fixed price in 1991 being 100, then the market price in 1991 is $p_{i,91} = \frac{\delta_{i,91}}{\delta_{i,91}-100} \times 100$ with the coupon value in 1991 being 100. By the same token, the fixed price in 1991 is $q_{i,91} = \frac{100}{\delta_{i,91}-100} \times 100$ with the coupon value in 1991 being 100. Next, with the market price index, we can express the market price in 1990 as $p_{i,90} = \frac{p_{i,91}}{\pi_{i,91}} \times 100$. Since the dual price ratio is also available, the fixed price in 1990 is $q_{i,90} = \frac{p_{i,90}}{\delta_{i,90}} \times 100$. Therefore the coupon value in 1990 is $\kappa_{i,90} = p_{i,90} - q_{i,90}$. To calculate $\kappa_{i,88}$ and $\kappa_{i,92}$ by province and area of residence, we need $\{\delta_{it}\}_{t=88}^{92}$ and $\{\pi_{it}\}_{t=89}^{92}$ by province and area of residence. We do this for four types of goods, grains, cooling oil, meat, poultry and eggs and the consumption goods.[16] This procedure is applied to Jiangsu, Shandong, Henan, Hunan and Guizhou, for which we have the necessary price indices.

[14] In the questionnaire, the question 156 corresponding to *i5* asks after , by food item, "if you sold these coupons at the free market, or exchanged them for other goods, what would their monetary value be?" In the dataset, the label of *i5* says "value of one-unit ration coupon", which is different from the question. Judging from the values of the *i5*, we think it makes more sense to interpret it as the total value of a number of coupons indicated by *i4*. This way the ratio of *i5* and *i4* is the value per unit of coupon of a given type of food. For example, the average value per 1-*jin* rice coupon in urban Liaoning is 0.46 in 1991. This is consistent with the anecdotal evidence that in early 90s, three *jin*-denominated rice coupon issued by the Ministry of Food can buy 1 *jin* of eggs in the free market. Given the market price of 1 *jin* of eggs of roughly 2 yuan in 1991, the value of the national 1-*jin* rice coupon would be 0.7 yuan. The more common provincial coupons then have somewhat lower value than that.

[15] Whether someone gets a national coupon of a provincial coupon largely depends on his occupation. For example, a state employee who is often on cross province business trip is allocated more national coupons.

[16] The categorization of goods in provincial SYBs is not uniform across provinces and is certainly different from that in the CHNS surveys. We try our best to match the two categorizations. In particular, we apply the coupon value index of grains to coupons for rice, wheat flour and other cereal grains; we apply the coupon value index of cooking oil to coupons of cooking oil; we apply the coupon value index of meat, poultry and eggs to coupons of eggs or pork or chicken; and we apply the coupon value index of the consumption goods to coupons of sugar and others. The only exception is Henan. Henan SYB published price indices for eggs as a separate category, so we use the coupon value index of eggs to impute the value of coupon for eggs in Henan.

There are some special issues of data availability for Hubei, Guangxi and Liaoning and we handle each of the three provinces somewhat differently than the what the above general procedure describes. Hubei does not have the dual price ratio in 1988. We use instead $\{\delta_{it}\}_{t=89}^{92}$, $\{\pi_{it}\}_{t=89}^{92}$ and $\phi_{i,89}$. Note that we can calculate $\{\kappa_{it}, p_{it}, q_{it}\}_{t=89}^{92}$ as before. Then the market price $p_{i,88} = \frac{p_{i,89}}{\pi_{i,89}} \times 100$ and the fixed price is $q_{i,88} = \frac{q_{i,89}}{\phi_{i,89}} \times 100$. The coupon value index in 1988 is then $\kappa_{i,88} = p_{i,88} - q_{i,88}$.

Guangxi publishes the market price index series only, but not the dual price ratio series. For lack of a better alternative, we use the nation-level data to compute the coupon value index as described in the general procedure.

Liaoning's price indices data is also incomplete, but we do our best to piece together information for imputation. We have Liaoning's $\{\pi_{i,t}\}_{t=89}^{92}$, $\delta_{i,92}$ by types of food and area of residence. Keep the normalization of the fixed price in 1992 at 100, we can start from $\delta_{i,92}$ and apply the market price index backward to express the market price in each year relative to the fixed price in 1992. As is the case of other provinces, we do this by four types of food and by area of residence. In addition, from the 1993 provincial SYB, we have the fixed price for staple food and non-staple food in 1992 with 1990=100 and 1991=100, from which we can compute the fixed price in 1991 and 1990 relative to the fixed price in 1992. From the 1991 provincial SYB, we have the fixed price for staple food and non-staple food in 1990 with 1989=100 and 1988=100, from which we can compute the fixed price in 1989 and 1988 relative to the fixed price in 1990 and by the previous series normalize them to the fixed price in 1992. Unfortunately, these particular fixed price series do not distinguish urban prices from rural prices, so we apply them to both areas of residence. Now that we have the market prices and the fixed prices expressed in terms of the fixed price in 1992, we can take the difference of the two kinds of prices in each year and we obtain a series of coupon values. Due to the different categorization, we match the market prices of cooking oil, meat, poultry and eggs and consumption goods all to the fixed prices of non-staple food. Finally with the series of the coupon values, we re-normalize the value of coupon in 1991 to 100 and we obtain the coupon value index. [17]

We apply the coupon value index to the monetary value of 1-*jin* coupon in 1991 derived before to obtain the monetary value of 1-*jin* coupon by type of food, province and area of residence for other two waves (Table A-1). The value of the coupon has diminished considerably by 1992. In fact in the data, urban Liaoning, rural Hubei and rural Hunan did not report any receipt of coupon of any kind in the 1993 wave. The abolishment of the coupon system is done in stages with different speed in different provinces. Coupons for daily supplies, milk, sugar and meat were abolished earlier and those for cooking oil and staple food were abolished later.[18]

Price-wedge-based Measure The CHNS Community Survey has a section on the local prices collected at the neighborhood (for urban sites) and village/town (for rural sites) level from 1989 to 2009. Three kinds of prices were collected locally either by reading the price label (e.g. in a state or large store) or by asking the seller (e.g. in a market): the reduced price (i.e. the government fixed price one could get upon presenting the rationed food coupon at a state store), the state store market price and the free market price (referring to the street food market or village fair). The reduced price is collected in 1989, 1991 and 1993, while the other two prices are collected in all waves.

Due to the restricted access of the Community Survey datasets, we refrain from discussing the details of these price data here.[19] Out of the three price series, we use the price wedge between the reduced price series and the state store market price as the measure of food coupons for a variety of foods from 1989 to 1993. More specifically, the value of 1-*jin* denominated coupon for a food in the urban area of a certain province is the mean of the price wedge of this food in all urban communities surveyed in that province for that food. In the case where

[17] It can happen that in some years certain food item has a higher government fixed price than the market price. In those relatively few cases, we replace the value of the coupon by zero.

[18] Take Beijing as an example. Coupons for milk were abolished in 1984, overseas remittance coupons in 1987, sugar coupons in 1991, meat, eggs, soap coupons in 1992 and the rice and cooking oil coupons in 1993. In April 1993, the State Council issued "Memo on Further Deepening the Reform of the State Distribution System of Grains", formally marking the end of the coupon era.

[19] Interested readers can refer to the Community Survey questionnaires freely available online to get an idea of the structure of the data. The cleaning of the price data from the Community Survey is non-trivial. We welcome inquiries about the data specifics from readers who obtain the access from the CHNS.

the reduced price is even higher than the state store market price of a food, the value of the unit coupon of that food in that community is zero.

We present the monetary value of 1-*jin* coupon by type of food, province and area of residence for 1989, 1991 and 1993 in Table A-2. Compare Table A-1 to Table A-2, we have the following findings. The value of 1-*jin* food coupons measured by the resale value in 1990 is more or less comparable to the value measured by the government-market price wedge in 1991. The price wedge has decreased quickly from 1989 to 1993, almost vanishing entirely by the end of 1993. The decline in the coupon value is also observed in the resale-based measure, albeit at a milder rate, which is not surprising given the larger discount people took from the relevant price wedge when considering to resell the coupon in the earlier years. We decide to stick to the resale-value-based measure of the coupon value. First, its computation relies entirely on publicly available price indices. Second, we feel it more accurately describes the income from the coupon in the final years of its circulation, where the price wedge shrank and the reliance on food coupons to obtain food diminished. In fact in the data, urban Liaoning, rural Hubei and rural Hunan did not report any receipt of coupon of any kind in the 1993 wave. The abolishment of the coupon system is done in stages with different speed in different provinces. Coupons for daily supplies, milk, sugar and meat were abolished earlier and those for cooking oil and staple food were abolished later.[20] In the final step, we multiply the annual units of coupons in *jin* with the unit value of the coupons and then aggregate over all types of food to get the value of coupon a household received in the past year.

A.3.2 Subsidies from Work Unit

Questions about the itemized cash subsides from work unit were listed under the section of "Welfare Subsidies and Ration Coupon" of the questionnaire from 1989 to 1997. Starting 2000 until 2006, they were moved to the section of "Income from Wages". The 2009 survey stopped asking these questions. From 1989 to 1997, monthly subsidy for meat or grocery (*i9*), health (*i11*), bath/haircut (*i12*), book/newspaper (*i13*), house (*i13a*) and others (*i14*) were asked. From 2000 to 2006, the sum of these items was asked directly (*i14a* and *i14b*). These variables are at the individual-level and contained in *m10subi*. We sum across members of a household to obtain the household-level itemized cash subsidies from work unit. In addition, the amount of food gifts during festivals from work unit (*i21*) was asked in all waves. This amount is available only at the household level (from *m10subh*). The sum of the household itemized cash subsidies from work unit and the food gifts is defined to be the total subsidy from work unit for a household.

A.3.3 Subsidies from Government

We consider two kinds of subsidies from government. The first kind of subsidies does not discriminate on the basis of household income. It includes the one-child subsidy (*i10a*), the gas and fuel subsidy (*i15a*), the coal subsidy (*i16a*), the electricity subsidy (*i17a*) and the child care subsidy (*k47*). Monthly values of these subsidies are available from 1989 to 1997. Annual values are available from 2000 to 2009. We convert monthly values before 1997 into annual values by multiplying them with 12. These variables are available in *m10subh*. The second kind has a nature of welfare assistance. Fallen into this category are the poverty relief, disability and welfare fund (*j6*). It is available in all waves in *m10oic*.

A.3.4 Pension

From 1989 to 2004, annual retirement salary (or pension, *j5*) was asked in the Household Survey in the *m10oinc*. From 2004 to 2009, monthly retirement salary (or pension, *b2d*) was asked in the Adult Survey in the *m10wages* file. We use the household pension income from 1989 to 2000 and the sum of household members' annual pension income from 2004 to 2009 as the household pension income. When both household level and individual level

[20] Take Beijing as an example. Coupons for milk were abolished in 1984, overseas remittance coupons in 1987, sugar coupons in 1991, meat, eggs, soap coupons in 1992 and the rice and cooking oil coupons in 1993. In April 1993, the State Council issued "Memo on Further Deepening the Reform of the State Distribution System of Grains", formally marking the end of the coupon era.

data are available for 2004, we use the individual level data since we believe the individuals could provide a more accurate response to the question about their pension income.

A.3.5 Private Transfers

The CHNS surveys the transfer received from family and friends, in cash and in kind, in all waves. The relevant variables are in the file *m10oinc*. From 1989 to 1997, the total cash income from family and friends either at home or abroad is available from *j7* and the total value of gifts from family and friends is available from *j10*. From 2000 to 2009, the cash income from children (*j7a*), from parents (*j7b*) and from friends (*j7c*) are available separately and the value of gifts from children (*j9b*), from parents (*j9d*) and from friends (*j9f*) are available separately. In addition, the value of gifts from local enterprises (with no employment relations, *j10b*) is available from 1991 to 2009. These are all household-level data. We sum all sources of cash and gift income to obtain the total private transfer received in a given year.

In addition, the information of cash or gift given to family and friends is available from 1989 to 2006 in *m10asset*. We do not take the private transfers given out into account to get the net private transfer because this information is missing for 2009. We nevertheless construct the measure of private transfers given for completeness. We recognize three forms of cash or gift expenditures: for wedding or dowry, for funeral and other gifts. The expenditure on wedding or dowry of a household member in the previous year (*l148*) was asked from 1989 to 2006. The expenditure on funeral of a household member in the previous year (*l150*) was asked from 1989 to 1997. Apart from these ceremonial expenses, a household was asked the expenses of wedding gifts to non-household members in the previous year (*l146*) from 1989 to 2006, the value of gifts (in cash or in kind) to children (*l152a*) and to parents (*l152b*) who did not live in the household from 2000 to 2006. Lastly in 2006, a household was asked the value of other miscellaneous gifts (*l152h*).

A.4 Household Consumption

We construct from the raw data the household food consumption ($cdiet$, 1989-2009), housing services ($chouse$, 1989-2009), utilities ($cutilities$, 1993-2009), child care ($cchild$, 1989-2006), education ($ceduc$, 2006), health services ($chealth$, 1989-2009), and semidurable supplies that excludes purchases of houses and cars ($csemidurab$, 1989-2009). For our benchmark model, household z total consumption in period t,

$$c_{z,t} = cdiet_{z,t} + cutilities_{z,t} + chealth_{z,t} + csemidurab_{z,t}. \tag{3}$$

In what follows, we describe the construction of household consumption by item in detail. All values are annualized and converted to real values with the CPI supplied by the CHNS (setting the price level in urban Liaoning in 2009 to 100). The information on household expenditure on education and child care will be used to gauge the household's intended investment in children.

A.4.1 Food Consumption: Diet

The food consumption, or the diet, has two components: the main component (i.e. food except alcohol, tobacco, coffee and tea) and the alcohol, tobacco, coffee and tea (ATCT) component. We obtain the main component from the Nutrition Survey and the ATCT component from the section on drinking and smoking behavior in various surveys in CHNS[21]. We explain next (1) how we derive the value of the main component (2) how we derive the value of the ATCT component and (3) how we combine our measures of the value of the diet with our measures of the value of food coupons, the value of home grown food and the value of food gifts to derive the household expenditure on food.

[21]The drinking and smoking behavior is asked in the Physical Examination Survey in 1991, 1993 and 2000, in the Household Survey in 1997 and in the Adult/Child Survey in 2004, 2006 and 2009.

The Main Component. To construct the main component of the diet, we use the information in the Nutrition Survey from 1989 to 2009.[22] The coding of the food items (stored in the variable *foodcode*) deserves some explanations here. To facilitate the computation of the nutrition intakes, the coding of the food items in the Nutrition Survey follows the classification system from the Chinese Food Composition Table (FCT) published by the National Institute of Nutrition and Food Safety, Chinese Center for Disease Control and Prevention. There are three editions of the FCT used in different waves of the survey: FCT 1981 is used in the 1989, 1991 and 1993 waves, FCT 1991 is used in the 1997 and 2000 waves and FCT 2002/2004 in the 2004, 2006 and 2009 waves. This classification of food is much finer than the classification the CHNS adopted for surveying the local food price. Hence, we establish a coding to which we are able to convert the food codes both in the various editions of FCT and in the food price survey from the CHNS Community Survey.[23] To give the reader an idea of our classification, we have eight categories of food: grains, oil, sugar and condiments, vegetables and fruits, meat and poultry, fresh milk, dairy products, fish and tofu and bean products, with a total of 45 subcategories.

The prices are from the CHNS Community Survey, which we introduced in the Section on the price-wedge-based measure of food coupon values. In the case where price information of a particular kind of food is not available in a certain community in a given wave, we impute the price by the average price of that food in all communities in the same county or city in that area in that wave. If the price information is missing for all communities in a county or city, we use the corresponding average from all counties or cities in the rural or urban area in that province. In the case where the price information of a particular kind of food is missing from all communities in a year (but we have the quantity information from the Nutrition Survey) we use a coarser categorization of food and obtain the average price of the food in that coarser category for a given community in a given year to impute the missing price.

Once we harmonize the classification of food items and unify the measurements, we multiply the quantity of a type of food consumed over the three-day survey period with the corresponding price in that community in that year. Then we annualize this measure by multiplying the cost of the main diet by 365/3. We are aware that the food consumption may depend on the time of interview. But the exact date of interview (*t7_nu*) is missing for most of the observations except for those in the 2000 and 2009 waves. For those whose interview date is observed, the interviews were conducted in August through December, with more than 80% done in September and October.The Interviewer's Manual says the interviews should generally be conducted from September to November. It is reassuring that the interviews are not carried out during the Chinese New Year (usually in January or February), when there are usually spikes in the food consumption.

The ATCT Component. Starting 1991, we obtain from the file *m10pexam* the drinking and smoking habit of each individual in the surveyed households. In the the surveys, each individual is asked the frequency of their drinking behavior (i.e. drinking beer, wine, liquor, soft drink, coffee and tea) and their smoking behavior (i.e. cigarette and tobacco) and the usual amount per day or per week. For example, alcohol consumption. The individual is asked first whether he drinks alcohol (*u52*), and if so how often (*u52*). Next, if he drinks, he is asked the detailed drinking behavior for three kinds of alcohol: beer, wine and liquor. More specifically, whether he drinks beer (*u42a*) and how many bottles per week (*u42*); whether he drinks wine (*u43a*) and how many *liang*[24] per week (*u43*); whether he drinks liquor and how many *liang* per week. Similar structures are used to survey soft and sugared drink consumption (*u229* to *u236*) and coffee and tea consumption (*u34* to *u39*). It is worth noting that when asked about "cups" of coffee or tea, we take 1 cup to be 240ml, as is suggested in the questionnaires starting 2004. When asked about the tobacco consumption, the respondent first reports whether he smokes (*u44*), and if yes the number of cigarettes per day (*u45*), whether he smokes a pipe (*u49*) and if yes the liang of tobacco used per month (*u50*). We annualize the quantity consumed for these items by multiplying the per week or per day consumption with the reported frequency.

[22] For a description of the Nutrition Survey, see http://www.cpc.unc.edu/projects/china/about/design/datacoll.

[23] Our own coding of the food categories, the correspondence between our coding and the food codes published in the FCTs and the correspondence between our coding and the coding in the price data are available upon request.

[24] 1 *liang* is equivalent to 50 grams.

We obtain the local prices of beer, liquor, cigarettes and coffee from the Community Survey the same way we obtain the food prices. We assume wine's price is the average price of beer and liquor; tobacco has the same price as cigarette and tea has the same unit price as coffee.[25] In matching the prices with the quantities, we assume each cup (240ml) of coffee or tea is brewed with 5 grams of coffee or tea. Other units are easily harmonized. Since we only have price information for tea in 1993 and 1997, we assume the same real price of tea for later waves.

We compute the value of the ATCT from the quantities and prices that we derive above. The sum of the value of the main component and the value of the ATCT component is our measure of household annual value of diet.

Food Expenditures. We check our measure of food consumption against the household per capita food expenditure reported in the Chinese Statistical Yearbooks. The CSYB definition of food expenditure includes the cash expenditure on food items and the imputed value of the consumption of food from own production in rural areas. We construct our measure of the expenditure on food from the CHNS accordingly. Since we derive the value of diet from applying to the quantities of food consumed the market prices of food, the main deviation of food expenditure from the value of diet is therefore caused by the fact that households may pay below-the-market price for the food they consume. For example, an urban household received food coupons in the early waves as a food price subsidy. A rural agricultural household consumes the food produced by itself. And both urban and rural households can receive food gifts. To the extent that we do not know exactly which price the CSYB uses to impute the value of food consumed from own production, we construct two alternative food expenditure measures from the CHNS. The first one (reported in the paper) is

$$foodexp_{z,t} = cdiet_{z,t} - fcoupon_{z,t} - fgift_{z,t}. \tag{4}$$

And the second, more aggressive one is

$$foodexp_{z,t} = cdiet_{z,t} - fcoupon_{z,t} - fgift_{z,t} - fownpro_{z,t}. \tag{5}$$

We have the information about $fcoupon_{z,t}$ (resale-value-based) as documented in Section A.3.1, about $fgift_{z,t}$ in Section A.3.2 and about $fownpro_{z,t}$ in Section A.2.2. More specifically, in the section of agricultural income, the respondent is asked about the value of agricultural output that is kept for home consumption, $fownpro$. We have explained in detail the derivation of these consumption measures for various agricultural activities in Section A.2.2. Note that the value of crops kept (*e17b* for 1989, *e16a* for 2000 to 2009 and our derived variable for years 1991 to 1997) includes both the crops consumed as food and the crops used as animal feed in raising livestock/poultry. Therefore we subtract from the value of crops kept the savings on feed (*f15*), which is available in the file *m10livet*, and obtain the value of crops actually consumed as food. From there we sum up the value of crops consumed, the value of fruits and vegetables consumed, the value of livestock/poultry product consumed and the value of fish consumed. This gives us the consumption of home-grown food for a household. This measure is available for all waves.

The two resulting measures of food expenditure from the CHNS show very similar trend over time, with the level of the first measure higher than the second and the food expenditure from the CSYBs somewhere in between. We report the evolution of the mean of the first measure in per capita terms from the CHNS together with that from the CSYBs, normalized to 1 in 1989, by province and urban status in Figures A-2 and A-3. The figures show that the measure from the CHNS matches well with the overall trends in food expenditure from the official

[25] There is a wide spectrum of products with varying quality and prices in the market under the category liquor, soft drinks or cigarettes. For alcohol, the Community Survey has price information of local liquor, *Luzhou* Aged Rice Wine and *Maotai*. For soft drinks, we have prices of Coca Cola, *Jian Li Bao* and *Fei Chang Ke Le*. For cigarettes, we have prices of local cigarettes, *Hong Ta Shan*, Marboro and Double-Happiness. Since we do not observe the consumption of each variety and therefore need a composite price of the category of good. We use the average price of the varieties. However when computing the average price of liquor, we exclude *Mao Tai*, because it is much more expensive than the other varieties.

statistics by province, urban status and year. While this is reassuring, it is important to note that our measure of food consumption is likely to be less subject to measurement error than that from the CSYB which requires annual recalls of food expenditures.

A.4.2 Utilities

In the income Section A.3.3, we have the government subsidies on utility bills such as the gas and fuel, the coal and the electricity. These subsidies usually take the form of a reduction from the utility bill, therefore contributes to the total consumption of utility. We sum these items up and include it as the (partial) utility consumption.

A.4.3 Housing Services

We use the annual housing rent reported by a household as its annual consumption of housing service. In *m10asset*, the monthly rent (*l10*) paid for the house or apartment that a household lived in was asked in all waves. We convert that number into an annual amount by multiplying it with 12. Note that for those who reported themselves to be either owner of the house/apartment or staying for free, the consumption of housing service is 0. It does not mean that the utility from consuming the housing is 0, but the expenditure of housing service does not enter into the household's budget constraint. We do not include the monthly mortgage payment (*l203*) nor the down payment (*l204*), which are available in 2009 only. In addition, we construct from the question on housing status (*L9* in 1989 to 2006 and *L200* and *L205* in 2009) an indicator of home ownership. The respondents are asked how they obtained their apartment or house. The home ownership indicator is 1 if the respondent reports to own, fully or partially, the apartment or house he or she resides in. Otherwise, the indicator is 0. Those who do not own his or her housing could be renting in the rental house market or accommodated free of charge by their work unit. The home ownership indicator is a time varying trait of a household. In addition, the respondent is asked the total area (in square meters) of the usable area of the dwelling unit (*L16*) and the estimated value of the dwelling unit (*L18*) in all waves.

A.4.4 Health Services

The consumption of health service consists of the annual premium of medical insurance and the cost of medical service. Note that among the kinds of medical service, the expenditure of the treatment and preventative medical care refers to the expense incurred in the recent visit(s) in the past four weeks, while the cost of immunizations for children under 12 is the total cost in the past year.

Medical Expenditures. Two kinds of medical service, the treatment service and the preventative service, are surveyed. The medical treatment cost incurred in the most recent illness or injury that had occurred in the past four weeks was asked to all the individuals in all waves. We do not annualize this expenditure. The individuals who had been sick or injured within the last four weeks reported how they had dealt with this situation. In the case that they went to the clinic(s) or hospital(s), the treatment cost (*m30*, *m36* and *m38*) and the coverage (in percentage terms) by medical insurance (*m31* and *m37*) were asked. In the case that they didn't see a doctor, the total expenditure on the illness or injury was asked (*m39*). We compute the out-of-pocket expense for medical treatment and aggregate it to the household level. Examples of preventative medical service include health examination, eye examination, blood test, blood pressure screening, tumor screening and immunizations for children under age 12. The cost of preventative medical service received over the past 4 weeks (*m50*) and its insurance coverage (*m51*) are available in all waves, while the out-of-pocket expenditure of immunizations (*m44*) in the past year is available from 1989 to 2006. We add up the out-of-pocket expense from treatment and preventative service at the household level, which is the household expenditure on medical service.

Medical Insurance. From 1989 to 2006, the annual premium for the primary type of the medical insurance (*m4*) of each household member was asked. In 2009, the monthly contribution to the primary type of medical insurance (*m2a*), the monthly contribution to the supplementary medical insurance (*m2c*) bought by the respondent, and the monthly contribution to the supplementary medical insurance (*m2e*) sponsored by the employer, were

asked. All three contributions are out of pocket expenses from the individual's point of view. Therefore we sum the three and annualize the expense to obtain the individual level expenditure on medical insurance in 2009. Then for all waves, we aggregate the expenses across household members to obtain the household level expenditure on medical insurance. In each wave, respondents are asked the type(s) of medical insurance scheme they participate in (*m3a_0*, *m3a_1*,..., *m3a_13*). The codings vary by wave. We harmonize the codings across waves and construct five categories of medical insurance: the commercial medical insurance, the public medical insurance for government/institution employees, the cooperative medical insurance for rural residents, the urban employee insurance and the socially pooled funding for medical insurance for urban non-employed residents.

A.4.5 Childcare Services and Education

The household annual expenditure on education (*l152f*) is only available in 2006 from the file *m10asset*, whereas the household monthly expenditure on childcare (*k43*) is available from 1989 to 2006 from the file *m10careh*.

A.4.6 Semi-durable Supplies

The list of semidurable supplies that CHNS surveys includes living room furniture (sofa, table, chairs etc., *l82*), bedroom furniture (beds, dressers etc., l86), radio or tape recorder (*l93*), VCR (*l98*), black-white TV (*l103*), color TV (*l108*), washing machine (*l113*), refrigerator (*l118*), air conditioner (*l123*), sewing machine (*l128*), electric fan (*l133*), big wall clock (*l135*), camera(*l143*), microwave oven (*l143a*), electric rice cooker (*l143b*), pressure cooker (*l143c*), metal stove (*l143d*), computer (*l143e*), telephone (*l143f*), VCD or DVD (*l143g*), cell phone (*l140h*) and satellite dish (*l140i*). All of these variables are in *m10asset*. The actual list of durable goods surveyed in a particular wave varies slightly. For example, ownership of the big wall clock and metal stove was asked in earlier waves and the ownership of cell phones and satellite dish was asked in later waves. The expenditure on the living room and bedroom furniture in the past year was asked directly in all waves. For each of all the other items, the number of purchase occurred in the past year, the total number owned and the total value of the items owned were asked separately in all waves. We compute the ratio of the number of purchase last year and the total number owned first and multiply that ratio with the total value of the items owned to get the value of purchase last year. Note that we are potentially underestimating the value of purchase in the past year if the depreciation of the old asset is factored in the reported value of total assets. Further, note that our measure of semidurables does not include purchases of houses and cars.

We summarize the availability of the various components of income, transfers and consumption across waves in Table A-3. How important in a consumer's consumption basket are these consumption items for which we have information in CHNS? We show from the household expenditure decomposition from the China Statistical Yearbook that we can capture consistently about 60% of a rural household's consumption basket and 50% of an urban household's consumption basket. The composition of the consumption basket for rural and urban households by year and by province is given in Table A-4.

Table A-1: Value of 1-*jin* Coupon by Type of Goods, Province and Area of Residence in Current RMB: Resale-based-value

	Liaoning		Jiangsu		Shandong		Henan		Hubei		Hunan		Guangxi		Guizhou	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
1988																
Rice	0.55	0.63	0.35	0.57	0.47	1.02	0.41	1.73	0.16	0.60	0.69	0.48	0.45	0.62	0.49	0.48
Wheat flour	0.52	0.64	0.30	0.61	0.27	0.54	0.24	0.23	0.07	0.37	0.45	0.06	0.45	0.52	0.43	0.40
Other cereal grain	0.28	0.25	0.66	0.16	0.18	0.37	0.31	0.23		1.01	0.00		0.16	0.18	0.00	0.32
Cooking oil	0.82	0.78	14.38	0.84	1.55	1.42	1.81	0.83	6.16	2.15	6.99	4.95			2.64	2.09
Egg	0.69		0.32				3.86			0.00		0.00				
Pork	1.97		0.96				4.90	24.53	1.07	0.00	5.67	5.00			6.27	
Sugar	2.76	3.99	0.97			0.37	2.37		0.71	8.39	0.27	4.99		4.33		
1990																
Rice	0.45	0.53	0.27	0.44	0.36	0.80	0.38	1.36	0.55	0.58	0.48	0.33	0.32	0.51	0.27	0.35
Wheat flour	0.42	0.55	0.23	0.48	0.21	0.42	0.22	0.18	0.25	0.36	0.31	0.04	0.33	0.43	0.24	0.29
Other cereal grain	0.23	0.21	0.51	0.13	0.14	0.29	0.28	0.18		0.98	0.00		0.11	0.15	0.00	0.24
Cooking oil	1.71	2.19	1.14	0.92	1.65	1.97	2.09	1.50	2.67	2.01	2.63	2.92			1.42	1.67
Egg	0.35		0.14				1.56			3.00		0.00				
Pork	1.00		0.42				2.79	1.58	1.00	2.44	3.28	3.11			2.15	
Sugar	0.83	2.00	0.58			2.25	1.72		0.50	1.25	0.20	1.17		1.42		
1992																
Rice	0.34	0.39	0.14	0.29	0.14	0.49	0.25	1.10	0.21	0.00	0.43	0.19	0.14	0.16	0.22	0.37
Wheat flour	0.31	0.40	0.12	0.31	0.08	0.26	0.15	0.15	0.09	0.00	0.28	0.02	0.14	0.13	0.19	0.31
Other cereal grain	0.17	0.16	0.26	0.08	0.05	0.18	0.19	0.14		0.00	0.00		0.05	0.05	0.00	0.25
Cooking oil	0.25	0.41	0.00	0.07	0.43	0.55	0.81	0.56	0.45	0.43	0.13	0.99			0.00	1.41
Egg	0.07		0.19				0.83			0.00		0.00				
Pork	0.20		0.57				1.50	17.52	0.61	0.00	2.07	11.91			2.66	
Sugar	0.00	1.15	0.69			0.00	0.00	0.00	0.40	0.00	0.12	0.00		0.00		

Table A-2: Value of 1-*jin* Coupon by Type of Goods, Province and Area of Residence in Current RMB: Price-wedge-value

	Liaoning		Jiangsu		Shandong		Henan		Hubei		Hunan		Guangxi		Guizhou	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
							1989									
Rice	2.90	2.29	2.08	2.13	2.67	2.65	2.66	1.71	1.22	1.44	1.62	1.99	2.35	2.10	2.96	2.77
Wheat flour	2.74	1.83	1.79	1.83	2.14	1.83	1.58	1.56	1.13	1.36	2.13	2.18	1.99	1.93	1.54	1.47
Other cereal grain	1.18	1.09			0.95	1.29	0.16	1.16		0.78	1.48	1.32	1.32	1.40	1.38	1.44
Cooking oil	7.04	4.55	6.60	7.26	9.28	9.18	8.13	8.39	7.11	6.47	7.91	6.84	3.33	4.29	8.32	8.07
Egg	0.00	0.67	0.00	0.40	0.00		0.00	0.00	1.20	4.80	2.75			2.00		
Pork	1.70	0.16	1.64	2.55	0.00	0.00	3.25	3.00	0.00	1.00	0.17		0.00	0.00	0.40	0.80
Sugar	1.24	0.70	2.03	1.82	1.21	1.61	2.65	1.28	2.15	1.84	0.92	1.19	0.87	1.27	0.16	0.27
							1991									
Rice	0.28	0.45	0.78	0.68	0.63	0.29	0.22	0.39	0.37	0.34	0.70	0.24	0.24	0.36	0.31	0.43
Wheat flour	0.28	0.50	0.64	0.51	0.41	0.21	0.39	0.41	0.30	0.31	1.17	0.27	0.16	0.25	0.39	0.49
Other cereal grain	0.58	0.24			0.20	0.23	0.24	0.33							0.00	
Cooking oil	0.06	0.58	0.33	0.38	0.41	0.30	0.31	0.39	0.55	0.69	0.45	0.56	0.99	1.99	0.05	0.07
Egg	0.00	0.30		0.00	0.10	0.04	0.17	0.03	0.00	0.00		0.00			0.00	
Pork	0.20	0.40		0.06	0.10	0.00	1.00		0.00		0.10	0.00			0.13	0.60
Sugar	0.00	0.08	0.22	0.07	0.05	0.13	0.00	0.00	0.10	0.07	0.04	0.09	0.34	0.11	0.00	0.00
							1993									
Rice		0.00	0.00	0.00			0.00		0.01		0.00	0.00	0.00		0.00	0.04
Wheat flour		0.00	0.00	0.00	0.00	0.00	0.00		0.06		0.00	0.00	0.00		0.01	0.03
Other cereal grain		0.00	0.00				0.00								0.00	0.10
Cooking oil		0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00		0.00	0.00
Egg		0.00	0.00			0.00	0.00		0.00		0.00	0.00	0.00		0.00	
Pork		0.00	0.00	3.33		0.00	0.00				0.00	0.00	0.00			
Sugar		0.00	0.00	0.00		0.10	0.00		0.00		0.00	0.00	0.00		0.07	0.10

Table A-3: Data Availability Across Waves

		1989	1991	1993	1997	2000	2004	2006	2009
Income:									
	Labor market	x	x	x	x	x	x	x	x
	Agricultural	x	x	x	x	x	x	x	x
	Business	x	x	x	x	x	x	x	x
	Capital	x	x	x	x	x	x	x	x
	Other	–	–	–	–	–	–	x	x
Transfers:									
	Food coupons	x	x	x	–	–	–	–	–
	From work unit	x	x	x	x	x	x	x	x
	From government	x	x	x	x	x	x	x	x
	Pension	x	x	x	x	x	x	x	x
	Private, received	x	x	x	x	x	x	x	x
	Private, given	x	x	x	x	x	x	x	–
Consumption:									
	Food	x	x	x	x	x	x	x	x
	Utilities	–	–	x	x	x	x	x	x
	Housing services	x	x	x	x	x	x	x	x
	Health	x	x	x	x	x	x	x	x
	Child care	x	x	x	x	x	x	x	–
	Education	–	–	–	–	–	–	x	–
	Durable supplies	x	x	x	x	x	x	x	x

Notes: Regarding income, all sources are available through all years, except for the ill-defined other income that is surveyed in 2006 and 2009 only. Regarding transfers, the food coupons subsidy was abolished in mid-90s, and hence our households are not asked about them from 1997 onward. Regarding consumption, subsidies of utilities are surveyed from 1993 on and education is surveyed in 2006 only. Semi-durable supplies exclude house and car purchases.

Table A-4: The Proportion of Food, Household Supplies and Health Expenditure in Total Household Consumption: China Statistical Yearbooks

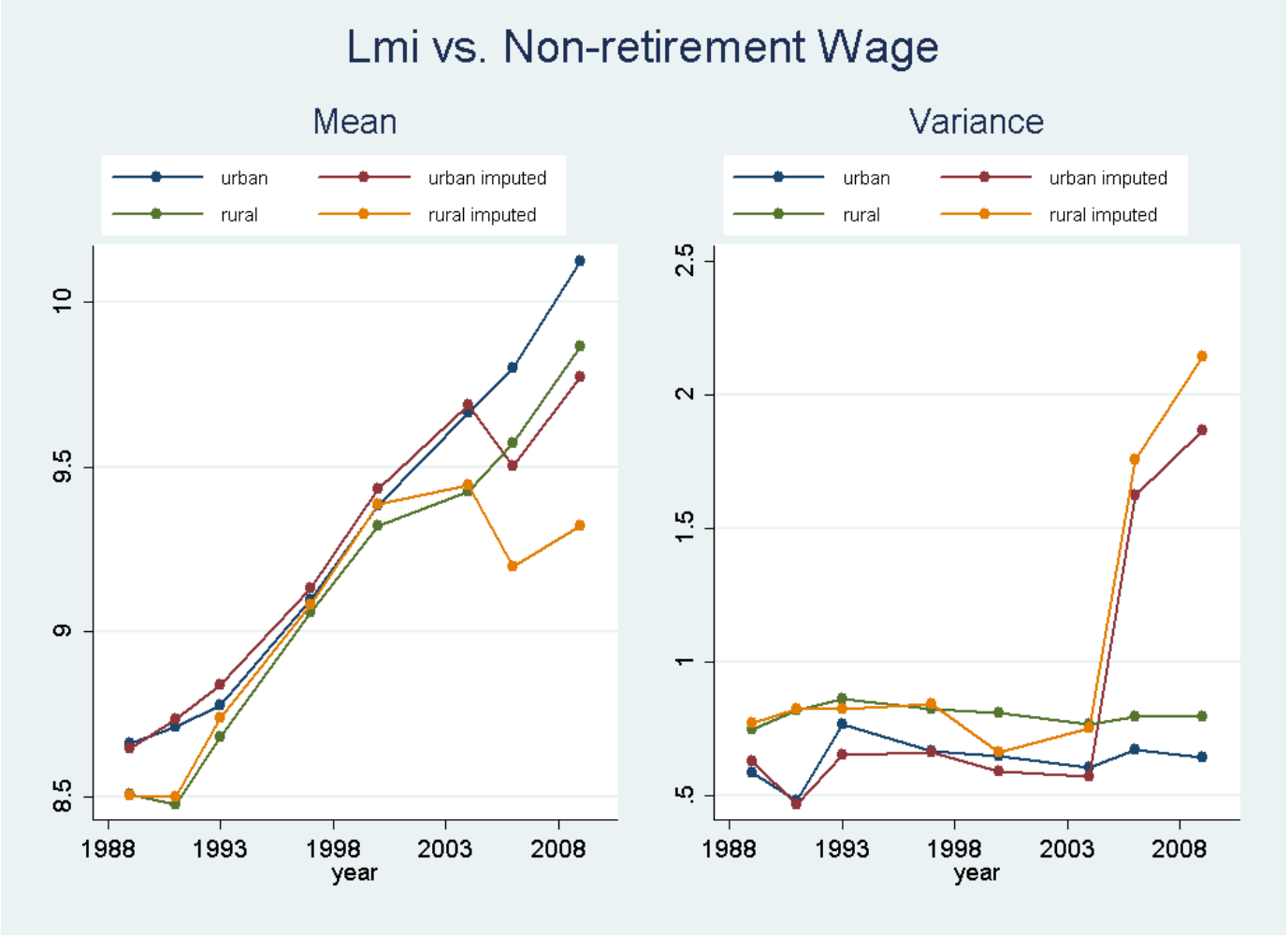
	Liaoning		Heilongjiang		Jiangsu	
	Urban	Rural	Urban	Rural	Urban	Rural
1993	56.5%	64.2%	56.5%	68.3%	56.6%	62.1%
1997	55.7%	63.9%	55.3%	64.0%	56.0%	59.7%
2000	52.9%	56.8%	50.2%	55.3%	53.2%	54.0%
2004	50.2%	56.9%	46.7%	50.7%	50.1%	55.0%
2006	49.9%	50.3%	44.7%	48.0%	45.4%	52.3%
2009	48.1%	50.7%	47.8%	45.4%	45.8%	49.7%

	Shandong		Henan		Hubei	
	Urban	Rural	Urban	Rural	Urban	Rural
1993	54.6%	66.4%	58.0%	68.6%	52.9%	70.4%
1997	51.3%	64.0%	53.3%	63.2%	52.9%	64.6%
2000	48.7%	57.3%	48.4%	59.8%	47.1%	62.1%
2004	45.6%	53.0%	46.5%	58.1%	48.9%	60.4%
2006	42.6%	50.0%	44.4%	51.9%	48.0%	58.1%
2009	44.2%	49.7%	46.9%	49.2%	50.6%	57.3%

	Hunan		Guangxi		Guizhou	
	Urban	Rural	Urban	Rural	Urban	Rural
1993	55.6%	69.0%	60.2%	72.3%	71.8%	77.2%
1997	52.9%	67.2%	54.1%	65.7%	62.6%	76.4%
2000	48.9%	62.5%	49.9%	63.2%	60.5%	68.7%
2004	45.4%	62.9%	53.1%	62.0%	54.4%	65.0%
2006	45.5%	59.4%	50.4%	59.2%	50.9%	60.2%
2009	49.0%	60.4%	49.0%	59.9%	52.0%	55.4%

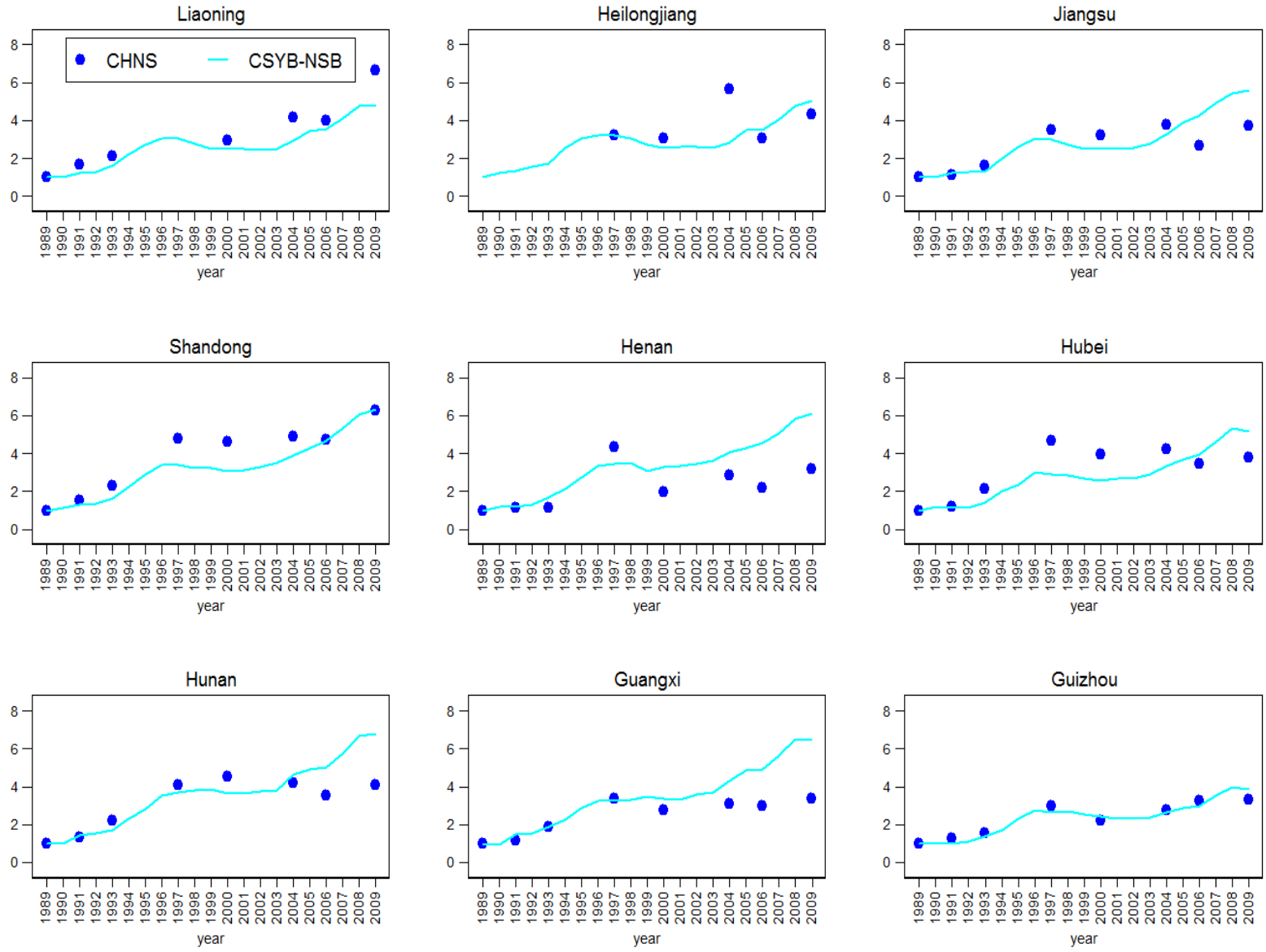
Notes: This table reports the share of expenditures on food, household supplies and health out of the total household expenditures, by province, by rural or urban status and by year. The source of the data is the China Statistical Yearbooks (CSYB) of various years.

Figure A-1: Our Measure of Labor Market Income vs. the Labor Market Income Measure Created (Imputed) by CHNS



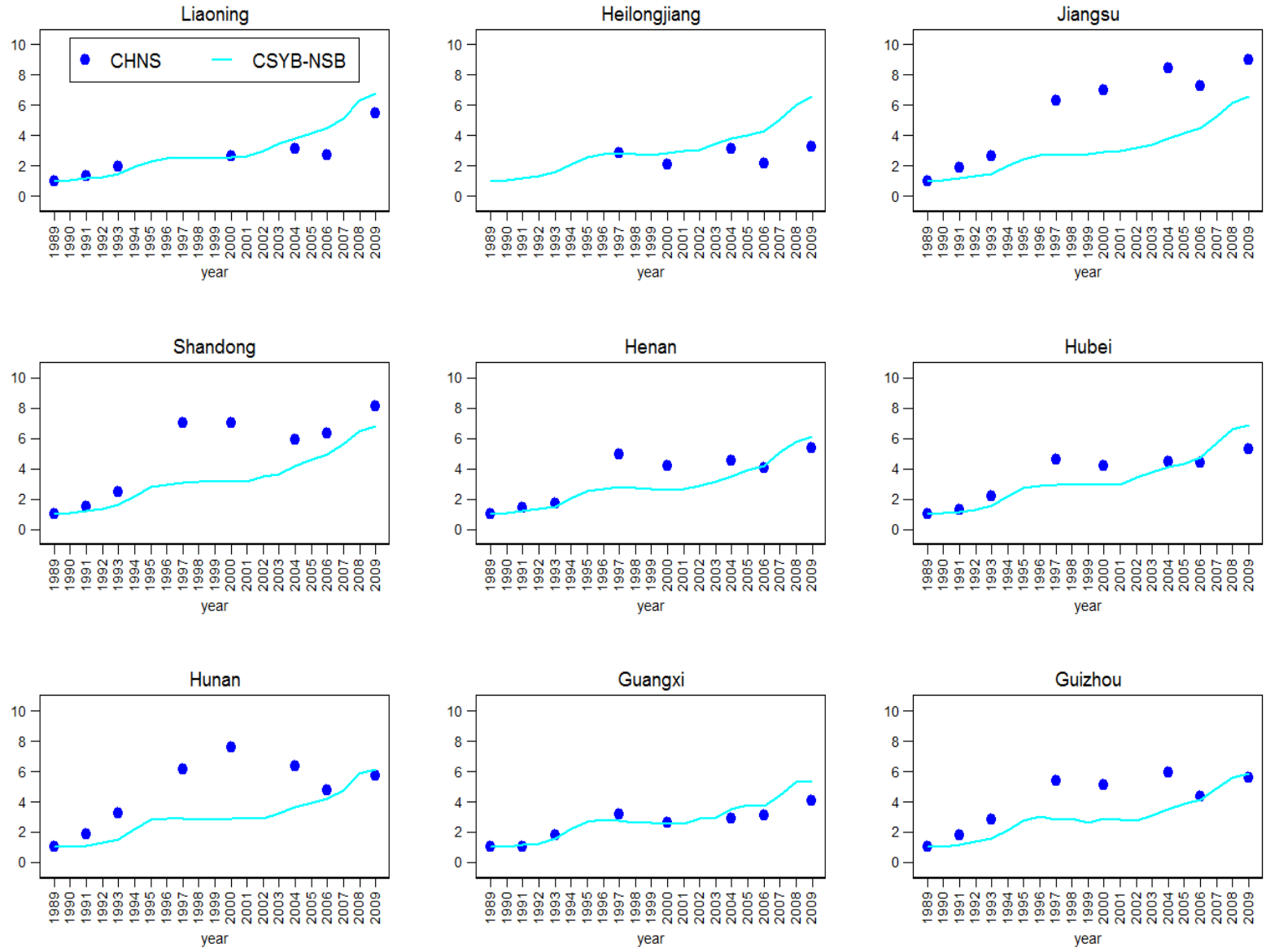
Notes: In this figure, we contrast the statistical properties of the labor market income that we construct from the raw data with the non-retirement wage imputed and supplied by the CHNS. As is explained in footnote 11, the discrepancy between the two measures is caused by the imputed measure including the ill-defined "other income."

Figure A-2: Mean Household Per Capita Expenditure on Food by Province, Rural: CHNS vs. CSYB-NSB, China 1989-2009



Notes: We plot the household per capita expenditure on food constructed from the rural sample of the CHNS against the rural household per capita food expenditure reported in the China Statistical Yearbooks (CSYBs), by province. Both CHNS and CSYB values are normalized to 1 in 1989. In the case of Heilongjiang where the values from CHNS are not available before 1997, we first extrapolate the values using the growth rates implied by the numbers from the CSYB and then impose the normalization. For the construction of the food expenditure from the CHNS see Section 3 in the text and Section A.4.1 in the Appendix.

Figure A-3: Mean Household Per Capita Expenditure on Food by Province, Urban: CHNS vs. CSYB-NSB, China 1989-2009



Notes: We plot the household per capita expenditure on food constructed from the urban sample of the CHNS against the urban household per capita food expenditure reported in the China Statistical Yearbooks (CSYBs), by province. Both CHNS and CSYB values are normalized to 1 in 1989. In the case of Heilongjiang where the values from CHNS are not available before 1997, we first extrapolate the values using the growth rates implied by the numbers from the CSYB and then impose the normalization. For the construction of the food expenditure from the CHNS see Section 3 in the text and Section A.4.1 in the Appendix.

B Sample Selection and Trimming

Our sample restrictions slightly differ from those standardly implemented in consumption and income inequality studies in the U.S. The main reason is that the sources of consumption and income are different in our context, an economy on the way to development. First, we restrict our sample to ages 25 to 65. Our reasoning to include individuals above 55 is that in rural areas, where about 70% of all our households reside, there is no retirement age. Further, while education is completed at relatively young ages,[26] we start our sample at age 25 as the number of household heads below that age is very small.[27] Second, we purposefully want to include the self-employed in the sample because most rural observations are household farms. Third, we exclude households with only one member or households with more than six members. This is to control the level of heterogeneity in the sample, while recognizing the wide-spread coresidence across generations in the China. We will further control for household composition by considering adult-equivalent consumption and income.

In terms of consumption, what is crucial is to correctly measure its main component, food consumption. As we explain in Section 3, the measurement of food consumption is as good as one can get in field surveys. In terms of income, the issue of measurement error from recall questions is potentially more stringent. In particular, under-reporting is particularly relevant in households that do not have a steady stream of labor income, see a discussion in **?**. That is, while reporting relatively constant monthly payments from the labor market tends to minimize measurement error, this is not the case for self-employed income; a problematic feature that is also present in U.S. household survey income data.[28] In our context the self-employed income (either from agricultural or business activities) represents about 40% of total household income in rural areas in 2006; with agricultural income accounting for 34% of total rural income in 2006 (for a decomposition of household income by source see Table C-10 for rural and urban households in 2006). That is, while rural populations mainly rely on agricultural production, it is also not uncommon to have one or several household members also earning income from the labor market during the year; this is the case for 53% of rural households in 1989 and 76% in 2009, which tends to reduce measurement error in total household income. Another present feature that tends to minimize income error in rural households is that agricultural product prices are relatively fixed, so the source of error is limited to output quantities. In that regard, the questioning is rather intensive if compared to other data sets as CHNS purposefully captures all main quantities from income-generating activities such as farming, fishing, gardening and livestock/poultry raising. Further, these households are asked to report not only the sales revenues associated with each of these activities but also the estimated amounts produced for home consumption, as we discussed in the previous Section.[29]

Our trimming strategy pursues the reduction of further potential measurement error (mainly from data entry at this stage).[30] We focus on the levels of our variables of interest. Here, each sub-item in household income, transfers and consumption is trimmed separately by wave and residency, i.e., rural and urban areas. We trim top and bottom 1% of all income items.[31] Except for agricultural and business income that can take positive

[26] We would not want education choices to influence our insurance exercise. One way to mitigate this phenomenon is to only study individuals that have already completed their education, which is what we do.

[27] Household heads below 25 are 1.59%.

[28] In this context, **?** provide experimental evidence suggesting poor illiterate households are the ones more likely to under-report income.

[29] Note that, as we discussed earlier, we are not using any income imputations conducted by CHNS, but rather we use the raw data to construct our own income measures. For example, a typical imputation by CHNS would imply filling a non-reported measure of farming income with some average of reported measures by the same household in contiguous years which potentially adds measurement error. Our income measures do not suffer from that criticism. Further, the official CHNS imputations generate relatively higher means of income as well as lower inequality than our income measures.

[30] Ideally, we would like to have an external validation test as the one in **?** for CEX and PSID in which a random set of the surveyed population is inquired more intensively to minimize measurement error and then the properties of the data collected under that scenario are compared to the rest of the sample. This is, however, not standard in surveys conducted in poor countries, but it would definitely be helpful to guide any measurement error correction.

[31] We have tried using more aggressive thresholds, 3% and 5%. While it is ex-ante unclear whether the extra

or negative values, we condition our trimming on reported values that are strictly positive, that is, our trimming strategy does not remove zeros, but the values close to zero. The same strategy and trimming thresholds are implemented on almost all consumption sub-items, transfers received and the absolute value of transfers given.[32] There are two exceptions that include food consumed from own agricultural production for which we only trim the rural areas because there are few observations in urban areas (less than 100) which we visually inspect and decide to drop all values above 2,000. We also drop all values of medical expenditures and medical insurance above 800 in both rural and urban areas which represented obvious outliers.

Once all the sub-items are trimmed, we construct the household-level aggregates. The household income is the sum of labor market income, agricultural income, business income and capital income. The household transfers have two components: the public and private transfer. The public transfer is the sum of the value of food coupons, subsidies from the work unit, subsidies from the government and pension income. The private transfer includes all cash and in-kind transfers a household receives from family and friends. The household consumption is the sum of the value of diet, utility (from subsidies), housing service, medical expenses and semidurable supplies.[33] Then total household income, transfers, and consumption are trimmed at the top and bottom 1%. Table B-1 reports the number of observations after the sample selection process and further after trimming. This level-trimmed data is the basis for documenting the evaluation of consumption and income inequality over time in Section 4 and Section C.

trimming eliminates genuine income variation or spurious outliers, we have found that the variance of household consumption and income go down by the a similar factor than the variance of food consumption conditional on the same increase in the trimming threshold. This result suggests, considering food consumption is correctly measured with minor data collection error, that the extra trimming that we are applying with more aggressive thresholds is more likely to be removing genuine variation than outliers. For that reason we decide to be conservative in our choice of the trimming threshold and keep it to 1%.

[32]Alternatively we could have trimmed these series after taking logs, then the zeros would not be an issue. However, we want to contest the levels of income and consumption that we are constructing from CHNS against the evolution of aggregate statistics in the next Section and removing the zeros would tend to overestimate the average. Nevertheless, when we computed averages under this alternative trimming strategy the overestimation was not substantial, this is because while there might be sub-items of income and consumption that are zero, the total household income and consumption are not. our results did not differ much from our benchmark.

[33]If instead of aggregating after having trimmed each sub-item, we aggregate first and then trim our measures of household consumption and income, we find results that are fairly similar to our benchmark strategy. We also tried a third strategy which is to replace each sub-item by the median value, instead of dropping the observation, before aggregation. Again, our results were not quantitatively different.

Table B-1: Sample Selection and Trimming: Summary Statistics of the Demographics, CHNS 1989-2009

Survey Year	No. of Obs.	Pct. Rural	Pct. Male	Avg. Age
		Original Data		
1989	3,715	0.671	0.836	41.9
1991	3,510	0.680	0.842	43.2
1993	3,312	0.703	0.838	44.2
1997	3,609	0.679	0.828	45.9
2000	4,038	0.685	0.846	46.9
2004	4,170	0.684	0.842	49.4
2006	4,292	0.683	0.842	49.3
2009	4,374	0.677	0.838	51.5
		After Sample Selection		
1989	3,124	0.665	0.837	41.7
1991	2,980	0.678	0.846	42.2
1993	2,845	0.707	0.845	43.0
1997	3,063	0.682	0.849	44.1
2000	3,493	0.696	0.869	44.9
2004	3,483	0.699	0.874	46.5
2006	3,383	0.682	0.866	46.8
2009	3,279	0.676	0.864	48.3
		After Level Trimming		
1989	3,090	0.663	0.836	41.6
1991	2,948	0.676	0.846	42.2
1993	2,707	0.700	0.845	43.1
1997	2,901	0.674	0.847	44.2
2000	3,207	0.688	0.866	45.1
2004	3,242	0.700	0.874	46.6
2006	3,156	0.675	0.865	46.9
2009	3,111	0.671	0.862	48.4

Notes: This table reports the statistics of some key demographic variables in the original data, in the selected sample, and in the selected and trimmed sample, the last of which is our analysis sample.

C Further Cross-sectional Facts

In this Section, we provide further cross-sectional facts about the CHNS rural and urban sample. In Section C.1, we provide the distribution of income and consumption and their sub-items by income groups and rural or urban residency, for all waves. In Section C.2 we discuss further measures of inequality.

C.1 Income Partitions by Rural and Urban Residency: 1989 to 2009

The following tables are based on the level-trimmed CHNS samples. All economic variables are transformed to constant 2009 prices of the Liaoning province with the CHNS price deflator. Moreover, we report in USD. To do so we simply divide all our variables by 6.83, which was the exchange rate of RMB to USD in 2009. We apply this same exchange rate to all waves in the CHNS. This ensures that while we keep all quantities constant to 2009 Liaoning prices as reference, we pose our discussion in USD without introducing any potential variation across waves due to the behavior of (real) exchange rates over time.

Tables C-1 to C-3 give an overview of the distribution of income and consumption in our rural and urban sample from 1991 to 2006. The table with 1989 and 2009 numbers is in the main paper (Table 2). In each of the tables, the columns refer to a particular segment in the income distribution indicated by the top row. For example, in the top left subtable of Table C-1, we show the average value of consumption, income and disposable income within the bottom 1% of the income distribution, within the bottom 1-5% of the income distribution, the bottom 5-10%, the bottom quintile, et cetera. The second panel shows the share of consumption, income and disposable income enjoyed by households in each segment of the income distribution. Note that the shares of the 5 quintiles add up to 100.

Tables C-4 to C-11 further provide details on the subitems of consumption, income (before transfers) and transfers for each segment of the income distribution.

C.2 Further Measures of Inequality

Income inequality and transfers. We first investigate the income inequality for alternative measures of income. To start, we break the disposable income into three components, the income (before transfers), the public transfer and the private transfer. The variances of these three components and their covariances are reported in Figure C-1. From the left panel, the variance of public transfers increases rapidly by a factor of 4 in rural areas and by a factor of 7 in urban areas. Recall from our discussion in Section 2 that the nature of the public transfer has changed over time. Through the mid-1990s, almost all workers employed in an SOE received public transfers. Since 2000, the pension has become a major part of public transfers and is concentrated in households with older members. In the middle panel, we notice that the covariance between income (before transfers) and public transfers is slightly positive for urban households in the earlier waves and trends down to become negative towards the end of our sample period. In the right panel, the covariance between income (before transfers) and private transfers is slightly positive in most waves. If we compare the variance of income (before transfers) in the middle or the right panel, we find that income inequality is higher in the rural sample than in the urban sample. In both rural and urban areas, income inequality before transfers has gone up by roughly a factor of 1.7.

Gini coefficients. As a robustness check, we also compute the Gini index to describe inequalities (Figure C-2). The Gini of our adult-equivalent disposable income in rural areas increases from .40 in 1989 to .50 in 2009 and that in urban areas increases from .28 in 1989 to .44 in 2009 (see the right panel of Figure C-2). These numbers are similar to what **?** and **?** find from the CHIP surveys.[34] The Gini of our adult-equivalent consumption in

[34] **?** report a Gini of total income of .338 in 1988 and .416 in 1995 for the rural households (in their Table 7) and that of .233 in 1988 and .332 in 1995 for the urban households (in their Table 9). Since they consider total income, the right comparison is between their numbers and the numbers in the left panel of Figure C-2. See **?** for Gini reported from the National Bureau of Statistics (NBS) and the Rural Center on Rural Economy (RCRE) data. **?** report the Gini of household per capita income for the national sample without migrants to be .456 in

rural areas rises from .25 in 1989 to .35 in 2009, whereas that in urban areas rises from .27 in 1989 to .33 in 2009. That is, consumption inequality is about 2/3 that of income inequality. This is in line with the Gini of the consumption surveyed in the CHIP dataset reported by **?**.[35]

Other inequality measures. Table C-12 shows still other income and consumption inequality measures using CHNS for the years 1989 and 2009. We can see the same pattern across all our inequality measures suggesting that both consumption and income inequality increase in rural and urban areas from 1989 to 2009. This is consistent with our discussion in Section 4.

Comparison to the U.S.. Figure C-3 compares the evolution of raw and residual consumption and income inequality between China 1989-2009, using our constructed variables from CHNS data, and the U.S. 1972-1992, using the imputed data on consumption and income from **?**. In both cases we use the same adult-equivalent measures of consumption and income. For income we simply divide household income by adults and for consumption we use the equivalence scales provided in **?**. Here, note that we pool rural and urban areas together in our China sample, which we denote as full sample. Beyond a level and an increase of inequality larger in China than in the U.S. that we discussed in Section 4, here we also find that the covariance of consumption remains flat for the U.S. for the entire sample period. This in sharp contrast with that of China where while the covariance of consumption and income is also flat in 1990s and somewhat at the same level as the its U.S. counterpart, this covariance raises for China in the 2000s by a factor of 3.

2002 and .481 in 2007 from the CHIP (in their Table 2.1), roughly comparable to our numbers in the top middle graph in Figure C-2.

[35] In Table 3.9, **?** report the Gini for Consumption I (which includes cash expenditures and in-kind transfers) adjusted for household composition to be .22 in 1988 and .32 in 2007 in urban China. In Table 3.11 of the same paper, they report the Gini for Consumption I to be .26 in 1988 and .36 in 2007.

Table C-1: Income Partition by Rural and Urban Residency, China CHNS 1991 and 1993: Real 2009 USD

(a) Rural, 1991

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
						Averages, US$						
Consumption	561	485	536	509	495	530	540	616	574	607	653	538
Earnings	-8	28	62	80	212	341	527	899	918	1,197	1,539	411
Disp. Income	-7	33	76	91	232	381	602	1,061	1,077	1,390	1,825	473
						Shares of Total (%)						
Consumption	1.1	3.7	5.0	18.9	18.6	19.9	20.1	22.5	5.1	4.5	1.2	100
Earnings	-0.0	0.3	0.7	3.9	10.3	16.6	25.7	43.5	11.1	11.7	3.3	100
Disp. Income	-0.0	0.3	0.8	3.9	9.8	16.1	25.4	44.8	11.4	11.8	3.8	100

(b) Urban, 1991

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
						Averages, US$						
	330	465	420	463	532	573	634	603	596	660	621	561
	40	72	134	169	286	397	507	734	690	927	1,063	429
	51	108	190	215	434	601	787	1,195	1,187	1,533	2,147	646
						Shares of Total (%)						
	0.7	3.0	3.5	16.0	19.2	20.7	22.7	21.4	5.5	4.6	1.0	100
	0.0	0.4	1.3	6.5	13.8	19.2	25.0	35.4	8.6	8.8	2.3	100
	0.1	0.7	1.5	6.7	13.5	18.6	24.4	36.9	9.2	9.5	3.2	100

(c) Rural, 1993

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
						Averages, US$						
Consumption	419	478	554	512	541	584	652	719	753	732	790	602
Earnings	-60	-13	35	50	195	343	546	1,023	1,042	1,410	1,868	431
Disp. Income	-59	-9	41	58	209	373	607	1,183	1,179	1,622	2,437	486
						Shares of Total (%)						
Consumption	0.7	3.2	4.6	17.0	18.1	19.4	21.7	23.8	6.3	4.9	1.3	100
Earnings	-0.1	-0.1	0.4	2.3	9.1	16.0	25.4	47.3	12.1	12.8	4.2	100
Disp. Income	-0.1	-0.1	0.4	2.4	8.6	15.4	25.0	48.7	12.1	13.4	4.9	100

(d) Urban, 1993

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
						Averages, US$						
	587	418	408	484	614	644	636	732	644	861	627	622
	24	81	133	170	307	437	622	1,012	1,021	1,362	1,885	527
	20	80	163	189	409	608	840	1,444	1,462	1,923	2,667	698
						Shares of Total (%)						
	1.0	2.7	3.2	15.4	19.7	21.1	20.5	23.2	5.1	5.7	0.8	100
	0.0	0.3	1.1	5.2	12.2	17.2	25.1	40.3	10.6	10.9	3.5	100
	0.0	0.5	1.2	5.4	11.7	17.4	24.1	41.4	10.5	11.3	3.4	100

Table C-2: Income Partition by Rural and Urban Residency, China CHNS 1997 and 2000: Real 2009 USD

(a) Rural, 1997

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
						Averages, US$						
Consumption	567	584	593	621	605	632	702	867	825	862	918	686
Earnings	-29	9	53	76	263	460	710	1,339	1,348	1,773	2,369	569
Disp. Income	-29	17	64	84	278	483	762	1,441	1,472	1,900	2,560	610
						Shares of Total (%)						
Consumption	0.8	3.4	4.3	18.2	17.4	18.4	20.7	25.3	6.0	5.1	1.3	100
Earnings	-0.0	0.1	0.5	2.7	9.2	16.2	25.0	47.0	11.8	12.5	4.0	100
Disp. Income	-0.0	0.1	0.5	2.8	9.1	15.9	25.0	47.3	12.1	12.5	4.0	100

(b) Urban, 1997

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
						Averages, US$						
	507	701	501	572	604	696	687	801	845	900	817	673
	24	81	174	222	409	594	803	1,281	1,300	1,674	2,041	685
	20	79	186	217	498	711	995	1,690	1,660	2,266	3,170	821
						Shares of Total (%)						
	0.9	4.1	3.4	16.7	17.8	20.9	20.5	24.1	6.3	5.2	1.3	100
	0.0	0.3	1.0	5.3	12.0	18.5	25.0	39.2	10.2	10.3	3.2	100
	0.0	0.4	1.1	5.3	12.1	17.4	24.2	41.1	10.0	11.0	3.8	100

(c) Rural, 2000

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
						Averages, US$						
Consumption	462	527	483	496	509	555	609	748	737	836	796	583
Earnings	-4	15	56	89	297	516	851	1,574	1,631	1,994	2,700	665
Disp. Income	-2	23	71	101	320	556	920	1,846	1,858	2,447	4,035	748
						Shares of Total (%)						
Consumption	0.8	3.6	4.2	17.2	17.4	19.0	20.9	25.6	6.3	5.7	1.4	100
Earnings	-0.0	0.1	0.4	2.7	9.0	15.6	25.6	47.1	12.3	11.8	4.0	100
Disp. Income	-0.0	0.1	0.5	2.7	8.6	14.9	24.6	49.3	12.4	13.1	5.3	100

(d) Urban, 2000

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
						Averages, US$						
	556	583	595	569	583	645	623	760	678	818	664	636
	21	75	192	273	548	772	1,013	1,758	1,704	2,449	3,147	902
	17	70	206	250	613	933	1,354	2,416	2,419	3,297	4,815	1,112
						Shares of Total (%)						
	0.9	3.8	4.7	17.9	18.5	20.4	19.5	23.7	5.3	5.1	1.0	100
	0.0	0.1	0.9	4.6	12.8	18.7	23.9	40.0	9.7	10.7	3.3	100
	0.0	0.3	0.9	4.5	11.0	16.7	24.4	43.3	11.0	11.8	4.1	100

Table C-3: Income Partition by Rural and Urban Residency, China CHNS 2004 and 2006: Real 2009 USD

(a) Rural, 2004

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
						Averages, US$						
Consumption	601	577	565	530	610	658	754	852	868	967	880	681
Earnings	-16	8	58	83	271	492	850	1,621	1,709	2,326	2,051	662
Disp. Income	-12	19	77	99	305	552	945	2,088	2,056	2,940	5,018	797
						Shares of Total (%)						
Consumption	0.9	3.4	4.0	15.4	18.1	19.4	22.4	24.7	6.3	5.7	1.2	100
Earnings	-0.0	0.1	0.4	2.5	8.2	15.0	25.8	48.6	12.8	13.7	2.8	100
Disp. Income	-0.0	0.1	0.5	2.5	7.6	13.9	23.7	52.3	12.8	14.8	6.0	100

(b) Urban, 2004

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
						Averages, US$						
Consumption	476	564	574	556	590	657	751	905	838	879	1,035	692
Earnings	8	62	148	221	525	852	1,313	2,297	2,509	3,223	2,988	1,121
Disp. Income	16	73	168	215	619	1,029	1,655	3,328	3,246	4,751	7,385	1,367
						Shares of Total (%)						
Consumption	0.8	3.2	4.0	15.7	17.4	19.0	21.8	26.1	6.2	4.9	1.5	100
Earnings	0.0	0.1	0.5	2.8	9.5	16.6	24.8	46.2	13.2	11.5	3.3	100
Disp. Income	0.0	0.2	0.6	3.2	9.1	15.1	24.2	48.5	11.9	13.7	5.2	100

(c) Rural, 2006

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
						Averages, US$						
Consumption	376	438	417	439	474	547	602	777	796	927	1,031	569
Earnings	1	17	55	83	271	495	894	1,850	1,782	2,716	3,544	719
Disp. Income	8	35	85	109	309	567	1,005	2,308	2,193	3,375	5,957	859
						Shares of Total (%)						
Consumption	0.7	3.0	3.4	15.1	16.5	19.3	21.4	27.6	7.1	6.6	1.8	100
Earnings	0.0	0.1	0.4	2.3	7.5	13.8	24.9	51.5	12.5	15.0	4.8	100
Disp. Income	0.0	0.2	0.5	2.6	7.2	13.2	23.3	53.7	12.8	15.8	6.7	100

(d) Urban, 2006

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
						Averages, US$						
Consumption	437	427	472	473	484	595	668	777	912	712	971	599
Earnings	16	51	138	219	532	903	1,421	2,337	2,328	3,176	4,155	1,172
Disp. Income	14	53	161	212	619	1,074	1,708	3,347	3,353	4,527	8,009	1,390
						Shares of Total (%)						
Consumption	0.8	2.8	3.9	15.6	16.6	19.1	22.4	26.2	7.8	4.7	1.5	100
Earnings	0.0	0.1	0.5	2.5	9.2	16.1	28.1	44.1	10.6	9.2	3.9	100
Disp. Income	0.0	0.2	0.6	3.1	8.9	15.4	24.6	48.0	12.1	13.1	5.2	100

Table C-4: Detailed Income Partition by Rural and Urban Residency, China CHNS 1989: Real 2009 USD

(a) Rural, 1989

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
Averages, US$												
Consumption	414	383	371	379	401	426	432	493	475	537	527	426
Earnings	-10	37	71	81	206	341	503	885	871	1,196	1,709	403
Disp. Income	-7	40	82	94	228	378	577	1,039	1,019	1,406	2,002	463
Shares of Total (%)												
Consumption	0.9	3.6	4.3	17.8	19.0	19.7	20.2	23.3	5.7	5.1	1.2	100
Earnings	-0.0	0.4	0.9	4.0	10.3	17.0	25.0	43.7	10.9	11.9	3.6	100
Disp. Income	-0.0	0.3	0.9	4.1	9.9	16.3	24.9	44.8	11.0	12.2	4.1	100
Consumption Type (%)												
Food (Diet)	97.4	92.9	93.6	93.6	93.0	89.5	87.7	83.4	86.2	81.3	91.2	89.0
(Above=100)												
Own prod.	15.0	28.1	39.7	38.4	53.6	60.3	56.0	46.3	45.8	43.0	52.2	51.0
Coupons	0.0	0.3	2.5	3.2	3.6	4.7	7.9	11.9	15.4	10.7	10.6	6.5
Gifts	0.0	0.0	0.0	0.0	0.0	0.3	0.7	1.2	1.3	1.2	0.7	0.5
Expenditures	85.0	71.6	57.8	58.5	42.7	34.7	35.4	40.6	37.5	45.1	36.5	42.1
Utilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Housing Services	0.0	0.1	0.0	0.0	0.4	0.1	0.3	0.4	0.3	0.6	0.1	0.2
Child Care	0.0	0.8	0.9	0.7	0.8	0.8	2.1	2.3	1.8	2.6	2.8	1.4
Health Services	0.0	0.1	0.1	0.2	0.7	0.6	0.8	1.2	0.7	1.1	0.2	0.7
Education	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Semi Durables	2.5	6.1	5.3	5.5	5.1	8.9	9.2	12.7	11.0	14.4	5.7	8.6
	100	100	100	100	100	100	100	100	100	100	100	100
Income Sources (%)												
Labor	0.0	8.2	10.9	10.9	16.5	26.4	37.9	48.8	47.2	49.9	42.7	37.7
Agriculture	265.4	80.9	71.9	70.5	70.3	59.2	42.8	28.3	28.3	26.3	24.9	42.8
Business	-42.3	3.2	2.5	2.5	2.9	4.0	6.0	7.6	8.6	8.6	13.7	5.9
Capital	0.0	0.0	0.0	0.3	0.6	0.7	0.5	1.1	1.4	0.3	5.9	0.8
Transfers Rec.	-123.1	7.7	14.5	15.4	10.0	10.1	12.9	13.7	14.1	13.9	11.6	12.6
	100	100	100	100	100	100	100	100	100	100	100	100
Transfers Received (%)												
Public Trans. Rec.	0.0	29.3	78.0	79.0	79.7	79.5	91.0	86.5	92.7	81.1	75.3	85.8
(Above=100)												
Food Coupons	.	100.0	94.4	92.7	70.2	56.5	43.1	44.7	52.5	37.0	49.6	49.7
Sub. Work Unit	.	0.0	2.2	3.7	23.4	27.6	42.5	35.8	34.5	32.1	30.9	34.3
Sub. Gov.	.	0.0	2.4	3.1	1.2	2.6	4.5	4.5	4.3	5.5	3.6	4.0
Pension	.	0.0	1.0	0.5	5.3	13.3	9.9	15.0	8.7	25.3	15.9	12.0
Private Trans. Rec.	100.0	70.7	22.0	21.0	20.3	20.5	9.0	13.5	7.3	18.9	24.7	14.2
	100	100	100	100	100	100	100	100	100	100	100	100

(b) Urban, 1989

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
Averages, US$												
Consumption	433	384	382	396	420	471	504	532	529	464	567	465
Earnings	98	113	172	188	308	375	479	816	775	1,126	1,803	442
Disp. Income	71	151	236	252	451	578	745	1,187	1,185	1,502	2,263	642
Shares of Total (%)												
Consumption	1.1	3.4	3.7	16.8	18.0	20.3	21.8	23.0	5.9	3.8	1.1	100
Earnings	0.0	0.8	1.6	7.2	14.4	17.8	22.6	38.1	9.0	10.4	4.3	100
Disp. Income	0.1	0.9	1.8	7.9	14.1	18.0	23.2	36.8	9.1	9.3	3.5	100
Consumption Type (%)												
Food (Diet)	85.3	97.0	84.0	87.8	83.3	77.6	72.8	74.0	73.9	82.3	73.6	78.5
(Above=100)												
Own prod.	11.4	29.1	4.1	13.3	5.2	3.8	2.7	13.1	15.4	40.1	3.9	7.6
Coupons	17.1	15.7	19.3	19.0	21.1	22.9	24.9	26.2	26.9	26.0	27.3	22.9
Gifts	0.0	0.2	0.5	0.3	1.1	1.6	2.3	3.7	6.5	3.3	1.9	1.8
Expenditures	71.6	55.1	76.1	67.4	72.6	71.7	70.1	57.0	51.2	30.5	67.0	67.6
Utilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Housing Services	0.3	0.1	0.7	0.5	1.0	1.2	1.0	0.8	0.6	0.6	0.3	0.9
Child Care	0.0	0.3	0.6	0.7	1.9	2.4	3.0	2.3	1.5	1.7	0.7	2.1
Health Services	0.2	0.5	1.5	1.0	1.4	1.5	1.2	1.3	0.9	0.9	1.1	1.3
Education	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Semi Durables	14.2	2.1	13.2	9.9	12.4	17.3	21.9	21.7	23.0	14.5	24.2	17.1
	100	100	100	100	100	100	100	100	100	100	100	100
Income Sources (%)												
Labor	0.0	29.8	51.1	47.2	59.1	59.2	59.0	53.8	52.4	50.7	50.1	56.2
Agriculture	-5.0	21.3	4.0	5.3	3.4	2.3	2.3	5.3	7.0	10.6	1.7	3.8
Business	12.4	0.9	1.9	6.5	3.8	2.7	2.1	8.1	4.4	12.0	19.4	5.0
Capital	0.0	2.4	0.0	0.6	0.6	0.3	0.2	1.5	0.4	2.3	8.5	0.8
Transfers Rec.	96.7	57.1	58.7	45.2	32.9	36.2	34.9	30.7	35.9	23.7	20.2	34.1
	100	100	100	100	100	100	100	100	100	100	100	100
Transfers Received (%)												
Public Trans. Rec.	86.0	94.1	94.7	95.3	95.8	95.5	95.6	92.6	94.6	88.8	91.1	94.6
(Above=100)												
Food Coupons	91.4	59.5	36.9	51.8	47.7	39.4	37.4	36.7	29.8	36.7	44.5	40.5
Sub. Work Unit	5.3	18.1	28.0	23.8	32.7	39.7	41.7	37.7	38.6	32.6	24.9	36.9
Sub. Gov.	0.0	0.0	0.3	0.6	2.1	3.3	3.8	3.0	2.3	2.6	1.0	2.9
Pension	3.3	22.4	34.9	23.8	17.5	17.6	17.1	22.6	29.2	28.0	29.5	19.7
Private Trans. Rec.	14.0	5.9	5.3	4.7	4.2	4.5	4.4	7.4	5.4	11.2	8.9	5.4
	100	100	100	100	100	100	100	100	100	100	100	100

Table C-5: Detailed Income Partition by Rural and Urban Residency, China CHNS 1991: Real 2009 USD

(a) Rural, 1991

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
Averages, US$												
Consumption	561	485	536	509	495	530	540	616	574	607	653	538
Earnings	-8	28	62	80	212	341	527	899	918	1,197	1,539	411
Disp. Income	-7	33	76	91	232	381	602	1,061	1,077	1,390	1,825	473
Shares of Total (%)												
Consumption	1.1	3.7	5.0	18.9	18.6	19.9	20.1	22.5	5.1	4.5	1.2	100
Earnings	-0.0	0.3	0.7	3.9	10.3	16.6	25.7	43.5	11.1	11.7	3.3	100
Disp. Income	-0.0	0.3	0.8	3.9	9.8	16.1	25.4	44.8	11.4	11.8	3.8	100
Consumption Type (%)												
Food (Diet)	85.8	89.5	91.6	90.1	91.4	91.0	87.9	81.3	80.3	83.4	75.9	88.0
(Above=100)												
Own prod.	16.9	17.0	19.4	22.6	34.7	39.6	38.1	39.5	48.7	47.8	38.8	35.1
Coupons	0.0	0.7	2.2	1.7	2.3	3.0	5.2	7.2	7.3	5.9	10.1	4.0
Gifts	0.0	0.0	0.1	0.0	0.1	0.1	0.5	0.9	1.0	1.0	1.1	0.3
Expenditures	83.1	82.3	78.2	75.7	62.9	57.3	56.2	52.5	42.9	45.4	49.9	60.6
Utilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Housing Services	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.4	0.2	0.2	0.6	0.1
Child Care	0.4	0.1	0.2	0.2	0.4	0.5	0.9	1.9	2.6	1.5	1.7	0.8
Health Services	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1
Education	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Semi Durables	13.8	10.3	8.2	9.6	8.1	8.3	11.0	16.2	16.8	14.6	21.6	10.9
	100	100	100	100	100	100	100	100	100	100	100	100
Income Sources (%)												
Labor	-48.7	3.2	1.8	8.9	14.2	22.2	34.1	37.5	37.0	36.6	40.9	30.8
Agriculture	164.7	76.9	75.7	74.7	69.1	58.1	41.9	31.4	31.9	31.3	22.5	43.7
Business	0.0	2.8	2.3	2.7	7.7	8.7	11.0	15.1	15.5	17.0	21.3	11.8
Capital	0.0	0.0	0.0	0.3	0.3	0.6	0.5	1.2	0.9	1.2	2.1	0.8
Transfers Rec.	-16.0	17.0	20.2	13.1	8.6	10.3	13.4	14.3	14.2	13.5	9.8	12.8
	100	100	100	100	100	100	100	100	100	100	100	100
Transfers Received (%)												
Public Trans. Rec.	21.2	47.6	81.8	75.5	84.8	85.7	91.1	92.8	94.2	90.7	88.6	90.2
(Above=100)												
Food Coupons	0.0	94.8	76.6	76.5	48.7	36.4	33.3	28.9	27.0	21.7	42.6	33.8
Sub. Work Unit	0.0	5.2	23.4	15.3	29.2	41.4	45.4	48.0	43.4	49.0	25.0	44.2
Sub. Gov.	100.0	0.0	0.0	1.0	4.7	4.7	4.6	4.0	3.3	4.7	1.3	4.2
Pension	0.0	0.0	0.0	7.1	17.5	17.5	16.7	19.1	26.3	24.6	31.1	17.8
Private Trans. Rec.	78.8	52.4	18.2	24.5	15.2	14.3	8.9	7.2	5.8	9.3	11.4	9.8
	100	100	100	100	100	100	100	100	100	100	100	100

(b) Urban, 1991

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
Averages, US$												
Consumption	330	465	420	463	532	573	634	603	596	660	621	561
Earnings	40	72	134	169	286	397	507	734	690	927	1,063	429
Disp. Income	51	108	190	215	434	601	787	1,195	1,187	1,533	2,147	646
Shares of Total (%)												
Consumption	0.7	3.0	3.5	16.0	19.2	20.7	22.7	21.4	5.5	4.6	1.0	100
Earnings	0.0	0.4	1.3	6.5	13.8	19.2	25.0	35.4	8.6	8.8	2.3	100
Disp. Income	0.1	0.7	1.5	6.7	13.5	18.6	24.4	36.9	9.2	9.5	3.2	100
Consumption Type (%)												
Food (Diet)	86.8	89.5	83.4	88.5	83.2	82.7	79.9	78.7	81.7	80.7	82.1	82.2
(Above=100)												
Own prod.	29.1	15.7	10.2	11.3	3.1	1.8	2.1	0.8	0.4	0.0	0.4	3.5
Coupons	15.7	11.6	12.6	10.9	11.8	11.9	11.7	13.0	12.2	11.5	14.7	11.9
Gifts	1.8	0.0	0.6	0.5	0.7	1.0	1.3	2.5	2.7	2.7	3.0	1.2
Expenditures	53.3	72.8	76.5	77.3	84.4	85.3	85.0	83.8	84.6	85.8	81.9	83.4
Utilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Housing Services	0.0	0.6	0.6	0.6	1.2	0.8	0.8	0.8	1.4	0.5	0.6	0.8
Child Care	0.0	1.9	0.0	0.8	2.0	1.5	1.8	2.0	2.9	2.2	0.0	1.7
Health Services	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.1
Education	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Semi Durables	13.2	8.0	15.9	10.1	13.5	15.0	17.4	18.3	13.9	16.5	17.2	15.2
	100	100	100	100	100	100	100	100	100	100	100	100
Income Sources (%)												
Labor	11.1	22.1	26.3	37.0	51.2	55.0	57.5	48.6	50.5	44.1	35.1	51.5
Agriculture	2.2	5.4	16.4	9.3	1.8	1.0	1.4	0.4	0.0	0.1	0.1	1.5
Business	5.9	8.5	10.7	13.2	10.3	7.6	4.2	9.6	6.8	12.9	7.8	8.3
Capital	0.0	0.0	0.0	0.9	0.1	0.6	0.2	1.5	0.8	3.0	1.0	0.8
Transfers Rec.	141.9	62.7	53.3	45.2	36.1	37.4	35.2	39.0	41.1	37.9	55.1	37.8
	100	100	100	100	100	100	100	100	100	100	100	100
Transfers Received (%)												
Public Trans. Rec.	93.8	89.2	94.8	95.3	95.1	94.3	96.2	95.6	93.9	95.3	98.7	95.4
(Above=100)												
Food Coupons	59.0	65.5	39.5	41.2	30.6	25.3	22.8	17.4	16.4	16.3	9.0	23.6
Sub. Work Unit	39.2	22.7	33.8	36.4	42.9	48.5	51.0	41.2	43.0	35.2	28.2	44.6
Sub. Gov.	1.8	0.0	3.6	1.9	1.3	2.1	2.8	1.7	1.4	1.6	0.4	2.0
Pension	0.0	11.8	23.1	20.4	25.2	24.2	23.4	39.7	39.2	46.8	62.4	29.8
Private Trans. Rec.	6.2	10.8	5.2	4.7	4.9	5.7	3.8	4.4	6.1	4.7	1.3	4.6
	100	100	100	100	100	100	100	100	100	100	100	100

Table C-6: Detailed Income Partition by Rural and Urban Residency, China CHNS 1993: Real 2009 USD

(a) Rural, 1993

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
Averages, US$												
Consumption	419	478	554	512	541	584	652	719	753	732	790	602
Earnings	-60	-13	35	50	195	343	546	1,023	1,042	1,410	1,868	431
Disp. Income	-59	-9	41	58	209	373	607	1,183	1,179	1,622	2,437	486
Shares of Total (%)												
Consumption	0.7	3.2	4.6	17.0	18.1	19.4	21.7	23.8	6.3	4.9	1.3	100
Earnings	-0.1	-0.1	0.4	2.3	9.1	16.0	25.4	47.3	12.1	12.8	4.2	100
Disp. Income	-0.1	-0.1	0.4	2.4	8.6	15.4	25.0	48.7	12.1	13.4	4.9	100
Consumption Type (%)												
Food (Diet)	92.3	86.7	93.7	92.2	89.3	87.6	81.2	80.1	76.2	84.9	68.9	85.4
(Above=100)												
Own prod.	5.8	18.0	16.7	18.8	28.3	31.0	27.1	26.9	29.4	28.8	12.3	26.6
Coupons	0.0	0.1	0.0	0.2	0.2	0.2	0.4	0.3	0.3	0.4	0.0	0.3
Gifts	0.0	0.0	0.1	0.1	0.0	0.3	0.4	1.0	1.1	1.4	1.0	0.4
Expenditures	94.2	81.9	83.2	80.9	71.4	68.5	72.1	71.7	69.2	69.4	86.7	72.7
Utilities	0.0	0.0	0.0	0.0	0.0	0.4	1.0	1.6	1.6	0.9	3.5	0.7
Housing Services	0.0	4.3	0.0	0.8	3.4	3.8	6.6	3.6	5.7	4.0	11.0	3.9
Child Care	0.9	0.0	0.1	0.1	0.2	0.4	1.0	1.2	1.5	0.9	0.6	0.6
Health Services	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.1
Education	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Semi Durables	6.9	8.9	6.1	6.7	7.0	7.7	10.1	13.4	15.0	9.1	15.8	9.3
	100	100	100	100	100	100	100	100	100	100	100	100
Income Sources (%)												
Labor	0.0	-11.3	1.3	10.9	20.2	26.5	38.3	46.0	44.8	42.8	42.4	38.0
Agriculture	102.3	156.1	70.3	69.7	64.1	47.4	34.5	20.4	24.7	17.8	5.8	33.0
Business	0.0	0.0	10.5	4.6	8.9	16.9	15.7	17.6	17.1	24.0	22.4	16.0
Capital	0.0	0.0	2.7	1.4	0.4	1.1	1.5	2.7	1.8	2.7	6.0	1.9
Transfers Rec.	-2.3	-45.0	15.1	23.9	6.4	8.2	10.7	13.0	11.0	12.1	23.3	11.4
	100	100	100	100	100	100	100	100	100	100	100	100
Transfers Received (%)												
Public Trans. Rec.	0.0	15.5	29.2	65.9	44.3	78.1	85.5	87.8	88.1	90.3	84.1	83.0
(Above=100)												
Food Coupons	.	35.3	0.0	12.2	16.8	3.8	3.6	1.6	2.2	1.7	0.0	3.1
Sub. Work Unit	.	0.0	64.3	15.6	60.1	48.5	60.7	53.9	53.7	56.4	35.5	53.6
Sub. Gov.	.	64.7	11.4	4.4	11.1	11.4	16.0	11.8	13.0	7.0	12.6	12.5
Pension	.	0.0	24.3	67.8	12.1	36.2	19.7	32.7	31.1	34.8	51.9	30.8
Private Trans. Rec.	100.0	84.5	70.8	34.1	55.7	21.9	14.5	12.2	11.9	9.7	15.9	17.0
	100	100	100	100	100	100	100	100	100	100	100	100

(b) Urban, 1993

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
Averages, US$												
Consumption	587	418	408	484	614	644	636	732	644	861	627	622
Earnings	24	81	133	170	307	437	622	1,012	1,021	1,362	1,885	527
Disp. Income	20	80	163	189	409	608	840	1,444	1,462	1,923	2,667	698
Shares of Total (%)												
Consumption	1.0	2.7	3.2	15.4	19.7	21.1	20.5	23.2	5.1	5.7	0.8	100
Earnings	0.0	0.3	1.1	5.2	12.2	17.2	25.1	40.3	10.6	10.9	3.5	100
Disp. Income	0.0	0.5	1.2	5.4	11.7	17.4	24.1	41.4	10.5	11.3	3.4	100
Consumption Type (%)												
Food (Diet)	74.7	85.1	69.8	78.9	73.7	76.7	73.4	73.4	67.8	73.7	89.0	75.0
(Above=100)												
Own prod.	6.7	7.7	6.3	5.7	4.5	2.1	3.0	5.7	11.6	5.0	5.9	4.2
Coupons	0.8	0.7	1.2	1.3	1.1	1.3	1.4	1.1	1.4	0.8	0.6	1.2
Gifts	0.0	0.0	0.5	0.2	0.6	0.7	1.4	2.0	2.5	1.7	2.2	1.0
Expenditures	92.5	91.6	92.0	92.8	93.8	96.0	94.1	91.2	84.4	92.5	91.2	93.5
Utilities	0.3	0.2	8.3	2.1	1.0	3.1	2.3	3.0	2.5	2.9	1.5	2.3
Housing Services	22.3	9.3	17.6	11.8	13.1	6.3	10.2	8.4	17.5	6.3	0.9	9.8
Child Care	0.0	0.6	0.0	0.3	0.5	0.7	1.5	1.0	1.2	0.8	0.0	0.9
Health Services	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1
Education	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Semi Durables	2.5	4.9	4.1	6.9	11.5	13.1	12.5	14.1	10.9	16.2	8.7	11.9
	100	100	100	100	100	100	100	100	100	100	100	100
Income Sources (%)												
Labor	0.0	15.6	36.6	46.0	52.0	59.2	58.2	50.5	55.5	51.1	24.8	53.8
Agriculture	15.3	26.8	12.2	7.7	4.1	1.3	2.1	3.7	5.4	3.3	2.7	3.1
Business	0.0	10.1	13.4	12.4	14.0	7.2	11.3	12.9	6.8	10.7	43.1	11.6
Capital	0.0	0.0	3.0	0.6	1.6	0.5	0.7	1.7	2.1	4.3	0.1	1.2
Transfers Rec.	84.7	47.5	34.7	33.1	29.7	33.2	27.1	30.7	28.8	30.6	29.2	30.3
	100	100	100	100	100	100	100	100	100	100	100	100
Transfers Received (%)												
Public Trans. Rec.	74.2	79.7	87.4	87.6	92.6	93.1	92.8	94.8	94.5	93.8	94.9	93.4
(Above=100)												
Food Coupons	24.0	7.7	6.5	7.9	4.3	3.7	3.3	1.8	1.9	1.5	0.7	3.1
Sub. Work Unit	25.4	71.9	52.4	52.9	53.3	56.5	55.8	45.0	47.2	41.9	36.8	50.9
Sub. Gov.	35.1	5.3	11.1	7.9	8.6	8.8	8.1	7.2	6.4	9.3	4.4	7.9
Pension	15.4	15.0	30.0	31.3	33.8	31.0	32.8	45.9	44.5	47.3	58.1	38.1
Private Trans. Rec.	25.8	20.3	12.6	12.4	7.4	6.9	7.2	5.2	5.5	6.2	5.1	6.6
	100	100	100	100	100	100	100	100	100	100	100	100

Table C-7: Detailed Income Partition by Rural and Urban Residency, China CHNS 1997: Real 2009 USD

(a) Rural, 1997

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
Averages, US$												
Consumption	567	584	593	621	605	632	702	867	825	862	918	686
Earnings	-29	9	53	76	263	460	710	1,339	1,348	1,773	2,369	569
Disp. Income	-29	17	64	84	278	483	762	1,441	1,472	1,900	2,560	610
Shares of Total (%)												
Consumption	0.8	3.4	4.3	18.2	17.4	18.4	20.7	25.3	6.0	5.1	1.3	100
Earnings	-0.0	0.1	0.5	2.7	9.2	16.2	25.0	47.0	11.8	12.5	4.0	100
Disp. Income	-0.0	0.1	0.5	2.8	9.1	15.9	25.0	47.3	12.1	12.5	4.0	100
Consumption Type (%)												
Food (Diet)	91.8	94.9	97.3	96.0	96.9	95.5	93.1	89.2	89.5	87.8	93.2	93.7
(Above=100)												
Own prod.	4.4	19.2	17.9	19.0	27.0	28.0	27.7	21.0	24.3	20.8	18.5	24.5
Coupons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gifts	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.5	0.5	0.7	1.3	0.2
Expenditures	95.6	80.8	82.1	81.0	72.9	71.9	72.0	78.5	75.2	78.5	80.2	75.3
Utilities	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.4	0.4	0.6	0.1	0.2
Housing Services	0.3	0.1	0.0	0.0	0.0	0.1	0.1	0.4	0.1	0.8	0.0	0.2
Child Care	0.6	0.3	0.3	0.3	0.3	0.4	0.9	0.8	0.9	0.5	0.0	0.6
Health Services	0.0	0.2	0.1	0.1	0.4	0.1	0.2	0.8	0.4	0.3	0.6	0.4
Education	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Semi Durables	7.3	4.5	2.3	3.5	2.2	3.9	5.4	8.4	8.6	10.0	6.1	5.0
	100	100	100	100	100	100	100	100	100	100	100	100
Income Sources (%)												
Labor	-25.4	6.9	5.2	7.9	21.3	29.9	33.4	43.2	42.1	43.2	40.6	35.7
Agriculture	128.6	31.3	71.3	72.0	62.4	50.4	39.4	23.4	26.1	20.1	8.7	36.6
Business	0.0	0.1	2.5	5.1	9.5	11.5	17.2	21.5	19.3	25.4	34.8	17.3
Capital	0.0	7.5	4.2	4.0	1.3	3.2	3.2	4.9	4.3	4.5	8.4	3.8
Transfers Rec.	-3.2	54.3	16.8	11.0	5.5	5.0	6.8	7.0	7.8	6.7	7.4	6.6
	100	100	100	100	100	100	100	100	100	100	100	100
Transfers Received (%)												
Public Trans. Rec.	0.0	9.7	15.1	11.2	55.6	51.6	71.7	80.6	79.7	87.5	91.3	69.7
(Above=100)												
Food Coupons	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sub. Work Unit	.	58.8	55.3	58.4	29.1	37.0	23.1	34.5	30.8	28.2	40.1	31.6
Sub. Gov.	.	18.3	0.0	20.1	19.1	18.7	7.6	17.0	13.6	27.3	15.7	14.8
Pension	.	22.9	44.7	21.6	51.8	44.3	69.3	48.5	55.6	44.6	44.2	53.6
Private Trans. Rec.	100.0	90.3	84.9	88.8	44.4	48.4	28.3	19.4	20.3	12.5	8.7	30.3
	100	100	100	100	100	100	100	100	100	100	100	100

(b) Urban, 1997

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
Averages, US$												
Consumption	507	701	501	572	604	696	687	801	845	900	817	673
Earnings	24	81	174	222	409	594	803	1,281	1,300	1,674	2,041	685
Disp. Income	20	79	186	217	498	711	995	1,690	1,660	2,266	3,170	821
Shares of Total (%)												
Consumption	0.9	4.1	3.4	16.7	17.8	20.9	20.5	24.1	6.3	5.2	1.3	100
Earnings	0.0	0.3	1.0	5.3	12.0	18.5	25.0	39.2	10.2	10.3	3.2	100
Disp. Income	0.0	0.4	1.1	5.3	12.1	17.4	24.2	41.1	10.0	11.0	3.8	100
Consumption Type (%)												
Food (Diet)	98.9	94.8	95.7	93.8	90.2	87.6	86.9	86.9	87.1	84.8	84.3	88.8
(Above=100)												
Own prod.	10.2	7.0	1.6	4.6	1.5	1.9	0.6	1.8	4.4	1.8	1.5	2.0
Coupons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gifts	0.5	0.3	0.4	0.2	0.4	0.7	0.9	1.0	1.0	0.8	0.0	0.7
Expenditures	89.4	92.7	98.0	95.2	98.1	97.4	98.5	97.2	94.6	97.3	98.5	97.3
Utilities	0.0	0.5	0.1	0.4	0.5	0.5	0.9	0.6	0.4	0.5	0.7	0.6
Housing Services	0.0	0.4	0.2	0.4	0.8	0.5	0.9	1.2	0.9	2.7	0.0	0.8
Child Care	1.1	0.3	0.0	0.5	1.3	1.7	2.2	1.8	1.6	1.0	0.5	1.6
Health Services	0.0	0.3	0.1	1.0	1.5	1.0	0.4	0.6	0.7	0.1	0.5	0.9
Education	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Semi Durables	0.0	3.7	3.9	4.0	5.8	8.6	8.7	8.9	9.3	10.9	13.9	7.4
	100	100	100	100	100	100	100	100	100	100	100	100
Income Sources (%)												
Labor	0.0	12.5	49.0	51.9	60.5	68.4	67.8	57.9	59.7	47.8	45.5	62.1
Agriculture	36.0	26.8	-0.1	5.4	0.8	0.6	0.4	1.0	0.7	2.8	1.2	1.0
Business	0.0	10.8	14.2	16.4	12.6	11.0	9.6	12.1	14.8	16.4	17.7	11.6
Capital	0.0	7.4	5.6	3.3	1.9	1.6	1.5	2.6	3.1	4.9	0.0	2.1
Transfers Rec.	64.0	42.6	41.2	26.9	24.0	18.3	20.2	24.9	19.2	26.1	35.6	22.6
	100	100	100	100	100	100	100	100	100	100	100	100
Transfers Received (%)												
Public Trans. Rec.	30.4	67.8	66.8	77.0	89.5	91.7	90.0	89.2	89.8	88.8	79.3	89.0
(Above=100)												
Food Coupons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sub. Work Unit	40.7	21.4	36.9	29.3	27.0	54.1	59.7	40.8	44.6	34.6	13.8	44.4
Sub. Gov.	9.2	35.2	1.4	7.8	4.1	6.7	4.7	2.7	3.4	1.6	1.4	4.2
Pension	50.1	43.4	61.7	62.9	68.9	39.2	35.6	56.5	52.1	63.7	84.8	51.4
Private Trans. Rec.	69.6	32.2	33.2	23.0	10.5	8.3	10.0	10.8	10.2	11.2	20.7	11.0
	100	100	100	100	100	100	100	100	100	100	100	100

Table C-8: Detailed Income Partition by Rural and Urban Residency, China CHNS 2000: Real 2009 USD

(a) Rural, 2000

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
						Averages, US$						
Consumption	462	527	483	496	509	555	609	748	737	836	796	583
Earnings	-4	15	56	89	297	516	851	1,574	1,631	1,994	2,700	665
Disp. Income	-2	23	71	101	320	556	920	1,846	1,858	2,447	4,035	748
						Shares of Total (%)						
Consumption	0.8	3.6	4.2	17.2	17.4	19.0	20.9	25.6	6.3	5.7	1.4	100
Earnings	-0.0	0.1	0.4	2.7	9.0	15.6	25.6	47.1	12.3	11.8	4.0	100
Disp. Income	-0.0	0.1	0.5	2.7	8.6	14.9	24.6	49.3	12.4	13.1	5.3	100
						Consumption Type (%)						
Food (Diet)	98.4	94.3	94.5	94.3	94.5	93.9	92.6	90.6	90.0	88.9	84.7	93.0
(Above=100)												
Own prod.	8.3	18.4	17.1	19.3	27.5	30.0	27.2	19.8	19.2	13.0	5.8	24.6
Coupons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gifts	0.0	0.1	0.1	0.1	0.2	0.2	0.6	1.5	1.6	2.2	3.3	0.6
Expenditures	91.7	81.5	82.8	80.7	72.3	69.8	72.2	78.8	79.1	84.8	90.9	74.8
Utilities	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.5	0.3	0.9	0.1
Housing Services	0.3	0.1	1.1	0.4	0.5	0.2	0.2	0.1	0.2	0.0	0.0	0.3
Child Care	0.0	1.9	1.7	1.1	0.8	1.1	1.0	1.4	1.6	2.0	3.0	1.1
Health Services	0.6	0.5	0.2	0.3	0.5	1.0	0.7	0.7	0.8	0.4	1.7	0.7
Education	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Semi Durables	0.8	3.2	2.4	3.8	3.7	3.8	5.3	6.9	6.8	8.4	9.7	4.9
	100	100	100	100	100	100	100	100	100	100	100	100
						Income Sources (%)						
Labor	0.0	0.0	3.1	8.5	21.5	29.2	40.4	47.9	53.9	49.6	31.0	39.9
Agriculture	166.6	56.8	66.3	70.9	59.8	47.0	32.7	15.7	16.2	9.8	7.0	29.8
Business	0.0	0.0	4.3	5.6	7.7	14.8	17.0	16.5	13.7	17.0	13.4	15.3
Capital	0.0	4.7	4.3	2.2	3.8	1.8	2.3	5.4	4.0	5.5	15.5	3.9
Transfers Rec.	-66.6	38.5	22.0	12.7	7.3	7.1	7.6	14.1	11.3	17.4	33.1	10.9
	100	100	100	100	100	100	100	100	100	100	100	100
						Transfers Received (%)						
Public Trans. Rec.	0.0	32.2	14.5	20.5	27.1	56.3	62.9	84.4	84.5	82.4	92.1	72.7
(Above=100)												
Food Coupons	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sub. Work Unit	.	16.5	19.4	22.8	56.0	23.0	40.5	25.4	34.8	28.0	9.4	28.0
Sub. Gov.	.	58.1	26.8	19.0	6.1	1.5	2.8	5.0	6.8	8.6	1.7	4.6
Pension	.	25.4	53.8	58.2	38.0	75.5	56.7	69.6	58.4	63.5	88.9	67.4
Private Trans. Rec.	100.0	67.8	85.5	79.5	72.9	43.7	37.1	15.6	15.5	17.6	7.9	27.3
	100	100	100	100	100	100	100	100	100	100	100	100

(b) Urban, 2000

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
						Averages, US$						
Consumption	556	583	595	569	583	645	623	760	678	818	664	636
Earnings	21	75	192	273	548	772	1,013	1,758	1,704	2,449	3,147	902
Disp. Income	17	70	206	250	613	933	1,354	2,416	2,419	3,297	4,815	1,112
						Shares of Total (%)						
Consumption	0.9	3.8	4.7	17.9	18.5	20.4	19.5	23.7	5.3	5.1	1.0	100
Earnings	0.0	0.1	0.9	4.6	12.8	18.7	23.9	40.0	9.7	10.7	3.3	100
Disp. Income	0.0	0.3	0.9	4.5	11.0	16.7	24.4	43.3	11.0	11.8	4.1	100
						Consumption Type (%)						
Food (Diet)	93.5	87.8	85.1	88.6	89.5	85.6	86.0	78.1	83.1	73.7	87.2	85.1
(Above=100)												
Own prod.	1.4	0.6	1.6	2.8	1.6	0.9	0.9	0.8	0.2	1.9	0.0	1.4
Coupons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gifts	0.7	0.6	0.5	0.5	0.5	1.2	2.2	2.2	2.5	2.1	2.6	1.3
Expenditures	97.9	98.7	97.9	96.7	97.9	98.0	96.9	97.1	97.3	96.0	97.4	97.3
Utilities	0.0	0.0	0.0	0.1	0.2	0.5	0.7	0.4	0.6	0.0	0.1	0.4
Housing Services	0.0	5.2	0.3	1.5	0.9	0.7	1.0	2.9	0.1	10.4	0.5	1.5
Child Care	2.3	1.1	1.5	1.2	1.0	2.1	2.7	1.4	2.2	1.3	0.0	1.7
Health Services	1.5	0.5	4.0	2.1	0.5	0.5	1.7	1.0	0.8	1.5	2.9	1.2
Education	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Semi Durables	2.6	5.5	9.1	6.5	7.7	10.5	8.0	16.2	13.3	13.1	9.3	10.2
	100	100	100	100	100	100	100	100	100	100	100	100
						Income Sources (%)						
Labor	0.0	14.1	52.5	43.5	59.8	64.4	59.3	53.9	51.8	42.9	52.5	57.2
Agriculture	0.0	2.3	8.2	5.5	1.4	0.2	0.1	0.7	1.3	0.1	0.0	0.8
Business	0.0	13.0	7.1	19.0	18.0	11.8	9.1	9.7	10.5	17.1	8.4	11.2
Capital	12.6	4.1	2.1	5.2	3.0	3.3	1.2	3.5	3.5	4.4	7.8	3.0
Transfers Rec.	87.4	66.4	30.1	26.7	18.9	20.3	29.8	31.3	32.9	35.7	21.8	27.5
	100	100	100	100	100	100	100	100	100	100	100	100
						Transfers Received (%)						
Public Trans. Rec.	68.8	47.3	69.5	71.6	85.4	91.2	92.1	92.3	91.4	90.3	90.5	90.7
(Above=100)												
Food Coupons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sub. Work Unit	27.8	38.9	11.6	12.3	33.3	36.3	43.7	30.5	32.0	16.0	21.2	34.4
Sub. Gov.	28.7	33.8	12.7	10.7	2.9	3.4	2.5	1.0	1.2	0.2	0.4	2.2
Pension	43.5	27.3	75.7	77.0	63.9	60.3	53.7	68.4	66.8	83.8	78.4	63.5
Private Trans. Rec.	31.2	52.7	30.5	28.4	14.6	8.8	7.9	7.7	8.6	9.7	9.5	9.3
	100	100	100	100	100	100	100	100	100	100	100	100

Table C-9: Detailed Income Partition by Rural and Urban Residency, China CHNS 2004: Real 2009 USD

(a) Rural, 2004

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
Averages, US$												
Consumption	601	577	565	530	610	658	754	852	868	967	880	681
Earnings	-16	8	58	83	271	492	850	1,621	1,709	2,326	2,051	662
Disp. Income	-12	19	77	99	305	552	945	2,088	2,056	2,940	5,018	797
Shares of Total (%)												
Consumption	0.9	3.4	4.0	15.4	18.1	19.4	22.4	24.7	6.3	5.7	1.2	100
Earnings	-0.0	0.1	0.4	2.5	8.2	15.0	25.8	48.6	12.8	13.7	2.8	100
Disp. Income	-0.0	0.1	0.5	2.5	7.6	13.9	23.7	52.3	12.8	14.8	6.0	100
Consumption Type (%)												
Food (Diet)	76.5	90.6	87.6	89.4	92.4	91.7	91.0	87.6	88.5	85.9	77.1	90.3
(Above=100)												
Own prod.	9.2	11.2	12.9	14.8	21.8	26.4	26.5	16.1	14.6	10.8	0.8	21.2
Coupons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gifts	0.0	0.1	0.0	0.0	0.0	0.1	0.5	1.7	1.3	2.6	3.3	0.6
Expenditures	90.8	88.8	87.1	85.2	78.2	73.5	73.0	82.3	84.1	86.6	95.8	78.2
Utilities	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.1
Housing Services	0.0	0.0	0.3	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.2
Child Care	0.0	0.7	1.3	0.9	0.9	0.9	1.0	1.4	0.3	1.5	6.8	1.1
Health Services	20.1	0.7	0.7	1.9	0.9	1.4	1.6	2.3	2.1	3.4	2.3	1.7
Education	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Semi Durables	3.4	8.0	10.0	7.5	5.4	5.7	6.2	8.4	9.0	9.0	13.7	6.7
	100	100	100	100	100	100	100	100	100	100	100	100
Income Sources (%)												
Labor	0.0	3.9	2.7	3.0	10.5	20.3	28.1	35.2	33.5	36.8	33.8	28.8
Agriculture	160.2	37.0	59.5	69.8	68.5	53.6	40.7	20.4	21.5	12.4	4.8	34.7
Business	0.0	0.0	4.7	5.8	7.3	11.3	15.7	13.5	16.7	18.4	4.7	13.1
Capital	0.0	0.0	6.2	4.0	2.4	3.9	5.4	9.3	11.5	12.3	0.0	7.0
Transfers Rec.	-60.2	59.2	26.9	17.4	13.5	13.3	10.9	22.4	16.7	23.1	56.7	17.6
	100	100	100	100	100	100	100	100	100	100	100	100
Transfers Received (%)												
Public Trans. Rec.	7.4	16.3	14.3	15.1	37.4	49.7	68.4	87.9	82.8	92.4	96.7	76.3
(Above=100)												
Food Coupons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sub. Work Unit	0.0	14.3	24.3	10.6	9.2	6.4	15.1	16.9	12.3	22.8	9.4	15.7
Sub. Gov.	100.0	85.7	75.7	89.4	6.3	4.1	1.8	0.8	0.5	0.4	0.2	1.7
Pension	0.0	0.0	0.0	0.0	84.4	89.6	83.1	82.3	87.2	76.8	90.4	82.5
Private Trans. Rec.	92.6	83.7	85.7	84.9	62.6	50.3	31.6	12.1	17.2	7.6	3.3	23.7
	100	100	100	100	100	100	100	100	100	100	100	100

(b) Urban, 2004

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
Averages, US$												
Consumption	476	564	574	556	590	657	751	905	838	879	1,035	692
Earnings	8	62	148	221	525	852	1,313	2,297	2,509	3,223	2,988	1,121
Disp. Income	16	73	168	215	619	1,029	1,655	3,328	3,246	4,751	7,385	1,367
Shares of Total (%)												
Consumption	0.8	3.2	4.0	15.7	17.4	19.0	21.8	26.1	6.2	4.9	1.5	100
Earnings	0.0	0.1	0.5	2.8	9.5	16.6	24.8	46.2	13.2	11.5	3.3	100
Disp. Income	0.0	0.2	0.6	3.2	9.1	15.1	24.2	48.5	11.9	13.7	5.2	100
Consumption Type (%)												
Food (Diet)	73.7	82.1	92.8	87.5	84.9	81.7	83.8	80.2	80.9	77.0	81.0	83.2
(Above=100)												
Own prod.	0.5	1.0	2.0	1.9	0.7	0.7	0.2	0.0	0.1	0.0	0.0	0.6
Coupons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gifts	0.2	0.3	0.2	0.2	0.8	1.5	1.3	1.9	1.6	3.5	1.0	1.2
Expenditures	99.2	98.6	97.8	97.9	98.5	97.8	98.5	98.1	98.3	96.5	99.0	98.2
Utilities	0.5	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.2	0.4	0.0	0.2
Housing Services	8.5	3.4	0.5	1.8	0.4	0.5	1.1	0.5	1.3	0.0	0.3	0.8
Child Care	0.0	4.8	0.0	1.4	0.9	2.1	2.3	1.7	0.7	1.5	5.0	1.7
Health Services	8.5	7.1	2.8	3.5	5.3	5.3	4.4	3.2	4.4	3.1	4.1	4.3
Education	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Semi Durables	8.8	2.6	3.7	5.8	8.4	10.2	8.3	14.1	12.5	18.0	9.5	9.8
	100	100	100	100	100	100	100	100	100	100	100	100
Income Sources (%)												
Labor	0.0	4.3	11.2	25.0	44.2	56.7	55.0	51.8	60.8	46.5	36.8	51.8
Agriculture	5.1	5.4	9.8	5.8	1.2	0.5	0.1	0.0	0.0	0.0	0.0	0.4
Business	0.0	3.4	20.0	16.8	16.3	9.0	7.5	6.3	8.2	4.9	0.0	8.3
Capital	0.0	5.2	15.4	8.2	5.1	3.8	2.4	2.4	1.8	1.8	3.6	3.0
Transfers Rec.	94.9	76.7	43.7	42.9	33.2	30.0	35.0	38.8	26.4	46.8	59.5	36.2
	100	100	100	100	100	100	100	100	100	100	100	100
Transfers Received (%)												
Public Trans. Rec.	30.4	43.3	45.1	69.3	84.0	91.2	93.5	94.0	94.6	94.5	94.3	91.8
(Above=100)												
Food Coupons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sub. Work Unit	44.3	19.5	7.4	3.8	10.9	15.5	15.0	15.3	27.4	9.7	6.0	14.6
Sub. Gov.	55.7	47.5	52.8	19.0	5.1	1.7	0.8	0.4	0.5	0.3	0.0	1.5
Pension	0.0	33.1	39.8	77.2	84.0	82.8	84.2	84.4	72.1	90.0	93.9	83.9
Private Trans. Rec.	69.6	56.7	54.9	30.7	16.0	8.8	6.5	6.0	5.4	5.5	5.7	8.2
	100	100	100	100	100	100	100	100	100	100	100	100

Table C-10: Detailed Income Partition by Rural and Urban Residency, China CHNS 2006: Real 2009 USD

(a) Rural, 2006

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
Averages, US$												
Consumption	376	438	417	439	474	547	602	777	796	927	1,031	569
Earnings	1	17	55	83	271	495	894	1,850	1,782	2,716	3,544	719
Disp. Income	8	35	85	109	309	567	1,005	2,308	2,193	3,375	5,957	859
Shares of Total (%)												
Consumption	0.7	3.0	3.4	15.1	16.5	19.3	21.4	27.6	7.1	6.6	1.8	100
Earnings	0.0	0.1	0.4	2.3	7.5	13.8	24.9	51.5	12.5	15.0	4.8	100
Disp. Income	0.0	0.2	0.5	2.6	7.2	13.2	23.3	53.7	12.8	15.8	6.7	100
Consumption Type (%)												
Food (Diet)	67.6	72.6	70.8	74.9	74.4	75.9	73.3	67.0	66.7	68.8	76.5	72.4
(Above=100)												
Own prod.	31.9	10.1	16.8	17.4	27.5	30.1	28.3	17.4	18.9	11.9	1.7	24.0
Coupons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gifts	0.4	0.2	0.7	0.2	0.1	0.3	0.5	1.4	1.1	1.5	4.1	0.6
Expenditures	67.7	89.7	82.5	82.3	72.4	69.6	71.2	81.3	80.0	86.6	94.2	75.4
Utilities	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.1
Housing Services	5.4	0.1	0.0	0.4	0.1	0.7	0.5	0.4	0.1	0.4	0.0	0.4
Child Care	1.6	2.6	1.9	1.6	0.8	1.0	1.6	1.3	1.5	1.4	0.3	1.3
Health Services	0.1	4.1	0.6	2.0	1.7	0.7	1.1	2.9	2.5	2.7	7.3	1.8
Education	20.7	16.5	18.6	16.6	17.9	16.8	18.3	20.1	19.8	16.6	9.9	18.2
Semi Durables	4.6	4.0	8.1	4.5	5.1	5.0	5.2	8.1	9.4	9.9	6.0	5.9
	100	100	100	100	100	100	100	100	100	100	100	100
Income Sources (%)												
Labor	0.0	0.0	0.9	3.2	14.3	25.1	35.0	40.5	40.9	44.4	26.8	34.4
Agriculture	19.1	42.7	57.3	65.2	63.4	48.9	34.7	13.6	16.8	7.3	3.2	28.1
Business	0.0	0.8	1.0	1.9	7.3	8.9	15.6	14.6	17.9	11.2	6.3	13.2
Capital	0.0	2.0	5.6	4.9	2.6	4.4	3.7	11.5	5.7	17.5	23.2	7.9
Transfers Rec.	80.9	54.5	36.5	25.0	12.5	16.4	11.1	19.6	18.8	19.5	40.5	16.8
	100	100	100	100	100	100	100	100	100	100	100	100
Transfers Received (%)												
Public Trans. Rec.	49.4	5.7	16.4	12.7	21.6	54.7	68.8	88.3	88.7	94.1	83.0	74.5
(Above=100)												
Food Coupons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sub. Work Unit	33.8	48.0	58.7	30.9	11.8	7.4	17.3	13.6	13.7	17.1	3.4	13.7
Sub. Gov.	66.2	52.0	41.3	51.2	20.7	5.2	6.2	1.4	0.8	1.6	0.1	3.1
Pension	0.0	0.0	0.0	17.9	67.5	87.4	76.5	85.0	85.5	81.3	96.5	83.3
Private Trans. Rec.	50.6	94.3	83.6	87.3	78.4	45.3	31.2	11.7	11.3	5.9	17.0	25.5
	100	100	100	100	100	100	100	100	100	100	100	100

(b) Urban, 2006

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
Averages, US$												
Consumption	437	427	472	473	484	595	668	777	912	712	971	599
Earnings	16	51	138	219	532	903	1,421	2,337	2,328	3,176	4,155	1,172
Disp. Income	14	53	161	212	619	1,074	1,708	3,347	3,353	4,527	8,009	1,390
Shares of Total (%)												
Consumption	0.8	2.8	3.9	15.6	16.6	19.1	22.4	26.2	7.8	4.7	1.5	100
Earnings	0.0	0.1	0.5	2.5	9.2	16.1	28.1	44.1	10.6	9.2	3.9	100
Disp. Income	0.0	0.2	0.6	3.1	8.9	15.4	24.6	48.0	12.1	13.1	5.2	100
Consumption Type (%)												
Food (Diet)	71.6	73.2	67.6	67.5	67.2	64.5	64.7	65.8	67.8	72.3	58.9	65.8
(Above=100)												
Own prod.	1.1	2.7	11.0	4.7	1.4	0.2	0.5	0.0	0.0	0.0	0.0	1.1
Coupons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gifts	0.0	0.9	1.0	0.5	2.0	2.5	1.6	3.4	2.5	4.2	6.2	2.1
Expenditures	98.9	96.5	88.1	94.8	96.7	97.3	98.0	96.6	97.5	95.8	93.8	96.8
Utilities	0.0	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.4	0.0	0.1
Housing Services	0.0	0.3	11.1	5.8	2.7	0.5	0.4	0.7	0.2	0.3	0.0	1.7
Child Care	5.3	0.4	0.2	1.2	2.0	0.8	0.9	1.5	0.5	0.6	6.1	1.2
Health Services	0.1	2.9	2.7	2.2	2.1	2.9	4.4	4.1	4.6	3.6	2.5	3.3
Education	18.3	15.5	14.0	19.3	19.7	23.6	20.9	16.2	13.1	14.6	7.6	19.8
Semi Durables	4.8	7.6	4.3	4.0	6.3	7.7	8.5	11.6	13.6	8.1	24.9	8.0
	100	100	100	100	100	100	100	100	100	100	100	100
Income Sources (%)												
Labor	0.0	3.0	17.5	24.5	43.1	52.5	58.6	51.1	48.7	36.7	42.1	51.6
Agriculture	11.1	9.8	15.6	6.9	1.5	0.3	0.8	0.9	0.0	3.4	0.0	1.0
Business	0.0	1.5	10.5	13.5	12.8	7.5	7.5	4.5	2.9	8.2	0.0	6.7
Capital	0.0	14.7	5.9	6.4	6.9	4.7	4.2	1.9	2.6	0.6	4.0	3.5
Transfers Rec.	88.9	439.0	49.1	66.0	35.3	35.0	29.6	41.0	45.8	50.3	51.2	37.5
	100	100	100	100	100	100	100	100	100	100	100	100
Transfers Received (%)												
Public Trans. Rec.	0.0	89.0	35.3	71.6	85.1	89.2	92.0	94.2	91.7	96.8	95.0	91.1
(Above=100)												
Food Coupons	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sub. Work Unit	.	1.5	21.0	2.5	10.3	9.7	16.1	13.9	13.3	8.8	5.0	13.0
Sub. Gov.	.	3.8	27.6	10.3	2.0	2.6	0.5	0.3	0.2	0.3	0.0	1.2
Pension	.	94.7	51.4	87.1	87.6	87.7	83.4	85.8	86.4	90.9	95.0	85.8
Private Trans. Rec.	100.0	11.0	64.7	28.4	14.9	10.8	8.0	5.8	8.3	3.2	5.0	8.9
	100	100	100	100	100	100	100	100	100	100	100	100

Table C-11: Detailed Income Partition by Rural and Urban Residency, China CHNS 2009: Real 2009 USD

(a) Rural, 2009

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
Averages, US$												
Consumption	651	473	416	480	580	674	774	918	892	1,042	1,090	686
Earnings	14	46	98	157	448	835	1,399	3,012	2,939	4,144	7,404	1,215
Disp. Income	14	51	119	160	488	884	1,503	3,353	3,238	4,700	8,287	1,277
Shares of Total (%)												
Consumption	0.9	2.6	2.8	13.5	17.1	20.0	22.8	26.7	6.4	5.7	1.6	100
Earnings	0.0	0.1	0.3	2.2	7.5	14.5	24.1	51.7	13.1	13.7	6.0	100
Disp. Income	0.0	0.2	0.5	2.5	7.6	13.8	23.5	52.5	12.7	14.8	6.4	100
Consumption Type (%)												
Food (Diet) (Above=100)	93.9	91.2	93.5	91.8	90.8	90.8	87.9	82.4	83.1	78.9	82.8	87.9
Own prod.	60.5	34.3	30.4	36.1	55.4	58.3	57.0	45.1	39.2	34.9	19.4	51.0
Coupons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gifts	0.6	0.4	1.6	0.8	0.4	0.4	0.7	1.0	1.1	1.1	0.2	0.7
Expenditures	38.9	65.3	67.9	63.2	44.2	41.4	42.3	53.9	59.7	64.0	80.4	48.3
Utilities	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.1
Housing Services	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Child Care	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Health Services	0.7	4.1	1.3	2.2	2.7	3.1	4.3	7.8	6.9	9.8	12.7	4.5
Education	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Semi Durables	5.4	4.7	5.2	6.0	6.5	6.0	7.6	9.8	9.9	11.3	4.5	7.5
	100	100	100	100	100	100	100	100	100	100	100	100
Income Sources (%)												
Labor	0.0	0.0	1.9	7.3	17.2	30.2	39.6	43.9	48.1	42.6	39.0	38.0
Agriculture	31.7	49.7	48.9	57.0	56.5	44.5	31.5	18.0	19.1	15.4	3.6	28.7
Business	0.0	0.0	1.3	3.8	7.4	11.5	12.9	15.8	15.6	14.1	28.2	13.6
Capital	4.5	4.2	7.7	6.3	4.5	4.6	4.9	8.6	7.2	8.4	16.3	6.8
Transfers Rec.	63.7	46.0	40.3	25.7	22.3	12.0	11.0	13.5	10.1	18.3	12.9	13.7
	100	100	100	100	100	100	100	100	100	100	100	100
Transfers Received (%)												
Public Trans. Rec. (Above=100)	32.9	11.7	17.0	17.0	56.1	66.2	71.4	90.0	85.7	93.7	95.8	75.9
Food Coupons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sub. Work Unit	81.6	56.7	53.8	33.9	2.7	2.7	3.1	1.8	2.9	1.1	0.3	2.6
Sub. Gov.	18.4	43.3	46.2	37.7	4.6	7.4	3.5	2.2	4.3	0.3	4.9	3.6
Pension	0.0	0.0	0.0	28.4	92.7	89.9	93.5	95.9	92.7	98.6	94.8	93.8
Private Trans. Rec.	67.1	88.3	83.0	83.0	43.9	33.8	28.6	10.0	14.3	6.3	4.2	24.1
	100	100	100	100	100	100	100	100	100	100	100	100

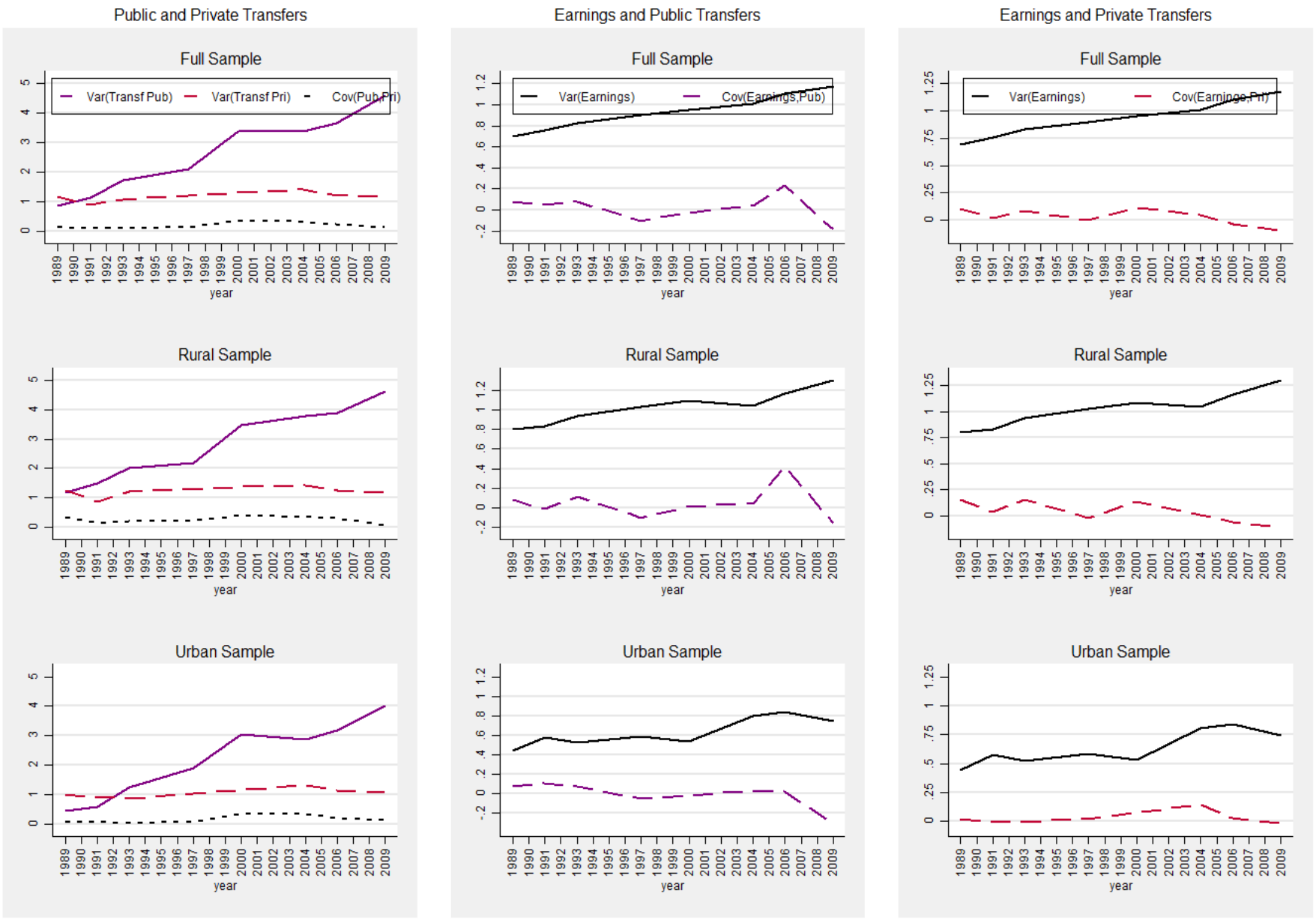
(b) Urban, 2009

	Bottom (%)			Quintiles					Top (%)			All
	0-1	1-5	5-10	1st	2nd	3rd	4th	5th	10-5	5-1	1	0-100
Averages, US$												
Consumption	438	498	518	517	699	759	808	894	837	1,058	810	737
Earnings	36	149	263	390	874	1,394	2,024	3,693	3,739	4,846	9,916	1,747
Disp. Income	33	137	312	399	980	1,617	2,421	4,763	4,640	6,591	11,827	2,034
Shares of Total (%)												
Consumption	0.6	2.6	3.4	13.6	19.2	21.1	21.7	24.4	5.5	5.7	1.1	100
Earnings	0.0	0.2	0.6	3.4	10.3	16.8	26.2	43.3	10.6	9.4	4.4	100
Disp. Income	0.0	0.3	0.8	3.9	9.7	15.9	23.9	46.7	11.3	13.1	5.4	100
Consumption Type (%)												
Food (Diet) (Above=100)	92.2	89.9	88.0	90.0	88.5	84.6	83.8	79.2	84.0	76.5	83.3	84.6
Own prod.	10.6	19.4	8.0	10.8	2.5	1.0	0.8	1.2	0.1	0.0	6.4	2.7
Coupons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gifts	2.4	1.0	0.1	0.5	0.5	1.1	1.6	2.5	1.6	3.1	6.2	1.3
Expenditures	87.0	79.6	92.0	88.7	97.0	97.9	97.6	96.3	98.3	96.9	87.4	96.0
Utilities	0.0	0.0	0.0	0.0	0.1	0.4	0.3	0.1	0.3	0.0	0.3	0.2
Housing Services	0.0	1.3	0.5	0.8	0.8	0.3	0.5	0.1	0.4	0.0	0.0	0.5
Child Care	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Health Services	1.7	3.0	6.1	4.1	6.3	7.0	8.5	12.0	9.1	13.2	5.6	8.1
Education	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Semi Durables	6.1	5.7	5.5	5.1	4.3	7.7	6.8	8.5	6.3	10.3	10.7	6.7
	100	100	100	100	100	100	100	100	100	100	100	100
Income Sources (%)												
Labor	0.0	12.6	29.1	31.8	53.2	61.0	66.6	51.6	54.4	35.9	43.4	56.0
Agriculture	-0.2	3.5	5.4	4.9	1.2	0.1	0.2	0.1	0.0	0.0	0.0	0.4
Business	0.0	7.3	13.3	11.1	12.6	8.5	5.2	9.2	9.5	9.9	9.5	8.5
Capital	10.8	23.8	8.4	11.0	5.6	2.3	2.6	2.6	2.0	3.2	3.0	3.2
Transfers Rec.	89.4	52.8	42.7	40.6	29.0	27.8	25.4	36.4	34.1	51.0	44.1	31.9
	100	100	100	100	100	100	100	100	100	100	100	100
Transfers Received (%)												
Public Trans. Rec. (Above=100)	49.0	26.7	65.5	76.6	88.7	93.6	94.2	96.1	96.5	95.7	97.4	93.7
Food Coupons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sub. Work Unit	49.8	30.3	0.2	2.1	1.1	1.6	1.6	1.1	0.9	1.0	0.8	1.3
Sub. Gov.	50.2	69.7	33.9	13.8	2.0	2.3	0.9	0.3	0.5	0.2	0.1	1.4
Pension	0.0	0.0	66.0	84.1	96.8	96.1	97.4	98.6	98.6	98.9	99.1	97.3
Private Trans. Rec.	51.0	73.3	34.5	23.4	11.3	6.4	5.8	3.9	3.5	4.3	2.6	6.3
	100	100	100	100	100	100	100	100	100	100	100	100

Table C-12: Inequality Measures of Consumption and Income, China CHNS 1989 and 2009

	Mean to Median	Location Mean (%)	Variance of Logs	Gini Index	Coefficient of Variation	90/10 Ratio	Skewness	Kurtosis
[A] China, CHNS 1989 (in 2009 USD)								
Consumption	1.112	59.2	0.216	0.258	0.482	3.387	1.274	5.189
Income	1.129	57.5	0.713	0.372	0.708	7.744	1.429	6.248
Rural China								
Consumption	1.097	58.3	0.211	0.252	0.462	3.358	1.047	4.317
Income	1.233	59.3	0.821	0.407	0.786	9.502	1.542	6.245
Urban China								
Consumption	1.150	62.3	0.223	0.267	0.509	3.431	1.429	5.383
Income	1.123	58.5	0.337	0.287	0.552	4.092	1.588	7.551
[B] China, CHNS 2009 (in 2009 USD)								
	Mean to Median	Location Mean (%)	Variance of Logs	Gini Index	Coefficient of Variation	90/10 Ratio	Skewness	Kurtosis
Consumption	1.149	58.2	0.452	0.334	0.613	5.805	1.059	4.124
Income	1.441	63.5	1.330	0.484	1.016	16.001	3.005	23.027
Rural China								
Consumption	1.184	59.0	0.476	0.347	0.643	6.105	1.164	4.341
Income	1.441	64.7	1.376	0.496	1.037	17.923	2.500	12.603
Urban China								
Consumption	1.106	55.9	0.391	0.304	0.550	5.054	0.829	3.640
Income	1.257	61.5	0.979	0.428	0.899	10.306	3.223	26.077

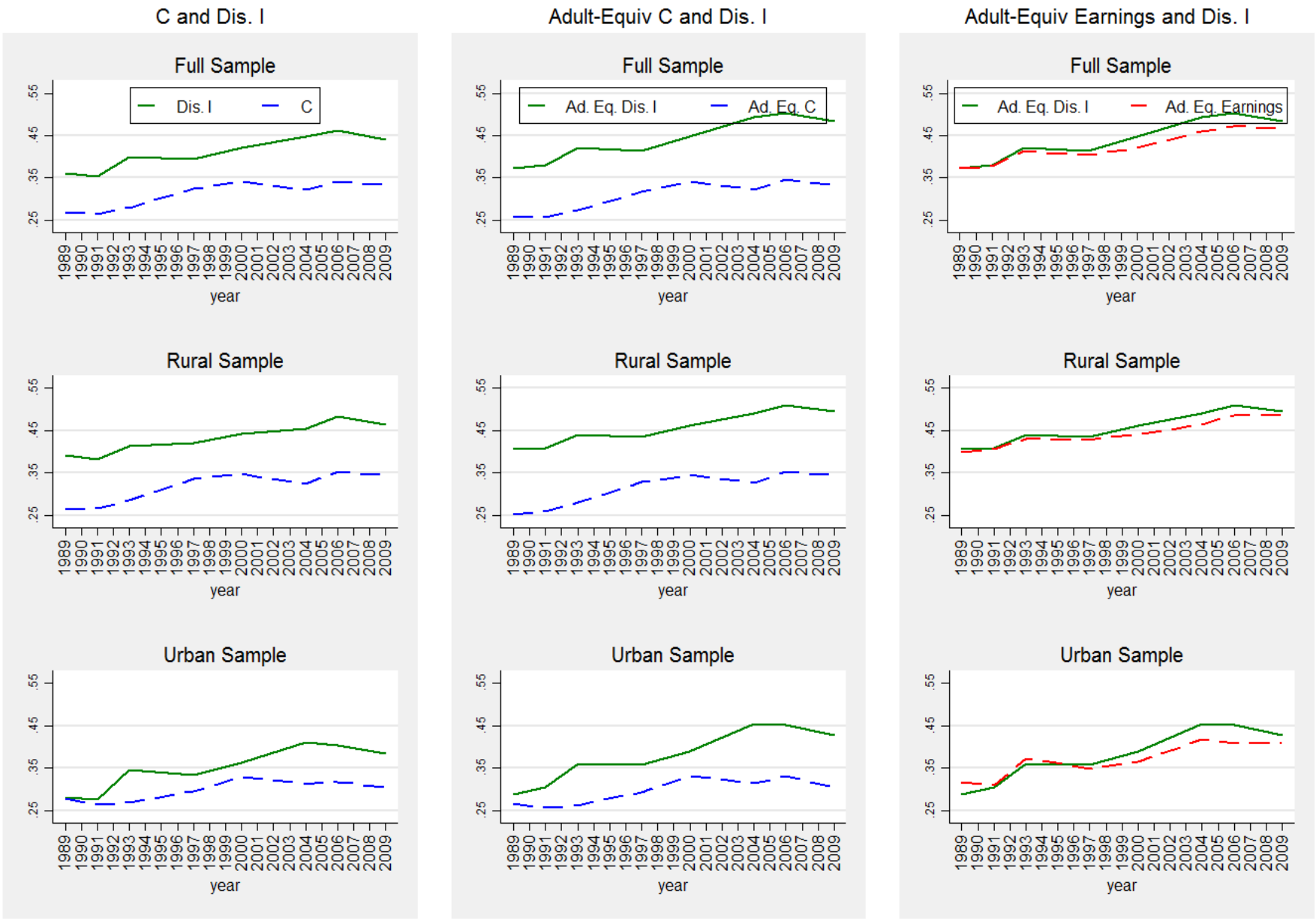
Figure C-1: Earnings, Public and Private Transfers, Variance of Logs, CHNS, China 1989-2009



Source: CHNS 1989-2009. In 2009 USD.

Notes: The left column shows the evolution of the variance and covariance of logged household public transfers and private transfers from 1989 to 2009. The middle column shows the evolution of the variance of logged household earnings and its covariance with logged household public transfers. The right column shows the evolution of logged household earnings and its covariance with logged household private transfers. For a discussion on the facts, see Section 4.

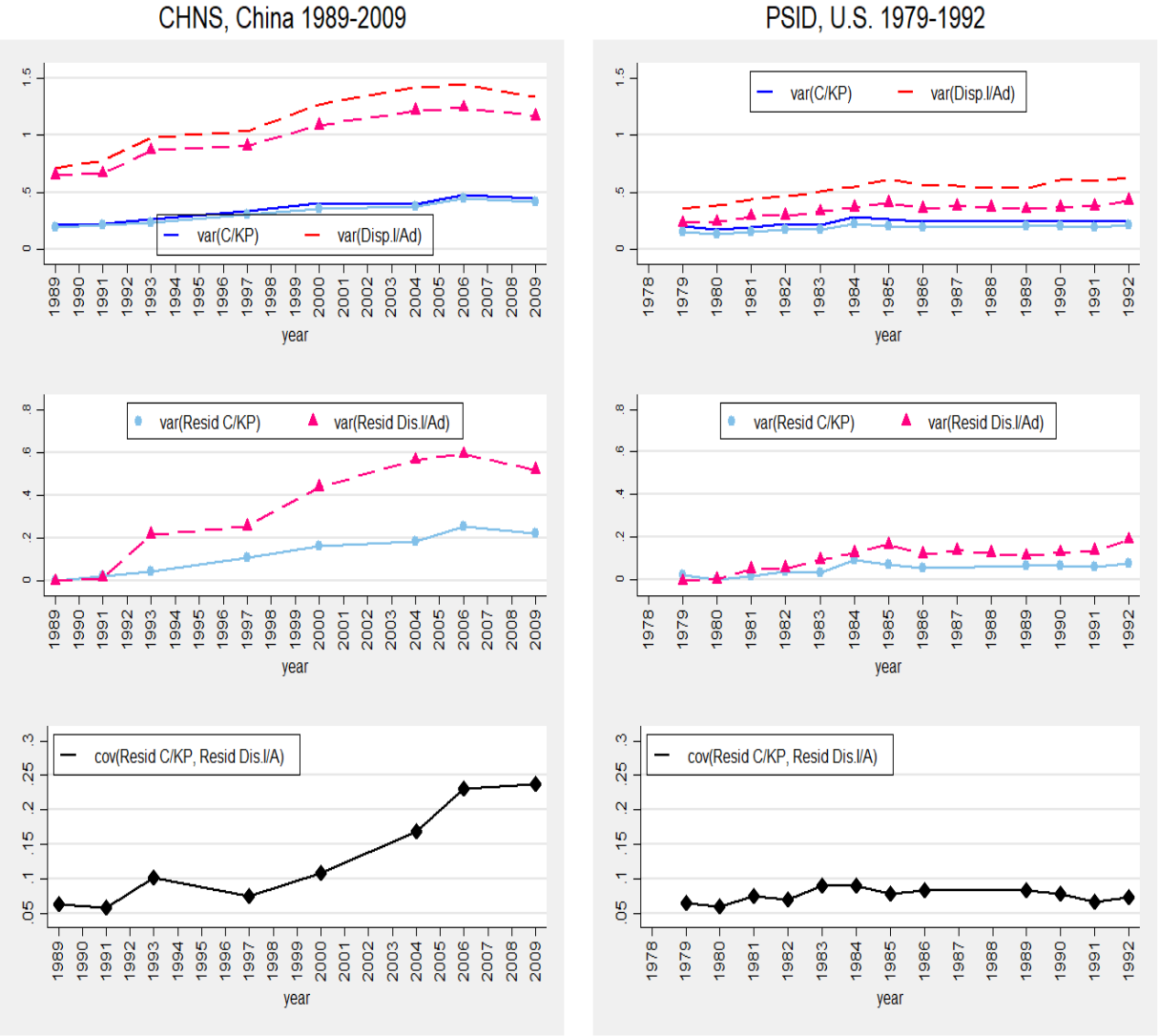
Figure C-2: Consumption and Income Inequality, Gini, China 1989-2009



Source: CHNS 1989-2009. In 2009 USD.

Notes: The left column shows the evolution of the Gini index of household consumption and disposable income from 1989 to 2009. The middle column shows the evolution of the Gini index of adult-equivalent consumption and adult-equivalent disposable income from 1989 to 2009. The right column shows the evolution of the Gini index of adult-equivalent earnings and adult-equivalent disposable income from 1989 to 2009. For a discussion on the facts, see Section 4.

Figure C-3: Residual Consumption and Income Inequality, Variance of Logs, PSID, U.S. 1978-1992, and CHNS, China 1989-2009



Source: CHNS 1989-2009 and PSID 1978-1992.

D Estimating Income Process Alone

In this Section, we consider a more general specification for the income process alone. Let the residual log income y_t be composed of a permanent component and a transitory component:

$$y_t = z_t + \varepsilon_t,$$

where the permanent component evolves with a persistent parameter ρ:

$$z_t = \rho z_{t-1} + \zeta_t,$$

and the transitory component is iid across households and serially uncorrelated. The benefit of this specification is that it nests the benchmark specification in our paper. The benchmark income process in the paper is just a special case where ρ equals 1. The objective of this Section is to check if we can or cannot reject the null that $\rho = 1$ from using income data alone. While in the US context, the transitory component of the income process has an MA(1) structure, our data is not available at annual frequency and, hence, prevents us from identifying the MA parameter. Therefore, we retain the serially uncorrelated structure of the transitory shocks.

We follow the terminology in the paper and refer to the ε_t as the transitory shock, which has mean zero and variance $\sigma^2_{\varepsilon,t}$, and refer to the ζ_t as the permanent shock (though, to be precise, it is the shock to the persistent component), which has mean zero and variance $\sigma^2_{\zeta,t}$. Next, we discuss the identification of the income process.

To start, rewrite the residual log income y_t as follows,

$$\begin{aligned} y_t &= \rho z_{t-1} + \zeta_t + \varepsilon_t \\ &= \rho\left(y_{t-1} - \varepsilon_{t-1}\right) + \zeta_t + \varepsilon_t \\ &= \rho y_{t-1} + \zeta_t + \varepsilon_t - \rho\varepsilon_{t-1}. \end{aligned}$$

Then take the difference of the residual log income τ years apart,

$$\begin{aligned} y_t - y_{t-\tau} \equiv \Delta_\tau y_t &= \rho y_{t-1} + \zeta_t + \varepsilon_t - \rho\varepsilon_{t-1} - y_{t-\tau} \\ &= (\rho^\tau - 1) y_{t-\tau} + \sum_{j=t-\tau+1}^{t} \rho^{t-j}\zeta_j - \rho^\tau \varepsilon_{t-\tau} + \varepsilon_t. \end{aligned}$$

For $\rho = 1$, the above expression collapses to $\Delta_\tau y_t = \sum_{j=t-\tau+1}^{t} \zeta_j - \varepsilon_{t-\tau} + \varepsilon_t$, identical to the expression for the benchmark given at the beginning of Appendix E.

We can derive the moment conditions as follows, assuming that the permanent shocks within the gap between two survey dates stay constant,

$$\begin{aligned} var(\Delta_\tau y_t) &= (\rho^\tau - 1)^2 var(y_{t-\tau}) + \sum_{j=t-\tau+1}^{t} \rho^{2(t-j)}\sigma^2_{\zeta,t} + \rho^{2\tau}\sigma^2_{\varepsilon,t-\tau} + \sigma^2_{\varepsilon,t} - (\rho^\tau - 1)\rho^\tau \sigma^2_{\varepsilon,t-\tau} \\ &= (\rho^\tau - 1)^2 var(y_{t-\tau}) + \sum_{j=t-\tau+1}^{t} \rho^{2(t-j)}\sigma^2_{\zeta,t} + \sigma^2_{\varepsilon,t} + \rho^\tau \sigma^2_{\varepsilon,t-\tau}. \\ cov(\Delta_{\tau_1} y_t, \Delta_{\tau_2} y_{t+\tau_2}) &= (\rho^{\tau_1} - 1)(\rho^{\tau_2} - 1) cov(y_{t-\tau_1}, y_t) + (\rho^{\tau_2} - 1)\sigma^2_{\zeta,t} + (\rho^{\tau_2} - 1)\sigma^2_{\varepsilon,t} - \rho^{\tau_2}\sigma^2_{\varepsilon,t} \\ &= (\rho^{\tau_1} - 1)(\rho^{\tau_2} - 1) cov(y_{t-\tau_1}, y_t) + (\rho^{\tau_2} - 1)\sigma^2_{\zeta,t} - \sigma^2_{\varepsilon,t}. \end{aligned}$$

Note that to estimate this model, we need to construct the moments from both the first differenced data (i.e. $var(\Delta_\tau y_t)$ and $cov(\Delta_{\tau_1} y_t, \Delta_{\tau_2} y_{t+\tau_2})$) and the level data (i.e. $var(y_{t-\tau})$ and $cov(y_{t-\tau_1}, y_t)$). We take the level moments, $var(y_{t-\tau})$ and $cov(y_{t-\tau_1}, y_t)$, as given by the level data and minimize the distance between the model predictions of $var(\Delta_\tau y_t)$ and $cov(\Delta_{\tau_1} y_t, \Delta_{\tau_2} y_{t+\tau_2})$ and their first-differenced data counterparts by choosing the

appropriate paramters.

To ensure stability in the estimation, we also impose the restrictions that $\sigma^2_{\zeta,91} = \sigma^2_{\zeta,93}$, $\sigma^2_{\zeta,06} = \sigma^2_{\zeta,09}$, $\sigma^2_{\varepsilon,89} = \sigma^2_{\varepsilon,91}$ and $\sigma^2_{\varepsilon,06} = \sigma^2_{\varepsilon,09}$. We've made the same assumptions in the benchmark model. In sum, we have 7 variance conditions, $var(\Delta_\tau y_t)$ for $t = 91, 93, 97, 00, 04, 06, 09$, and 6 covariance conditions, $cov(\Delta_{\tau_1} y_t, \Delta_{\tau_2} y_{t+\tau_2})$ for $t = 91, 93, 97, 00, 04, 06$, a total of 13 conditions. Meanwhile, we have 12 parameters, the persistence parameter ρ, 5 variances of the permanent shocks, σ^2_t for $t = 93, 97, 00, 04, 06$, and 6 variances of the transitory shocks, σ^2_t for $t = 91, 93, 97, 00, 04, 06$. The model is slightly over-identified.

We report the results in Table D-1. We cannot reject the null hypothesis that the persistent parameter ρ is 1 for either rural or urban sample. The magnitude of the estimates of the variance of transitory shocks reported here is very close to that obtained from the benchmark estimation (see the first two columns in Table 3 in the paper). The estimates of the variance of permanent shocks reported here tend to be higher (lower) for the rural (urban) sample than their counterparts from the benchmark estimation. This is consistent with a point estimate of ρ lower (higher) than 1 for the rural (urban) sample. In other words, relative to $\rho = 1$, a lower ρ discounts the cumulative effect from the permanent shocks and calls for a higher variance of the permanent shocks to rationalize the variance of income growth in the data, which is the case for the rural sample. The case for the urban sample is analogous. In light of these results, we simply set ρ to 1 in the benchmark, which is also in line with the literature on consumption insurance and facilitates the comparison with the US.

Table D-1: Estimation of the Income Process

	Rural	Urban
	(1)	(2)
Permanent shocks $\sigma^2_{\zeta_t}$		
1992-3	0.160	0.023
	(0.041)	(0.017)
1994-7	0.108	0.031
	(0.043)	(0.040)
1998-2000	0.140	0.009
	(0.049)	(0.025)
2001-4	0.163	0.015
	(0.045)	(0.027)
2005-6	0.201	0.068
	(0.055)	(0.049)
Transitory shocks $\sigma^2_{\varepsilon_t}$		
1991	0.266	0.126
	(0.035)	(0.020)
1993	0.356	0.253
	(0.050)	(0.039)
1997	0.467	0.304
	(0.057)	(0.086)
2000	0.449	0.363
	(0.062)	(0.064)
2004	0.487	0.312
	(0.047)	(0.049)
2006	0.350	0.218
	(0.050)	(0.052)
Persistence parameter ρ		
	0.877	1.048
	(0.103)	(0.101)
Observations	16,550	7,760

Notes: The standard errors are computed based on 50 bootstrap replicas.

E Identification of the Partial Insurance Model

We estimate the partial insurance model a la **?**. We regress the (logged) adult-equivalent income and the (logged) adult-equivalent consumption measure on dummies of sex, age, education level, province of residence and ethnic minority separately by urban status and by year. We then use the notation $\Delta_\tau x$ to denote the difference between the variables x_t and $x_{t-\tau}$. After taking the first differences of the residuals from the CHNS, we have the history of the (unexplained) income and consumption growth as inputs to the estimation: $\{\Delta_2 y_{1991}, \Delta_2 y_{1993}, \Delta_4 y_{1997}, \Delta_3 y_{2000}, \Delta_4 y_{2004}, \Delta_2 y_{2006}, \Delta_3 y_{2009}, \Delta_2 c^*_{1991}, \Delta_2 c^*_{1993}, \Delta_4 c^*_{1997}, \Delta_3 c^*_{2000}, \Delta_4 c^*_{2004}, \Delta_2 c^*_{2006}, \Delta_3 c^*_{2009}\}$.[36]

The econometric model is laid down in Section 5.1 in the paper. Note that even though the model is cast in terms of annual income and consumption, we have the income and consumption growth from the CHNS, $\Delta_\tau y_t$ and $\Delta_\tau c^*_t$, only for $\tau \geq 2$ for all waves. Suppose that the loading factors $\psi_{\zeta,t}$ and $\psi_{\varepsilon,t}$ are constant between $t-\tau$ and t and index them by t. We can express the income and consumption growth from the data as follows:

$$\Delta_\tau y_t = y_t - y_{t-\tau} = \sum_{j=t-\tau+1}^{t} \zeta_j + \varepsilon_t - \varepsilon_{t-\tau}.$$

$$\Delta_\tau c^*_t = \psi_{\zeta,t} \sum_{j=t-\tau+1}^{t} \zeta_j + \psi_{\varepsilon,t} \sum_{j=t-\tau+1}^{t} \varepsilon_j + \sum_{j=t-\tau+1}^{t} \xi_j + u^c_t - u^c_{t-\tau}.$$

The non-zero entries in the auto-covariance matrix of the income growth are:

$$E[\Delta_\tau y_t^2] = \sum_{j=t-\tau+1}^{t} \sigma^2_{\zeta_j} + \sigma^2_{\epsilon_t} + \sigma^2_{\epsilon_{t-\tau}}, \tag{6}$$

$$E[\Delta_{\tau_1} y_t \Delta_{\tau_2} y_{t+\tau_2}] = -\sigma^2_{\epsilon_t}. \tag{7}$$

The non-zero elements in the auto-covariance matrix of the consumption growth are:

$$E[\Delta_\tau c^{*2}_t] = \psi^2_{\zeta,t} \sum_{j=t-\tau+1}^{t} \sigma^2_{\zeta_j} + \psi^2_{\varepsilon,t} \sum_{j=t-\tau+1}^{t} \sigma^2_{\varepsilon_j} + \tau\sigma^2_\xi + \sigma^2_{u_t} + \sigma^2_{u_{t-\tau}};$$

$$E[\Delta_{\tau_1} c^*_t \Delta_{\tau_2} c^*_{t+\tau_2}] = -\sigma^2_{u_t}.$$

The non-zero elements in the auto-covariances of the consumption and income growth are:

$$E[\Delta_\tau c^*_t \Delta_\tau y_t] = \psi_{\zeta,t} \sum_{j=t-\tau+1}^{t} \sigma^2_{\zeta_j} + \psi_{\varepsilon,t}\sigma^2_{\varepsilon_t}, \tag{8}$$

$$E[\Delta_{\tau_1} c^*_t \Delta_{\tau_2} y_{t+\tau_2}] = -\psi_{\varepsilon,t}\sigma^2_{\varepsilon_t}. \tag{9}$$

A simple manipulation yields that the sum of the variances of the permanent shocks within the intervals are

[36] Before each estimation, we further trim the first differences. First, we trim the first differences of income and consumption by top and bottom 1%, by wave and area of residency separately. Second, we would like to avoid erratic behavior such as that of households that report consistently low (or high) consumption or income growth during the entire sample except for one specific period which is indicative of potential measurement error from data entry. To avoid this behavior, we trim the sum of two consecutive (absolute) growth rates to constrain this absolute growth in residual income and consumption to be less than 2 log points.

identified together with $\psi_{\zeta,t}$:

$$
\begin{aligned}
&E[\Delta_{\tau_2} y_{t+\tau_2}(\Delta_{\tau_1} y_t + \Delta_{\tau_2} y_{t+\tau_2} + \Delta_{\tau_3} y_{t+\tau_2+\tau_3})] = \sum_{j=t+1}^{t+\tau_2} \sigma^2_{\zeta_j};\\
&E[\Delta_{\tau_2} c^*_{t+\tau_2}(\Delta_{\tau_1} y_t + \Delta_{\tau_2} y_{t+\tau_2} + \Delta_{\tau_3} y_{t+\tau_2+\tau_3})] = \psi_{\zeta,t+\tau_2} \sum_{j=t+1}^{t+\tau_2} \sigma^2_{\zeta_j};\\
&\frac{E[\Delta_{\tau_2} c^*_{t+\tau_2}(\Delta_{\tau_1} y_t + \Delta_{\tau_2} y_{t+\tau_2} + \Delta_{\tau_3} y_{t+\tau_2+\tau_3})]}{E[\Delta_{\tau_2} y_{t+\tau_2}(\Delta_{\tau_1} y_t + \Delta_{\tau_2} y_{t+\tau_2} + \Delta_{\tau_3} y_{t+\tau_2+\tau_3})]} = \psi_{\zeta,t+\tau_2}.
\end{aligned} \tag{10}
$$

Similarly, the identification of the variances of the transitory shocks follows from:

$$
\begin{aligned}
&E[\Delta_{\tau_1} y_t \Delta_{\tau_2} y_{t+\tau_2}] = -\sigma^2_{\varepsilon_t};\\
&E[\Delta_{\tau_1} c^*_t \Delta_{\tau_2} y_{t+\tau_2}] = -\psi_{\varepsilon,t}\sigma^2_{\varepsilon_t};\\
&\frac{E[\Delta_{\tau_1} c^*_t \Delta_{\tau_2} y_{t+\tau_2}]}{E[\Delta_{\tau_1} y_t \Delta_{\tau_2} y_{t+\tau_2}]} = \psi_{\varepsilon,t}.
\end{aligned} \tag{11}
$$

This means that as long as we can identify the sum of the variances of the permanent shocks as a block, neither the identification nor the interpretation of the insurance parameters, which are assumed to be fixed between the survey dates, is affected by the fact that we have unevenly spaced data.

In practice, to limit the number of parameters to be estimated, we restrict the insurance parameters ψ_ζ and ψ_ε to be constant in the two subperiods, 1989-1997 and 1998-2009. The dividing line is motivated by the observation from the movement of the covariance of the residual consumption and income in Figure 4 in the paper. The covariance is virtually flat up to the 1997 wave but trends upward to three times as high as the pre-1997 level by 2009. We also restrict the transmission parameters $\psi_{\zeta,t}$ and $\psi_{\varepsilon,t}$ to be positive.

To estimate the model, we proceed in two steps. The income process is estimated with the income data only in the first step. In the second step, we estimate the equation relating consumption growth to income shocks with the panel of income and consumption, given the estimates of the parameters of the income process from the first step. In both steps, we employ the diagonally weighted minimum distance (DWMD) estimator. For stability concerns, we suppose that $\sum_{j=1989}^{1991} \sigma^2_{\zeta_j} = \sum_{j=1992}^{1993} \sigma^2_{\zeta_j}$ and $\sum_{j=2007}^{2009} \sigma^2_{\zeta_j} = 1.5 \sum_{j=2005}^{2006} \sigma^2_{\zeta_j}$. Also suppose $\sigma^2_{\varepsilon_j}$ and $\sigma^2_{u^c_j}$ before 1991 are the same as $\sigma^2_{\varepsilon_{1991}}$ and $\sigma^2_{u^c_{1991}}$, and those after 2006 are the same as those in 2006.[37] We compute the bootstrapped standard errors of the estimates from 50 bootstrap samples.

[37] We have estimated the income process and consumption insurance jointly in a single step using the DWMD. We obtained estimates of the insurance parameters that are similar to what we report here. However, the restriction that the insurance parameters remain constant in the two subperiods contaminates the estimates of the income shocks around the year 2000. To see this point, consider the equation (10). If imposing constant insurance parameters within the two subperiods tends to produce a lower $\psi_{\zeta_{1997}}$ and a higher $\psi_{\zeta_{2000}}$ than in a model that allows the insurance parameters to vary by wave, then this would lead to an upward bias on $\sigma_{\zeta_{1997}}$ and a downward bias on $\sigma_{\zeta_{2000}}$. Hence, we prefer the two-step estimation procedure.

F Partial Insurance with Alternative Consumption Measures

F.1 Alternative Consumption Measures From the CHNS

In the benchmark estimation, the consumption measure is the sum of all consistently surveyed consumption items in the CHNS. It includes food, utility, health and semidurable expenditures. In this Section, we break the baseline consumption down into alternative consumption measures, which include different subcategories of consumption goods. The transmission parameters are quite robust across specifications.

In Table F-1, we report the estimation results for four measures of consumption side by side: food only, food+utility, food+utility+health, and food+utility+health+semidurables (=the benchmark). The reason why we consider subsets of the consumption items instead of each separately is because the amounts of utility expenditure is very small, and there are many zeros in health and semidurable expenditures. The sample average of utility expenditure is \$74 (as compared to \$1342 for food). The percentage of zero observations for health expenditures is 63% and for semidurables is 67%. Conditioning on the non-zero reports, the health expenditures average \$74 and semidurables expenditures average \$380, still small relative to food. It is for these reasons that the estimation results do not change much in all four specifications.

Table F-1: Consumption Transmission Parameters, Alternative Consumption Measures

	Food		+ Utility		+ Health		+ Semidurable	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
Transmission parameters								
$\psi_{\zeta,pre97}$	0.056	0.069	0.066	0.061	0.069	0.072	0.104	0.049
	(0.041)	(0.114)	(0.046)	(0.126)	(0.047)	(0.119)	(0.050)	(0.118)
$\psi_{\zeta,post97}$	0.280	0.254	0.255	0.201	0.257	0.260	0.280	0.244
	(0.050)	(0.088)	(0.044)	(0.093)	(0.044)	(0.086)	(0.040)	(0.091)
$\psi_{\varepsilon,pre97}$	0.000	0.133	0.000	0.118	0.000	0.116	0.000	0.176
	(0.014)	(0.059)	(0.009)	(0.047)	(0.009)	(0.046)	(0.010)	(0.060)
$\psi_{\varepsilon,post97}$	0.033	0.059	0.031	0.074	0.031	0.040	0.023	0.062
	(0.030)	(0.048)	(0.032)	(0.054)	(0.032)	(0.058)	(0.028)	(0.050)
Taste shock, σ_ξ^2								
	0.019	0.023	0.015	0.020	0.015	0.018	0.017	0.016
	(0.003)	(0.005)	(0.003)	(0.005)	(0.003)	(0.005)	(0.003)	(0.006)
Observations	16,570	7,769	16,556	7,757	16,554	7,758	16,550	7,760

F.2 Adding Imputed Housing Service From the CHNS

In this Section, we impute the value of service flow from shelter for the urban CHNS sample. We focus on the urban sample, because we have relatively little information about the renters in the rural areas of China and the rural housing market is under-developed in the sense that most rural households live in houses that they themselves build close to the field.

To construct the service flow from shelter for the urban households, we follow two strategies. Firstly, from the 1989 to 2006 waves, households were asked the monthly rent in the case that they rented an apartment/house from the state, the work unit or another individual and were asked to estimate a montly rent for the apartment/house that they owned, stayed in for free. We combine the answer of these two questions and annualize the (estimated) monthly rent to obtain the annual value of the flow of housing service. This way, we have the housing service for 80% of urban households from 1989 to 2006. The second strategy is designed to handle the change of the structure of the survey in 2009. In 2009, the respondents were no longer asked to provide an estimate of rent for owner-occupied housing. As home ownership has become widespread and housing market develops, a household either owns their shelter or rents from the market. In our dataset, about 51% of urban households report to be renters with the complement being owners. We compute the rent-to-value ratio for renters who report both rents and the value of house and find that ratio to be 4.4%. We impute the housing service for owner-occupied housing as 4.4% times the value of the house in 2009. With the second strategy, we have non-missing values of housing service for 90% of the urban households in 2009.[38] Then, we construct a new consumption measure, which includes the benchmark consumption (i.e. items consistently surveyed throughout the sample period in the CHNS) and the imputed housing service.

The estimation results are found in Table F-2. For ease of comparison, the first column is the estimates of the transmission parameters from our urban benchmark and the second column contains the results using a consumption measure that includes imputed housing service. Including imputed housing service tends to lower the transmission parameters if anything (e.g. $\psi_{\zeta,post97}$ and $\psi_{\varepsilon,pre97}$, which are statistically significant under the benchmark). But the difference from the benchmark is not significant and thus the general pattern continues to hold with this new consumption measure. This result is perhaps not surprising, since the flow of housing service tends to be relatively stable over time, which contributes to the slightly higher resiliance of this new consumption measure against income variations.

[38] We find a ratio of 4.4% reasonable, as **?** use an interest rate of 4% to impute the flow of housing service from the value of the house for the US. This procedure, however, is not suitable for earlier waves, when the housing market is less developed and therefore the value of the house is less reliable.

Table F-2: Consumption Transmission Parameters, With and Without Imputed Housing Service

	Benchmark	Benchmark + Imputed Housing Service
	Urban	Urban
Transmission parameters		
$\psi_{\zeta,pre97}$	0.049	0.068
	(0.118)	(0.114)
$\psi_{\zeta,post97}$	0.244	0.156
	(0.091)	(0.097)
$\psi_{\varepsilon,pre97}$	0.176	0.158
	(0.060)	(0.053)
$\psi_{\varepsilon,post97}$	0.062	0.097
	(0.050)	(0.042)
Taste shock, σ_ξ^2		
	0.016	0.013
	(0.006)	(0.005)
Observations	7,760	7,705

F.3 Imputed Consumption Measures

In this Section, we impute the household nondurable consumption in the CHNS with the help of repeated cross sections of the China Household Income Project (CHIP). The methodology follows closely that developed in the **?** (BPP). The CHNS is our counterpart of the PSID and the CHIP is our counterpart of the CEX data. The main idea of the imputation procedure is to estimate a demand function for food from the repeated cross sections of CHIP, to invert the demand function and to apply the inverted function on the food consumption in the CHNS to impute a nondurable consumption measure in the CHNS. The demand function for food depends on prices, total non-durable consumption, and a list of demographic and socio-economic characteristics of the household (replicating the eq(1) in BPP):

$$f_{i,t,chip} = \mathbf{W}'_{i,t,chip}\mu + \mathbf{p}'_t\theta + \beta(D_{i,t})c_{i,t,chip} + e_{i,t} \tag{12}$$

where$f_{i,t}$ is the household food consumption expenditure (available in both CHIP and CHNS), $\mathbf{W}_{i,t}$ is a vector of demographic variables (available also in both surveys) that includes age, dummies for education and region of residence, cohort and number of children, $\mathbf{p}_t$ is a vector of prices of food, alcohol, fuel and utilities, and $c_{i,t}$ is the household nondurable consumption. The coefficient of the nondurable consumption, β, depends on a vector of household demographic variables (education and the number of children) and year dummies.

The household nondurable consumption c_{it} includes food, which is the dependent variable. This automatically creates an endogeneity problem. We then instrument the nondurable consumption by the cohort-education-year average wage of the head and the spouse. BPP show in their notes on the imputation procedure that under valid instruments, the coefficients of the nondurable consumption are consistently estimated. This IV estimation is done with the CHIP data. To emphasize the data source, we put the name of the dataset in the subscript of the variable.

Then we use the estimates, $\widehat{\mu}$, $\widehat{\theta}$, $\widehat{\beta}$, to impute a measure of nondurable consumption in CHNS:

$$\widehat{c}_{i,t} = \frac{f_{i,t,chns} - \mathbf{W}'_{i,t,chns}\widehat{\mu} + \mathbf{p}'_t\widehat{\theta}}{\widehat{\beta}(D_{i,t,chns})}. \tag{13}$$

Note that the price series for different categories of goods are available in neither dataset, and therefore we use the price data from **?**, who extracted the prices from *China Urban Life and Price Yearbook* and *China Price and Urban Household Survey Yearbook*.

F.3.1 Data: China Household Income Project

The CHIP is a household survey designed to track the dynamics of the income distribution in China. Five waves of surveys covering multiple provinces have been conducted in 1989, 1996, 2003, 2008 and 2013, referred to as CHIP 1988, 1995, 2002 and 2007. We download the data, which is publicly available from the website of the China Institute for Income Distribution. We use the urban sample of CHIP 1988, 1995, 2002 and 2007, to match the time coverage of the CHNS. We extract the information on households' demographic and socio-economic characteristics, annual income, consumption expenditures, and hours worked, which is used to compute an hourly wage rate. Unfortunately, the rural surveys do not have as complete information. The rural sample of CHIP 1988 does not have hours information and that of CHIP 2007 does not have consumption expenditures. Since our main purpose is to understand the change of the partial insurance parameters over time, the rural CHIP data is inadequate for our analysis. We thus decide to focus on the urban China in this imputation exercise.

We harmonize the data in the CHIP across waves, and select the urban analysis sample according to criteria similar to the way we select the urban CHNS sample. We keep households whose head is aged between 25 and 65 and households for whom we have non-missing information of education and food expenditure. We drop households that reside in Beijing, Shanxi or Gansu. Since the CHNS and CHIP have different geographic coverage, we use a coarser administrative division than provinces: the regions. By convention, China can be divided in six regions, the north region (*hua bei*), the north-eastern region (*dong bei*), the eastern region (*hua dong*), the central

region (*zhong nan*), the south-western region (*xi nan*), and the north-western region (*xi bei*), each containing multiple provinces. The provinces present in the CHNS belong to only four out of the six regions, the north-eastern region (covering Liaoning and Heilongjiang), the eastern region (covering Jiangsu and Shandong), the central region (covering Henan, Hubei, Hunan and Guangxi), and the south-western region (covering Guizhou). To match the geographic coverage, we drop the three provinces in CHIP that do not belong to these four regions. The sample selection, step by step, is documented in Table F-3 for the CHNS and in Table F-4 for CHIP.

In Table F-5, we report the summary statistics of the relevant variables from the CHNS and CHIP side by side. Different than the PSID and CEX, the CHNS and CHIP are not surveyed at the same frequency. To maximize comparability, we impute the consumption in the CHNS 1989 and 1991 waves using the estimates from CHIP 1988, impute the consumption in the CHNS 1993 and 1997 using the estimates from CHIP 1995, impute the consumption in the CHNS 2000 and 2004 using those from CHIP 2002 and impute the consumption in CHNS 2006 and 2009 using those from CHIP 2007. Clearly, the demographic composition of the sample differs between the CHNS and CHIP.

F.3.2 Estimation Results

We construct two measures of consumption from the CHIP data. The first is a measure of nondurable consumption expenditures that include expenditures on food, clothing, transportation, communication and others. The second is a measure of consumption expenditures that also include housing, household appliances, health and education expenditures. We report the estimation results of the partial insurance model using imputed consumption measures in Table F-6. The estimation of the income process is based on the same urban sample as in the main text and the estimates are given in Table 4, under "Disposable Income" and "Urban". What's more relevant is the transmission parameters. The first column is the transmission parameters from the baseline specification using the CHNS consumption measure. The second column uses the imputed consumption based on the nondurable consumption measure from the CHIP and the third column uses the imputed consumption based on the total consumption measure from the CHIP.

The point estimates across the three specifications with different consumption measures differ according to our prior. When other items than food is included in the imputed consumption, the transmission of permanent shocks increases. For example, the transmission of the permanent shock in the post-1997 period increases from 0.244 in the benchmark CHNS measure, to 0.288 in the imputed nondurable consumption measure and to 0.373 in the imputed total consumption measure. However, the standard errors of the estimates suggest that the difference between the estimates across specifications is not statistically significant. We present this evidence as a robustness check that the general pattern of the evolution of consumption insurance over time holds when we extend the analysis to imputed consumption measures.

Table F-3: Sample Selection in the CHNS Urban, 1989-2009 (8 Waves)

Operation	No. of obs (HH $\times$ wave)
(Initial sample)	7,777
Drop if head age< 25 or > 65	7,777
Drop if missing education	7,777
Drop if missing or zero food expenditure	7,370

Table F-4: Sample Selection in the CHIP Urban, 1988-2007 (4 Waves)

Operation	No. of obs (HH $\times$ wave)
(Initial sample)	19,014
Drop if head age< 25 or > 65	18,454
Drop if missing education	18,385
Drop Beijing, Shanxi and Gansu	14,786
Drop if missing or zero food expenditure	14,775

Table F-5: Comparison of Means, CHIP-Urban and CHNS-Urban, Selected Years

Data	CHIP	CHNS	CHIP	CHNS	CHIP	CHNS	CHIP	CHNS
Wave	1988	1989, 1991	1995	1993, 1997	2002	2000, 2004	2007	2006, 2009
Age	42.89	44.70	41.08	45.15	41.50	46.26	40.86	48.29
	(9.59)	(11.50)	(7.40)	(10.67)	(6.71)	(9.84)	(7.56)	(8.94)
HH size	3.56	3.91	3.19	3.79	3.06	3.46	3.09	3.47
	(0.99)	(1.10)	(0.63)	(1.07)	(0.58)	(0.99)	(0.67)	(1.09)
No. of children	0.75	0.82	0.63	0.69	0.52	0.44	0.52	0.28
	(0.64)	(0.75)	(0.55)	(0.71)	(0.53)	(0.57)	(0.55)	(0.50)
No education (%)	1.57	13.31	0.57	8.24	0.11	3.23	0.29	1.24
	(12.44)	(33.98)	(7.55)	(27.51)	(3.34)	(17.68)	(5.34)	(11.07)
Below 9th grade (%)	50.56	51.20	33.80	46.24	25.64	43.49	21.68	42.17
	(50.00)	(50.00)	(47.31)	(49.87)	(43.67)	(49.59)	(41.21)	(49.40)
Above 9th grade (%)	47.87	35.49	65.63	45.52	74.25	53.28	78.04	56.59
	(49.96)	(47.86)	(47.50)	(49.81)	(43.74)	(49.91)	(41.41)	(49.58)
North-eastern (%)	13.23	13.84	13.88	13.50	12.49	23.12	0.00	23.10
	(33.89)	(34.54)	(34.58)	(34.18)	(33.06)	(42.17)	(0.00)	(42.16)
Eastern (%)	29.07	24.16	22.18	22.94	20.59	20.69	45.78	20.72
	(45.41)	(42.82)	(41.55)	(42.06)	(40.44)	(40.52)	(49.83)	(40.54)
Center-southern (%)	43.69	49.28	34.32	51.19	37.64	44.13	35.59	44.60
	(49.60)	(50.01)	(47.48)	(50.00)	(48.46)	(49.67)	(47.89)	(49.72)
South-western (%)	14.00	12.72	29.62	12.37	29.28	12.06	18.63	11.58
	(34.71)	(33.33)	(45.67)	(32.93)	(45.51)	(32.58)	(38.94)	(32.00)
Log food expenditure	7.74	8.31	8.71	8.74	8.77	8.69	9.19	8.52
	(0.50)	(0.64)	(0.42)	(0.55)	(0.47)	(0.61)	(0.61)	(0.65)

Note: Standard deviations in parentheses.

Table F-6: Consumption Transmission Parameters, Alternative Consumption Measures

	Benchmark	Imputed Nondurable	Imputed Total
	Urban	Urban	Urban
Transmission parameters			
$\psi_{\zeta,pre97}$	0.049	0.064	0.054
	(0.118)	(0.127)	(0.135)
$\psi_{\zeta,post97}$	0.244	0.288	0.373
	(0.091)	(0.100)	(0.129)
$\psi_{\varepsilon,pre97}$	0.176	0.163	0.211
	(0.060)	(0.066)	(0.072)
$\psi_{\varepsilon,post97}$	0.062	0.064	0.073
	(0.050)	(0.055)	(0.069)
Taste shock, σ_ξ^2			
	0.016	0.031	0.044
	(0.006)	(0.006)	(0.010)
Observations	7,760	7,769	7,769

G Removal of In-kind Public Transfers

In Table G-1, we show that the correlation between the public transfers and the earnings in urban China has declined over time. So it is the case with the correlation between the public transfers and the consumption in urban areas. This suggests that the public transfers in urban areas in the earlier waves exacerbates the income inequality and at the same time the public transfers passed directly to consumption in earlier waves, implying the existence of a saving constraint on the public transfers.

In Table G-2, we remove the effect from in-kind public transfers by estimating the partial insurance model with a measure of consumption that excludes the value of food coupons and the subsidies for utilities and a measure of income that includes the earnings and the cash public transfers only. We observe that urban households, in the absence of in-kind public transfers, achieve almost perfect insurance against transitory income shocks in the subperiod from 1989 to 1997. This point is made in Section 5.2 in the paper.

Table G-1: Correlation between the (log) Public Transfers Received and (log) Earnings (or Consumption in Urban China by Waves

Wave	Corr. log public transf. and log residual earnings	Corr. log public transf. and log residual consumption
1989	0.1864	0.1560
1991	0.2199	0.1268
1993	0.0799	0.0994
1997	0.0084	0.0176
2000	-0.0110	0.0270
2004	0.0178	0.0711
2006	0.0745	0.0988
2009	-0.1018	-0.0385

Table G-2: Consumption Transmission Parameters, Removing In-Kind Transfers

	Rural	Urban
	(1)	(2)
Permanent shocks $\sigma^2_{\zeta_t}$		
1992-3	0.121	0.068
	(0.020)	(0.036)
1994-7	0.062	0.065
	(0.016)	(0.024)
1998-2000	0.069	0.027
	(0.019)	(0.032)
2001-4	0.087	0.059
	(0.015)	(0.021)
2005-6	0.088	0.045
	(0.023)	(0.020)
Transitory shocks $\sigma^2_{\varepsilon_t}$		
1991	0.296	0.195
	(0.024)	(0.044)
1993	0.369	0.316
	(0.041)	(0.068)
1997	0.459	0.298
	(0.050)	(0.103)
2000	0.458	0.359
	(0.056)	(0.063)
2004	0.427	0.308
	(0.037)	(0.044)
2006	0.410	0.233
	(0.043)	(0.035)
Transmission parameters		
$\psi_{\zeta,pre97}$	0.090	0.133
	(0.052)	(0.082)
$\psi_{\zeta,post97}$	0.288	0.209
	(0.071)	(0.151)
$\psi_{\varepsilon,pre97}$	0.000	0.057
	(0.010)	(0.060)
$\psi_{\varepsilon,post97}$	0.057	0.092
	(0.036)	(0.034)
Taste shock, σ^2_ξ		
	0.019	0.021
	(0.003)	(0.005)
Observations	16,516	7,745

H Further Evidence from the Cross Section: Differential Growth Patterns Across Communities

In Table H-1, we estimate the partial insurance model for two subsamples of the rural households.[39] In the first column, we have a subsample of households who resided in the fast-growing communities, and in the second column, we have a subsample of households who resided in the slow-growing communities. To decide if a community is a fast-growing community, we compute the annualized community aggregate income growth rate for each community during the period in which it is observed in the sample. Then we define a community whose average annual income growth rate is above (below) the median as a fast-growing (slow-growing) community.

Interestingly, as Table H-1 illustrates, the increase of the transmission of permanent shocks is much higher in fast-growing communities than in slow-growing communities. In the 1998-2009 period, the point estimate of that transmission is 0.419 for fast-growing communities, which almost doubles the point estimate for slow-growing communities, 0.213. In terms of the transitory shocks, both subsamples experienced almost perfect insurance against transitory shocks in both subperiods. In sum, contrasting the fast- and slow-growing communities across the cross-section, we observe a larger deterioration in insurance in fast-growing communities. The trade-off between growth and insurance over time that we document for the benchmark is further corroberated by the cross-sectional evidence.

[39] The smaller size of the urban sample unfortunately prevent us from conducting the same exercise on the urban sample.

Table H-1: Consumption Transmission Parameters, Fast- and Slow-growing Rural Communities

	Fast-growing	Slow-growing
	(1)	(2)
Permanent shocks $\sigma^2_{\zeta_t}$		
1992-3	0.112	0.068
	(0.027)	(0.021)
1994-7	0.080	0.048
	(0.023)	(0.018)
1998-2000	0.057	0.089
	(0.031)	(0.024)
2001-4	0.069	0.109
	(0.025)	(0.023)
2005-6	0.094	0.142
	(0.030)	(0.033)
Transitory shocks $\sigma^2_{\varepsilon_t}$		
1991	0.310	0.275
	(0.034)	(0.030)
1993	0.366	0.427
	(0.052)	(0.056)
1997	0.520	0.432
	(0.062)	(0.065)
2000	0.513	0.509
	(0.074)	(0.077)
2004	0.476	0.478
	(0.057)	(0.063)
2006	0.490	0.302
	(0.054)	(0.051)
Transmission parameters		
$\psi_{\zeta,pre97}$	0.000	0.000
	(0.043)	(0.074)
$\psi_{\zeta,post97}$	0.419	0.213
	(0.141)	(0.047)
$\psi_{\varepsilon,pre97}$	0.000	0.072
	(0.001)	(0.031)
$\psi_{\varepsilon,post97}$	0.055	0.000
	(0.054)	(0.022)
Taste shock, σ^2_ξ		
	0.015	0.019
	(0.004)	(0.005)
Observations	7,961	8,589

I Hukou Status and State Employment

These are the two exercises suggested by the referees. One is along the lines of Hukou status and the other is along the lines of the SOE employment.

It is an interesting idea to evaluate if, among the urban residents, those with an urban Hukou had a different experience than those with a rural Hukou. Unfortunately, among the urban observations in our sample (7,760), 92% have an urban Hukou and only 8% have a rural Hukou. It is infeasible to split the urban sample into two subsamples by Hukou status. Instead, we split the entire sample by rural and urban Hukou status for all households whose Hukou status remains the same throughout the sample period. The estimates for rural Hukou holders are in column (1) and for urban Hukou holders are in column (2). Due to the high correlation between the residence area and the Hukou status (0.7 in our sample), the results do not differ much from the benchmark result.

Another interesting dimension to examine the urban households is whether the urban household work for an SOE. Since we would have the same small sample problem mentioned before, we extend the analysis to cover all non-farming households. We classify those who work in either the state sector or a large collective enterprise to be workers of SOE and those who work in a private enterprise, foreign enterprise or others to be workers of non-SOE. Under this definition, we basically consider all households in the analysis except those who self report to work on a family farm. We classify households whom we observe in and before 1997 according to the following criterion: if a household has always worked in the state sector during the sample period, he belongs to the "state" sample; if a household has ever switched from the state to the non-state sector during the sample period, he belongs to the "switchers" sample; if he has always worked in the non-state sector, then he belongs to the "non-state" sample. The results are found in column (3) to (5) in Table I-1. Let's compare the income environment faced by these three types of households. The increase in permenant income risk is most pronounced for those who have worked in the non-state sector and the increase in transitory income risk is experienced by the switchers as well as the non-state employees. Turning to the transmission parameters, those who have always worked in the state sector enjoyed the best insurance against the permanent risks, while the non-state employees saw the worst deterioration in smoothing against permanent risks. The switchers are somewhere in the middle. In terms of the transmission of the transitory income shocks, both state employees and switchers had imperfect insurance against transitory shocks, but not the non-state employees.

Table I-1: Consumption Transmission Parameters, Hukou Status and State Employment

	Hukou Status		SOE Status		
	Rural	Urban	State	Switchers	Non-State
Permanent shocks $\sigma^2_{\zeta_t}$					
1992-3	0.099	0.038	0.014	0.040	0.106
	(0.023)	(0.012)	(0.010)	(0.018)	(0.021)
1994-7	0.057	0.072	0.039	0.017	0.068
	(0.014)	(0.017)	(0.014)	(0.015)	(0.018)
1998-2000	0.065	0.054	0.047	0.025	0.068
	(0.021)	(0.025)	(0.023)	(0.024)	(0.025)
2001-4	0.096	0.063	0.069	0.062	0.074
	(0.024)	(0.015)	(0.024)	(0.026)	(0.022)
2005-6	0.125	0.082	0.044	0.004	0.136
	(0.031)	(0.026)	(0.026)	(0.022)	(0.033)
Transitory shocks $\sigma^2_{\varepsilon_t}$					
1991	0.350	0.107	0.097	0.177	0.299
	(0.025)	(0.015)	(0.016)	(0.031)	(0.029)
1993	0.455	0.217	0.182	0.251	0.383
	(0.043)	(0.031)	(0.029)	(0.046)	(0.051)
1997	0.587	0.158	0.239	0.301	0.569
	(0.072)	(0.061)	(0.081)	(0.050)	(0.074)
2000	0.516	0.312	0.230	0.436	0.481
	(0.051)	(0.060)	(0.045)	(0.091)	(0.068)
2004	0.562	0.279	0.206	0.335	0.555
	(0.051)	(0.046)	(0.043)	(0.085)	(0.049)
2006	0.426	0.214	0.233	0.440	0.412
	(0.050)	(0.039)	(0.073)	(0.072)	(0.054)
Transmission parameters					
$\psi_{\zeta,pre97}$	0.044	0.148	0.095	0.000	0.133
	(0.047)	(0.123)	(0.326)	(0.264)	(0.060)
$\psi_{\zeta,post97}$	0.355	0.243	0.127	0.220	0.317
	(0.064)	(0.087)	(0.141)	(0.158)	(0.098)
$\psi_{\varepsilon,pre97}$	0.000	0.190	0.161	0.162	0.000
	(0.010)	(0.068)	(0.088)	(0.079)	(0.014)
$\psi_{\varepsilon,post97}$	0.002	0.039	0.214	0.131	0.000
	(0.027)	(0.050)	(0.064)	(0.052)	(0.045)
Taste shock, σ^2_{ξ}					
	0.017	0.022	0.015	0.012	0.016
	(0.003)	(0.005)	(0.006)	(0.006)	(0.004)
Observations	12,213	8,420	4,273	3,065	8,124

J Derivation of the Formula for the Welfare Decomposition

We first compute the deterministic path of consumption in a savings model without uncertainty and with income growth γ_y. This implies a smooth consumption path $\overline{c}_t$ over time, which grows at a rate determined by the discount rate, the interest rate and intertemporal rate of substitution. Let the growth rate of the deterministic consumption path be γ_c: $\gamma_c = [\beta(1+r)]^{\frac{1}{\eta}}$. Suppose the consumption risk around $\overline{c}_t$ is modeled a la the partial insurance model in Section 5.1. More specifically, suppose the initial residual consumption is c_0. Then the expected sum of discounted utility over time period T is:

$$\begin{aligned}
E\sum_{t=1}^{T}\beta^t u(C_t) &= E\sum_{t=1}^{T}\beta^t u(\overline{c}_t \cdot c_t) \\
&= E\sum_{t=1}^{T}\frac{(\overline{c}_0\gamma_c^t)^{1-\eta}}{1-\eta}\beta^t (c_t)^{1-\eta} = \frac{(\overline{c}_0)^{1-\eta}}{1-\eta}E\sum_{t=1}^{T}\left(\gamma_c^{1-\eta}\beta\right)^t \exp\left[(1-\eta)\ln(c_t)\right] \\
&= \frac{(\overline{c}_0)^{1-\eta}}{1-\eta}E\sum_{t=1}^{T}\left(\gamma_c^{1-\eta}\beta\right)^t \exp\left[(1-\eta)\left(\sum_{s=1}^{t}\Delta\ln(c_s)+\ln(c_0)\right)\right] \\
&= \frac{(\overline{c}_0)^{1-\eta}}{1-\eta}c_0^{1-\eta}E\sum_{t=1}^{T}\left(\gamma_c^{1-\eta}\beta\right)^t \exp\left[(1-\eta)\sum_{s=1}^{t}\Delta\ln(c_s)\right] \\
&= \frac{(\overline{c}_0)^{1-\eta}}{1-\eta}c_0^{1-\eta}E\sum_{t=1}^{T}\left(\gamma_c^{1-\eta}\beta\right)^t \exp\left[(1-\eta)\sum_{s=1}^{t}(\psi_\zeta\zeta_s+\psi_\varepsilon\varepsilon_s+\xi_s)\right]
\end{aligned}$$

Note that $(1-\eta)\sum_{s=1}^{t}(\psi_\zeta\zeta_s+\psi_\varepsilon\varepsilon_s+\xi_s)$ is distributed normally with mean zero and variance $(1-\eta)^2(\psi_\zeta^2\sigma_\zeta^2+\psi_\varepsilon^2\sigma_\varepsilon^2+\sigma_\xi^2)t$. Therefore, the expected sum of discounted utlity becomes

$$E\sum_{t=1}^{T}\beta^t u(C_t) = \frac{(\overline{c}_0)^{1-\eta}}{1-\eta}c_0^{1-\eta}\sum_{t=1}^{T}\left(\gamma_c^{1-\eta}\beta\right)^t \exp\left(\frac{1}{2}(1-\eta)^2(\psi_\zeta^2\sigma_\zeta^2+\psi_\varepsilon^2\sigma_\varepsilon^2+\sigma_\xi^2)t\right)$$

Imagine two environments, A and B, characterized by different income growth rates, income risk and consumption insurance, $(\gamma_i, \sigma_{\zeta,i}, \sigma_{\varepsilon,i}, \psi_{\zeta,i}, \psi_{\varepsilon,i})$ for $i = A, B$. The different income growth rates translate into different levels of initial deterministic consumption, $\overline{c}_{0,A}$ and $\overline{c}_{0,B}$. Define the consumption equivalent variation from moving from $(\gamma_A, \sigma_{\zeta,A}, \sigma_{\varepsilon,A}, \psi_{\zeta,A}, \psi_{\varepsilon,A})$ to $(\gamma_B, \sigma_{\zeta,A}, \sigma_{\varepsilon,A}, \psi_{\zeta,A}, \psi_{\varepsilon,A})$ as the growth effect, $(1+\omega_G)$:

$$\begin{aligned}
&\frac{((1+\omega_G)\overline{c}_{0,A})^{1-\eta}}{1-\eta}E\sum_{t=1}^{T}\left(\gamma_c^{1-\eta}\beta\right)^t (c_{A,t})^{1-\eta} = \frac{(\overline{c}_{B,0})^{1-\eta}}{1-\eta}E\sum_{t=1}^{T}\left(\gamma_c^{1-\eta}\beta\right)^t (c_{A,t})^{1-\eta} \\
\Leftrightarrow\quad &(1+\omega_G)^{1-\eta} = \left(\frac{\overline{c}_{B,0}}{\overline{c}_{A,0}}\right)^{1-\eta}.
\end{aligned}$$

Define the consumption equivalent variation from moving from $(\gamma_B, \sigma_{\zeta,A}, \sigma_{\varepsilon,A}, \psi_{\zeta,A}, \psi_{\varepsilon,A})$ to $(\gamma_B, \sigma_{\zeta,B}, \sigma_{\varepsilon,B}, \psi_{\zeta,A}, \psi_{\varepsilon,A})$

as the risk effect, $(1+\omega_R)$:

$$\begin{aligned}
&\frac{((1+\omega_R)\overline{c}_{B,0})^{1-\eta}}{1-\eta}c_0^{1-\eta}\sum_{t=1}^{T}\left(\gamma_c^{1-\eta}\beta\right)^t\exp\left(\frac{1}{2}(1-\eta)^2(\psi_{\zeta,A}^2\sigma_{\zeta,A}^2+\psi_{\varepsilon,A}^2\sigma_{\varepsilon,A}^2+\sigma_\xi^2)t\right)\\
&=\frac{(\overline{c}_{B,0})^{1-\eta}}{1-\eta}c_0^{1-\eta}\sum_{t=1}^{T}\left(\gamma_c^{1-\eta}\beta\right)^t\exp\left(\frac{1}{2}(1-\eta)^2(\psi_{\zeta,A}^2\sigma_{\zeta,B}^2+\psi_{\varepsilon,A}^2\sigma_{\varepsilon,B}^2+\sigma_\xi^2)t\right)\\
\Leftrightarrow\quad &(1+\omega_R)^{1-\eta}=\frac{\sum_{t=1}^{T}\left(\gamma_c^{1-\eta}\beta\right)^t\exp\left(\frac{1}{2}(1-\eta)^2(\psi_{\zeta,A}^2\sigma_{\zeta,B}^2+\psi_{\varepsilon,A}^2\sigma_{\varepsilon,B}^2+\sigma_\xi^2)t\right)}{\sum_{t=1}^{T}\left(\gamma_c^{1-\eta}\beta\right)^t\exp\left(\frac{1}{2}(1-\eta)^2(\psi_{\zeta,A}^2\sigma_{\zeta,A}^2+\psi_{\varepsilon,A}^2\sigma_{\varepsilon,A}^2+\sigma_\xi^2)t\right)}.
\end{aligned}$$

Define the consumption equivalent variation from moving from $(\gamma_B,\sigma_{\zeta,B},\sigma_{\varepsilon,B},\psi_{\zeta,A},\psi_{\varepsilon,A})$ to $(\gamma_B,\sigma_{\zeta,B},\sigma_{\varepsilon,B},\psi_{\zeta,B},\psi_{\varepsilon,B})$ as the insurance effect, $(1+\omega_I)$:

$$\begin{aligned}
&\frac{((1+\omega_I)\overline{c}_{B,0})^{1-\eta}}{1-\eta}c_0^{1-\eta}\sum_{t=1}^{T}\left(\gamma_c^{1-\eta}\beta\right)^t\exp\left(\frac{1}{2}(1-\eta)^2(\psi_{\zeta,A}^2\sigma_{\zeta,B}^2+\psi_{\varepsilon,A}^2\sigma_{\varepsilon,B}^2+\sigma_\xi^2)t\right)\\
&=\frac{(\overline{c}_{B,0})^{1-\eta}}{1-\eta}c_0^{1-\eta}\sum_{t=1}^{T}\left(\gamma_c^{1-\eta}\beta\right)^t\exp\left(\frac{1}{2}(1-\eta)^2(\psi_{\zeta,B}^2\sigma_{\zeta,B}^2+\psi_{\varepsilon,B}^2\sigma_{\varepsilon,B}^2+\sigma_\xi^2)t\right)\\
\Leftrightarrow\quad &(1+\omega_I)^{1-\eta}=\frac{\sum_{t=1}^{T}\left(\gamma_c^{1-\eta}\beta\right)^t\exp\left(\frac{1}{2}(1-\eta)^2(\psi_{\zeta,B}^2\sigma_{\zeta,B}^2+\psi_{\varepsilon,B}^2\sigma_{\varepsilon,B}^2+\sigma_\xi^2)t\right)}{\sum_{t=1}^{T}\left(\gamma_c^{1-\eta}\beta\right)^t\exp\left(\frac{1}{2}(1-\eta)^2(\psi_{\zeta,A}^2\sigma_{\zeta,B}^2+\psi_{\varepsilon,A}^2\sigma_{\varepsilon,B}^2+\sigma_\xi^2)t\right)}.
\end{aligned}$$

Define the consumption equivalent variation from moving from $(\gamma_A,\sigma_{\zeta,A},\sigma_{\varepsilon,A},\psi_{\zeta,A},\psi_{\varepsilon,A})$ to $(\gamma_B,\sigma_{\zeta,B},\sigma_{\varepsilon,B},\psi_{\zeta,B},\psi_{\varepsilon,B})$ as the total effect, $(1+\omega_T)$:

$$\begin{aligned}
&\frac{((1+\omega_T)\overline{c}_{A,0})^{1-\eta}}{1-\eta}c_0^{1-\eta}\sum_{t=1}^{T}\left(\gamma_c^{1-\eta}\beta\right)^t\exp\left(\frac{1}{2}(1-\eta)^2(\psi_{\zeta,A}^2\sigma_{\zeta,A}^2+\psi_{\varepsilon,A}^2\sigma_{\varepsilon,A}^2+\sigma_\xi^2)t\right)\\
&=\frac{(\overline{c}_{B,0})^{1-\eta}}{1-\eta}c_0^{1-\eta}\sum_{t=1}^{T}\left(\gamma_c^{1-\eta}\beta\right)^t\exp\left(\frac{1}{2}(1-\eta)^2(\psi_{\zeta,B}^2\sigma_{\zeta,B}^2+\psi_{\varepsilon,B}^2\sigma_{\varepsilon,B}^2+\sigma_\xi^2)t\right)\\
\Leftrightarrow\quad &(1+\omega_T)^{1-\eta}=\left(\frac{\overline{c}_{B,0}}{\overline{c}_{A,0}}\right)^{1-\eta}\frac{\sum_{t=1}^{T}\left(\gamma_c^{1-\eta}\beta\right)^t\exp\left(\frac{1}{2}(1-\eta)^2(\psi_{\zeta,B}^2\sigma_{\zeta,B}^2+\psi_{\varepsilon,B}^2\sigma_{\varepsilon,B}^2+\sigma_\xi^2)t\right)}{\sum_{t=1}^{T}\left(\gamma_c^{1-\eta}\beta\right)^t\exp\left(\frac{1}{2}(1-\eta)^2(\psi_{\zeta,A}^2\sigma_{\zeta,A}^2+\psi_{\varepsilon,A}^2\sigma_{\varepsilon,A}^2+\sigma_\xi^2)t\right)}\\
&=(1+\omega_G)^{1-\eta}(1+\omega_R)^{1-\eta}(1+\omega_I)^{1-\eta}\\
\Leftrightarrow\quad &1+\omega_T=(1+\omega_G)(1+\omega_R)(1+\omega_I).
\end{aligned}$$