

Title: “Powering up China: Income Distributions and Residential Electricity Consumption”
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ONLINE APPENDIX

This paper uses data from the Chinese Statistical Yearbooks, which are compiled at both provincial and national level. The yearbooks report data for the year preceding the year of publication. For example, a 2009 yearbook reports data for 2008. In the following appendix, all yearbooks are referred to by their publication year, not their data year.

Where we accessed the data

The provincial yearbooks were accessed through the CNKI Knowledge Network Service platform found at <http://tongji.oversea.cnki.net/oversea/engnavi/navidefault.aspx>. The subscription service is not always reliable, but downloaded worksheets can be provided upon request.

The national yearbooks were accessed through the Chinese statistical service’s English web site. At the time, they were available at <http://www.stats.gov.cn/english/statisticaldata/yearlydata/> using Internet Explorer. This web address no longer hosts the yearbooks used, and they are not currently available via the web site. Downloaded worksheets can be provided upon request.

Income distribution data

Province-level income distribution statistics come from yearbooks compiled by the provincial statistical Bureaus. For example, the 2010 Sichuan statistical yearbook is produced by the “Statistical Bureau Of Sichuan Province; Survey Office Of The National Bureau Of Statistics In Sichuan.” Much of the survey data used in the provincial yearbooks is used to generate the statistics for the National yearbooks.. Income statistics are taken from the “People’s Livelihood” chapter, which can have a different chapter number in each of the province-level yearbooks. Within these chapters, the income information comes from a table usually titled something such as, “Basic Conditions of Urban Households by Level of Income.” The rural income data is from tables usually titled something such as, “Per Capita Annual Net Income.” Many of the data tables are only in Chinese, and when there are English translations the exact wording varies across years.

The province-level yearbooks are not as consistent as the national yearbooks. In particular, the rural province-level yearbooks do not exist in all years for all provinces. The table below lists the years for which yearbooks are available by province.

Province	Urban	Rural
Anhui	1999, 2000, 2002, 2004-2010	N/A
Beijing	1999-2011	N/A
Chongqing	1999-2006, 2008-2011	1999-2009
Fujian	1999-2009	2003-2009
Guangdong	1999,2000,2002-2011	2001-2005
Guangxi	1999-2010	1999-2010
Guizhou	1999-2010	N/A
Hainan	1999-2011	N/A
Heilongjiang	1999-2000	2001-2010
Henan	1999,2000,2002-2011	2001-2010
Hubei	1999-2011	1999-2010
Hunan	2000-2006	1999-2006
Jiangsu	1999-2011	2000-2010
Jiangxi	1999-2001,2003-2011	1999-2010
Jilin	1999-2011	N/A
Liaoning	1999-2010	1999-2010
Mongolia	1999-2011	1999-2010
Ningxia	1999-2010	N/A
Qinghai	1999-2011	1999-2010
Shaanxi	1999-2011	2006-2009
Shandong	1999-2011	N/A
Shanghai	1999-2011	1999-2008
Shanxi	1999-2002,2004-2011	1999-2002,2004-2010
Sichuan	1999-2009,2011	N/A
Tianjin	1999-2011	1999-2002
Tibet	1999-2011	N/A
Xinjiang	1999-2010	N/A
Yunnan	1999-2002, 2004-2011	2001-2008
Zhejiang	1999-2009,2011	1999-2009

The rural income tables divide the population into per capita income bins and report the percentage of the population in each bin. The size of these bins varies across time and provinces. This paper used the fraction of the population living under 3000 RMB per year, which was a common, but not universal, cutoff in the data. For example, some provinces had a top income bin of over 2000 RMB, and others used a bin of 2000-4000 RMB. Provinces that did not have a bin corresponding to the under 3000 RMB cutoff were not used in the analysis. This limits the analysis to the following rural provinces: Chongqing, Fujian, Guangdong, Guangxi,

Heilongjiang, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Liaoning, Mongolia, Qinghai, Shaanxi, Shanghai, Shanxi, Tianjin, Yunnan and Zhejiang.

The urban income distribution tables usually break the population up into quintiles, and list the average income of that quintile. Some province yearbooks break out the bottom and top quintiles into 5 or 10 percent increments to give more resolution on the tails of the distribution, but this was not done sufficiently often to provide enough panel variation on the bottom end of the urban income distribution. As the average income in the first quintile is 3,014 RMB in 1998, we did not use observations on the urban households for the specifications reported in Table 1.

Average per capita rural and urban income data

Average incomes and consumption expenditures are available in the national yearbooks for most years and provinces, even if the rural yearbooks do not report the income distribution. These statistics are listed as “Per Capita Annual Income [Consumption Expenditures] for Rural Households” and “Per Capita Annual Income [Consumption Expenditures] for Urban Households.” We use per capita consumption expenditures in Figure 2.

Appliance Ownership data

Province level appliance ownership data come from the National Chinese Statistical yearbook. Ownership rates are reported as units per 100 households. The collection of appliances measured changes across our sample, but the four used in this paper are consistently measured across most years and provinces. There are a wide range of other appliances that are also collected in different years. For example, the rural section of the 1999 yearbook lists both color and black and white televisions separately. Battery powered devices such as watches and cameras are also listed in some of the years.

The yearbook name and chapter numbers are listed below.

Year	Urban	Rural
1999	10-13	10-25
2000	10-13	10-25
2001	10-14	10-26
2002	10-17	10-29
2003	10-17	no number
2004	10-17	10-31
2005	10-17	10-31
2006	10-17	10-34
2007	10-17	10-34
2008	9-17	9-34
2009	9-17	9-34
2010	10-17	10-34
2011	10-17	10-34

The appliance data are not available for all regions in all years. Rural air conditioner use is not available for yearbook years 1999 and 2000, and in some provinces it is not recorded in various years. The table below shows which years the appliance data is available, with air conditioning split out. The years correspond to the data in the regressions from Table 1.

Province	TV, Fridge and Washer data	AC data
Anhui	No income distribution data available	
Beijing	No income distribution data available	
Chongqing	1999-2009	2001-2009
Fujian	2003-2009	2003-2009
Guangdong	2001-2005	2001-2005
Guangxi	1999-2010	2001-2010
Guizhou	No income distribution data available	
Hainan	No income distribution data available	
Heilongjiang	2001-2010	2001,2002,2004-2010
Henan	2001-2010	2001-2010
Hubei	1999-2010	2001-2010
Hunan	1999-2006	2001-2006
Jiangsu	2000-2010	2001-2010
Jiangxi	2000-2010	2001-2010
Jilin	No income distribution data available	
Liaoning	1999-2010	2001-2010
Mongolia	1999-2010	2005-2010
Ningxia	No income distribution data available	
Qinghai	1999-2007,2009,2010	2002, 2006, 2009, 2010
Shaanxi	2006-2009	2006-2009
Shandong	No income distribution data available	
Shanghai	1999-2008	2001-2008
Shanxi	2001,2002,2004,2005	2001,2002,2004,2005
Sichuan	No income distribution data available	
Tianjin	1999-2002	2001,2002
Tibet	No income distribution data available	
Xinjiang	No income distribution data available	
Yunnan	2001-2008	2004-2008
Zhejiang	1999-2009	2001-2009

Robustness Results

The paper describes several additional specifications we estimated. We present the results here.

Table 1a: Regression Results using Average Income

	AC	TV	Fridge	Washer	AC	TV	Fridge	Washer
Inc	-0.660*** (0.165)	-0.168*** (0.045)	-0.591*** (0.121)	-0.522* (0.277)	-0.265** (0.102)	-0.167*** (0.048)	-0.257*** (0.041)	-0.219*** (0.060)
Ineq	0.031* (0.015)	0.006 (0.004)	0.011 (0.009)	-0.008 (0.020)	0.042*** (0.011)	0.018*** (0.004)	0.026*** (0.005)	0.016*** (0.005)
Fixed Effects	Year	Year	Year	Year	Prov.	Prov.	Prov.	Prov.
Observations	138	173	173	173	138	173	173	173
R-squared	0.709	0.846	0.867	0.409	0.721	0.751	0.863	0.796

Table 1b: Regression Results with Province Fixed Effects and Inflation

	AC	TV	Fridge	Washer
Inc	-0.143 (0.198)	-0.166*** (0.046)	-0.103 (0.062)	-0.122** (0.054)
Ineq	0.036** (0.013)	0.011* (0.005)	0.008 (0.006)	0.006 (0.006)
Fixed Effects	Prov.	Prov.	Prov.	Prov.
Observations	139	174	174	174
R-squared	0.723	0.787	0.897	0.822