

## Data Appendix

We use household-level survey data across several years for Brazil, China, India, Indonesia, Mexico, and several sub-Saharan African countries to describe refrigerator and car ownership by expenditure quartile as reported in Table 1 and Figure 2. To construct the reported numbers, we assembled data on the number of members living in each household, the number of members in the household under the age of 12, whether the household owned various assets including refrigerators and cars, and for all countries besides Brazil and the African countries, total household expenditures.<sup>1</sup> Because the Chinese survey used significantly different questionnaires for urban and rural households, we did not aggregate rural and urban China. Where available, we used included survey weights to develop statistics that were nationally representative.

Except for sub-Saharan African countries, we calculated household consumption per adult equivalent by taking total household consumption and dividing by the number of people in the household, where we treated household members with reported ages of less than 12 years old as half a household member. After dropping the top and bottom one percent of the observations in each country for each year by consumption per adult equivalent, we sorted the data into quartiles by expenditure.<sup>2</sup>

The surveys included the following number of households:

Country	Survey Year	Households
Brazil	1992	36,438
	2009	121,163
China – Rural	1995	7,983
	2002	9,200
China – Urban	1995	6,931
	2002	6,835
India	2000	81,488
	2007	50,297
Mexico	1996	14,042
	2008	28,867
Indonesia	1999	202,089
	2004	66,755

The rest of the Appendix details the data source for each country.

### Brazil

Name of Survey	National Household Sample Survey - PNAD
Institution Responsible	Instituto Brasileiro de Geografia e Estatística
Frequency	Yearly
Survey	Cross-Sectional

<sup>1</sup> For Brazil, income was used for all analysis as expenditure data was not available.

<sup>2</sup> Sub-Sahara African data was not trimmed as we don't have expenditure or income data.

Structure	
Public Data Location	<a href="http://www.ibge.gov.br/english/estatistica/populacao/trabalhoerendimento/pnad2009/default.shtm">http://www.ibge.gov.br/english/estatistica/populacao/trabalhoerendimento/pnad2009/default.shtm</a>
Coverage	Households composed of nationals and foreigners (excluding diplomats), who usually reside in private dwellings (institutional or collective dwellings are not included) in the whole national territory
Geographic Information	Prior to 2003, the following rural areas were not included: Rondônia, Acre, Amazonas, Roraima, Pará and Amapá,
Weighting	Standard frequency weights were applied as detailed in documentation

### China

Name of Survey	Chinese Household Income Project
Institution Responsible	Inter-university Consortium for Political and Social Research at U Michigan.
Frequency	1995 & 2002
Survey Structure	Cross-Sectional
Public Data Location	<a href="http://dx.doi.org/10.3886/ICPSR03012.v2">http://dx.doi.org/10.3886/ICPSR03012.v2</a> & <a href="http://dx.doi.org/10.3886/ICPSR21741.v1">http://dx.doi.org/10.3886/ICPSR21741.v1</a>
Coverage	Completely separate surveys for Urban and Rural Households
Geographic Information	Covers both rural and urban areas of the People's Republic of China
Weighting	No frequency weights in the data

### Notes:

- (1) Rural and Urban households are treated separately for China, as the surveys asked very different questions, which prohibited comparison across regions.
- (2) All calculations for China were done using expenditure data, as it seemed more reliable than income data. Additionally, we do not have income data for Rural 2002 households.
- (3) We constructed a gross expenditure data for the urban data sets by converting variable A18 to dollars and summing the following variables:
  - A18 - Consumption expenditure (yuan)
  - D952 - Expenditure on Social Security
  - D96 - Expenditure on building and buying houses
  - F2 - Expenditure on debit and credit
  - F3 - Expenditure on clothes
  - F4 - Expenditure on home equipment
  - F5 - Expenditure on health and medical
  - F6 - Expenditure on transportation
  - F7 - Expenditure on entertainment
  - F8 - Expenditure on housing
  - F9 - Expenditure on miscellaneous

(4) Gross expenditure variable for the rural dataset was constructed by summing:

- H1\_600 - Total consumption expenditure
- H1\_608 - Total household expenditure on medical
- H1\_609 - Yearly total education expenditure
- H1\_610 - Expenditure on housing
- H1\_611 - Production costs in family operation
- H1\_612 - Purchasing fixed costs for production
- H1\_613 - Depreciation of production fixed capital
- H1\_614 - Interest payment on borrowing
- H1\_615 - Total cash expenditure on taxes
- H1\_616 - Other expenditures

India

Name of Survey	National Sample Survey
Institution Responsible	National Sample Survey Office (Government of India)
Frequency	Yearly with rounds starting in 1950
Survey Structure	Cross-Sectional
Public Data Location	NONE
Coverage	Private dwellings covering the whole national territory
Geographic Information	Covers, both rural and urban India
Weighting	Weighting scheme and instruction contained in yearly text file

Notes:

- (1) Each year of the India NSS data comes as 7-8 plain text documents. One corresponding to each level of the survey accompanied by a single word or pdf formatted dictionary file, which can be used to create import files to decode and import the plain text files. Additionally, each year of data contained a text file with details on how to create survey frequency weights.
- (2) We used mpce (monthly per capita expenditure) as household as total expenditure per capita.
- (3) Asset Ownership: When calculating the household asset ownership, we treated any household with an item code variable matching the proper asset to infer that that household owns the asset. In many rounds, particularly those before 2000, it appears that assets were only identified when there was associated expenditure, rather than to indicate ownership.
- (4) The item code variables are not fixed in each year. Thus, it's necessary to check the pdf of the actual survey file for item code definitions. For example itemcode = 597 denotes a refrigerator in 2006, but itemcode = 757 denotes a refrigerator in 1994
- (5) Most NSS rounds were done over 12 months (July to June). When we refer to a round by year, we use the year the survey began.

Indonesia

Name of Survey	National Socio-Economic Survey - Susenas
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Institution Responsible	Indonesian government
Frequency	Yearly since 1963
Survey Structure	Cross-Sectional
Public Data Location	<a href="http://www.rand.org/labor/bps/susen.html">http://www.rand.org/labor/bps/susen.html</a>
Coverage	Sample composed of 200,000 households in the core questionnaire and is supplemented by modules covering about 60,000 households.
Geographic Information	Since 1993 SUSENAS covers a nationally representative sample of households
Weighting	Survey Frequency weights used

Notes:

- (1) The Susenas data is comprised of a core file which contains basic characteristics, while object characteristics are collected into a number of groups, each group is called a module. Prior to 1992, (when a new core was introduced) the core of Susenas consisted of only five characteristics (questions), i.e. relationship to head of household, age, sex, marital status, and educational attainment. While the core data is collected each year, the modules which contain characteristics reflecting more general conditions such as consumption, health, income, number of children, school fees paid and housing condition vary each year.
- (2) In the 1999 data, we used variable hhwtjps as survey frequency weights.
- (3) In the 2004 data we used wert04 as survey frequency weights.

Mexico

Name of Survey	Household Income and Expenditure Survey (Encuesta Nacional de Ingresos y Gastos de los Hogares - ENIGH)
Institution Responsible	National Statistical Institute (Instituto Nacional de Estadística, Geografía e Informática – INEGI)
Frequency	No established periodicity (since 1992 there has been one every two years)
Survey Structure	Cross-Sectional
Public Data Location	<a href="http://www.inegi.org.mx/est/contenidos/proyectos/encuestas/hogares/regulares/enigh/">http://www.inegi.org.mx/est/contenidos/proyectos/encuestas/hogares/regulares/enigh/</a>
Coverage	Households composed of nationals and foreigners (excluding diplomats), who usually reside in private dwellings (institutional or collective dwellings are not included) in the whole national territory
Geographic Information	Federal District Levels
Weighting	Population inflating weight equal to the inverse of the sampling probability; it makes the sample representative both at the national level and at the subnational levels of urban versus rural areas

Notes:

- (1) To construct the proper discounting factor, to adjust for the hyperinflation which occurred during the late 1980's and early 1990's, we assumed that reported numbers were for September of the given year, and discounted to September 2008 pesos.
- (2) Due to a currency revaluation in 1993, we adjusted pre 1993 data by dividing by 1000.
- (3) The 1989 values for refrigerators owned are unreliable. Only 4,938 of 15,950,598, about .03% of households reported owning refrigerators.
- (4) Aggregate expenditure data is reported at a monthly level.

#### Sub-Saharan Africa

Name of Survey	DHS Democratic and Health Survey for Kenya and Nigeria
Institution Responsible	DHS
Frequency	Varies by country
Survey Structure	Cross-Sectional
Public Data Location	measuredhs.com; statcompiler.com
Coverage	260 surveys in over 90 countries.
Geographic Information	Covers most of the developing world
Weighting	Survey Frequency weights used

These surveys contain only basic asset ownership in various countries. They do not contain any income or expenditure data. For each country-survey used, we use the aggregate refrigerator or vehicle ownership rate. We use those ownership rates as calculated directly from statcompiler.com. We included every country in sub-Saharan Africa for which 2 DHS surveys report refrigerator or vehicle ownership rate. We aggregated the surveys as follows: For each country-asset, we took the earliest and latest surveys and calculated annual acquisitions. We averaged the years of the earliest and latest surveys to determine the reported range. For each country-asset, we used the annual acquisitions to impute the ownership rate at the reported base year. We then averaged the base ownership rates in that year and annual acquisitions. All averages were weighted by the countries' 2008 population.

The following countries were included:

Burkina Faso	Eritrea	Malawi (Vehicles only)	Senegal
Cameroon	Ethiopia	Mali	Sierra Leone
CAR	Gabon	Mauritania	South Africa
Chad	Ghana	Mozambique	Swaziland
Comoros	Guinea	Namibia	Tanzania
Congo (Brazzaville)	Kenya	Niger	Togo
Congo Democratic Republic	Lesotho	Nigeria	Uganda
Cote d'Ivoire	Liberia	Rwanda	Zambia
	Madagascar		Zimbabwe