



**SUPPORTING INFORMATION FOR:**

Min, J. and N.D. Rao. 2017. Estimating uncertainty in household energy footprints. *Journal of Industrial Ecology*.

**Summary**

This supporting information S2 provides more details on the data used in the analysis.

## Adjustment to the Mapping between CES and ICP (equivalent to COICOP)

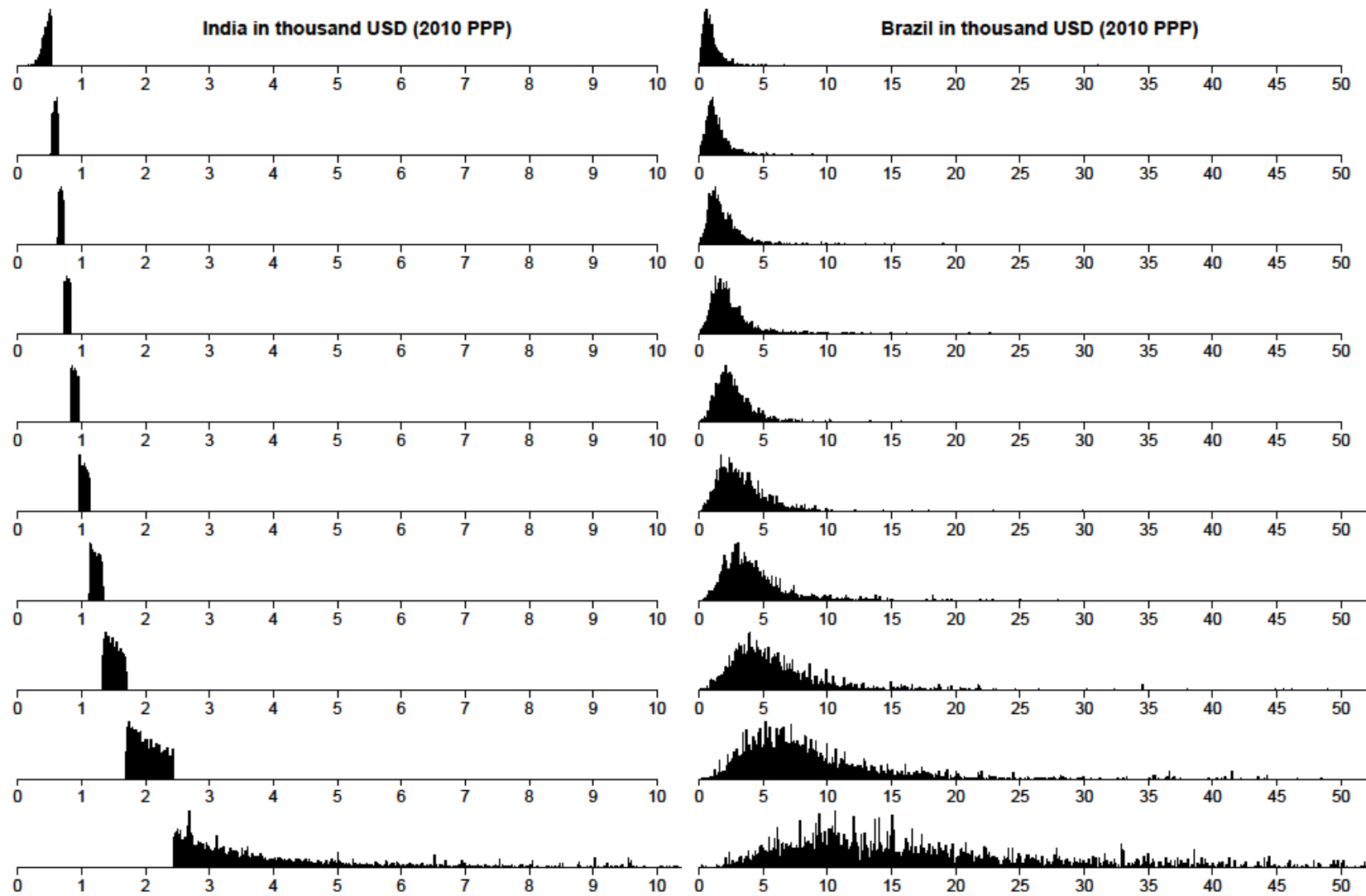
### Classifications

For the two countries, we rely on the mappings provided by the World Bank between CES and the standardized ICP classifications. However, we find some evident errors in these mappings especially for India and correct them for our analysis. We list these corrections here.

CES item code and name	ICP headings mapped by WB	Our correction
196. Birds, crab, oyster, tortoise, etc.	9. UNBR Meat	14. Other meats and meat preparations
291. Biscuits, chocolates, etc	2. UNBR Food	36. Confectionery, chocolate and ice cream
274. Mineral water 275. Cold beverages: bottled/canned 276. Fruit juice and shake	39. Coffee, tea and cocoa	40. Mineral waters, soft drinks, fruit and vegetable juices
334. Kerosene - PDS 335. Kerosene - other sources	64. Gas	65. Other fuel

## **Distribution of Annual Household Expenditure by Decile for the Two Countries**

The NSS survey for India does not have an ‘income’ field in its household characteristics, while the Brazilian POF has (See endnote 3 in the main article). Thus for India, we use the total household expenditure as a proxy for income decile division. This is why in Figure S2-1 we see non-overlapping expenditure distributions across deciles for India, while for Brazil the distributions span much wider. As income grows, the distribution of expenditure becomes wider. We see 90 percent of expenditure observations for the richest decile in Brazil are between 13k and 143k USD (2010 PPP).



**Figure S2-1** Per capita consumption distributions for India and Brazil by income decile. Note that the scales of the horizontal axes are different. The unit is in 1000 USD (2010 PPP).

## Quantitative Mapping $Q_{EXIO}$

This matrix will be provided upon request.

### List of ICP Categories Used

- ICP standard categories
- 1 UNBR Food and non-alcoholic beverages
- 2 UNBR Food
- 3 UNBR Bread and cereals
- 4 Rice
- 5 Other cereals, flour and other products
- 6 Bread
- 7 Other bakery products
- 8 Pasta products
- 9 UNBR Meat
- 10 Beef and veal
- 11 Pork
- 12 Lamb, mutton and goat
- 13 Poultry
- 14 Other meats and meat preparations
- 15 UNBR Fish and seafood
- 16 Fresh, chilled or frozen fish and seafood
- 17 Preserved or processed fish and seafood
- 18 UNBR Milk, cheese and eggs
- 19 Fresh milk
- 20 Preserved milk and other milk products
- 21 Cheese
- 22 Eggs and egg-based products
- 23 UNBR Oils and fats
- 24 Butter and margarine
- 25 Other edible oil and fats
- 26 UNBR Fruits
- 27 Fresh or chilled fruits
- 28 Frozen, preserved or processed fruit and fruit-based products
- 29 UNBR Vegetables
- 30 Fresh or chilled vegetables other than potatoes
- 31 Fresh or chilled potatoes
- 32 Frozen, preserved or processed vegetables and vegetable-based products
- 33 UNBR Sugar, jam, honey, chocolate and confectionery
- 34 Sugar
- 35 Jams, marmalades and honey
- 36 Confectionery, chocolate and ice cream
- 37 Food products n.e.c.
- 38 UNBR Non-alcoholic beverages
- 39 Coffee, tea and cocoa

- 40 Mineral waters, soft drinks, fruit and vegetable juices
- 41 UNBR Alcoholic beverages, tobacco and narcotics
- 42 UNBR Alcoholic beverages
- 43 Spirits
- 44 Wine
- 45 Beer
- 46 Tobacco
- 47 Narcotics
- 48 UNBR Clothing and footwear
- 49 UNBR Clothing
- 50 Clothing material, other articles of clothing and clothing accessories
- 51 Garments
- 52 Cleaning, repair and hire of clothing
- 53 UNBR Footwear
- 54 Shoes and other footwear
- 55 Repair and hire of footwear
- 56 UNBR Housing, water, electricity, gas and other fuels
- 57 Actual and imputed rentals for housing
- 58 Maintenance and repair of the dwelling
- 59 UNBR Water supply and miscellaneous services relating to the dwelling
- 60 Water supply
- 61 Miscellaneous services relating to the dwelling
- 62 UNBR Electricity, gas and other fuels
- 63 Electricity
- 64 Gas
- 65 Other fuels
- 66 UNBR Furnishing, household equipment and routine household maintenance
- 67 UNBR Furniture and furnishings, carpets and other floor coverings
- 68 Furniture and furnishings
- 69 Carpets and other floor coverings
- 70 Repair of furniture, furnishings and floor coverings
- 71 Household textiles
- 72 UNBR Household appliances
- 73 Major household appliances whether electric or not
- 74 Small electric household appliances
- 75 Repair of household appliances
- 76 Glassware, tableware and household utensils
- 77 UNBR Tools and equipment for house and garden
- 78 Major tools and equipment
- 79 Small tools and miscellaneous accessories
- 80 UNBR Goods and services for routine household maintenance
- 81 Non-durable household goods
- 82 Domestic services
- 83 Household services
- 84 UNBR Domestic services and household services
- 85 UNBR Health
- 86 UNBR Medical products, appliances and equipment
- 87 Pharmaceuticals products
- 88 Other medical products
- 89 Therapeutic appliances and equipment

- 90 UNBR Out-patient and hospital services
- 91 UNBR Out-patient services
- 92 Medical services
- 93 Dental services
- 94 Paramedical services
- 95 Hospital services
- 96 UNBR Transport
- 97 UNBR Purchase of vehicles
- 98 Motor cars
- 99 Motor cycles
- 100 Bicycles
- 101 Animal drawn vehicles
- 102 UNBR Operation of personal transport equipment
- 103 Fuels and lubricants for personal transport equipment
- 104 Maintenance and repair of personal transport equipment
- 105 Other services in respect of personal transport equipment
- 106 UNBR Transport services
- 107 Passenger transport by railway
- 108 Passenger transport by road
- 109 Passenger transport by air
- 110 Passenger transport by sea and inland waterway
- 111 Combined passenger transport
- 112 Other purchase transport services
- 113 UNBR Communication
- 114 Postal services
- 115 Telephone and telefax equipment
- 116 Telephone and telefax services
- 117 UNBR Recreation and culture
- 118 UNBR Audio-visual, photographic and information processing equipment
- 119 Audio-visual, photographic and information processing equipment
- 120 Recording media
- 121 Repair of audio-visual, photographic and information process. equipment
- 122 UNBR Other major durables for recreation and culture
- 123 Major durables for outdoor and indoor recreation
- 124 Maintenance and repair of other major durables for recreation and culture
- 125 UNBR Other recreational items and equipment, garden and pets
- 126 Other recreational items and equipment
- 127 Garden and pets
- 128 Veterinary and other services for pets
- 129 UNBR Recreational and cultural services
- 130 Recreational and sporting services
- 131 Cultural services
- 132 Games of chance
- 133 Newspapers, books and stationery
- 134 Package holidays
- 135 Education
- 136 Catering services
- 137 Accommodation services
- 138 UNBR Miscellaneous goods and services
- 139 UNBR Personal care

- 140 Hairdressing salons and personal grooming establishments
- 141 Appliances, articles and products for personal care
- 142 Prostitution
- 143 UNBR Personal effects n.e.c.
- 144 Jewellery, clocks and watches
- 145 Other personal effects
- 146 Social protection
- 147 Insurance
- 148 UNBR Financial services n.e.c.
- 149 FISIM
- 150 Other financial services n.e.c.
- 151 Other services n.e.c.

- Fuel categories harmonized by authors

- 152 Biogas
- 153 Charcoal/coal/briquette/coke
- 154 Diesel
- 155 Electricity
- 156 Ethanol
- 157 Firewood and other fuels
- 158 Other biomass
- 159 Fuel oil, generator
- 160 Gasoline
- 161 Kerosene
- 162 LPG
- 163 Natural gas
- 164 Other household fuel