Diet Compositions and Obesity

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Introduction

Data

Categories	Items
Alcoholic Beverages	Alcohol, Non-Food; Beer; Beverages, Alcoholic; Beverages, Fermented; Wine
Animal fats	Butter, Ghee; Cream; Fats, Animals, Raw; Fish, Body Oil; Fish, Liver Oil
Animal Products	Aquatic Animals, Others; Aquatic Plants; Bovine Meat; Butter, Ghee; Cephalopods; Cream; Crustaceans; Demersal Fish; Eggs; Fats, Animals, Raw; Fish, Body Oil; Fish, Liver Oil; Freshwater Fish; Marine Fish, Other; Meat, Aquatic Mammals; Meat, Other; Milk - Excluding Butter; Molluscs, Other; Mutton & Goat Meat; Offals, Edible; Pelagic Fish; Pigmeat; Poultry Meat
Aquatic Products, Other	Aquatic Animals, Others; Aquatic Plants; Meat, Aquatic Mammals
Cereals - Excluding Beer	Barley and products; Cereals, Other; Maize and products; Millet and products; Oats; Rice (Milled Equivalent); Rye and products; Sorghum and products; Wheat and products
Eggs	Eggs
Fish, Seafood	Cephalopods; Crustaceans; Demersal Fish; Freshwater Fish; Marine Fish, Other; Molluscs, Other; Pelagic Fish
Fruits - Excluding Wine	Apples and products; Bananas; Citrus, Other; Dates; Fruits, Other; Grapefruit and products; Grapes and products (excl wine); Lemons, Limes and products; Oranges, Mandarines; Pineapples and products; Plantains
Meat	Bovine Meat; Meat, Other; Mutton & Goat Meat; Pigmeat; Poultry Meat
Milk - Excluding Butter	Milk - Excluding Butter
Miscellaneous	Infant food; Miscellaneous
Offals	Offals, Edible
Oilcrops	Coconuts - Incl Copra; Cottonseed; Groundnuts (Shelled Eq); Oilcrops, Other; Olives (including preserved); Palm kernels; Rape and Mustardseed; Sesame seed; Soyabeans; Sunflower seed
Pulses	Beans; Peas; Pulses, Other and products
Spices	Cloves; Pepper; Pimento; Spices, Other
Starchy Roots	Cassava and products; Potatoes and products; Roots, Other; Sweet potatoes; Yams
Stimulants	Cocoa Beans and products; Coffee and products; Tea (including mate)
Sugar & Sweeteners	Honey; Sugar (Raw Equivalent); Sugar non-centrifugal; Sweeteners, Other
Sugar Crops	Sugar beet; Sugar cane
Treenuts	Nuts and products
Vegetable Oils	Coconut Oil; Cottonseed Oil; Groundnut Oil; Maize Germ Oil; Oilcrops Oil, Other; Olive Oil; Palm Oil; Palmkernel Oil; Rape and Mustard Oil; Ricebran Oil; Sesameseed Oil; Soyabean Oil; Sunflowerseed Oil
Vegetables	Onions; Tomatoes and products; Vegetables, Other
Vegetal Products	Alcohol, Non-Food; Apples and products; Bananas; Barley and products; Beans; Beer; Beverages, Alcoholic; Beverages, Fermented; Cassava and products; Cereals, Other; Citrus, Other; Cloves; Cocoa Beans and products; Coconut Oil; Coconuts - Incl Copra; Coffee and products; Cottonseed; Cottonseed Oil; Dates; Fruits, Other; Grapefruit and products; Grapes and products (excl wine); Groundnut Oil; Groundnuts (Shelled Eq); Honey; Infant food; Lemons, Limes and products; Maize and products; Maize Germ Oil; Millet and products; Miscellaneous; Nuts and products; Oats; Oilcrops Oil, Other; Oilcrops, Other; Olive Oil; Olives (including preserved); Onions; Oranges, Mandarines; Palm kernels; Palm Oil; Palmkernel Oil; Peas; Pepper; Pimento; Pineapples and products; Plantains; Potatoes and products; Pulses, Other and products; Rape and Mustard Oil; Rape and Mustardseed; Rice (Milled Equivalent); Ricebran Oil; Roots, Other; Rye and products; Sesame seed; Sesameseed Oil; Sorghum and products; Soyabean Oil; Soyabeans; Spices, Other; Sugar (Raw Equivalent); Sugar beet; Sugar cane; Sugar non-centrifugal; Sunflower seed; Sunflowerseed Oil; Sweet potatoes; Sweeteners, Other; Tea (including mate); Tomatoes and products; Vegetables, Other; Wheat and products; Wine; Yams

Categories	Items
Grain	Cereals - Excluding Beer
Vegetable	Aquatic Products, Other
	Vegetables
	Starchy Roots
	Vegetal Products
Fruit	Fruits - Excluding Wine
Protein	Animal Products
	Eggs
	Fish, Seafood
	Meat
	Offals
	Oilcrops
	Pulses
	Treenuts
Other	Alcoholic Beverages
	Animal fats
	Milk - Excluding Butter
	Miscellaneous
	Spices
	Stimulants
	Sugar & Sweeteners
	Sugar Crops
	Vegetable Oils

Country	Grain	Vegetable	Fruit	Protein	Other	Obesity
Vietnam	26.9833	41.7092	1.8046	23.1529	6.3499	0.021
Timor-Leste	32.7256	47.8962	0.6078	12.0851	6.6854	0.029
Bangladesh	37.5265	50.1830	0.6550	5.2977	6.3380	0.034
Cambodia	33.0166	47.9983	0.6470	10.6146	7.7234	0.035
Ethiopia	31.5321	54.3620	0.2821	7.7690	6.0546	0.036
India	27.6520	46.6825	1.4303	10.6874	13.5478	0.038

Methodology

```
##
## Call:
## betareg(formula = Obesity ~ Grain + Vegetable + Fruit + Protein, data = obesity_data)
##
## Standardized weighted residuals 2:
##     Min      1Q  Median      3Q     Max
## -2.8692 -0.6430 -0.0091  0.5390  3.0433
##
## Coefficients (mean model with logit link):
##              Estimate Std. Error z value Pr(>|z|)
## (Intercept)  4.340424   0.826702   5.250 1.52e-07 ***
## Grain       -0.074721   0.010887  -6.864 6.71e-12 ***
## Vegetable   -0.072887   0.010584  -6.887 5.71e-12 ***
## Fruit       -0.003785   0.029771  -0.127    0.899
## Protein     -0.063859   0.014945  -4.273 1.93e-05 ***
##
## Phi coefficients (precision model with identity link):
##        Estimate Std. Error z value Pr(>|z|)
## (phi)    26.648      2.902   9.184   <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Type of estimator: ML (maximum likelihood)
## Log-likelihood:   214 on 6 Df
## Pseudo R-squared: 0.515
## Number of iterations: 14 (BFGS) + 2 (Fisher scoring)
```

Results

Conclusion