

# Food Demand Project

Ethan Ligon

March 14, 2022

# Motivation & Overview

This project is about understanding people's *choices* about what food to eat (and how much). Sometimes these choices may lead to inexpensive, nutritious diets, but certainly not always!

In examining demand, we focus on the relationship between diet, budget, and prices. The overall goal of the project is to be able to give a clear characterization of this relationship for some particular real-world population.

# Data requirements

One of the chief challenges of the project is finding adequate data. The data you'll need include:

- ▶ Detailed data on food consumption or expenditures;
- ▶ Data on household or individual characteristics that may influence demand (e.g., household size & composition);
- ▶ A food conversion table, to allow mapping quantities of food into nutritional outcomes.

## Some Food Expenditure/Consumption Datasets

Here are some data sources that you may find useful. This is by no means exhaustive. Though if you find some other source that seems interesting please discuss with me (I may know of some problems or issues with the dataset).

- ▶ ICRISAT Expenditure Data (This one is mine)
- ▶ Philippine (Mindanao) Individual Food Consumption
- ▶ Indian NSS
- ▶ Malawi IHS (See appendix of this IFPRI working paper)
- ▶ Indonesian Family Life Survey
- ▶ <http://surveys.worldbank.org/lsms>
- ▶ Nigerian LSMS

## Some food conversion tables & sources

- ▶ <https://fdc.nal.usda.gov/>
- ▶ I have food conversion tables for selected rounds of the Indian NSS.
- ▶ <http://www.fao.org/infoods/infoods/tables-and-databases/en/>
- ▶ FAO: [http://www.fao.org/fileadmin/templates/food\\_composition/documents/AnFoodD2.0.xlsx](http://www.fao.org/fileadmin/templates/food_composition/documents/AnFoodD2.0.xlsx)

# Deliverables

I'll work through a simple example in class (people in selected South Indian villages).

- A These deliverables are *required*. Note that other deliverables may rely on completion of A deliverables.
- B These deliverables are *very desirable*.
- C These deliverables would be *nice to have*.

## (A) Choice of a population, with supporting expenditure data.

This may be the most important decision you have to make. There are lots of different populations that may be interesting, but data exists to support a careful demand analysis only for a few populations. We'll help provide some “curated” datasets you can use, but you're very welcome to also find your own if you wish.

## (B) Nutritional content of different foods

For all the foods you're considering you'll need to be able to describe their nutritional content, in terms that allow you to compare with recommended daily allowances. We'll provide pointers to US government recommendations, but many other countries have their own recommendations, which may be better suited to their populations.



## (B) “Engel’s Law”

Engel is famous for the proposition that the share of food in a household’s budget falls with the overall size of the budget. What can you say about the validity of Engel’s Law in the context of your population?

## (B) Nutritional adequacy of diet

Given the food actually consumed in your data, what can you say about the adequacy of the diets in the population you're studying? What proportion of households consume enough so that members will exceed dietary recommendations? What proportion do not?

## (A) Estimate Demand System

Estimate a system of demands for different kinds of food.  
Characterize how consumption varies with household need.

## (C) Counterfactual Experiments

If everyone's total food expenditures doubled (holding prices fixed) how would this affect nutrition in the population? What if relative food prices changed?

Think of other counterfactual experiments that might be interesting.

## (A) Presentation

Each group will be responsible for giving a 15 minute presentation of the work they've accomplished. Be creative! Think of awesome new ways to help others visualize what you've learned.

## (A) Code Review

As in the last project, each team will be responsible for providing a code review/replication of the projects of two other teams.