Food Prices for Nutrition

International Comparison of Retail Food Prices to Guide Agriculture and Food Systems

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Food Prices for Nutrition Project

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Agenda

1. Introduction
2. Methods and Datasets
3. Preliminary Results
4. Conclusions and Next Steps

1. Introduction

Food Prices for Nutrition

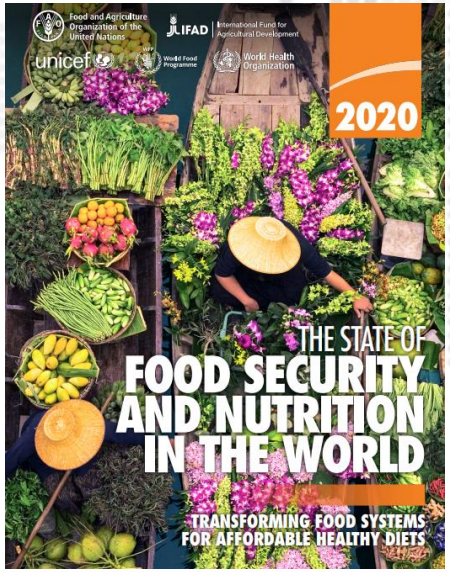
The *Food Prices for Nutrition* project has transformed the analysis of diet costs and affordability

- Has relied to date on a rich and unique global food price dataset from the ***International Comparison Program (ICP)***, which provides retail prices for comparable and standardized food and beverage items across 170 countries.
- Measures minimum daily costs of diets meeting health standards, and breakdown of diet costs by food groups, such as starchy staples, fruits and vegetables, etc.
- Provides affordability indicators comparing diet costs with the international poverty line and the national food expenditures.
- Calculates estimates of the number of people who cannot afford food to meet dietary needs.

State of Food Security and Nutrition in the World

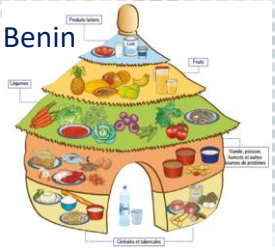
***The State of Food Security and Nutrition in the World* (SOFI) 2020 first reported the cost and affordability of healthy diets as new food security indicators**

- The high cost of a healthy diet and persistently high levels of poverty and income inequality keep healthy diets out of reach for around 3 billion people in the world.
- The cost of a healthy diet is calculated based on food-based dietary guidelines.



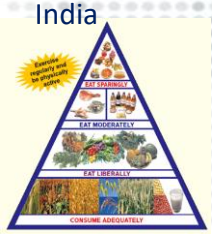
Argentina

Benin



China

India



Jamaica

Netherlands

Malta

Oman

U.S.A.

Vietnam

Research Question

- Food Prices for Nutrition project has estimated to date the cost of a healthy diet in the world using ICP 2017 data, but these global datasets have limitations.

- **Research question:** ***What would the cost of a healthy diet be if we were to use national price datasets from the Consumer Price Index (CPI)?***

- In this study, we explore using comprehensive CPI datasets for the cost of a healthy diet estimation in selected countries, noting that these national datasets also have limitations.

2. Methods and Datasets

Methods

The Cost of a Healthy Diet

- The cost of the least expensive locally-available foods to meet requirements for energy and food-based dietary guidelines.

Following the Healthy Diet Basket method

- A diet pattern comprised of the median amounts of each food group across 10 national food-based dietary guidelines that sums to a total of 2329 kcal (Herforth et. al., 2021).

Food group	kcal/day	g/day	Number of items
Starchy Staples (SS)	1172	325	2
Vegetables (V)	130	350	3
Fruits (F)	158	250	2
Legumes, Nuts & Seeds (LNS)	287	200	1
Foods from Animals (AF)	290	85	2
Oils and Fats (FT)	292	33	1

Country Coverage

- Selected 5 low- and middle-income countries in different geographical regions: **Mexico, Vietnam, Philippines, Nigeria and South Africa.**

- Detect both temporal and subnational variations in 2017 and compare with the estimation using the global food price data from the ICP2017 round.

- Today we are presenting *preliminary* results for Mexico, Vietnam and Nigeria.

Datasets

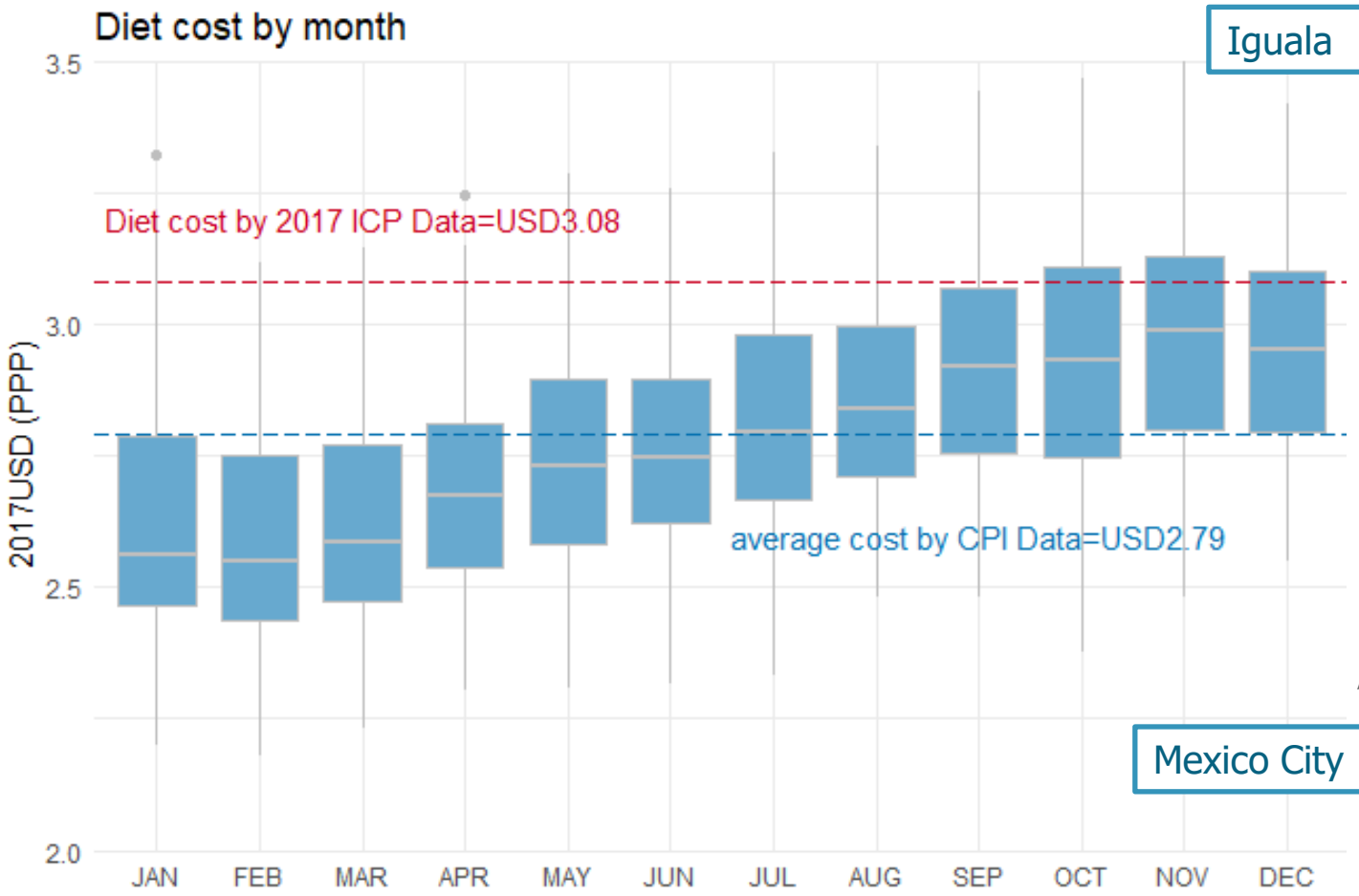
Cost of a Healthy Diet in Mexico, Vietnam and Nigeria in 2017

- In the preliminary results, the cost is calculated using **a full list** of food items from the national CPI.
- **Mexico:** monthly average prices of 122 items from **46 cities** in 2017
  - **79 items:** 12 SS + 6 LNS + 25 AF + 12 V + 18 F + 6 FT
- **Vietnam:** monthly average prices of 176 items from **25 provinces** in 2017
  - **107 items:** 18 SS + 9 LNS + 43 AF + 18 V + 16 F + 3 FT
- **Nigeria:** monthly average prices of 234 items from **37 states** in 2017 (urban prices)
  - **137 items:** 46 SS + 10 LNS + 45 AF + 19 V + 13 F + 4 FT

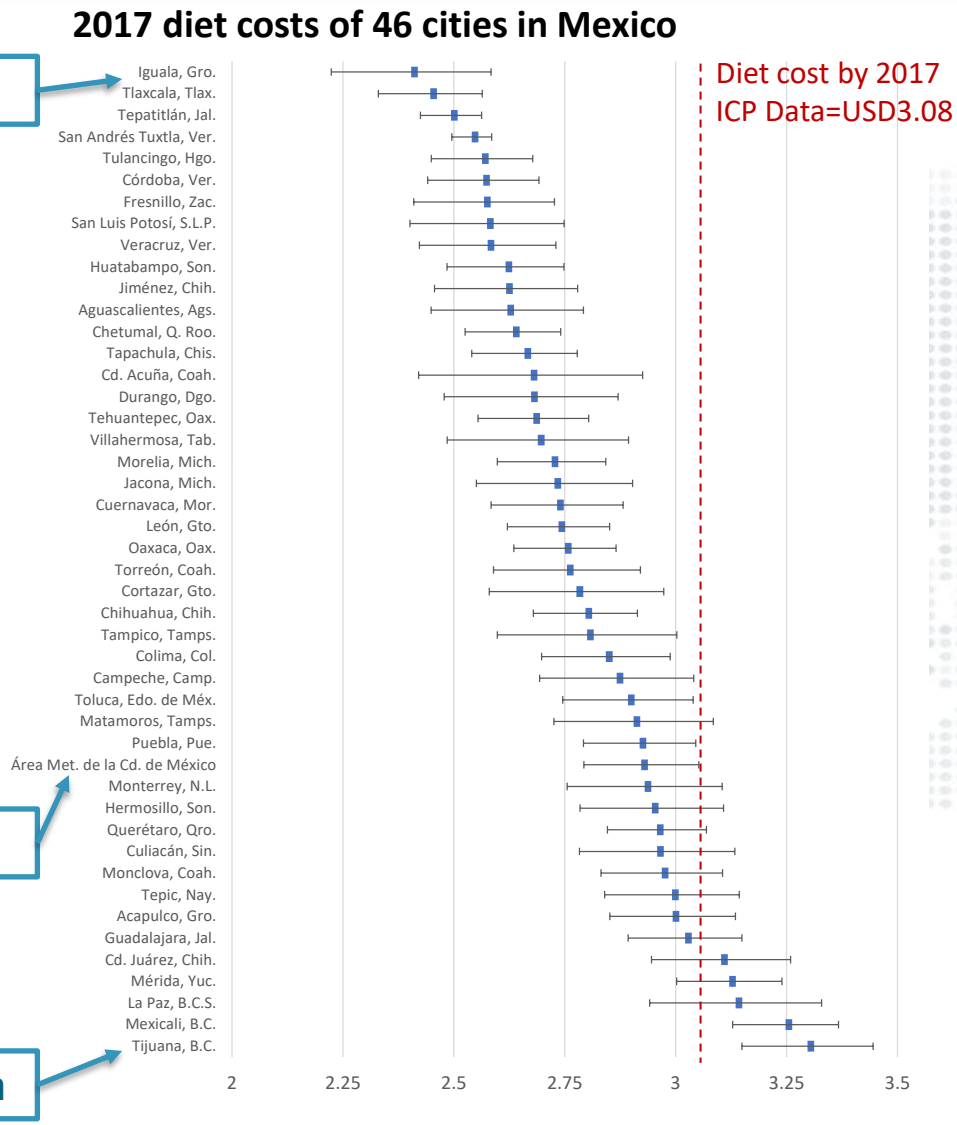
***Legend**: Starchy Staples – SS ; Legumes, Nuts & Seeds – LNS; Foods from Animals – AF; Vegetables – V; Fruits – F; Oils and Fats – FT*

3. Preliminary Results

Mexico – Cost of a Healthy Diet



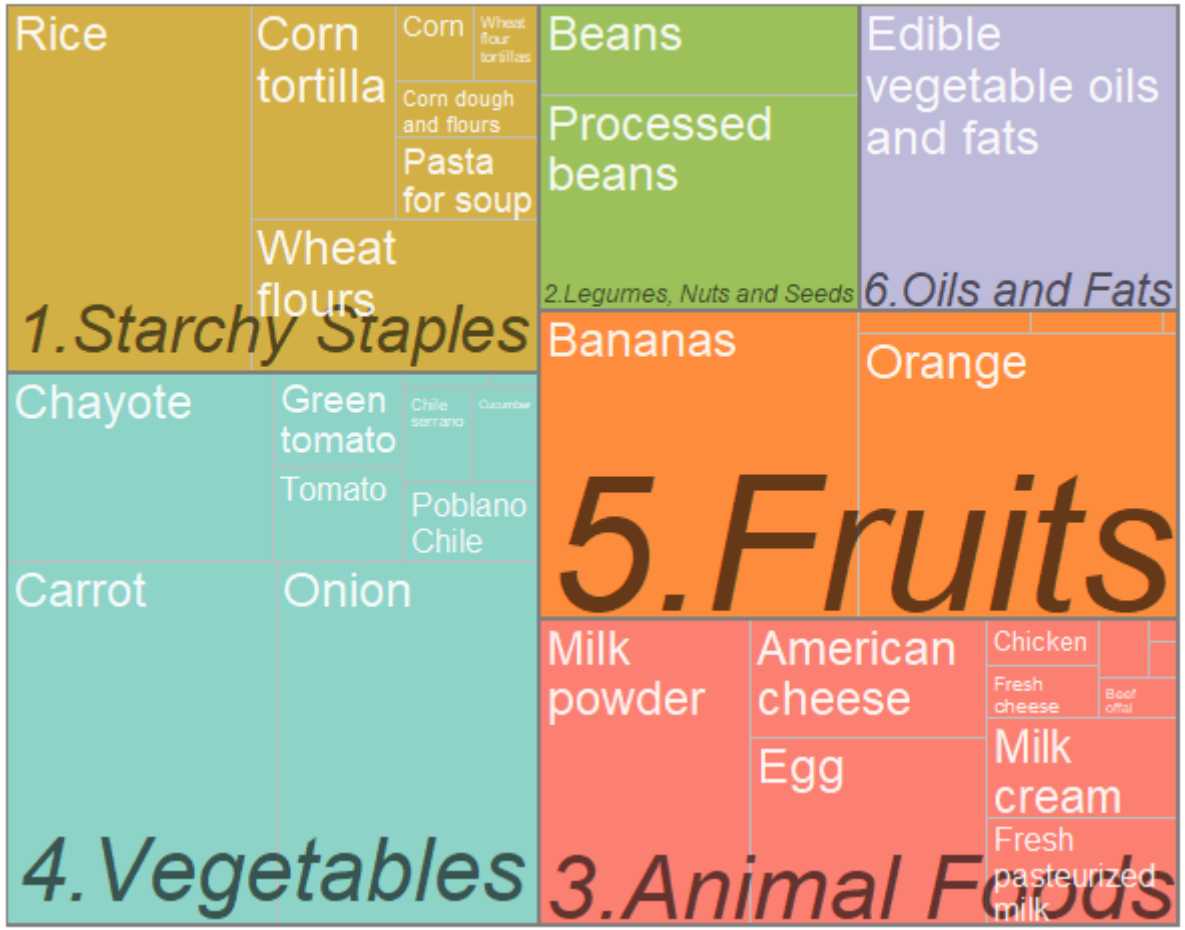
Note: Box shows 25th-75th percentile of diet cost in each month of all 46 cities. Blue dashed line refers to average cost of all cities and months. Red dashed line is the single estimate of the diet cost by ICP 2017.



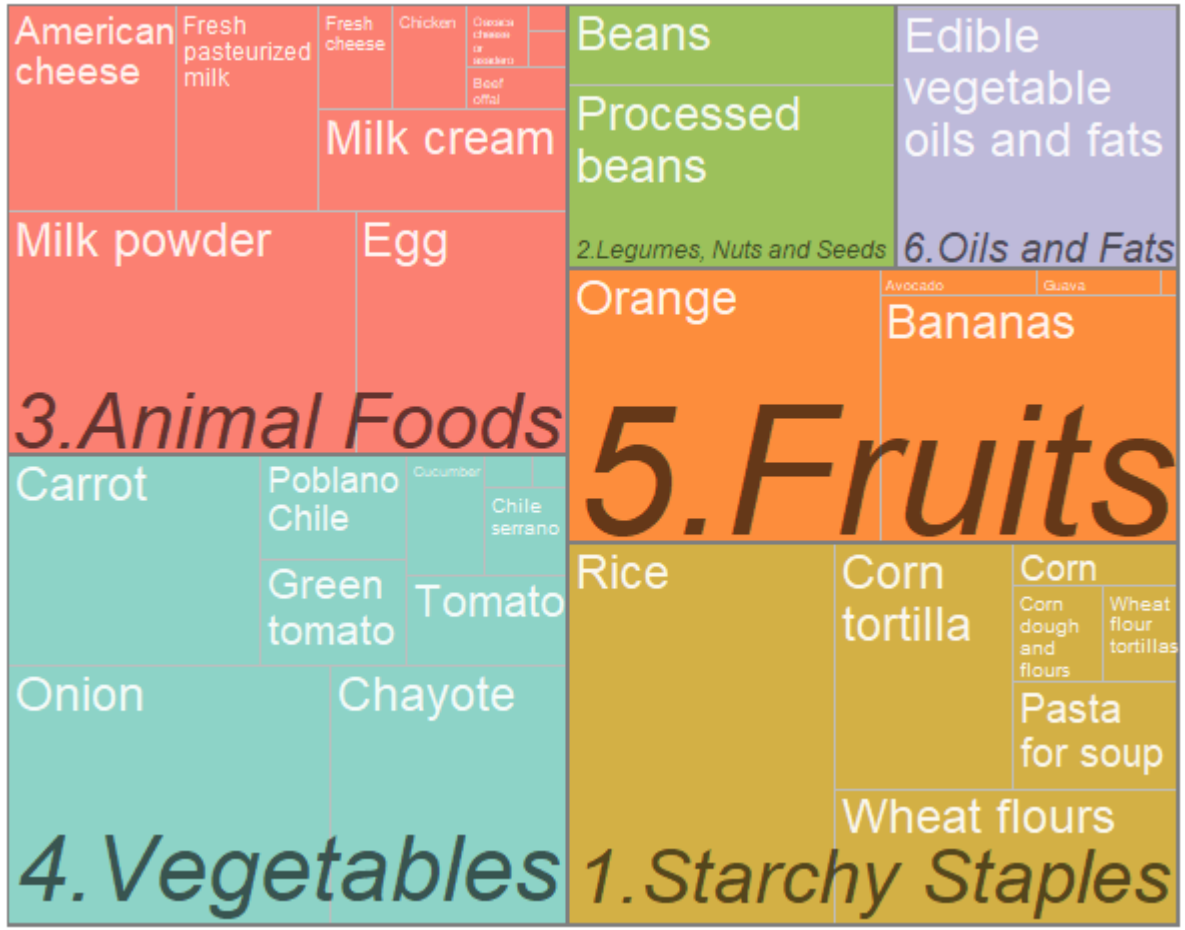
Note: The dot is the average diet cost over 12 months in each city. Error bar refers to the standard deviation.

Mexico – Food Selection

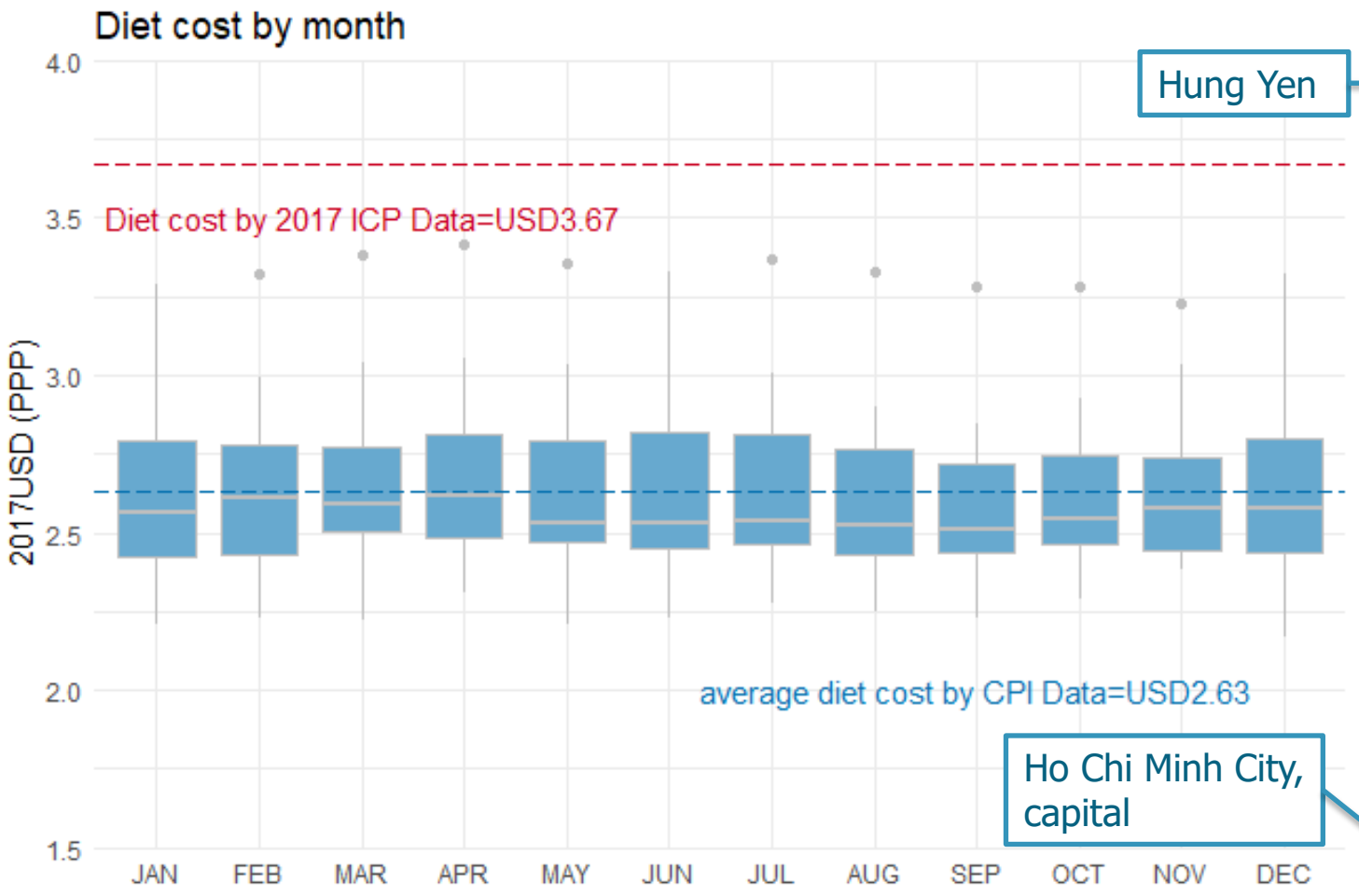
A. Food selection



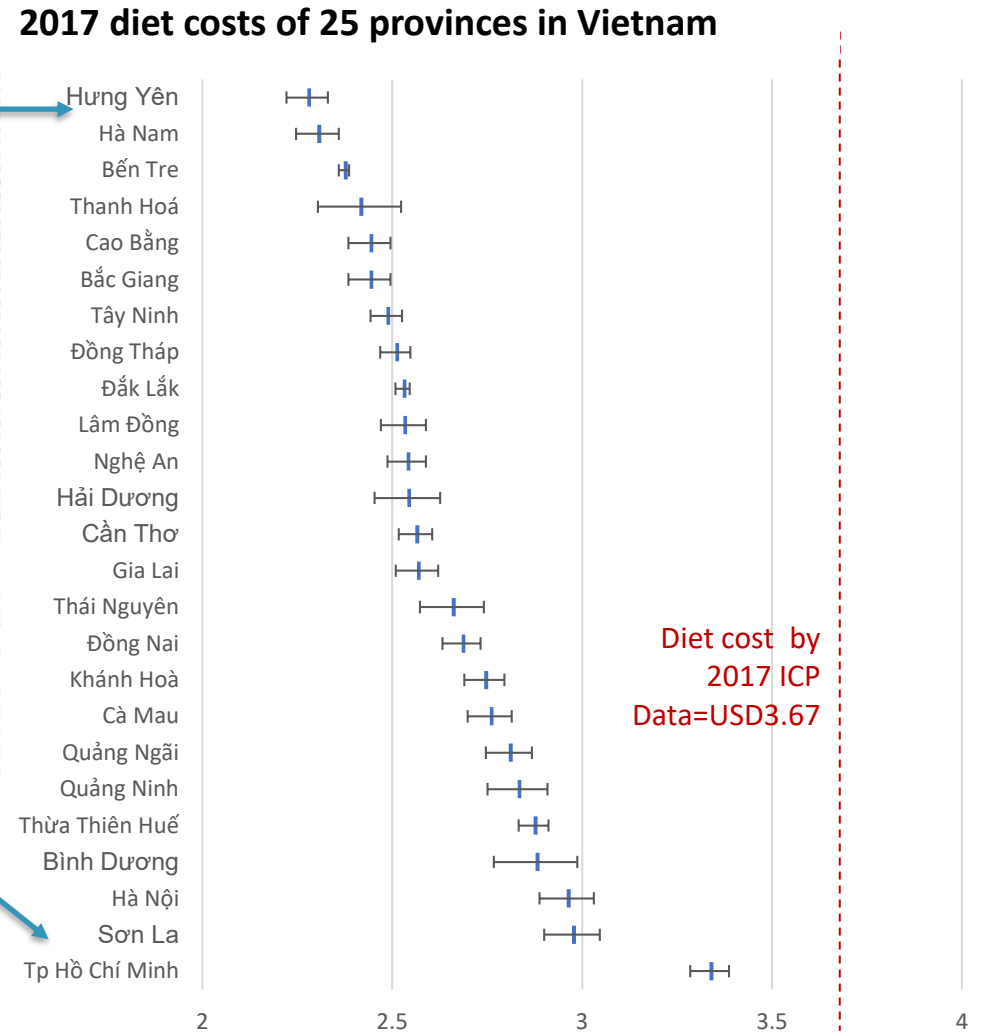
B. Cost allocation



Vietnam – Cost of a Healthy Diet



Note: Box shows 25th-75th percentile of diet cost in each month of all 25 provinces. Blue dashed line refers to average cost of all cities and months. Red dashed line is the single estimate of the diet cost by ICP 2017.



Hung Yen

Ho Chi Minh City, capital

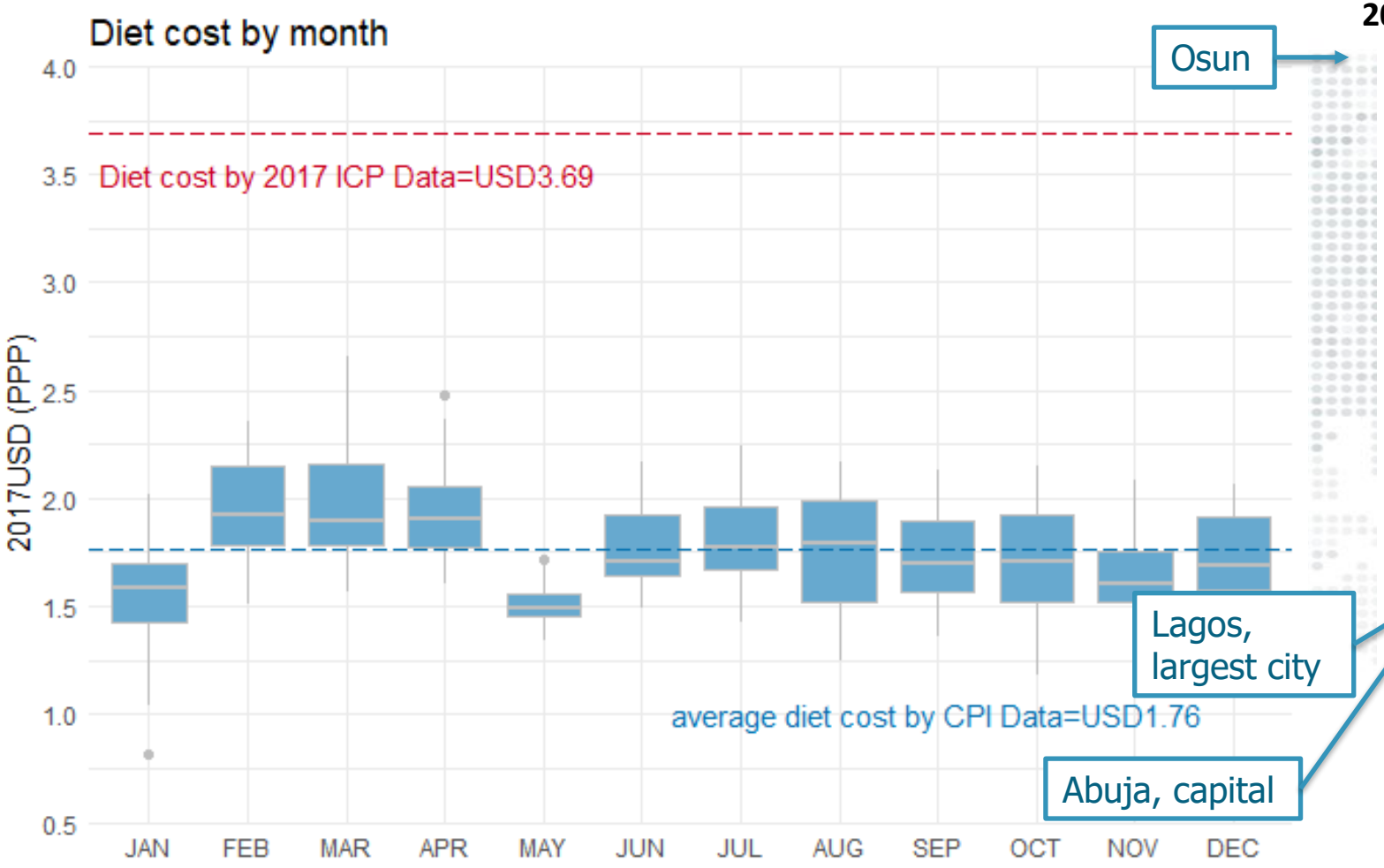
Note: The dot is the average diet cost over 12 months in each province. Error bar refers to the standard deviation.

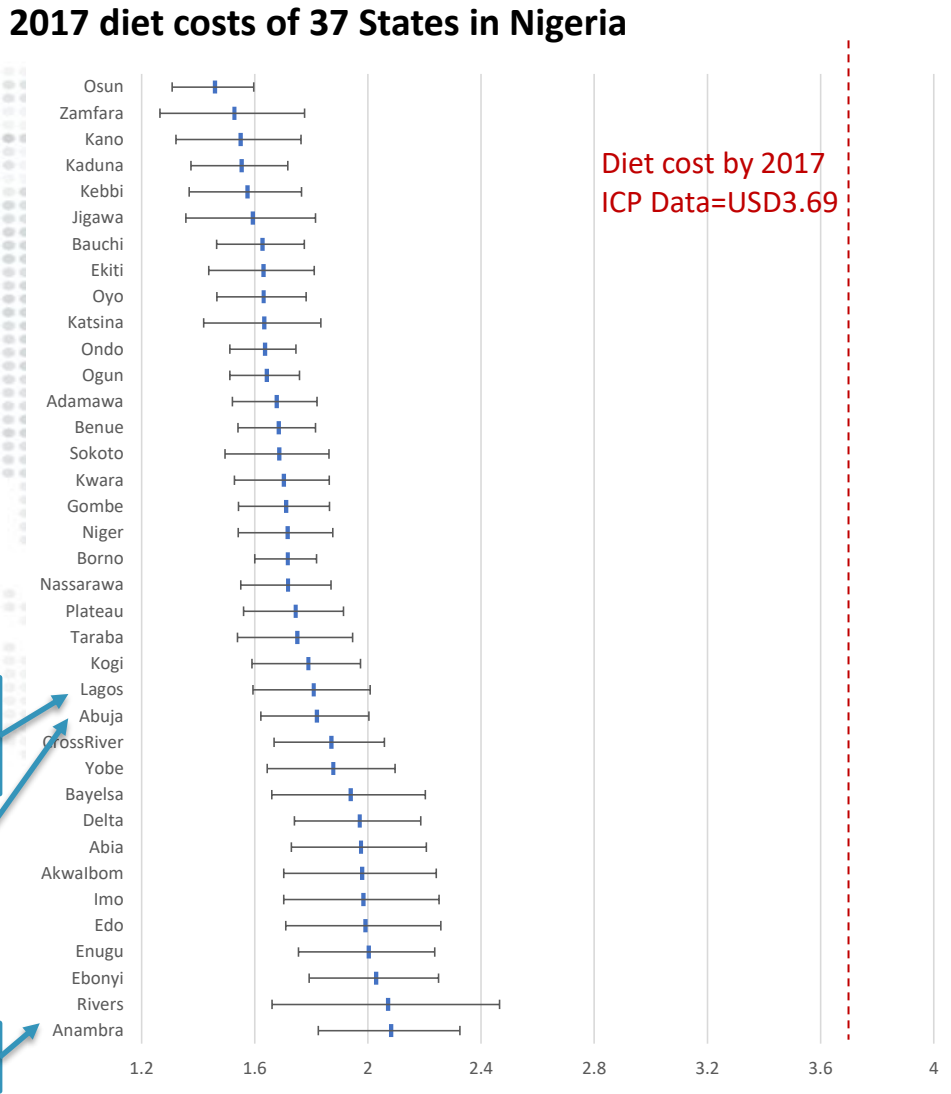
Vietnam – Food Selection

A. Food selection

B. Cost allocation

Nigeria – Cost of a Healthy Diet





Osun

Lagos, largest city

Abuja, capital

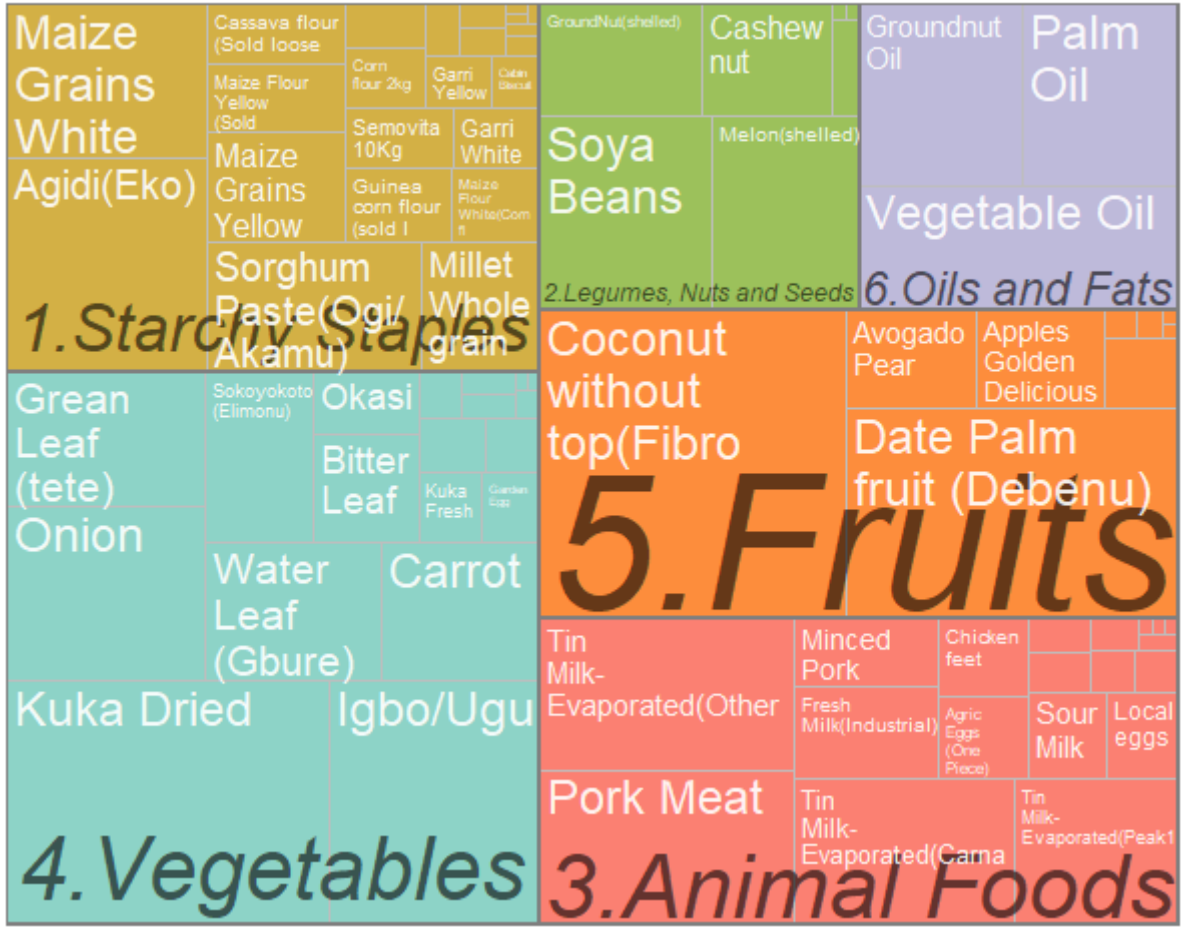
Anambra

Note: Box shows 25th-75th percentile of diet cost in each month of all 37 states. Blue dashed line refers to average cost of all cities and months. Red dashed line is the single estimate of diet cost by ICP 2017.

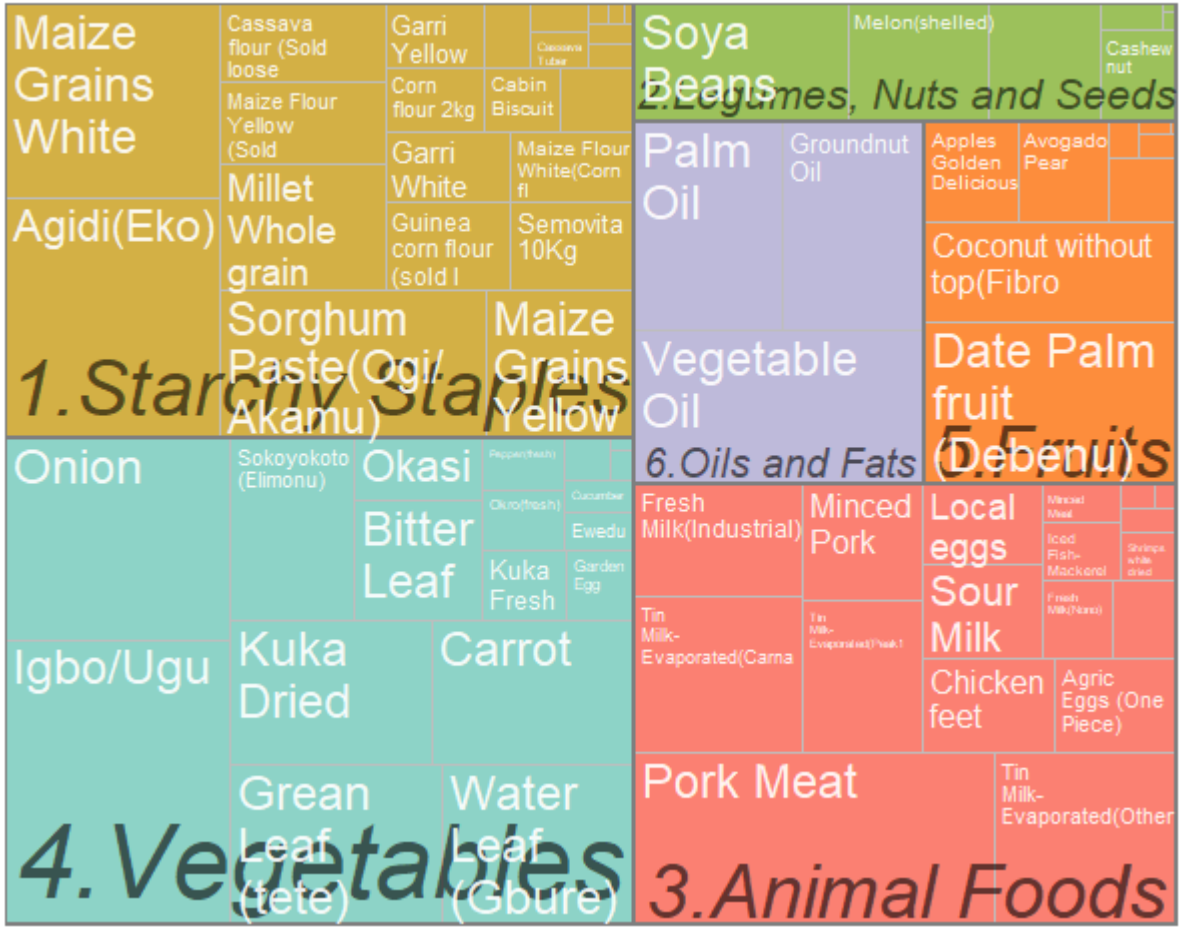
Note: The dot is the average diet cost over 12 months in each province. Error bar refers to the standard deviation.

Nigeria – Food Selection

A. Food selection



B. Cost allocation



4. Conclusions and Next Steps

Conclusions

Cost of a healthy diet using monthly subnational CPI data presents potential differences to the results using the global ICP dataset

- **Item selection**: Locally available nutritious foods, not surveyed by the ICP, may help reduce diet costs substantially.
- **Item quality**: ICP prices standardized items across countries.
- **Survey frame**: Differences can be due to survey framework and outlet section differences between ICP and CPI.
- **Averaging method**: ICP national annual average is weighted, while here we are using simple average of monthly subnational CPI data.
- **Quality assurance**: Differences are more pronounced in certain countries than others – ICP has robust quality assurance and validation protocols that some countries may not have the capacity for.

Conclusions

Temporal and subnational variations in the cost of a healthy diet

- Different countries may present different magnitudes and patterns of variations.
  - Food substitutions over time and different food selections across subnational locations affect these variations.
- To precisely measure and track the cost of a healthy diet, it might be useful to rely on the national CPI food price data.
  - Provide more locally available nutritious food items.
  - Provide monthly and subnational data.
  - However, quality assurance and data validation are extremely important for global monitoring programs.
  - CPI data access may pose challenges in certain countries.

Next Steps

- Include **Philippines** and **South Africa** in the study.
- Better understand the sources of differences between the national CPI and global ICP datasets and the potential impacts on the cost of a healthy diet.
- Calculate the cost of a healthy diet in the five countries using **sentinel foods**
  - Sentinel foods, defined as a short list of items likely to be least-cost and commonly-consumed and culturally-relevant, can be identified in each country.
  - It is considered as a more feasible/efficient approach for global diet cost tracking and monitoring programs in the future.

DISCUSSIONS AND QUESTIONS