

# Where in the World Is the Market?

## Real World Meets Math—and Math Wins

The Lund Lecture by Staffan Canback

May 2024



**TELLUSANT**

Streamlining Corporate Decision Making

# Agenda

- 1 **Introduction**
- 2 Where in the World Is the Market?—The Macro View
- 3 Where in the World Is the Market?—The Market View
- 4 Breakout session
- 5 Q&A

# Personal details



## WORK

Swedish Army Soldier 1977–1978  
ABB Systems Development Engineer 1980–1981  
McKinsey & Co Partner 1984–1994  
Monitor Company Partner 1994–2002  
Canback Consulting Managing Director 2003–2020  
Tellusant Chairman 2020–

## EDUCATION

KTH-Royal Institute of Technology Msc EE 1975–1979  
Harvard Business School MBA 1981–1983  
Henley Business School DBA 1996–2002

## AWARDS

Fulbright Scholar 1981  
Wallenberg Scholar 1996  
First Prize, EDAMBA European Doctoral Dissertation Competition 2003


## ACADEMIC PUBLICATIONS (found, e.g., at SSRN)


- Toward an Integrated Strategy Development Framework
- The Growth Tesseract
- Where in the World Is the Market? *with F D'Agnese*
- Do Diseconomies of Scale Impact Firm Size and Performance? *with P Samouel & D Price*
- Does Corporate Size Matter?
- A Lightweight Note on Success in Mergers and Acquisitions
- Bureaucratic Limits of Firm Size *DBA Dissertation*
- The Logic of Management Consulting, Parts I & II
- The Industrial Company in the Year 2027 (Predictions Made in 1992)

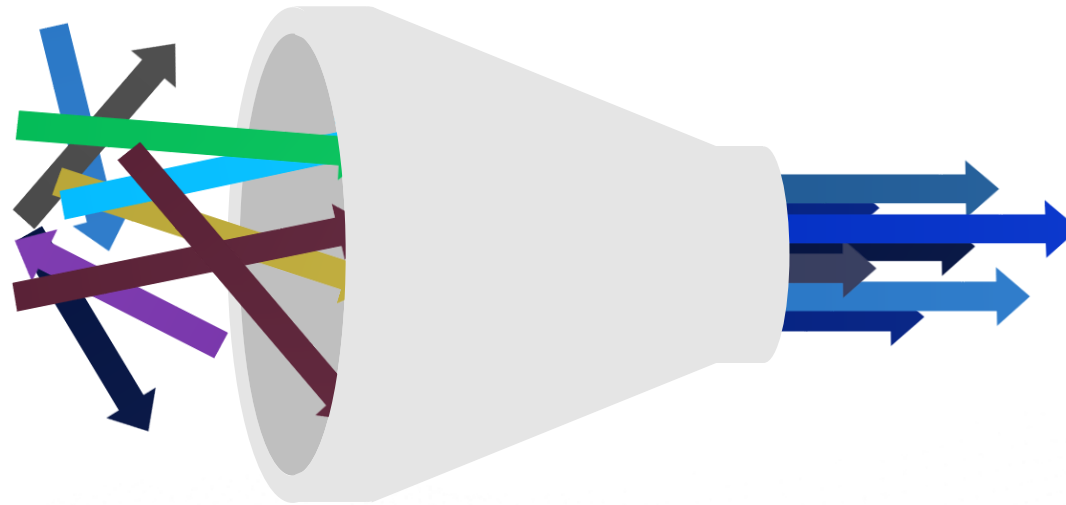
WHAT IS TELLUSANT?

# Find patterns where others see chaos

## Today...




 **Corporate strategic planning**  
is manual and disjointed

 **This means wasted time**  
and inefficient solutions



## With Tellusant...

**Quantitative strategic prediction platforms with AI make strategy**

-  Faster
-  More accurate
-  Consistent

***Founded in Boston in 2020, we represent the next generation of big ideas***

WHAT IS TELLUSANT?

# Our team



**Dr. Staffan Canback**

**CO-FOUNDER AND  
EXECUTIVE CHAIRMAN**

Co-founder and Managing  
Director,  
Canback Consulting

Partner at McKinsey and Monitor

MBA from Harvard Business  
School; DBA from Brunel U.; MSc  
from KTH



**Philip Burgin-Young**

**CO-FOUNDER AND CHIEF  
EXECUTIVE OFFICER**

Senior Engagement Manager,  
Canback Consulting

BA from Dartmouth College



**Bobo Shen**

**CHIEF PRODUCT  
OFFICER**

Senior Engagement  
Manager,  
Canback Consulting

BA from Boston University

MA from Boston University  
in Computer Science

**Over 60 years combined experience** in  
management consulting and data products  
for global corporations, with focus on CPG

**Know strategic processes** and their flaws  
through hundreds of projects on the ground in  
80 countries

**Experts in combining predictive analytics** and  
macroeconomics with strategic advice

**Leadership team have long-term  
working relationship**



**Francisco  
Maciel**

Region Head,  
Mexico



**Carlos  
Alzate**

Region Head,  
Andean Zone



**Kennet  
Radne**  
Advisor



**Sharat  
Mathur**  
Advisor



WHAT IS TELLUSANT?

# Team meeting in Mexico City



Office on Reforma



Boston & Mexico team (Bogota missing)



WHAT IS TELLUSANT?

# Global Experience



**Over 300** strategic solutions delivered



**92 countries**

On-the-ground expertise from work in 82 countries, with work in over 120 countries

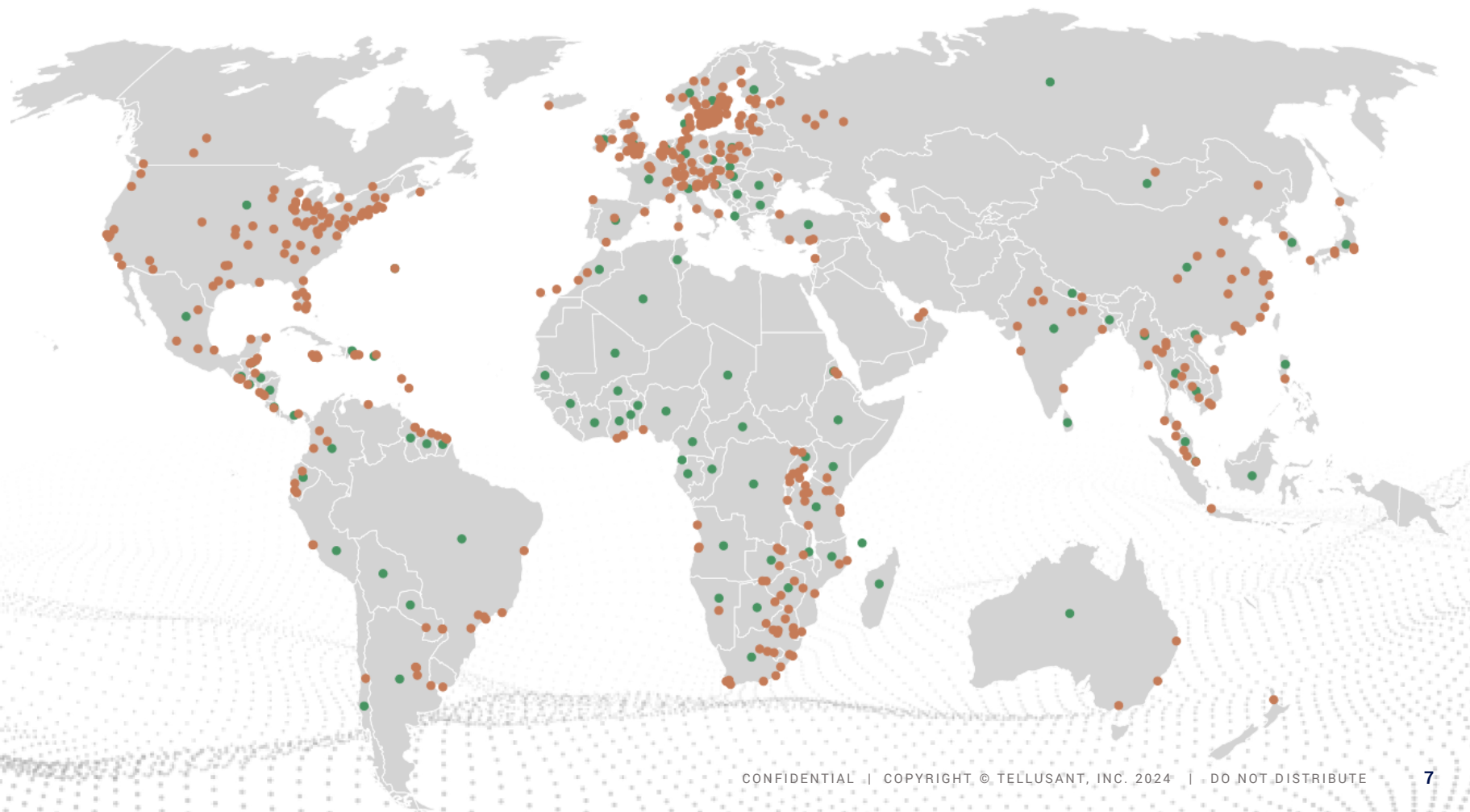


**11 of 20 largest consumer goods companies**

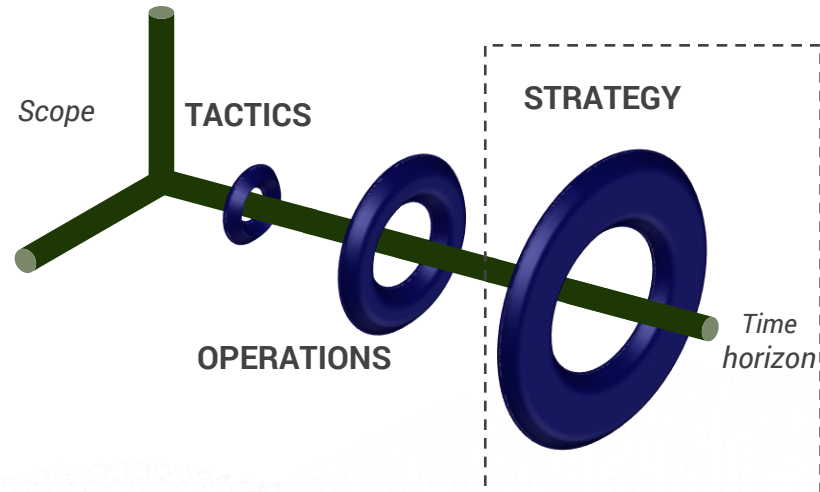
Worked with and are trusted by 11 of the top 20 consumer goods companies in the world

## TELLUSANT TEAM MEMBERS' GLOBAL EXPERIENCE

- On the ground-work by city
- Work by country



# Focus





# Agenda

- 1 Introduction
- 2 **Where in the World Is the Market?—The Macro View**
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# Photos from Latam



Buenos Aires, Argentina



Guayaquil, Ecuador



Lima, Peru





Itaipu Dam, Paraguay & Brazil



Iguazu Falls, Argentina

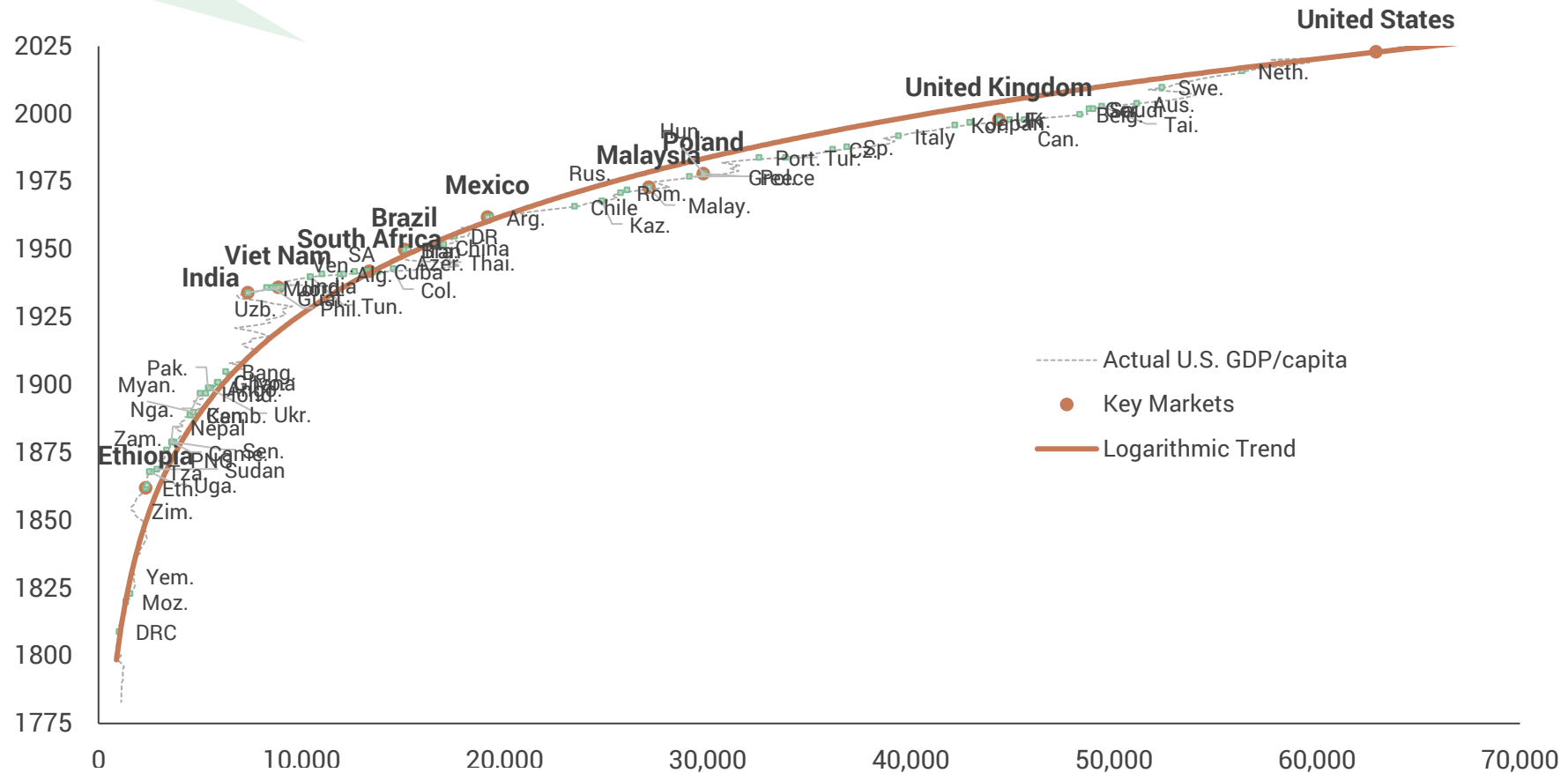


# Time / income relationship

**How to interpret:** Mexico GDP per capita is the level of the U.S. in 1964

## ECONOMIC STAGE OF DEVELOPMENT

Countries compared to U.S. GDP per capita

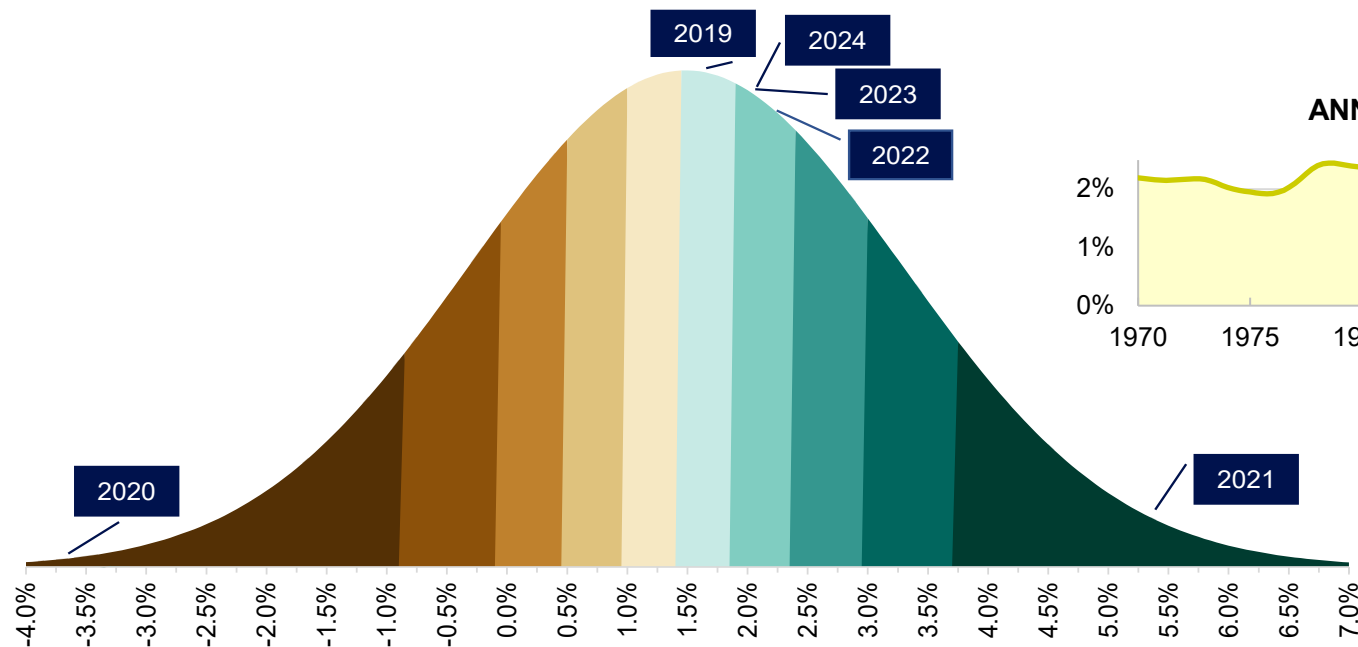


# 2024 macro performance

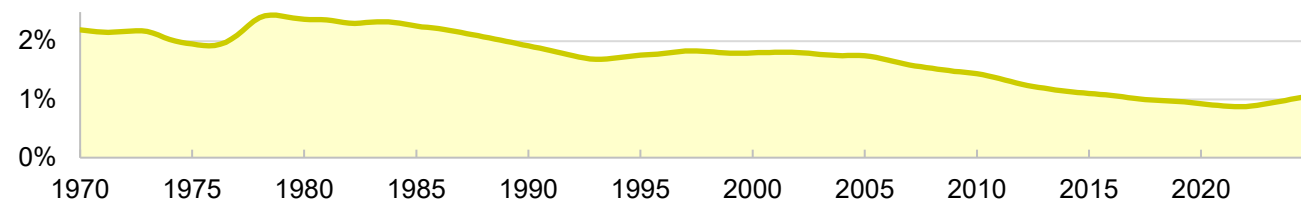
## GLOBAL ECONOMIC GROWTH DISTRIBUTION

Annual growth in GDP / working-age population 1970-2024

■ Decile10 ■ D9 ■ D8 ■ D7 ■ D6 ■ D5 ■ D4 ■ D3 ■ D2 ■ D1



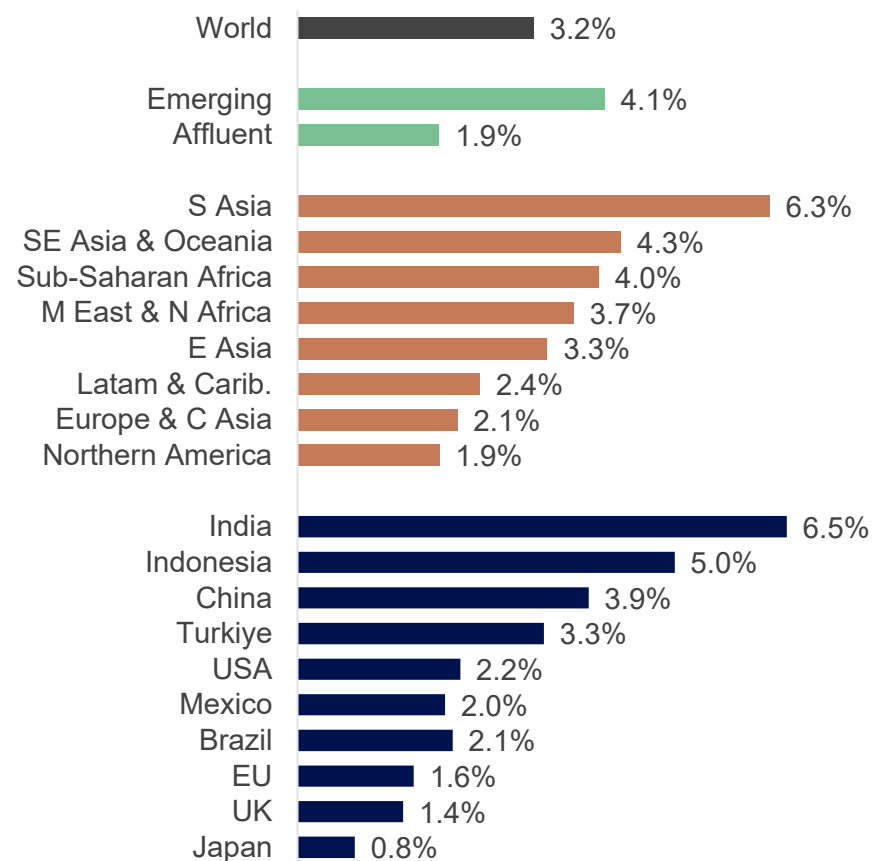
## ANNUAL GROWTH OF GLOBAL WORKING-AGE POPULATION



# Macro outlook

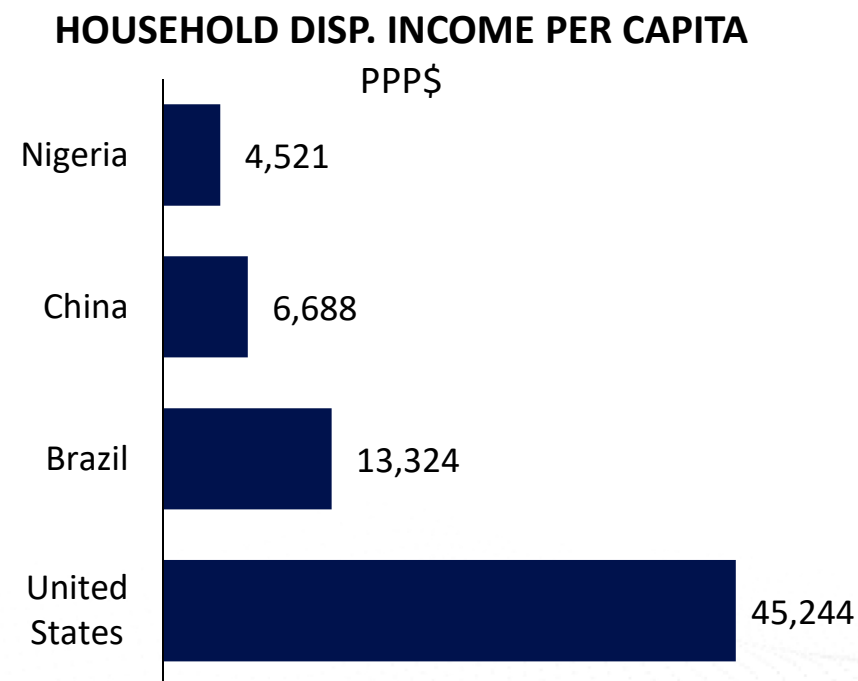
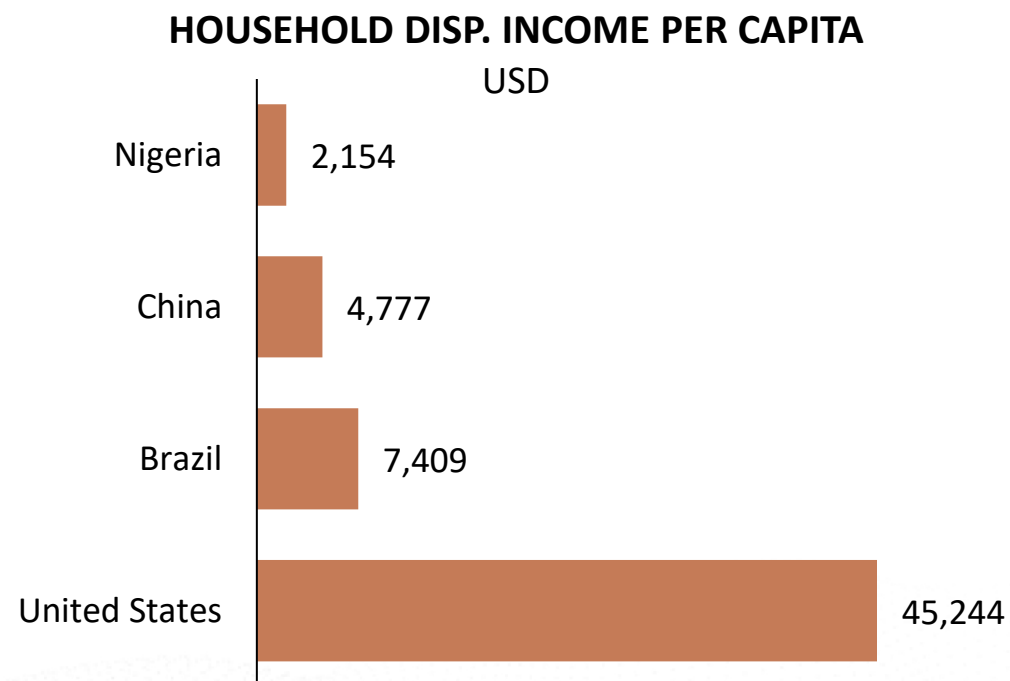
## GLOBAL ECONOMIC GROWTH

GDP growth per annum 2024-2029





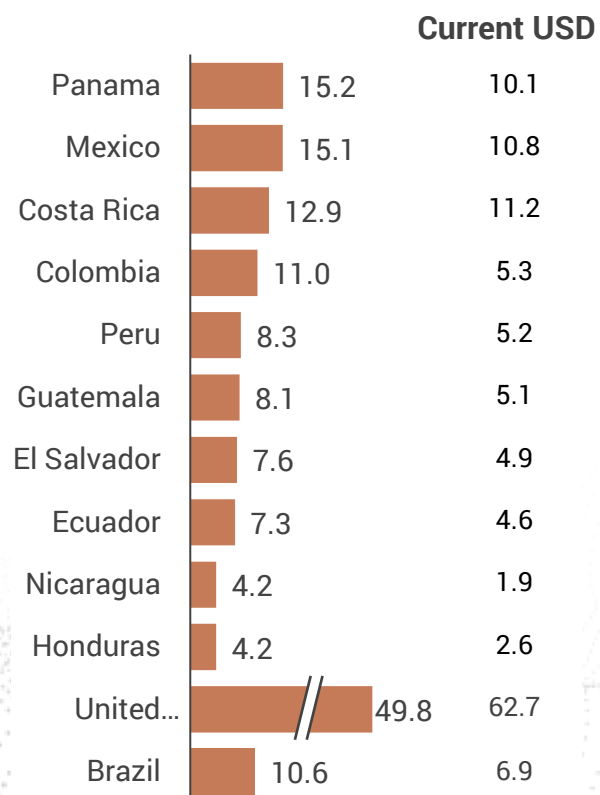
# Purchasing Power Parity Examples



# Dimensions of macro growth

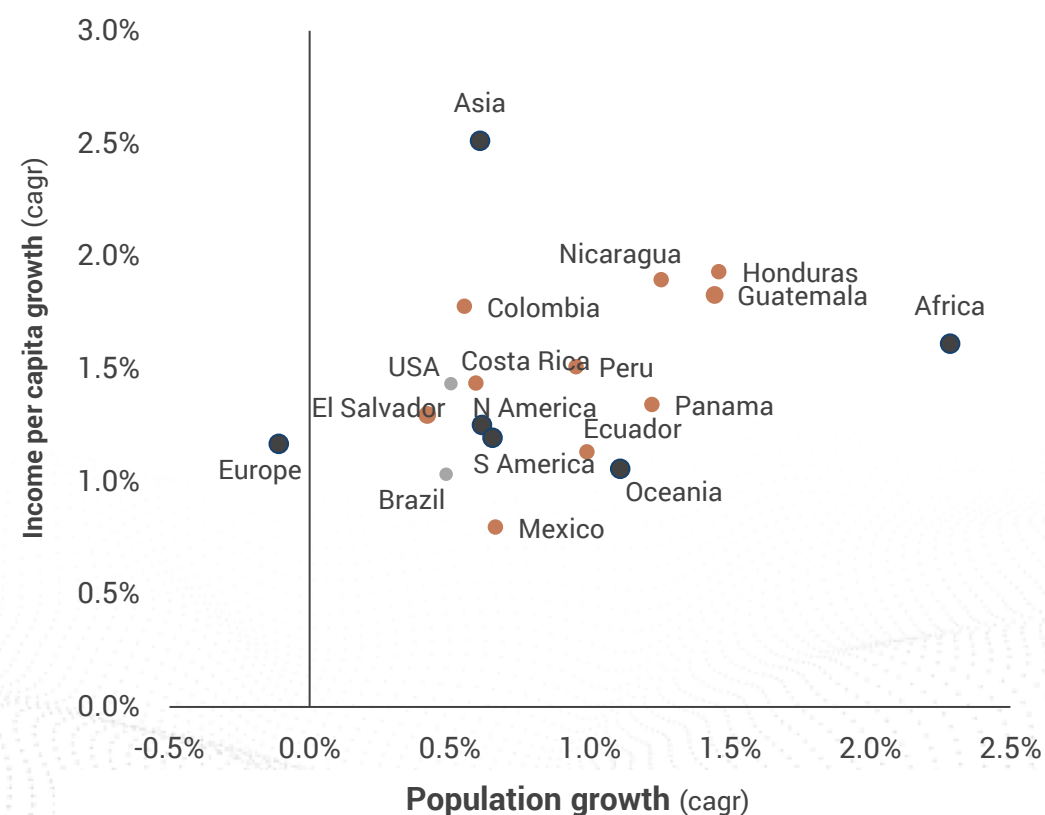
## DISPOSABLE INCOME PER CAPITA

Constant 2015 PPP\$, '000, 2023



## PER CAPITA DISPOSABLE INCOME GROWTH VS POPULATION GROWTH

2023-2030



# Global Income Level Standard

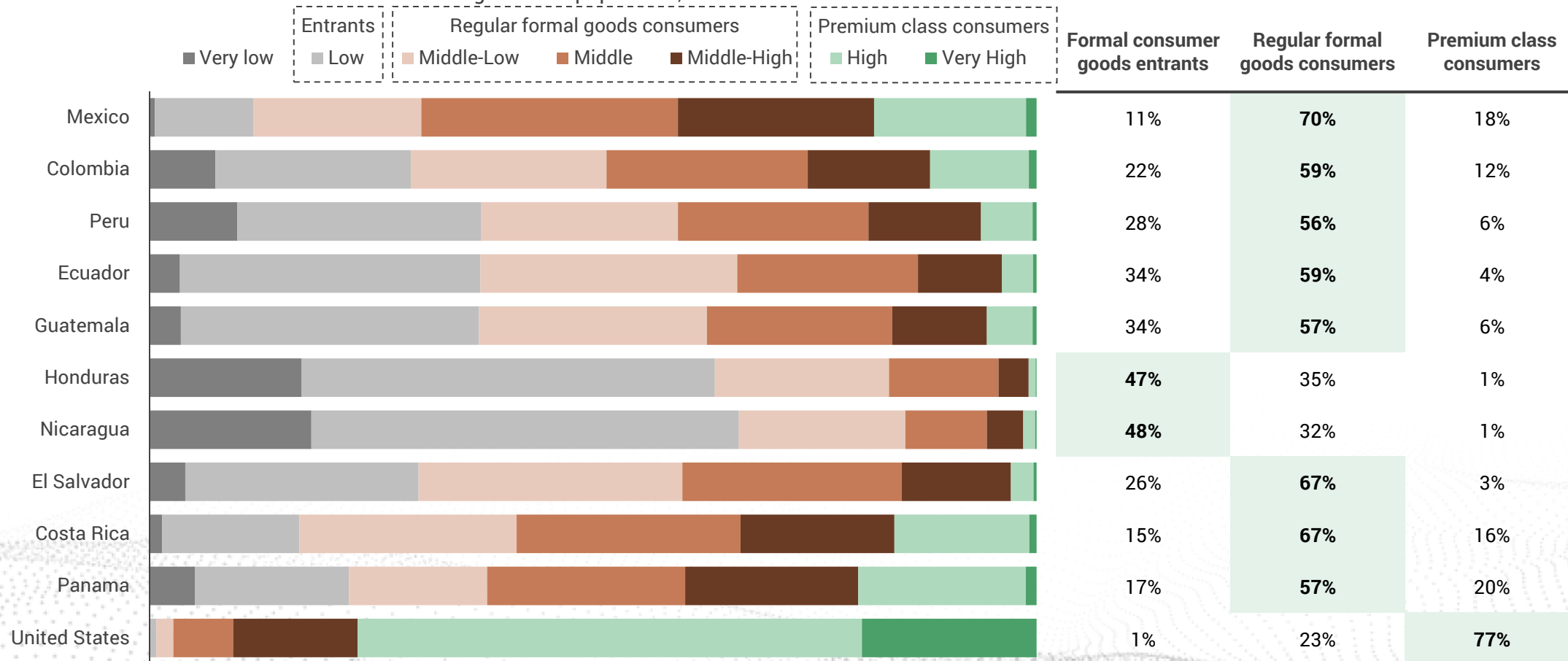
Income level standard		Description
<b>Very High</b> Corresponding to the top 1% of globally-equivalent spending power population		<ul style="list-style-type: none"> <li>• Individuals who can save income more regularly</li> <li>• Consume luxury goods</li> </ul>
<b>High</b> 90%-99% of globally-equivalent spending power population		<ul style="list-style-type: none"> <li>• Individuals save income</li> <li>• Consume occasional luxury goods</li> </ul>
<b>Middle-High</b> 80%-90% of globally-equivalent spending power population		<ul style="list-style-type: none"> <li>• Individuals are able to often save income</li> <li>• May consume premium goods</li> </ul>
<b>Middle</b> 60%-80% of globally-equivalent spending power population		<ul style="list-style-type: none"> <li>• Individuals are able to occasionally save income</li> <li>• May consume premium goods</li> </ul>
<b>Middle-Low</b> 40%-60% of globally-equivalent spending power population		<ul style="list-style-type: none"> <li>• Able to meet primary needs</li> <li>• Consistently can afford branded consumer goods</li> </ul>
<b>Low</b> 10%-40% of globally-equivalent spending power population		<ul style="list-style-type: none"> <li>• Barely have money to meet primary needs</li> <li>• Occasional (not regular) branded goods consumption</li> </ul>
<b>Very Low</b> 0%-10% of globally-equivalent spending power population		<ul style="list-style-type: none"> <li>• Barely have money to meet primary needs</li> <li>• Incredibly rare branded goods consumption</li> </ul>



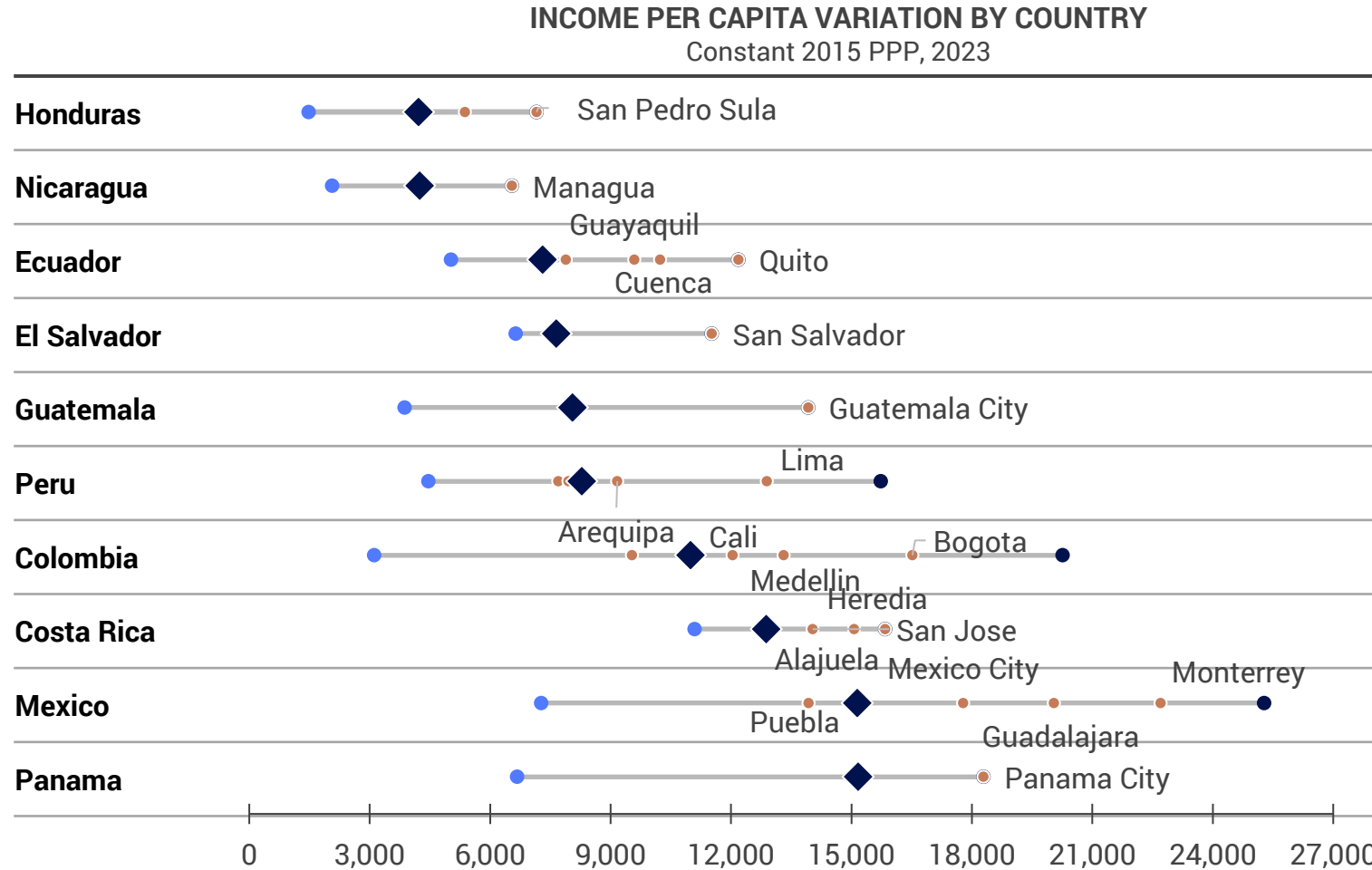
# Latam socioeconomic levels

## INCOME FRACTILES BY COUNTRY

Percentage of total population, 2023



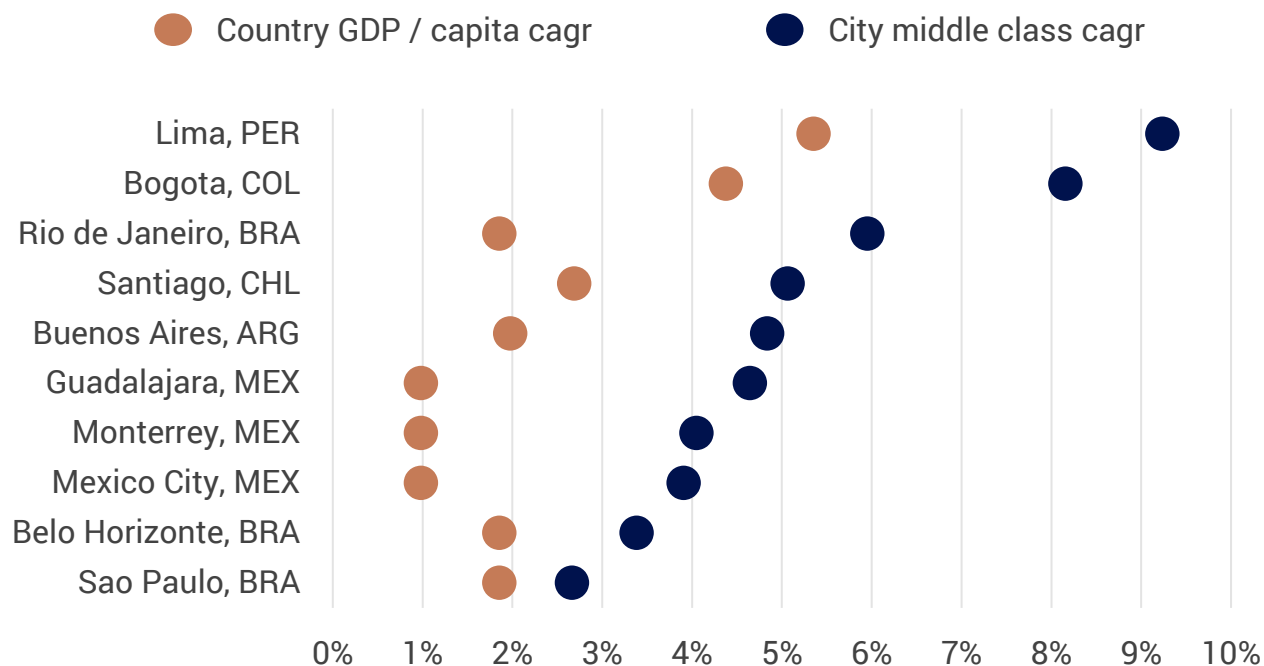
# Cities vs countries I



# Cities vs countries II

## MIDDLE CLASS ANNUAL GROWTH RATE 2003-2023

10 largest Latin American cities

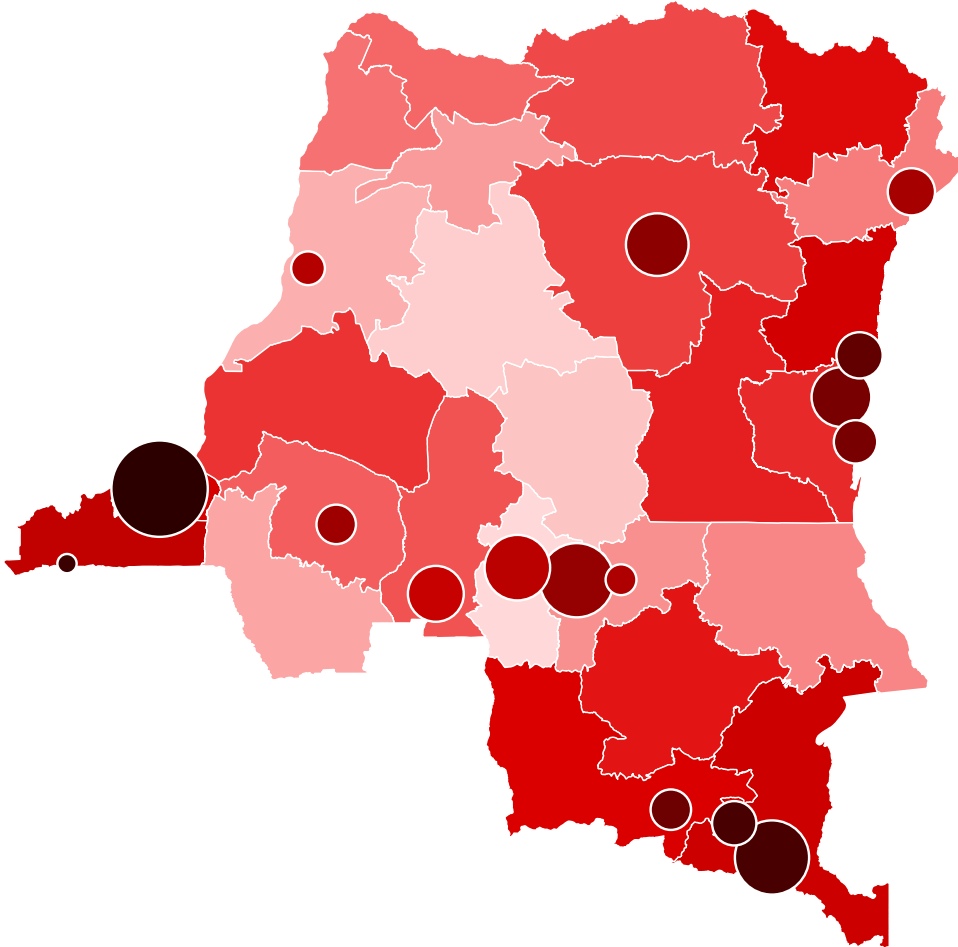




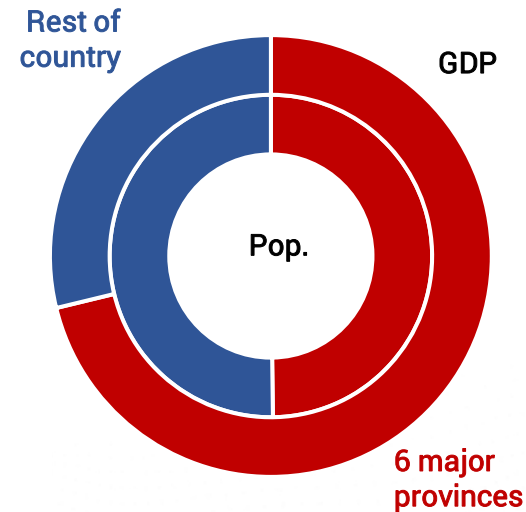
# DRC Case

## DEMOCRATIC REPUBLIC OF THE CONGO INCOME LEVELS

Cities and rural part of provinces colored by income/capita



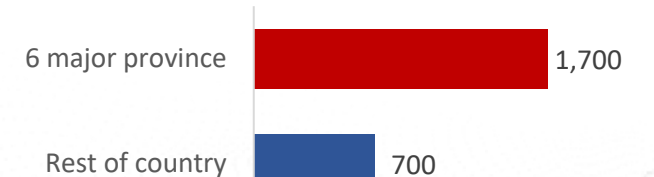
## SHARE OF CONGOLESE ECONOMY



## DRC ANNUAL GDP GROWTH '10-'22



## DRC GDP PER CAPITA



Source: UNHDR, MICS and MPI reports; Tellusant analysis



Congolese Market, Luanda, Angola



Congolese truck in Rwanda

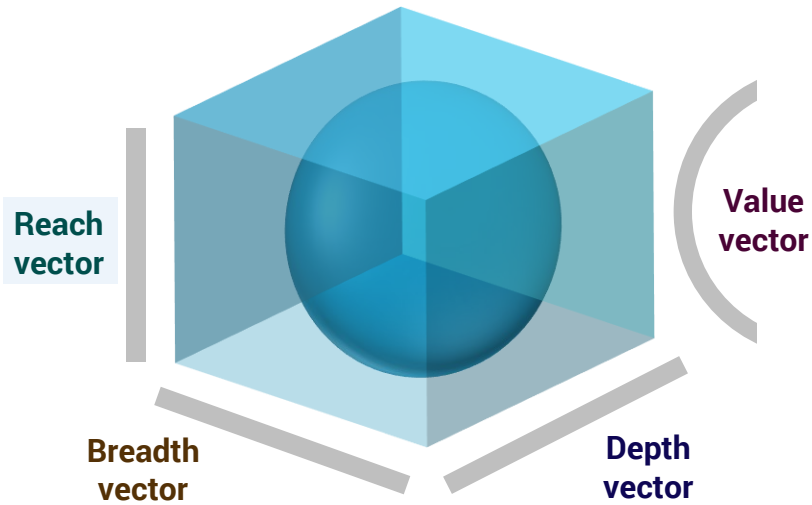
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# Growth Tesseract

## THE GROWTH TESSERACT



### Reach vector

*Expand geographically*  
*Optimize channels*  
*Increase distribution coverage*  
*Find new demand spaces*

### Breadth vector

*Create line extensions*  
*Expand portfolio*  
*Enter adjacent categories*  
*Diversify*

### Depth vector

*Integrate forward*  
*Integrate backward*

### Value vector

*Premiumize*  
*Optimize prices*  
*Change brand perceptions*





Westgate Mall, Harare, Zimbabwe



New town, Luanda. Angola



Satellite dish penetration, Luanda. Angola





Keren, Eritrea



FIAT Tagliero petrol station, Asmara, Eritrea



Melotti Brewery, Asmara, Eritrea





Traditional trade, Victoria Island, Lagos, Nigeria

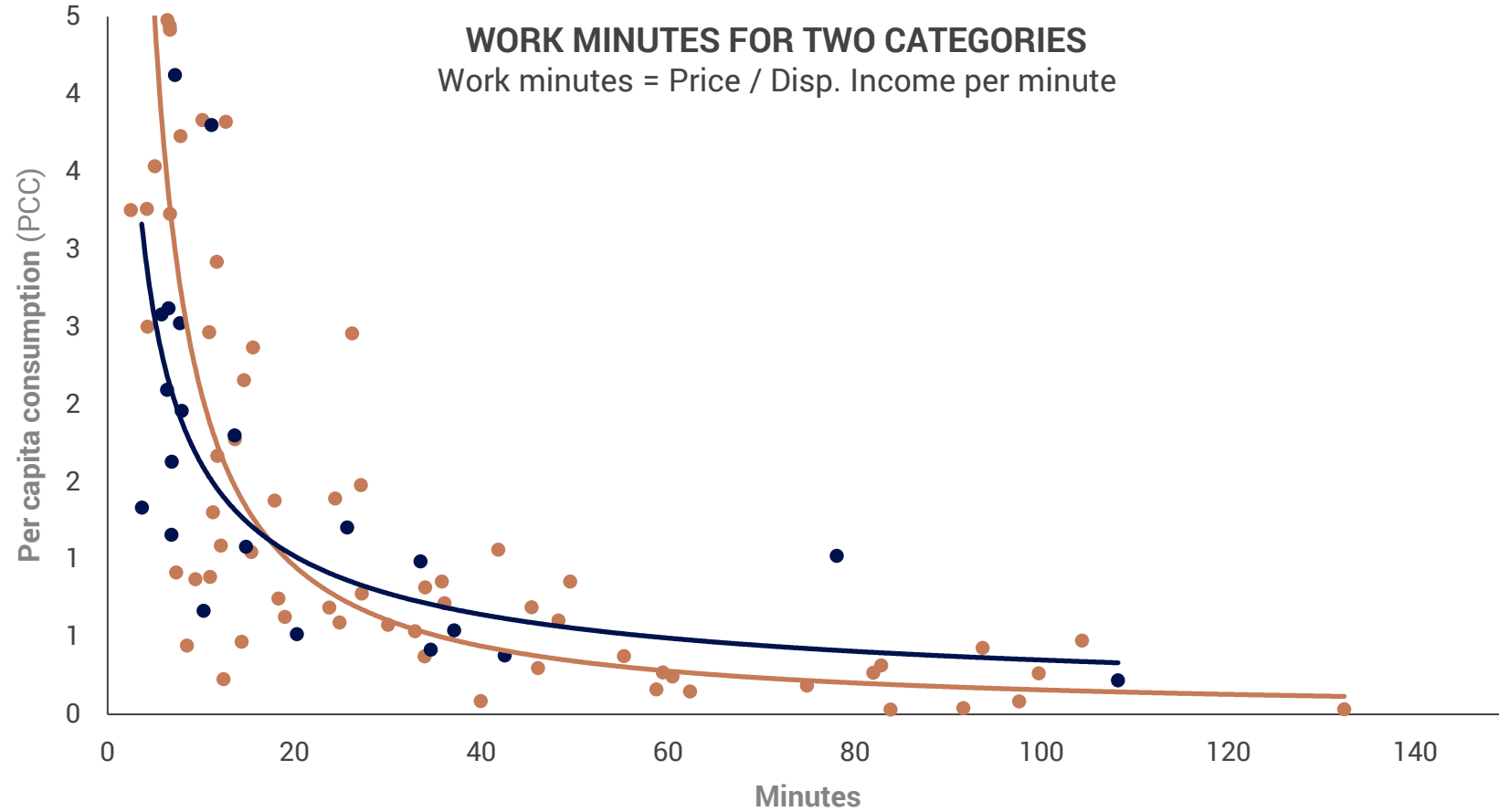


Modern trade, Mainland, Lagos, Nigeria



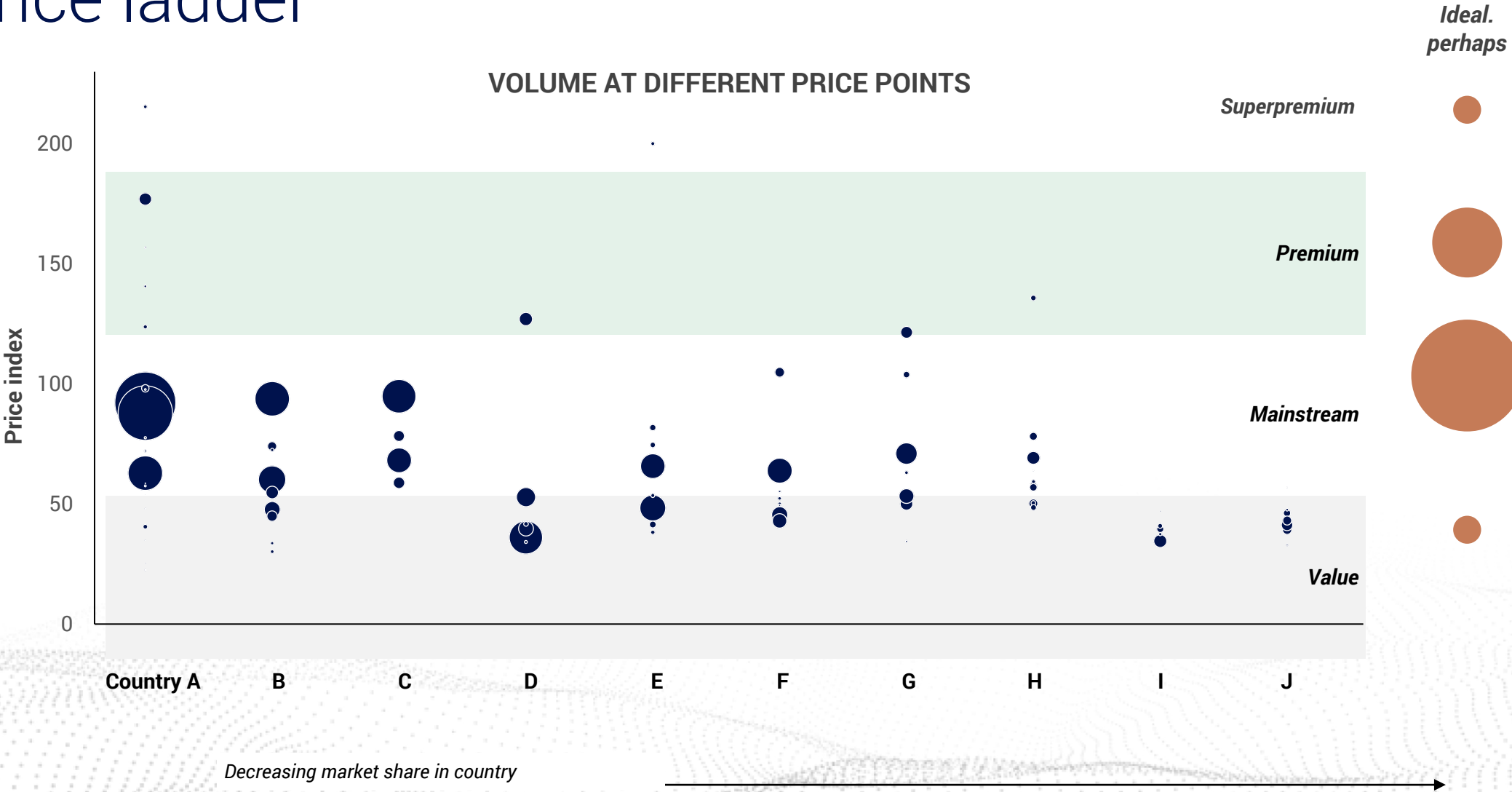
Old Lagos, Nigeria

# Work minutes





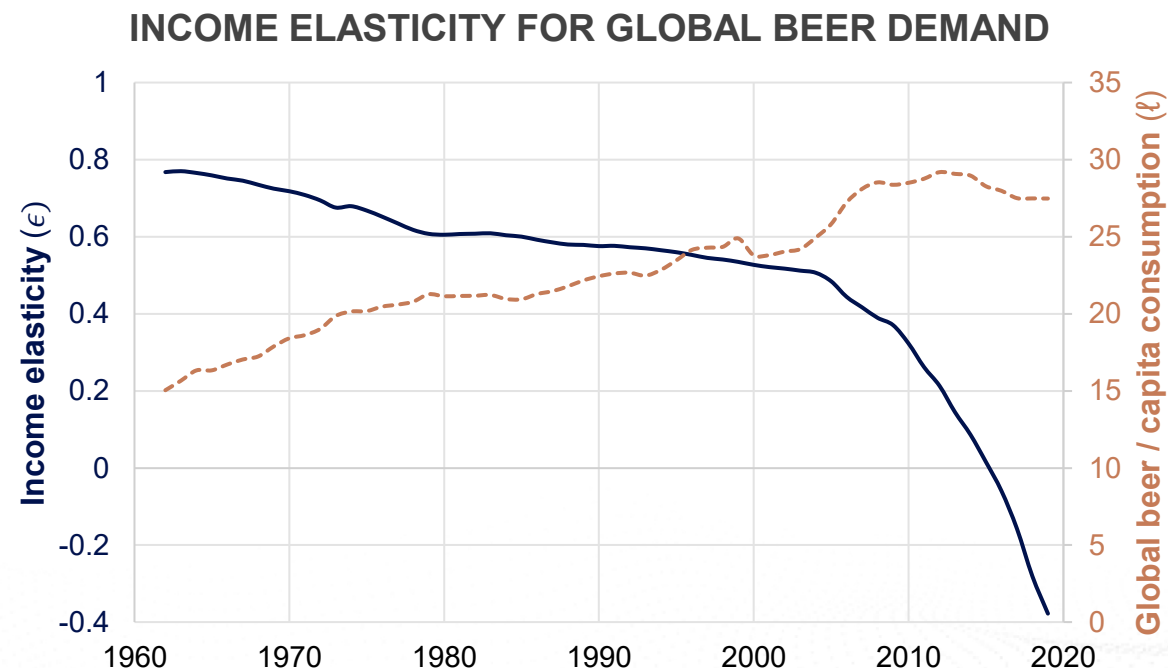
# Price ladder



# Income elasticity

$$\text{Income elasticity} = \frac{\% \text{ change in demand}}{\% \text{ change in income}}$$

$$\epsilon_I = \frac{\Delta D / D}{\Delta I / I} = \frac{dD}{dI} \cdot \frac{I}{D}$$



Source: WHO alcoholic beverages database; TelluBase; Tellusant analysis

# Differential equations

## UNDAMPED INCOME ELASTICITY

$$dy = \epsilon \frac{y}{x} dx$$

Solution to diff eq

$$y = Cx^\epsilon$$

## DAMPED INCOME ELASTICITY

If PCC is high, the propensity to consume declines

$$dy = \eta \frac{y}{x} dx - \delta y$$

Solution to diff eq

$$y(x) = Ce^{-\delta x} x^\eta$$

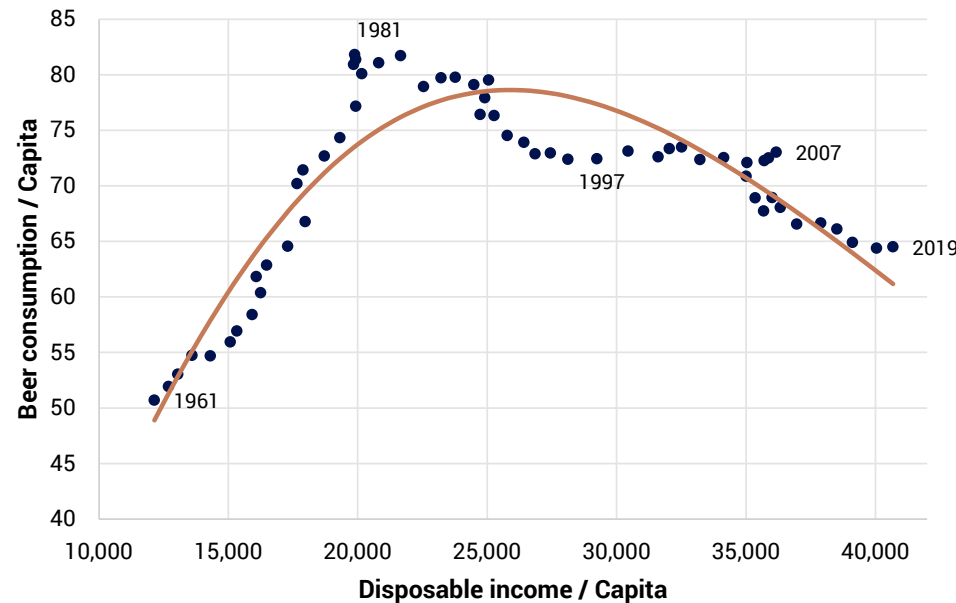
$$\epsilon = \eta - \delta x$$

$x$  = Beer PCC

$y$  = Disposable income / capita

## UNITED STATES BEER CONSUMPTION VS INCOME

Actual vs diff. eq. model with damping for high consumption; 1961-2019

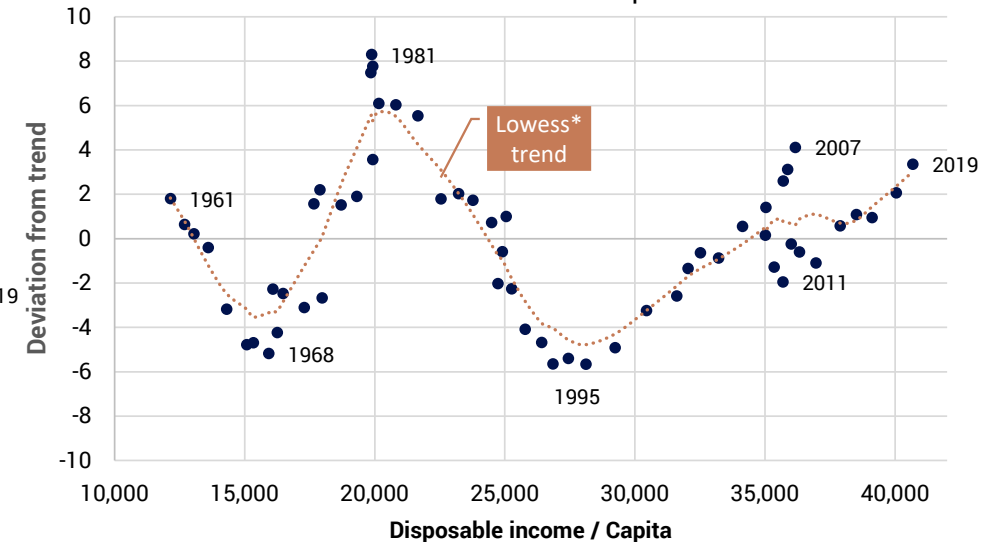


Income drives demand as people can afford beer

Income leads to new consumer preferences that drive demand down

## U.S. LONG-CYCLE ERAS

Difference between actual and predicted



\* Lowess = locally estimated scatterplot smoothing

# Forecasting I

## GOLDER TELLIS PREDICTIVE MODEL

Economics &  
Demography

Industry &  
Trade

Consumer  
Insights

### Golder Tellis Forecasting Model

$$demand = k \cdot (di)^{\beta_1} \cdot (cs)^{\beta_2} \cdot (p)^{\beta_3} \cdot (ms)^{\beta_4} \cdot (mp)^{\beta_5} \cdot e^{\varepsilon}$$

Volume

Disposable Consumer  
income sentiment

Price

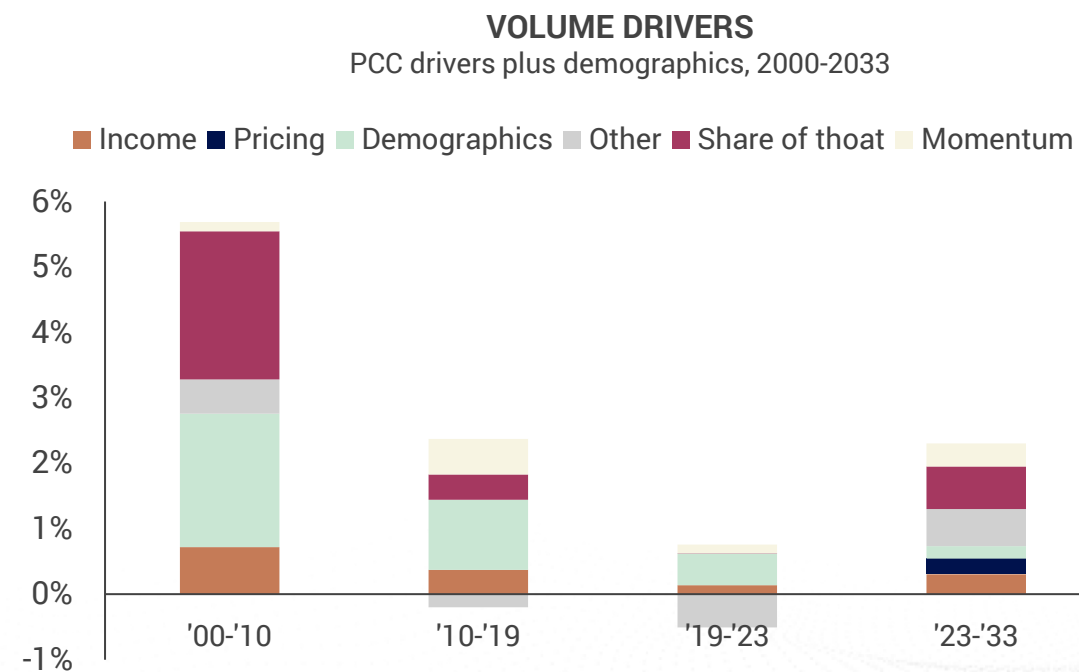
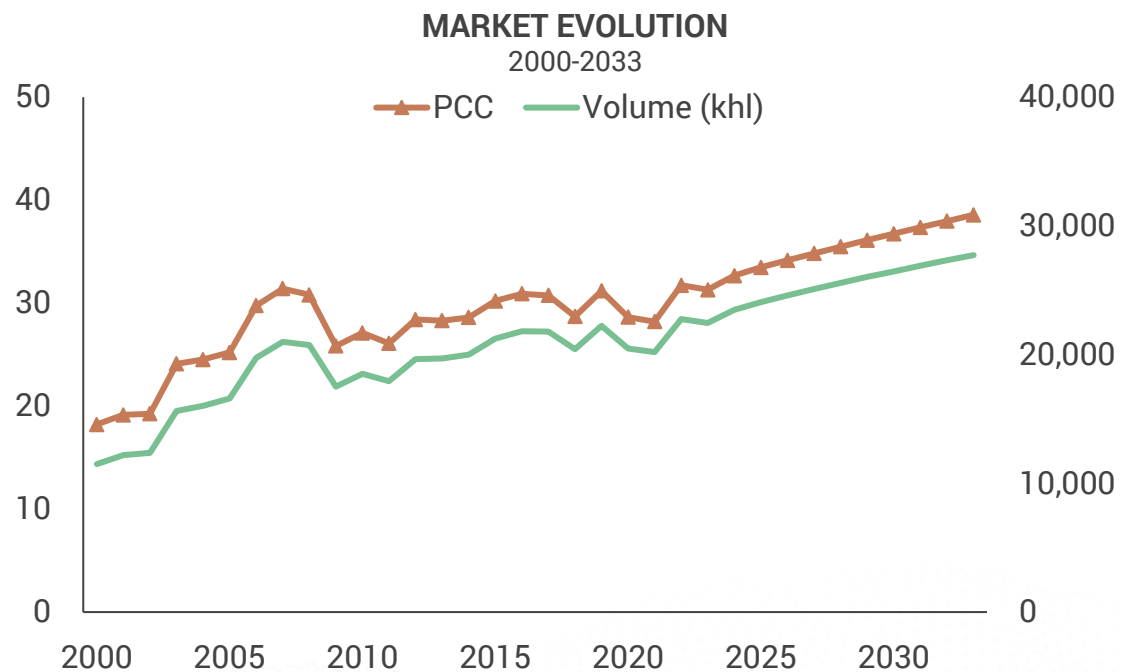
Marketing  
spend

Market  
presence  
(distribution)

External

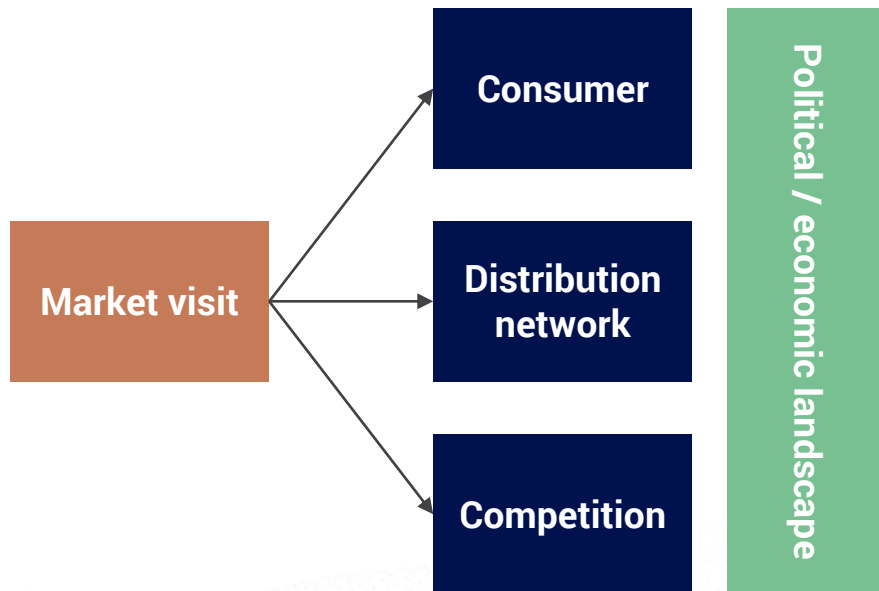
Internal

# Forecasting II





# Market visits



## APPROACH

- 4-6 people. Typically, 1 week
- *Prior to visit:* Conduct preliminary analyses
- *Day 1:* Arrive in major city. Have a “first look”
- *Day 2:* Visit modern trade outlets in the morning and traditional trade outlets in the evening
- *Days 3-4:* Split into teams and visit secondary cities, villages and rural areas
- *Day 5:* Re-convene in the major city, compare findings *Day 6:* Meet with client and discuss

The days are long. Start in the trade around 11, and continue till past midnight (with an afternoon nap)

WhatsApp is invaluable

Plan for contingencies: Robbery, violence, engine failure



Running out of gas in Mexican countryside, close to Izamal





Vung Tau –Resort town, Viet Nam



Low chairs, HCMC, Viet Nam



Street vending, Ha Noi, Vie Nam



Old American Hangars, Da Nang, Viet Nam

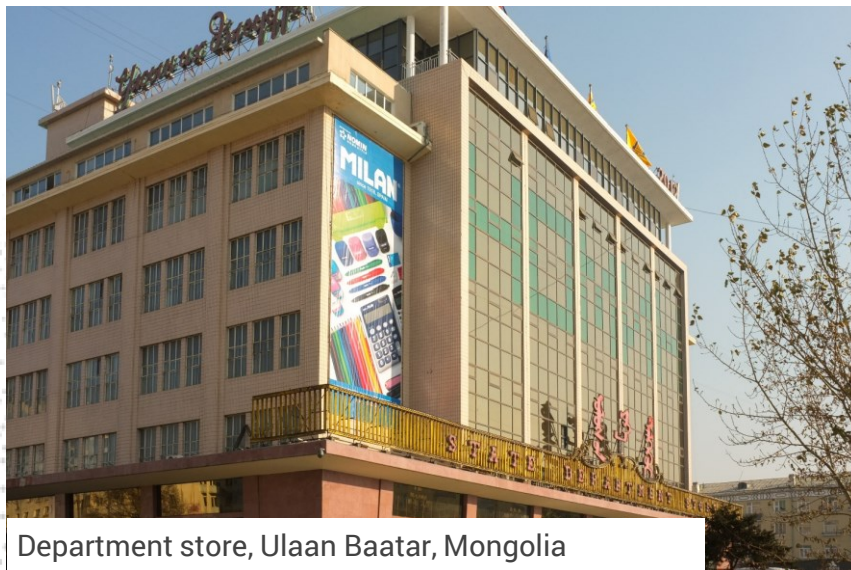




Railway station Ulaan Baatar, Mongolia



Trade visit, Ulaan Baatar, Mongolia



Department store, Ulaan Baatar, Mongolia



Enjoying *airag* in Ulaan Baatar, Mongolia

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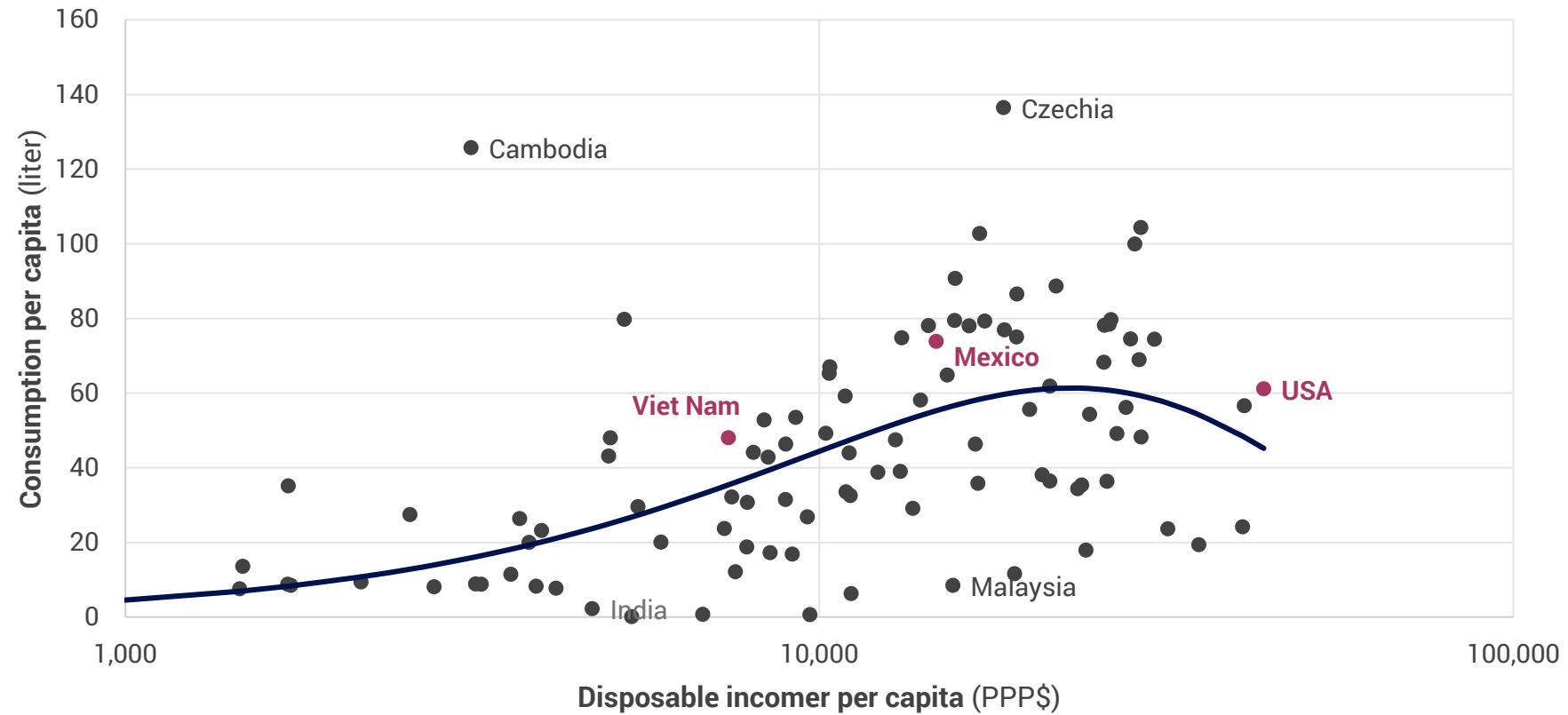
# Instructions

- You get 3 slides with historical data for the global beer market and your assigned country: Mexico, the United States or Mexico
- Your task is to predict the future market growth drawing on these data, and to argue your case
- There is no correct answer

**There are 3 questions on the last page**

# Mexico: Beer Global S-Curve

**GLOBAL S-CURVE FOR BEER**  
Cross-sectional by country in 2019



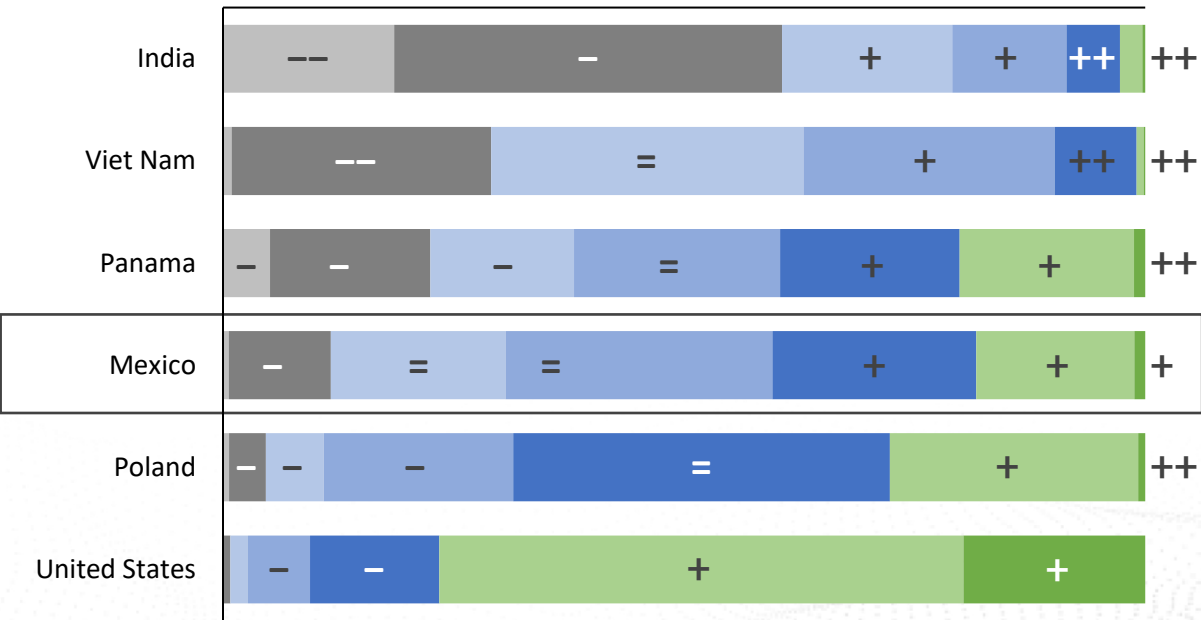
# Mexico: Macro Context

## SIZE OF SOCIOECONOMIC LEVELS, 2022

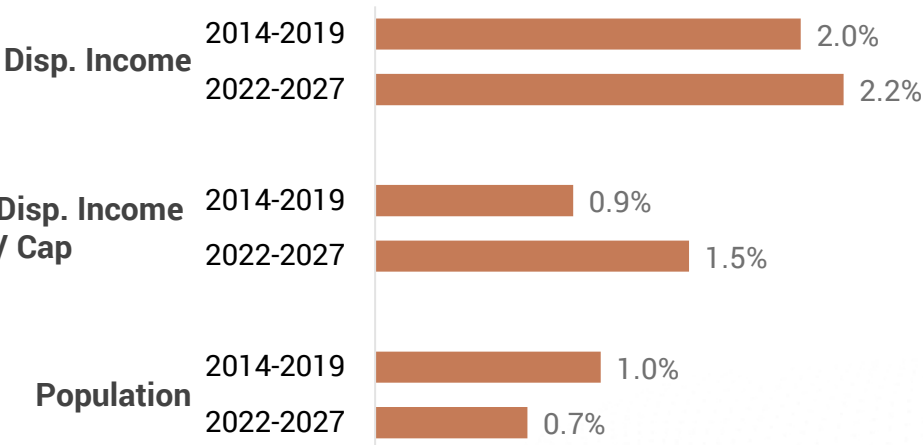
+ = - show expected changes 2022-2027

Very Low Low Middle-Low Middle Middle-High High Very High

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%



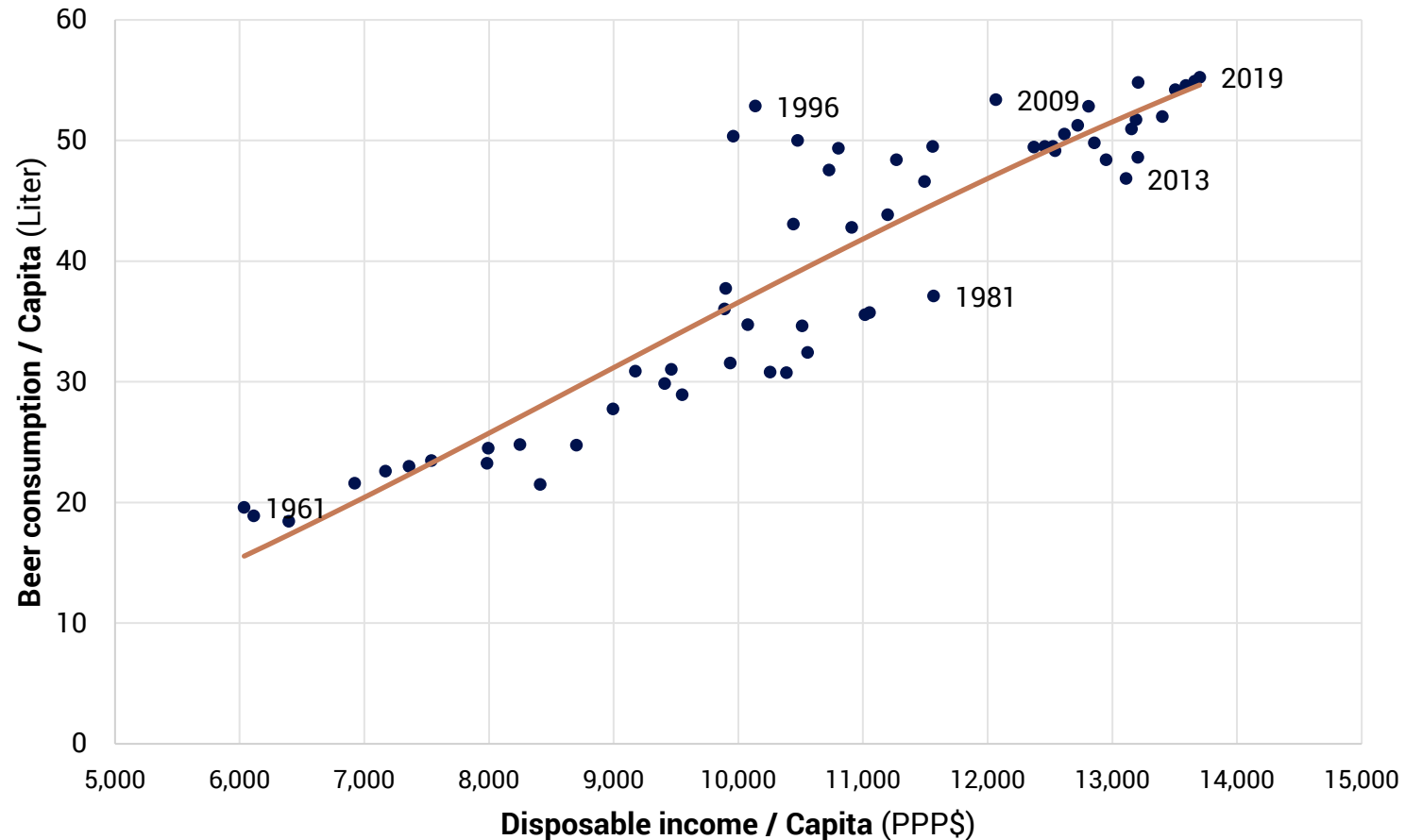
## MEXICO MACRO GROWTH



# Mexico: Beer Market

## MEXICO BEER CONSUMPTION VS INCOME (S-CURVE)

Actual vs diff. eq. model with damping for high consumption; 1961-2019



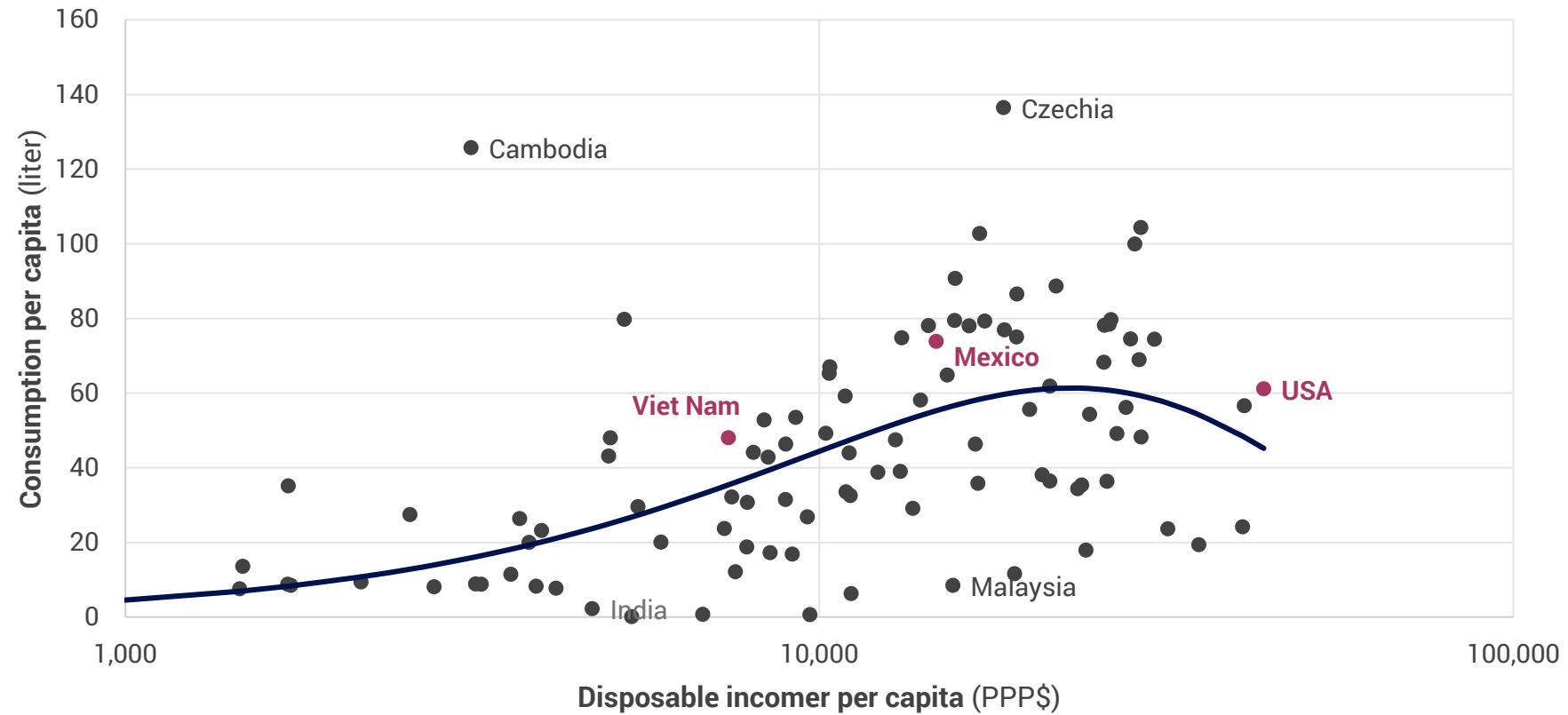


# Mexico: Questions

- **Assume the pandemic was neutral on demand 2020-2021.  
Down 2020 and up by the same amount in 2021**
- How much will the Mexican market grow / decline 2022-2027?
- How do you argue for this growth / decline?
- What else would like to know to make your analysis more robust?  
*Name up to 3 items*

# USA: Beer Global S-Curve

**GLOBAL S-CURVE FOR BEER**  
Cross-sectional by country in 2019



## BREAKOUT

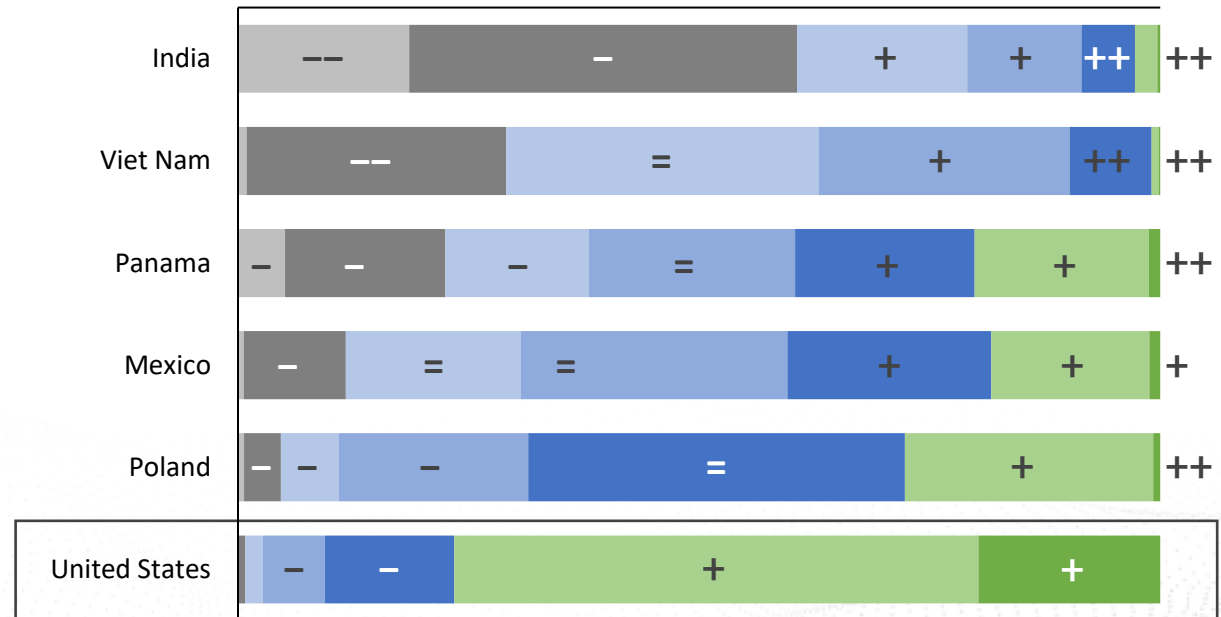
# USA: Macro Context

## SIZE OF SOCIOECONOMIC LEVELS, 2022

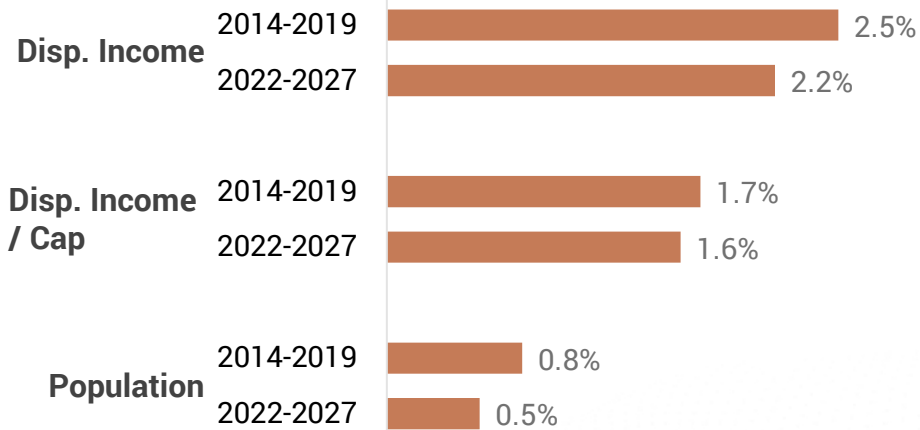
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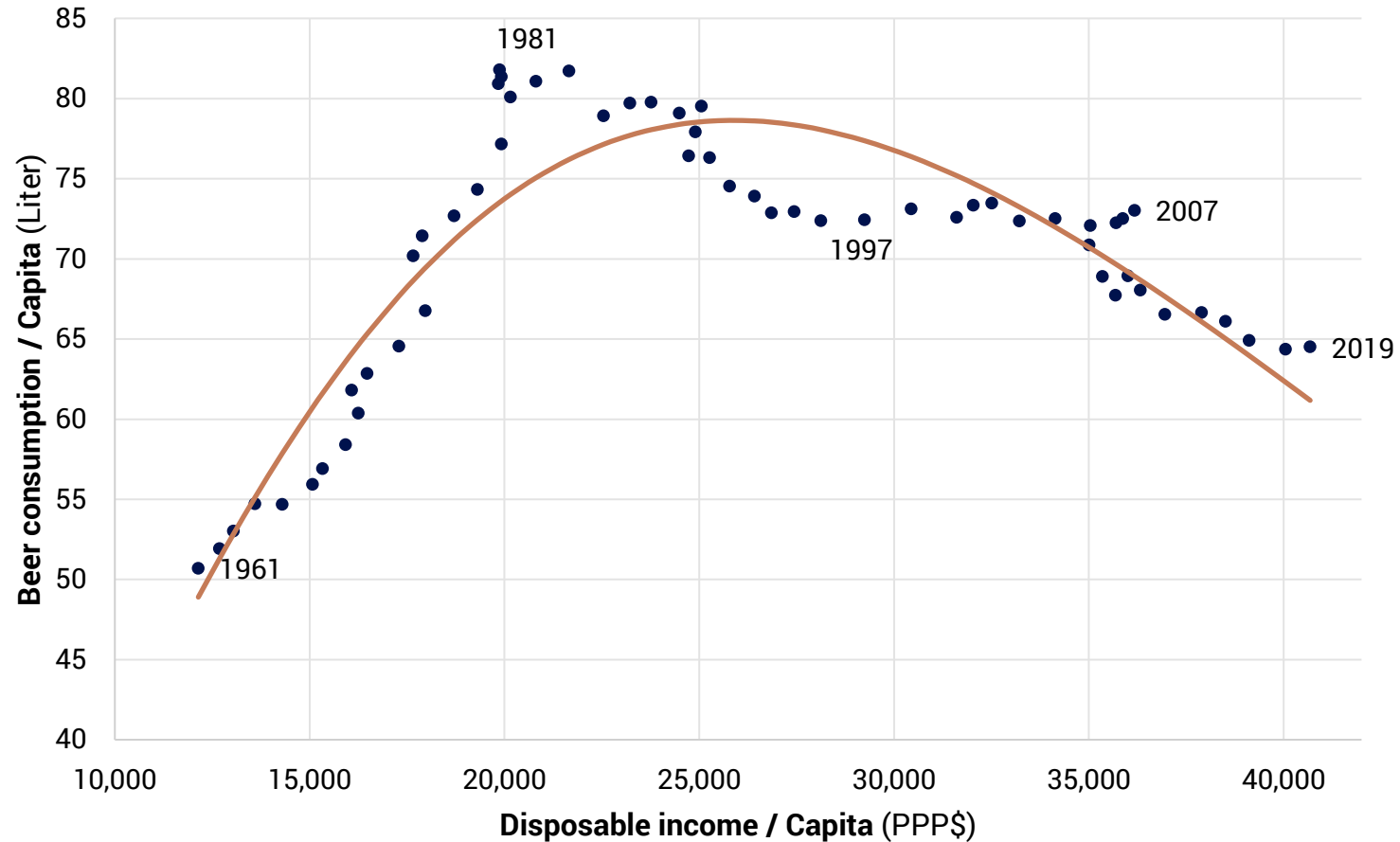
## USA MACRO GROWTH





# USA: Beer Market

**UNITED STATES BEER CONSUMPTION VS INCOME (S-CURVE)**  
Actual vs diff. eq. model with damping for high consumption; 1961-2019



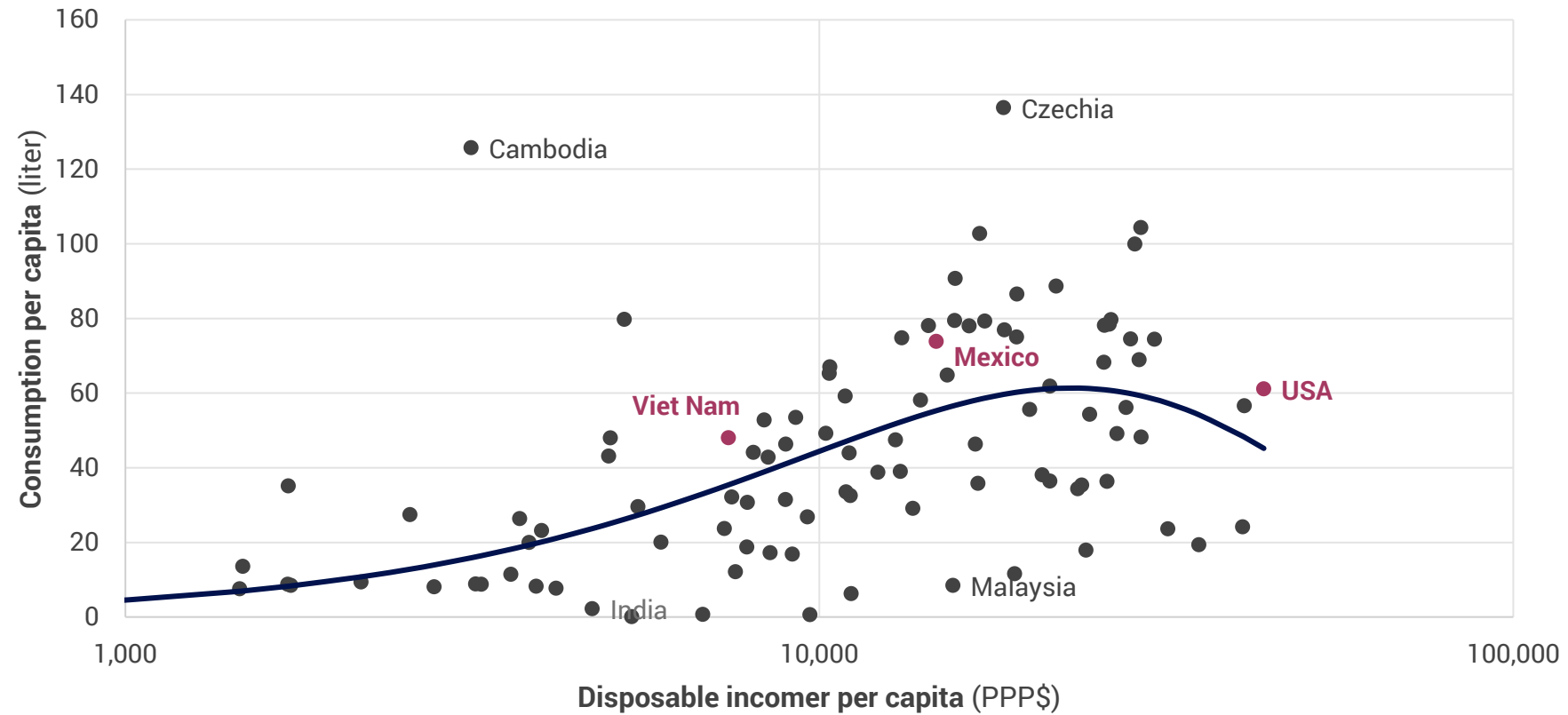
# USA: Questions

- **Assume the pandemic was neutral on demand 2020-2021.  
Down 2020 and up by the same amount in 2021**
- How much will the American market grow / decline 2022-2027?
- How do you argue for this growth / decline?
- What else would like to know to make your analysis more robust?  
*Name up to 3 items*

# Viet Nam: Beer Global S-Curve

## GLOBAL S-CURVE FOR BEER (S-CURVE)

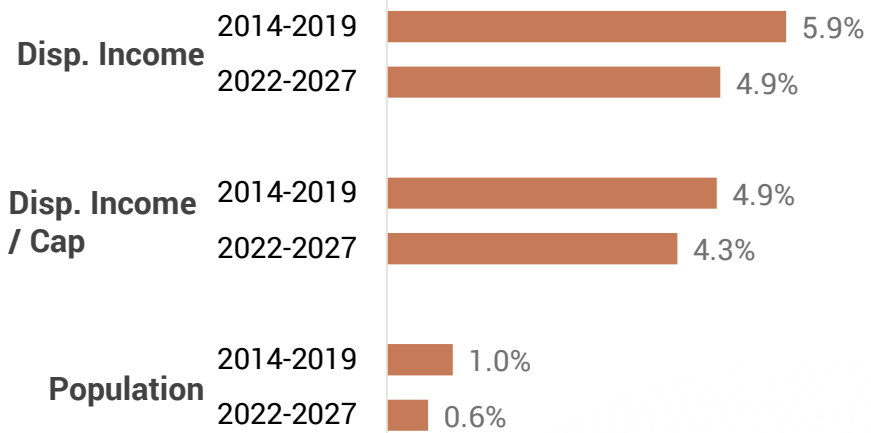
Cross-sectional by country in 2019





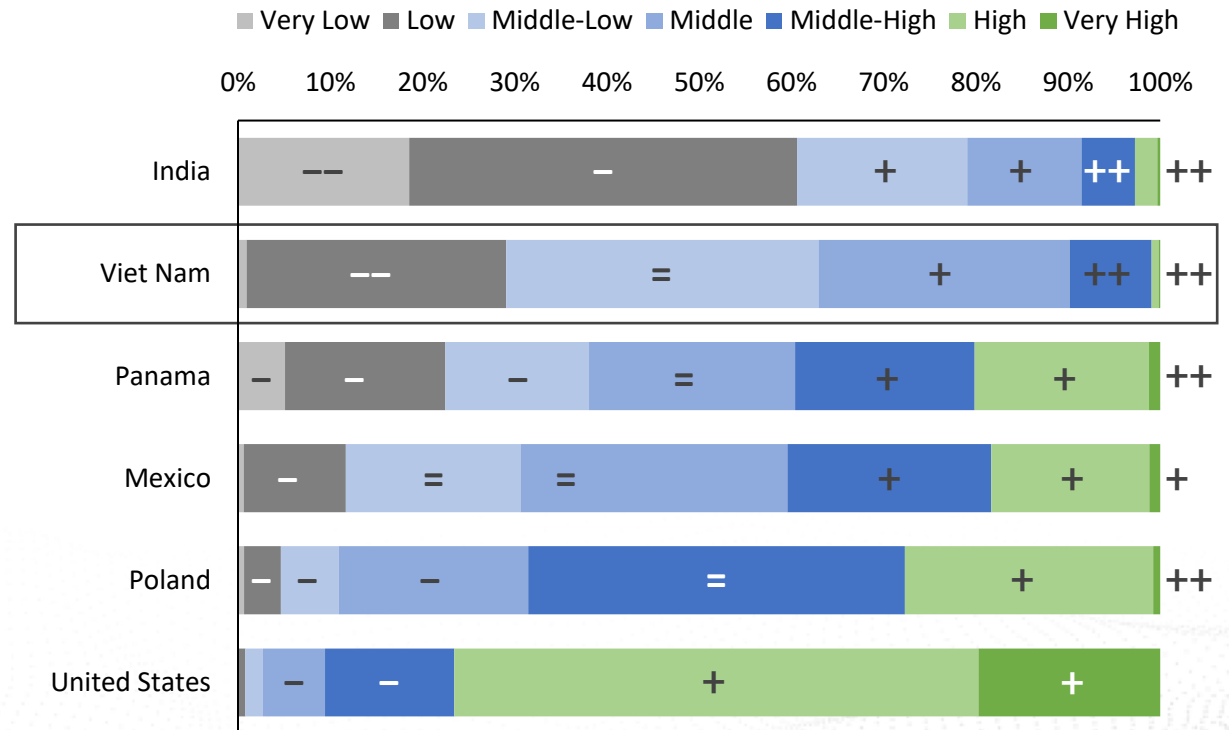
# Viet Nam: Macro Context

## VIET NAM MACRO GROWTH



## SIZE OF SOCIOECONOMIC LEVELS, 2022

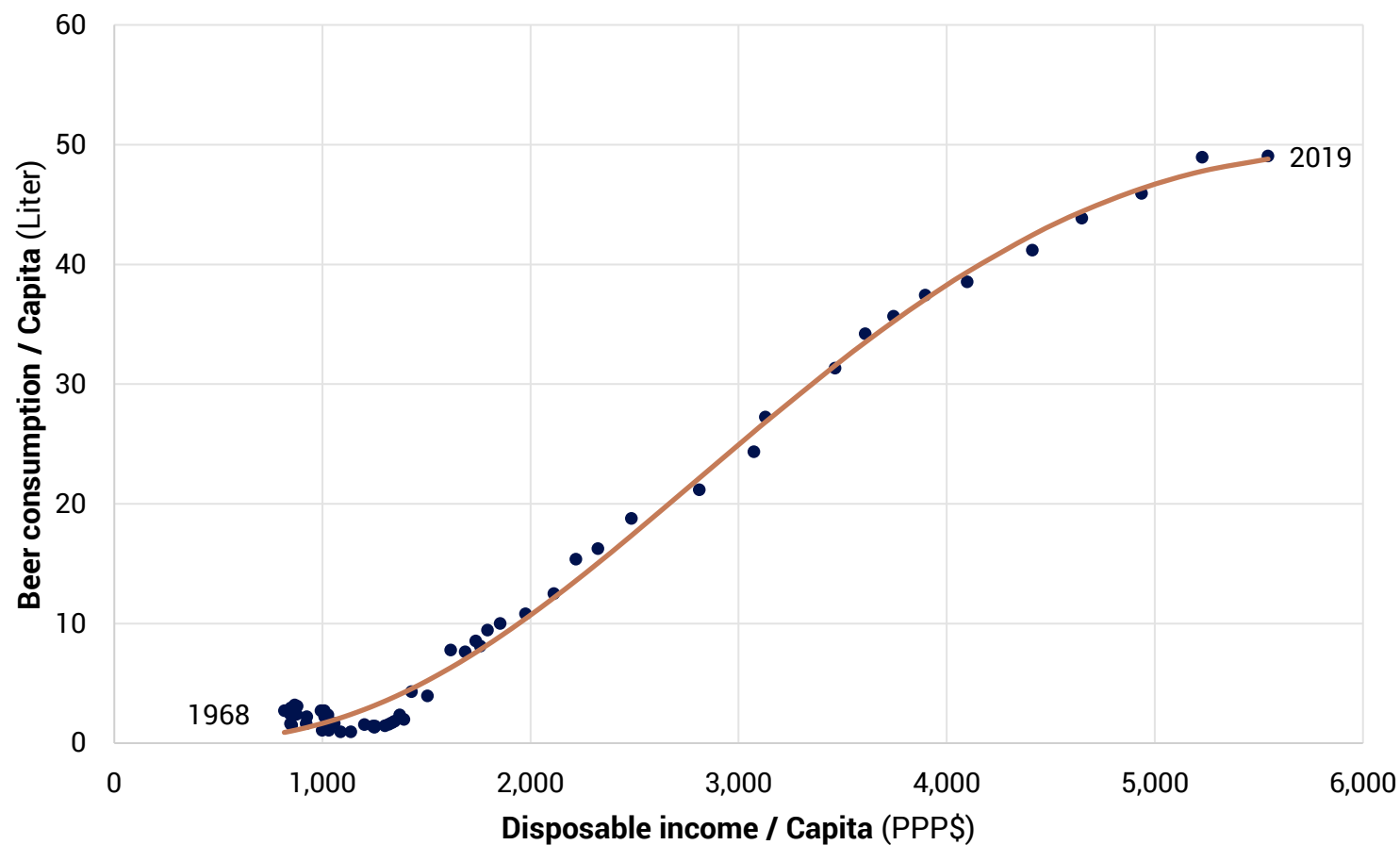
+ = - show expected changes 2022-2027



# Viet Nam: Beer Market

## VIET NAM BEER CONSUMPTION VS INCOME

Actual vs diff. eq. model with damping for high consumption; 1961-2019



# Viet Nam: Questions

- **Assume the pandemic was neutral on demand 2020-2021.  
Down 2020 and up by the same amount in 2021**
- How much will the Vietnamese market grow / decline 2022-2027?
- How do you argue for this growth / decline?
- What else would like to know to make your analysis more robust?  
*Name up to 3 items*



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