

Where in the World Is the Market? Real World Meets Math—and Math Wins

The Lund Lecture by Staffan Canback
May 2024



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

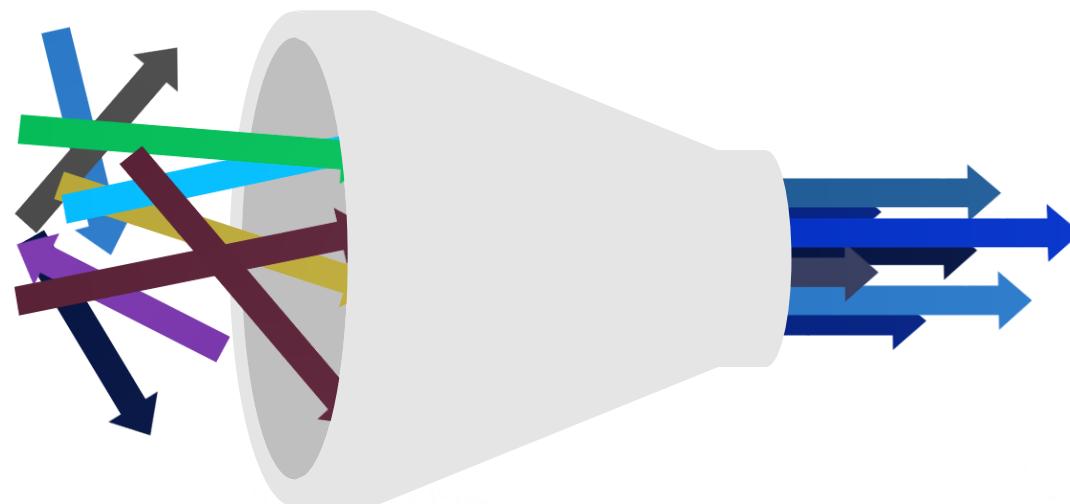
Today...



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

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

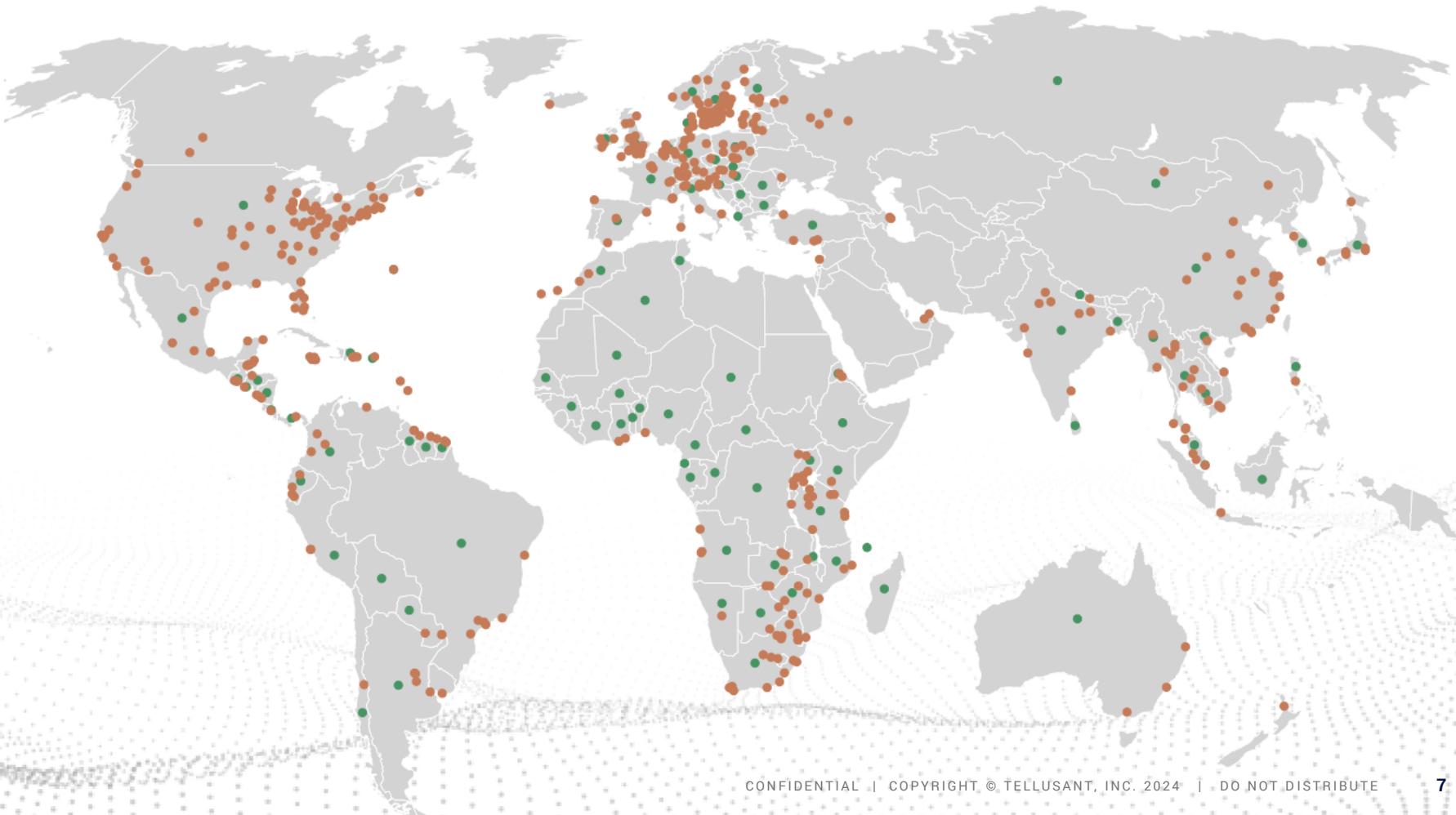


11 of 20 largest consumer goods companies

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

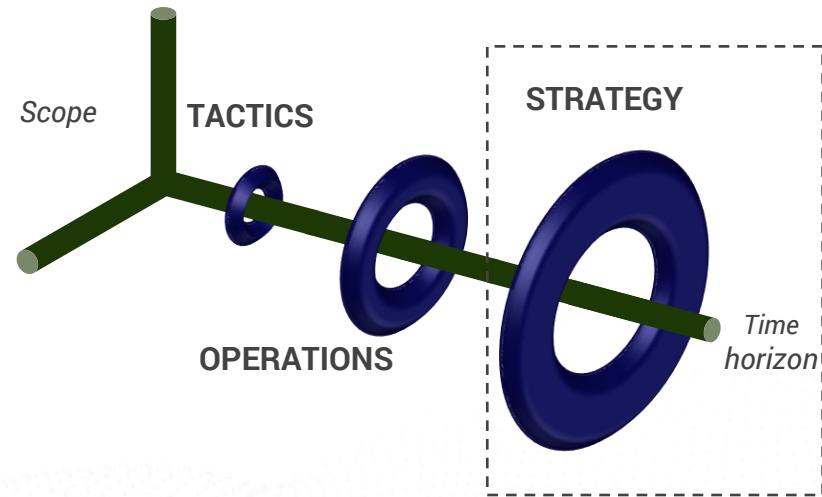
TELLUSANT TEAM MEMBERS' GLOBAL EXPERIENCE

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



INTRODUCTION

Focus



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- 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



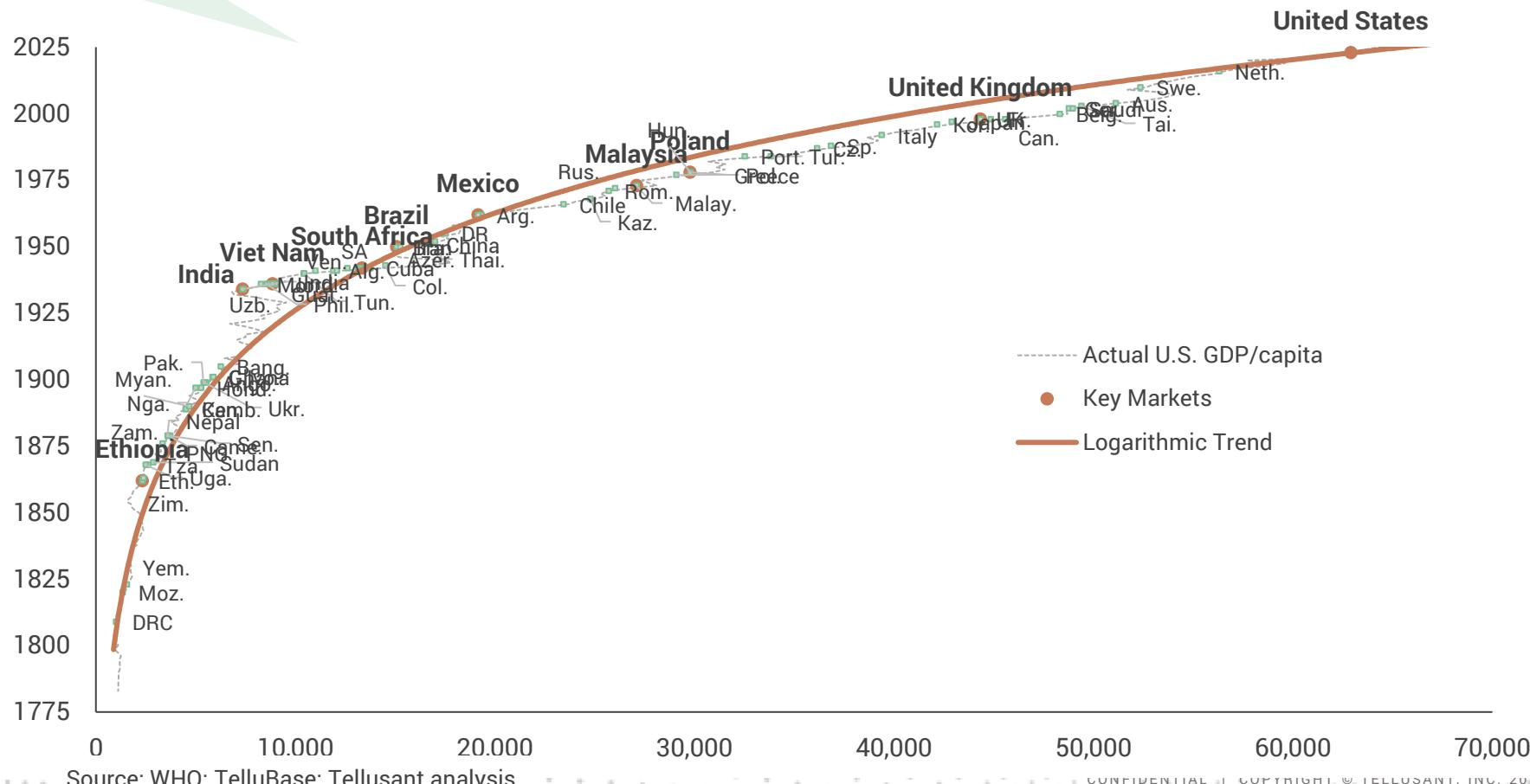
Iguazu Falls, Argentina

Time / income relationship

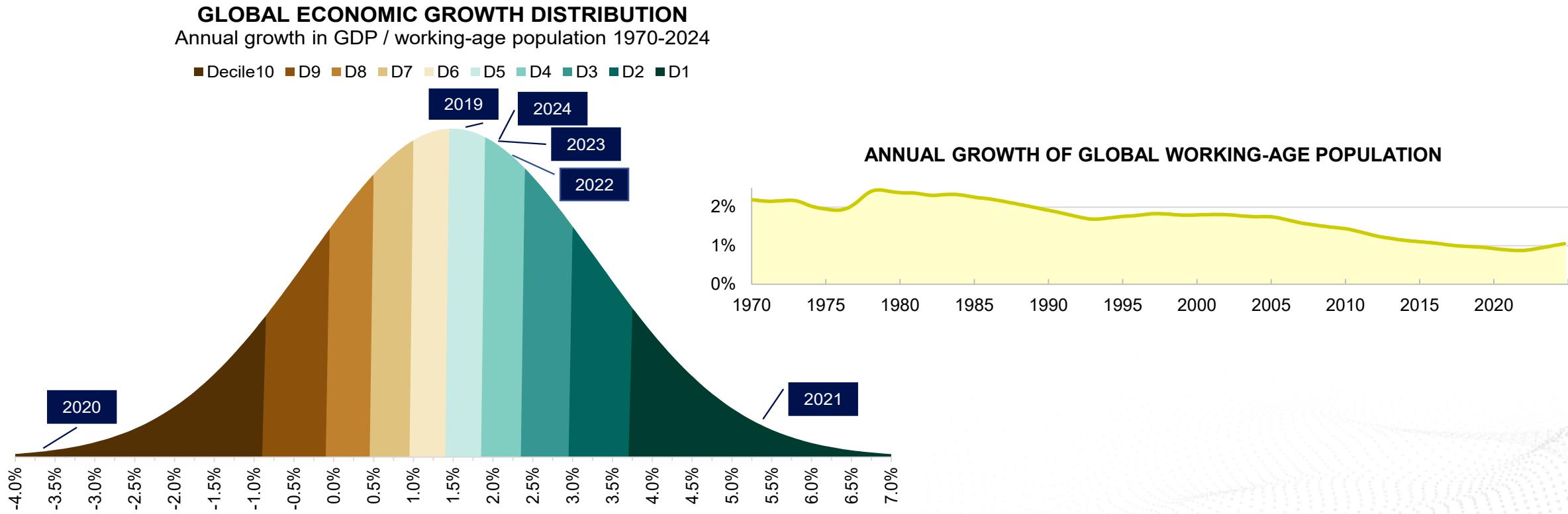
How to interpret: Mexico GDP per capita is the level of the U.S. in 1964

ECONOMIC STAGE OF DEVELOPMENT

Countries compared to U.S. GDP per capita



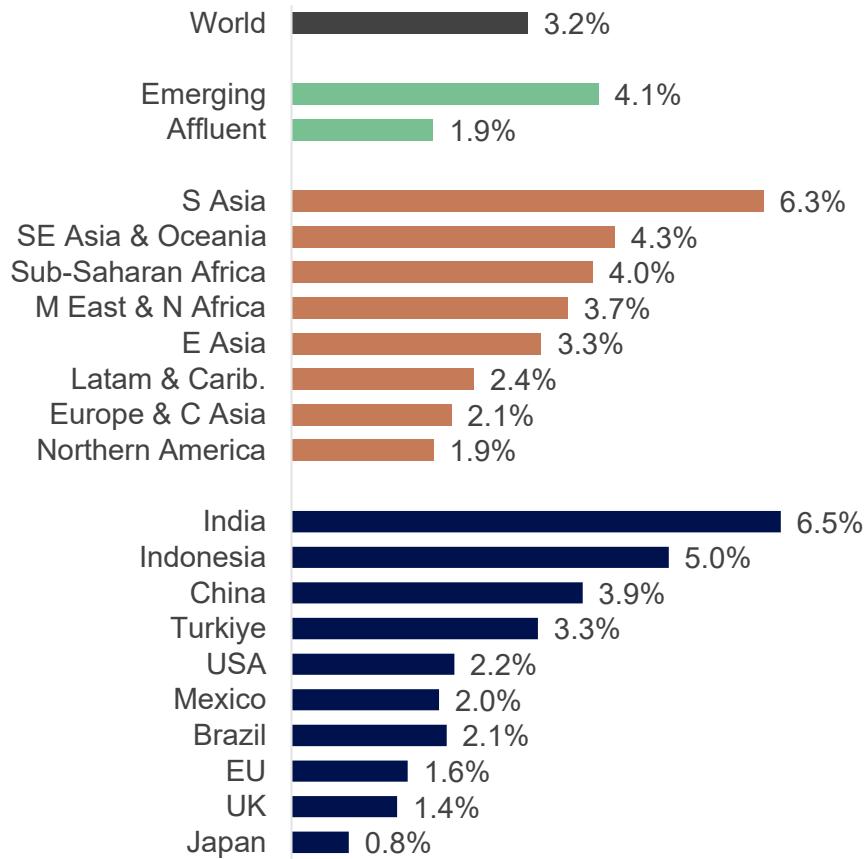
2024 macro performance



Macro outlook

GLOBAL ECONOMIC GROWTH

GDP growth per annum 2024-2029

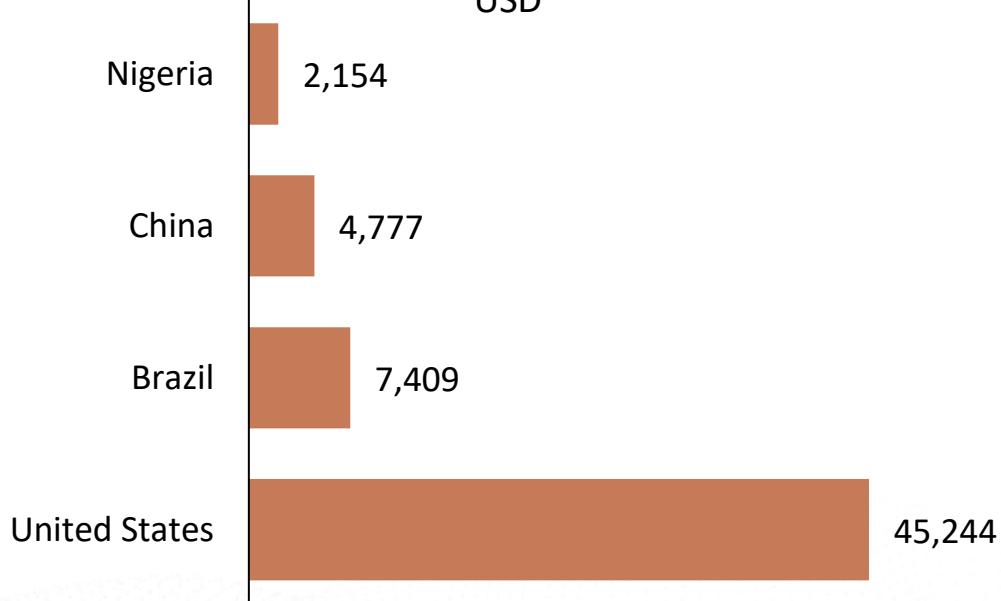


Source: TelluBase; Tellusant analysis

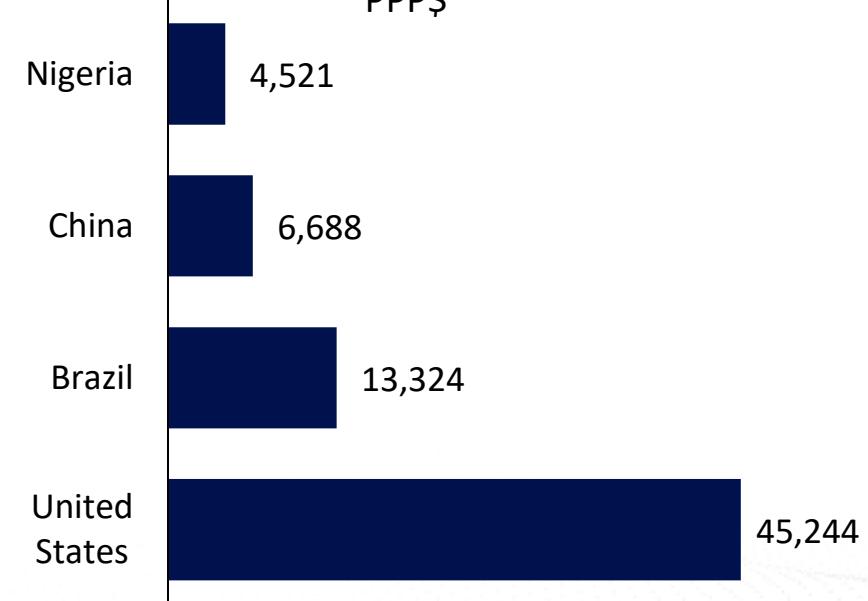
Purchasing Power Parity Examples

HOUSEHOLD DISP. INCOME PER CAPITA

USD

**HOUSEHOLD DISP. INCOME PER CAPITA**

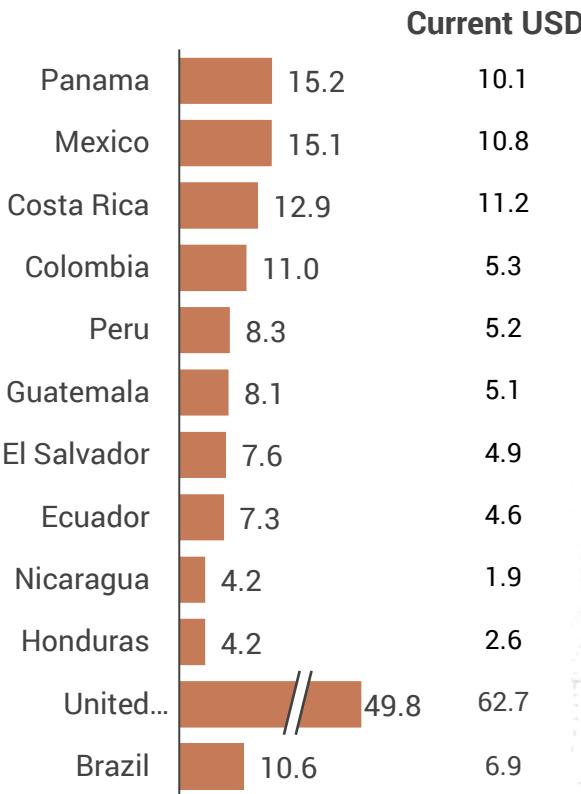
PPP\$



Dimensions of macro growth

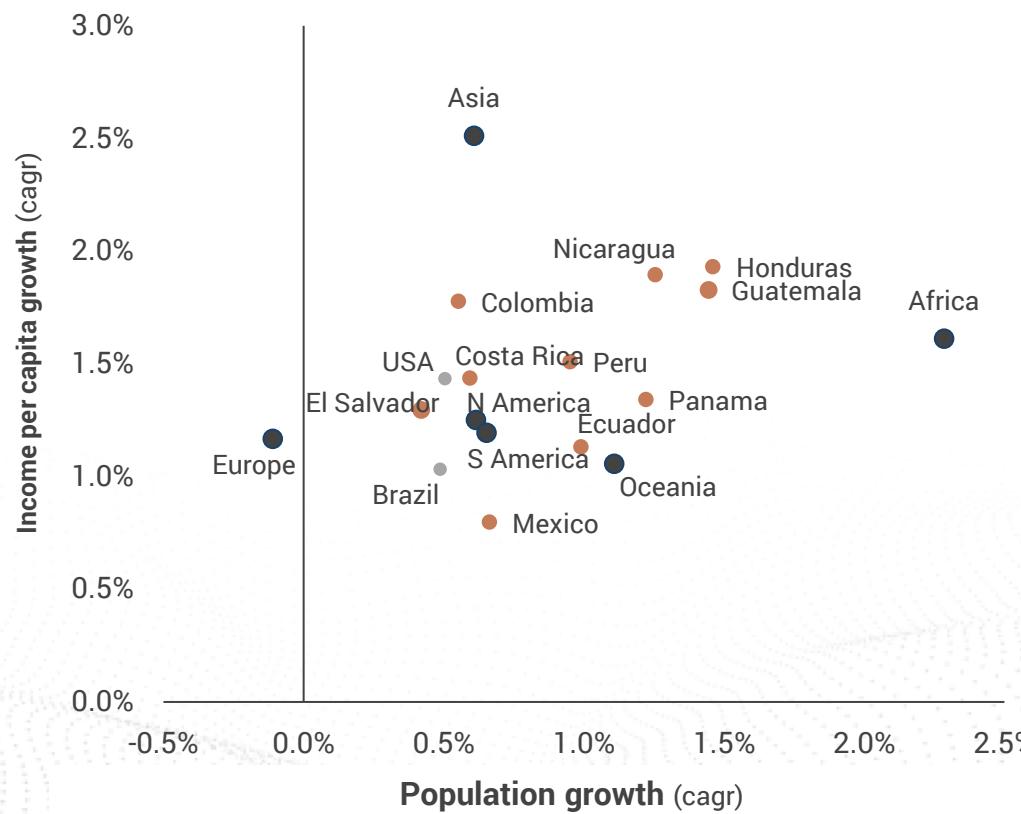
DISPOSABLE INCOME PER CAPITA

Constant 2015 PPP\$, '000, 2023



PER CAPITA DISPOSABLE INCOME GROWTH VS POPULATION GROWTH

2023-2030



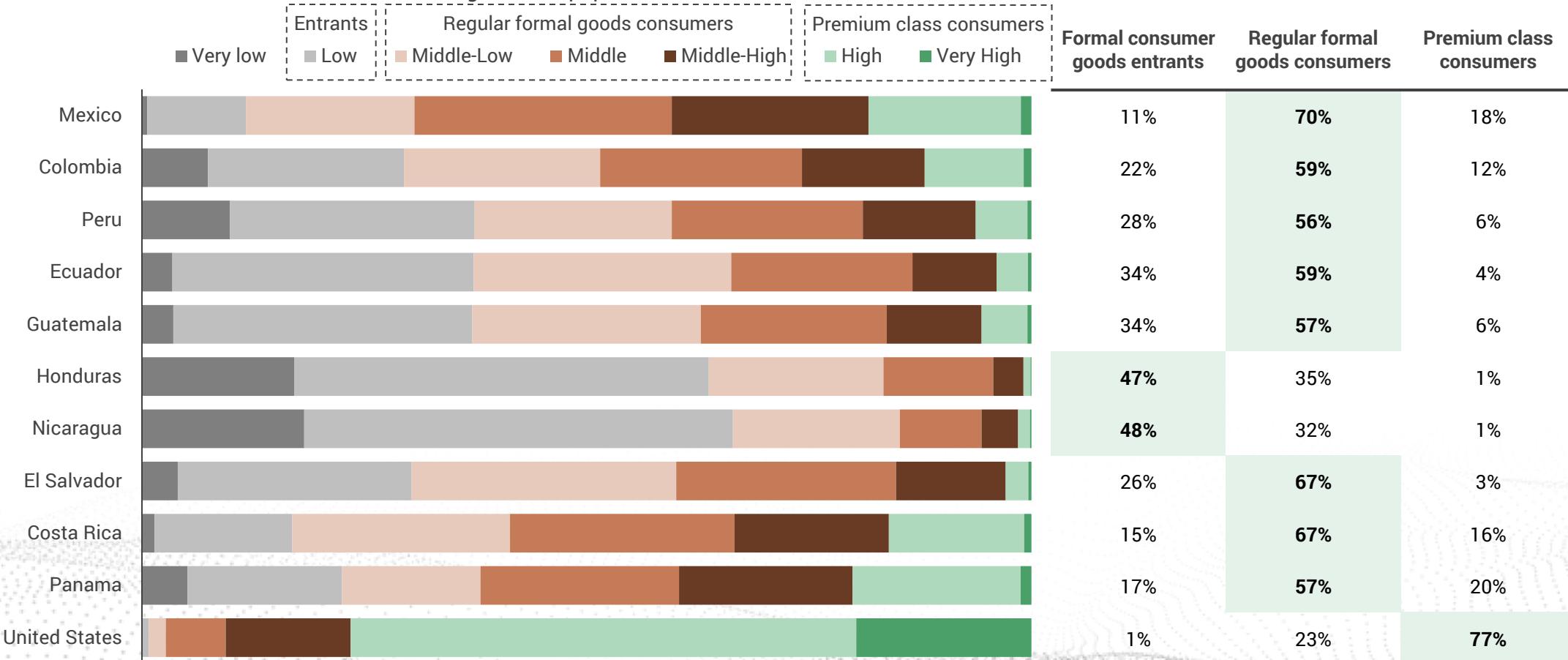
Global Income Level Standard

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

Latam socioeconomic levels

INCOME FRACTILES BY COUNTRY

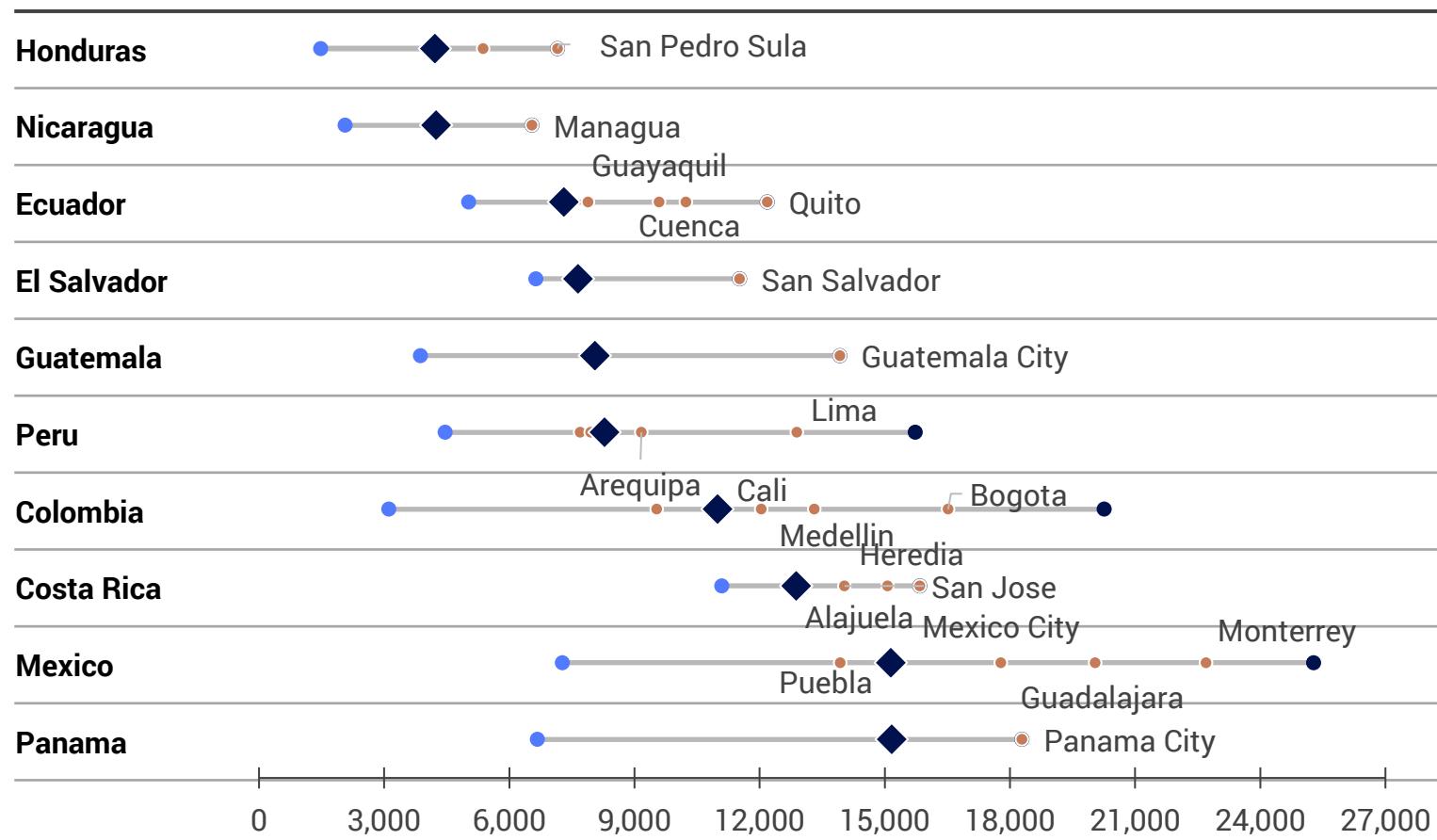
Percentage of total population, 2023



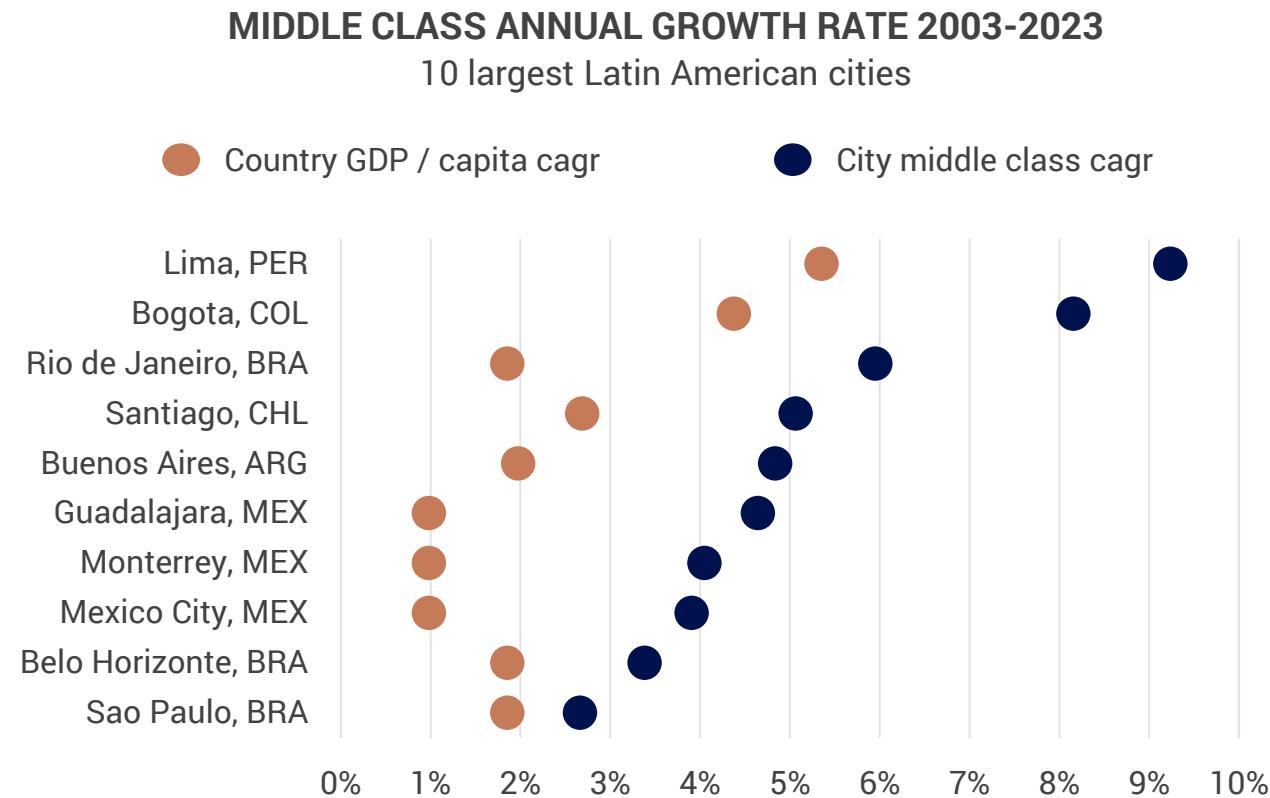
Cities vs countries I

INCOME PER CAPITA VARIATION BY COUNTRY

Constant 2015 PPP, 2023



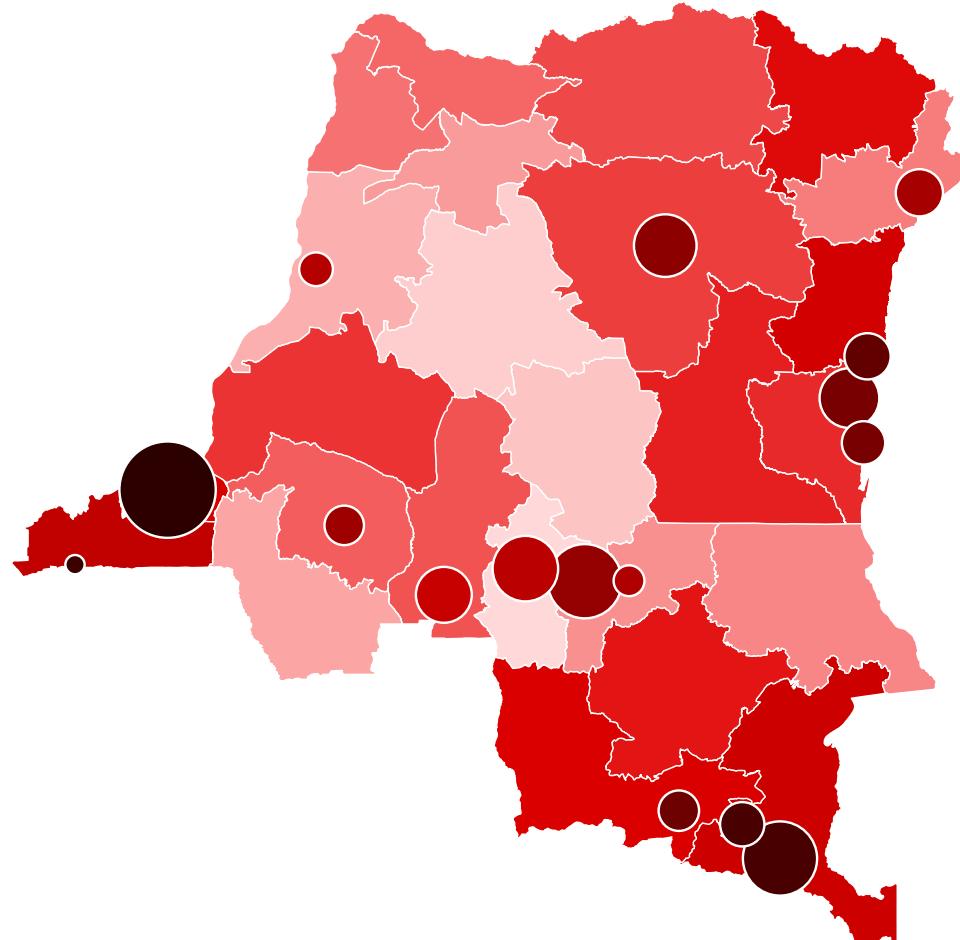
Cities vs countries II



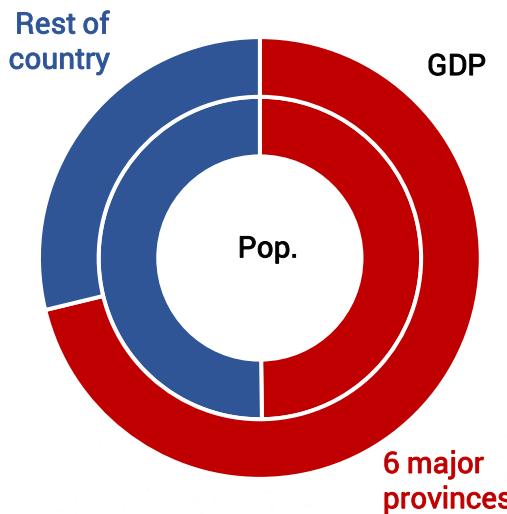
DRC Case

DEMOCRATIC REPUBLIC OF THE CONGO INCOME LEVELS

Cities and rural part of provinces colored by income/capita



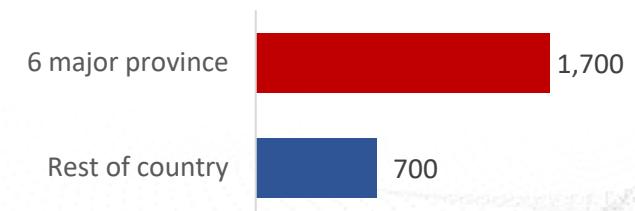
SHARE OF CONGOLESE ECONOMY



DRC ANNUAL GDP GROWTH '10-'22



DRC GDP PER CAPITA



Source: UNHDR, MICS and MPI reports; Tellusant analysis

Notes: Colors represent income/capita rank from highest in dark red (Kinshasa) to lowest in light red (rural Kasai). 16 large cities; 26 provinces. 6 major provinces with black borders



Congolese Market, Luanda, Angola

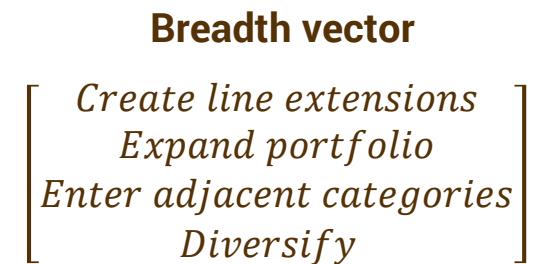
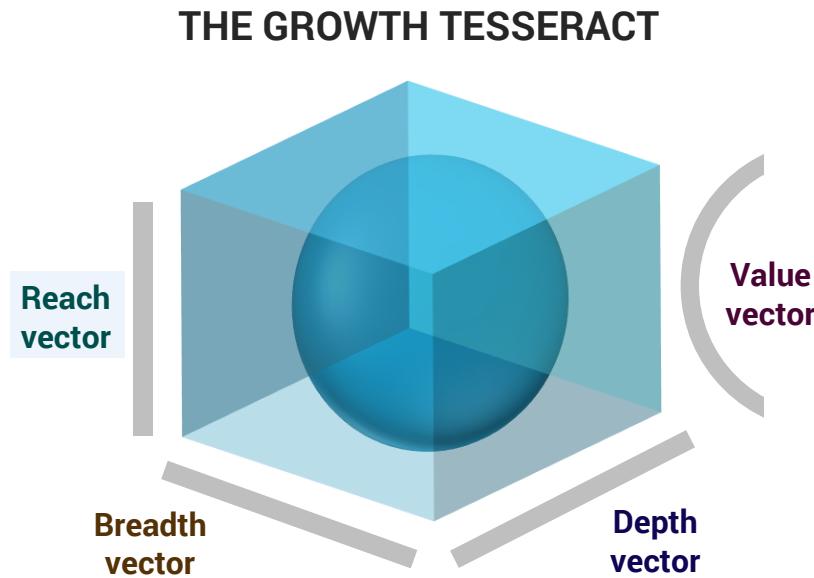


Congolese truck in Rwanda

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Growth Tesseract

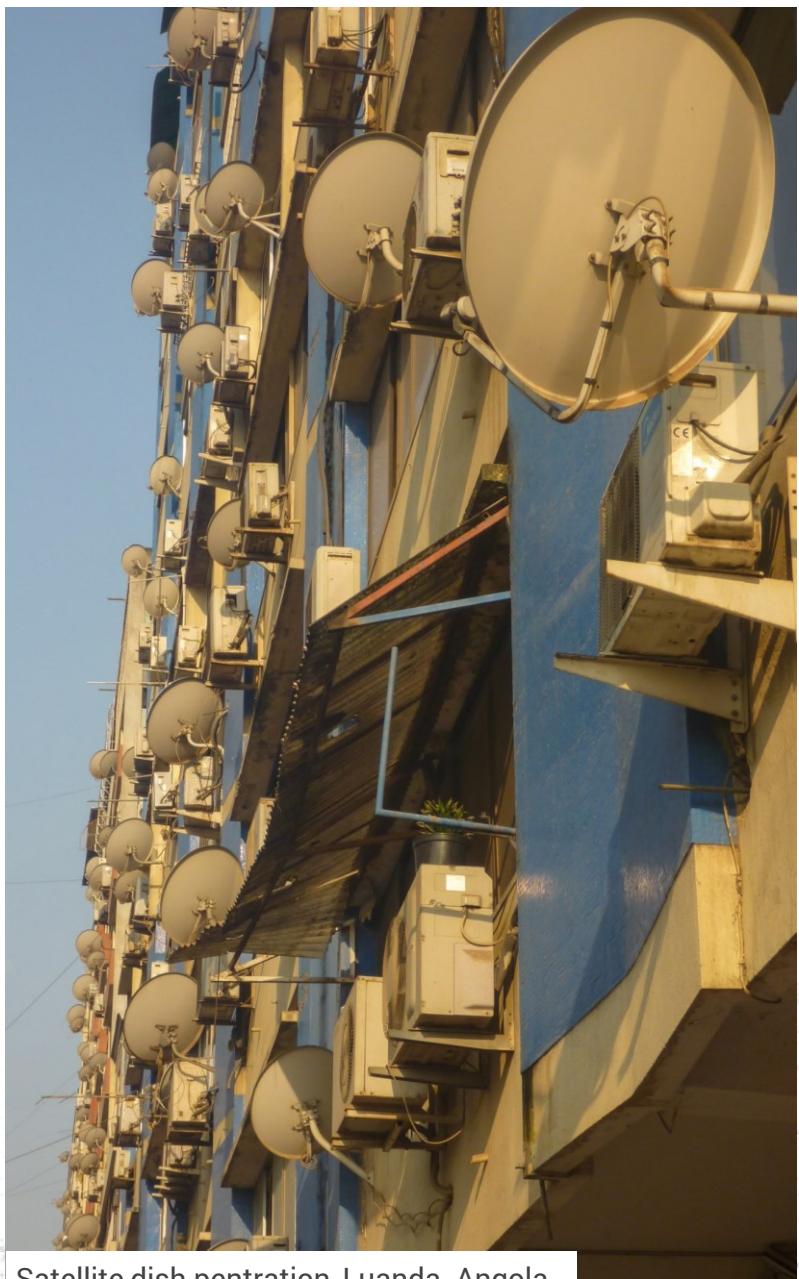




Westgate Mall, Harare, Zimbabwe



New town, Luanda, Angola



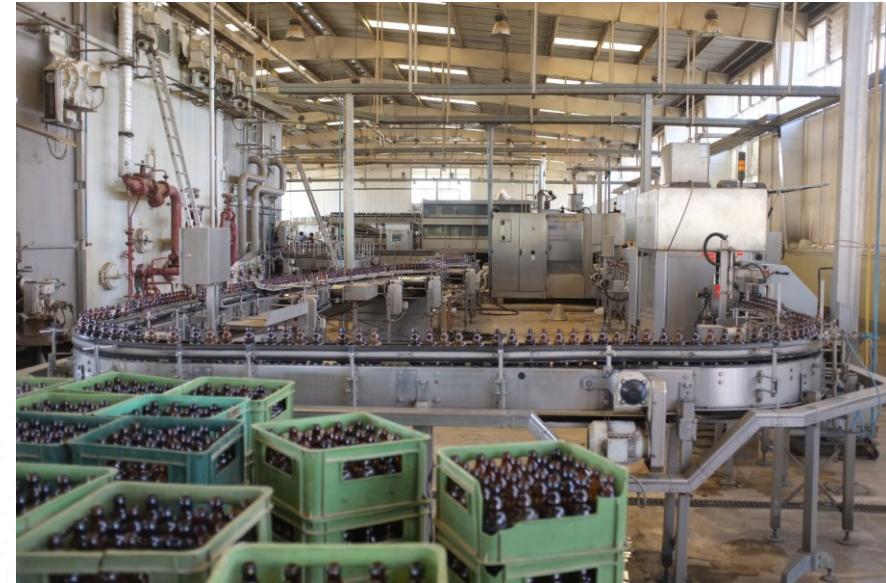
Satellite dish penetration, Luanda, Angola



Keren, Eritrea



FIAT Tagliero petrol station, Asmara, Eritrea



Melotti Brewery, Asmara, Eritrea



Traditional trade, Victoria Island, Lagos, Nigeria

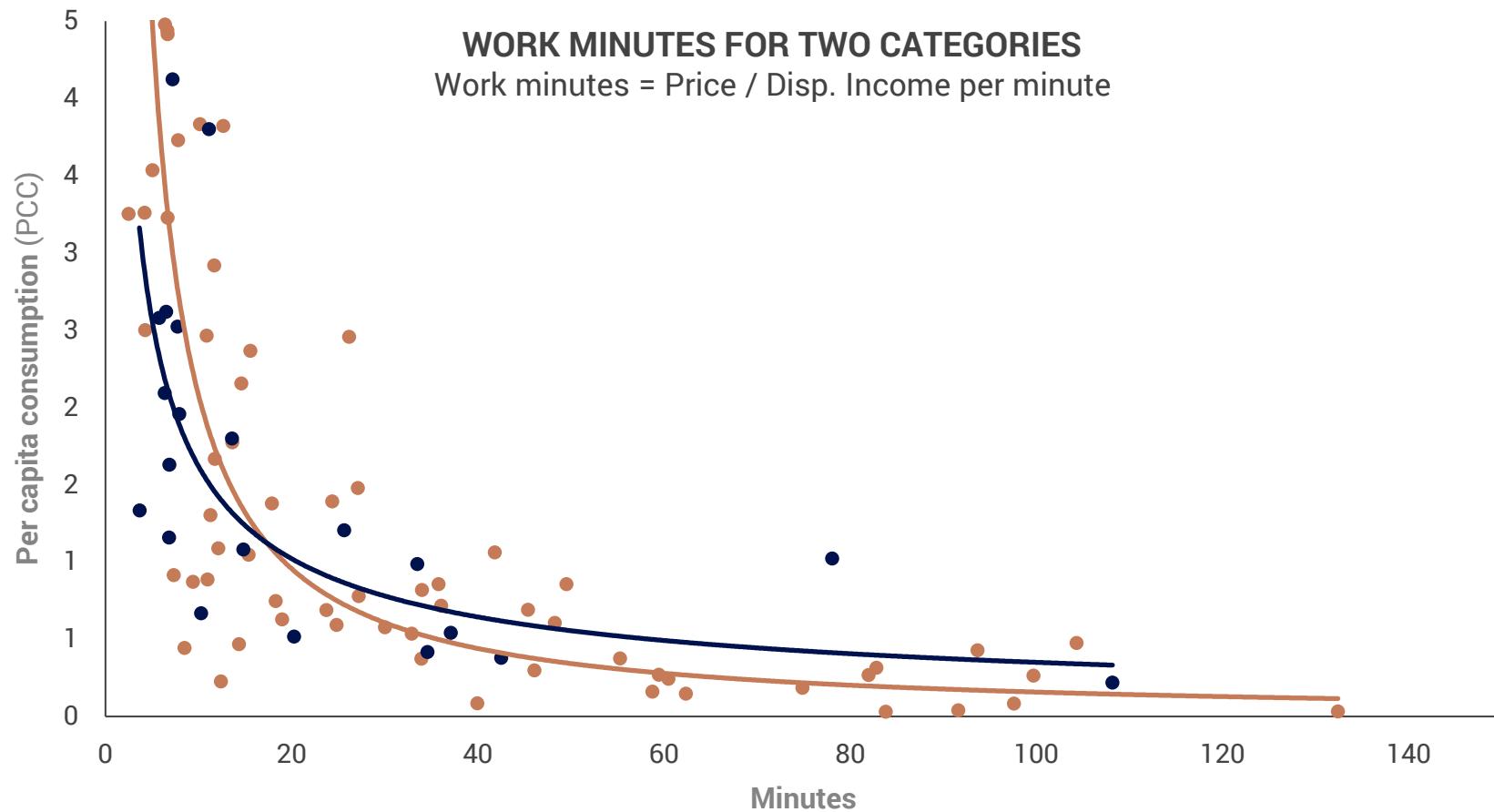


Modern trade, Mainland, Lagos, Nigeria

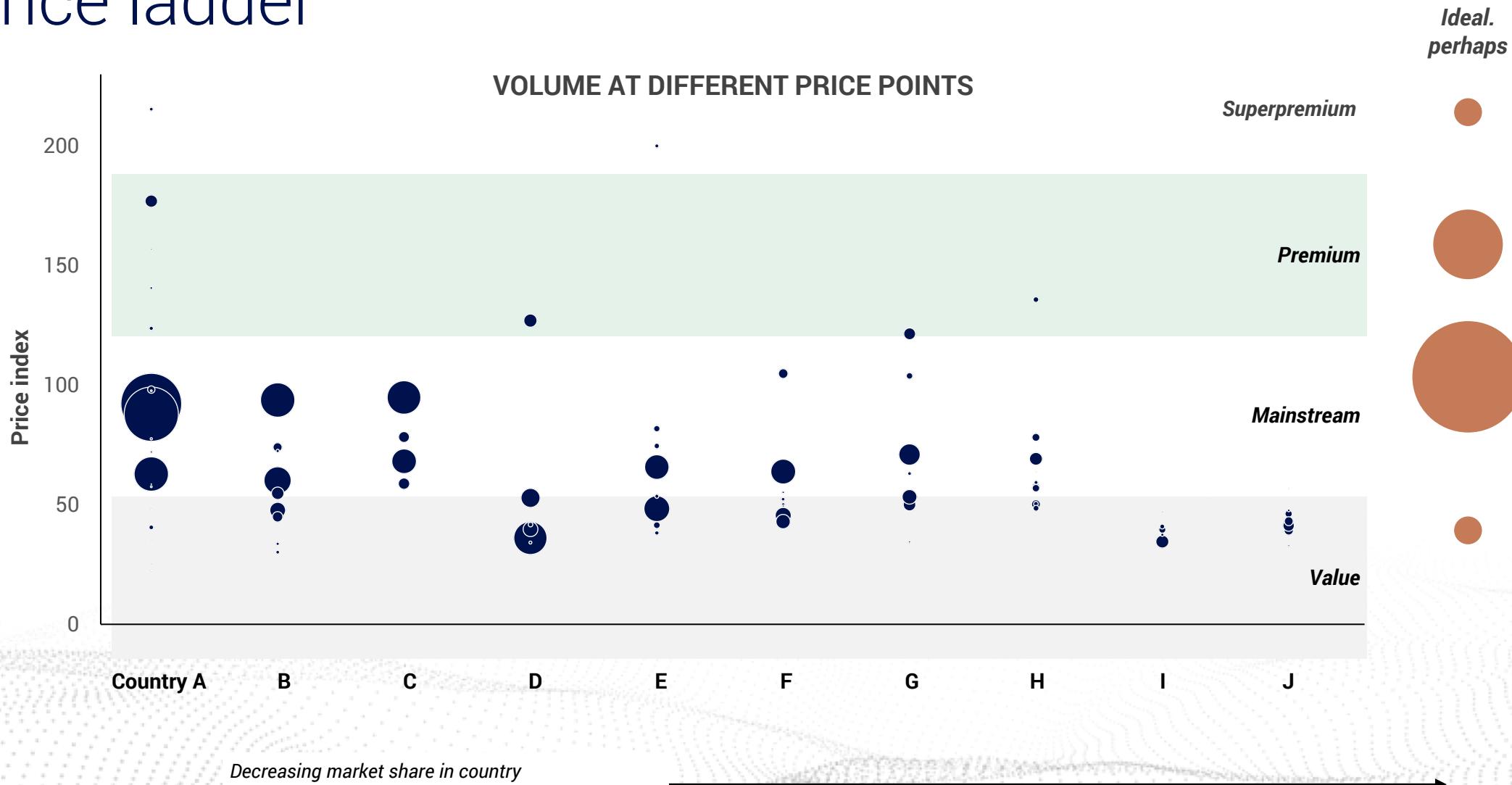


Old Lagos, Nigeria

Work minutes



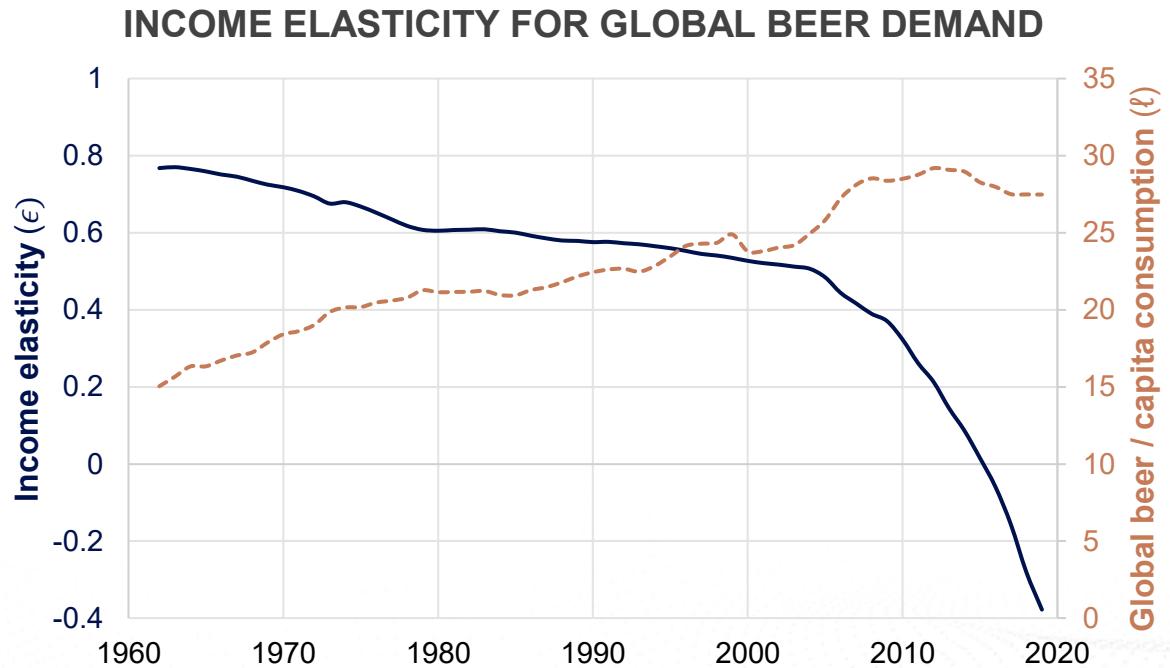
Price ladder



Income elasticity

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

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

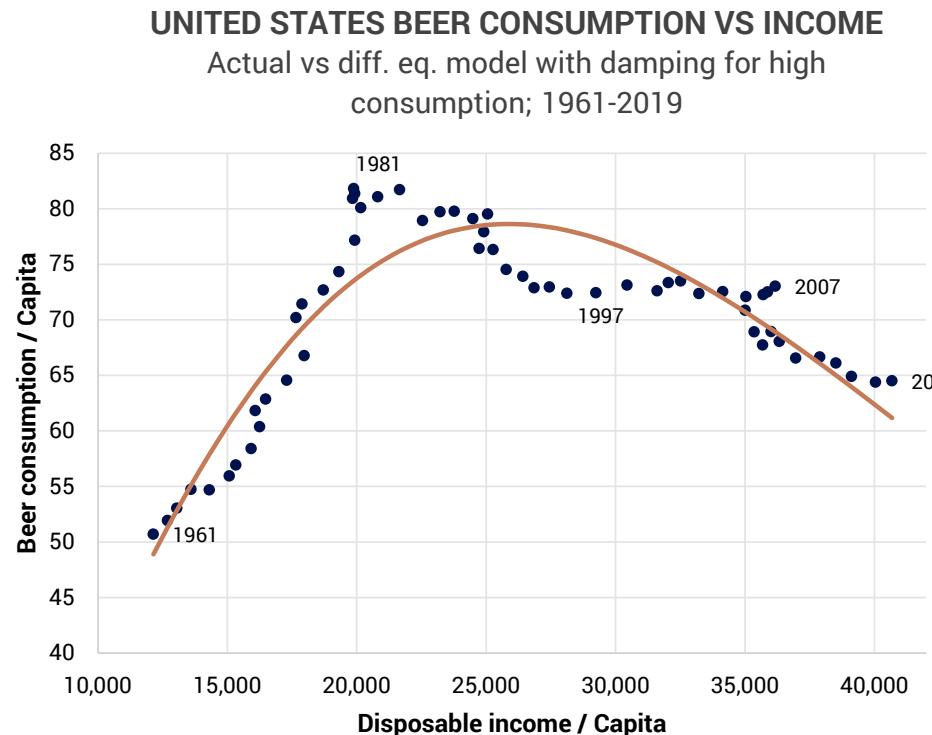
Solution to diff eq

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

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

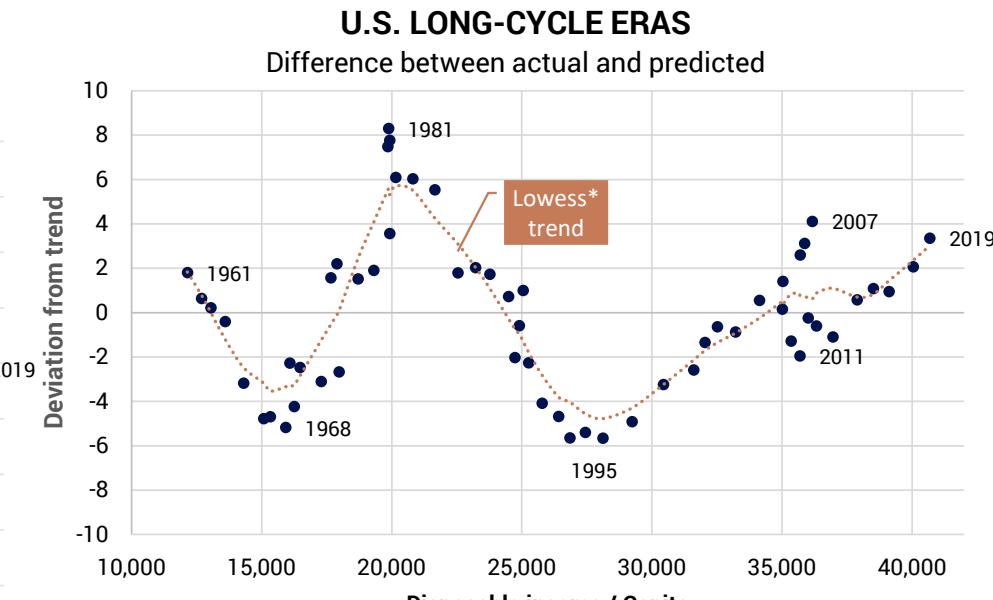
x = Beer PCC

y = Disposable income / capita



Income drives demand as people can afford beer

Income leads to new consumer preferences that drive demand down



* Lowess = locally estimated scatterplot smoothing

Forecasting I

GOLDER TELLIS PREDICTIVE MODEL



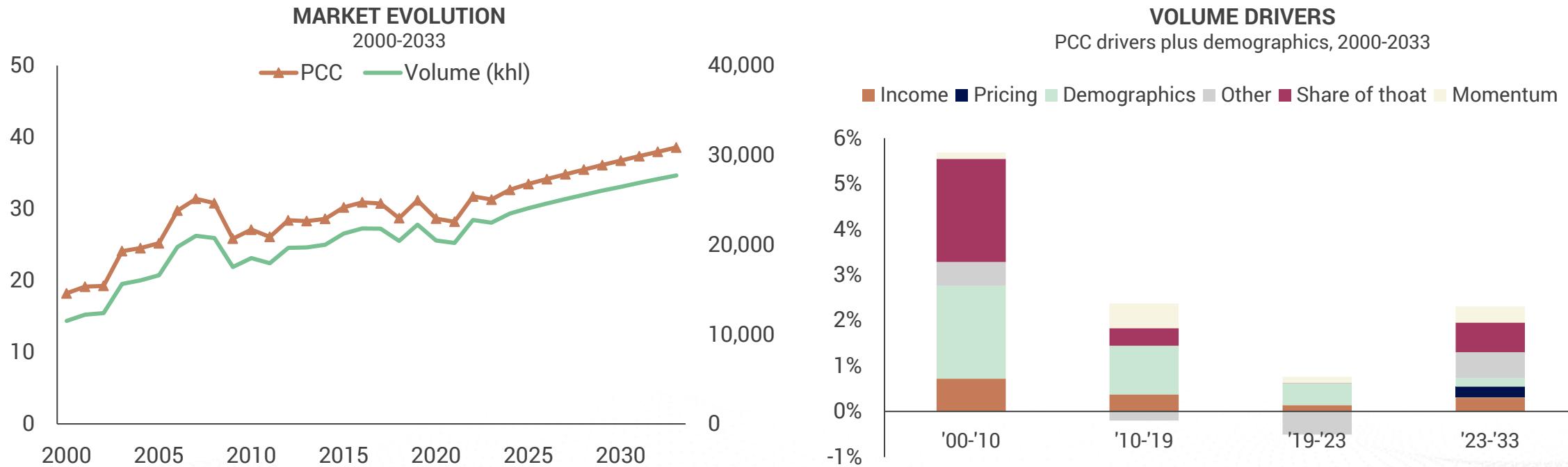
Golder Tellis Forecasting Model

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

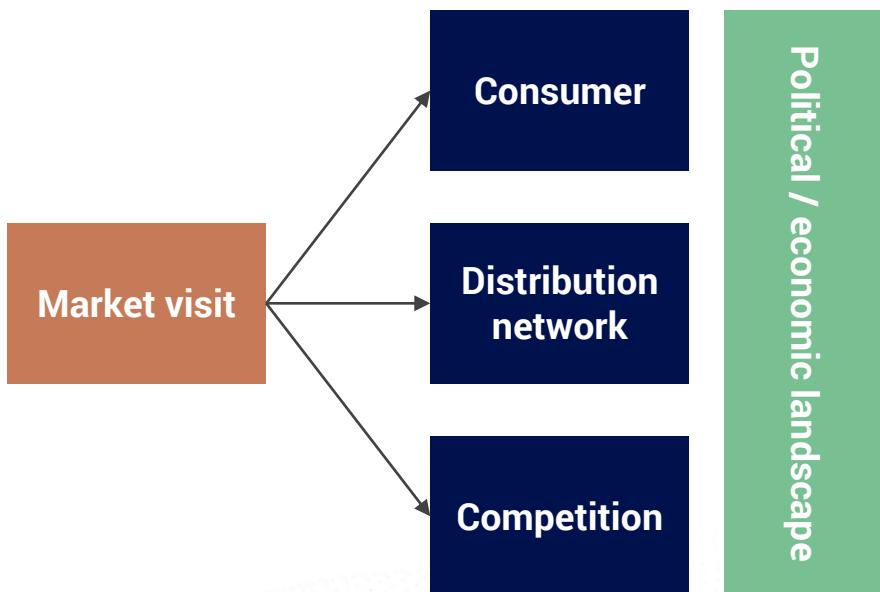
Volume	Disposable Consumer income	Price	Marketing spend	Market presence (distribution)
	sentiment			

— External ————— Internal —————

Forecasting II



Market visits



Source: Tellusant method

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



Department store, Ulaan Baatar, Mongolia



Trade visit, Ulaan Baatar, Mongolia



Enjoying airag in Ulaan Baatar, Mongolia

Agenda

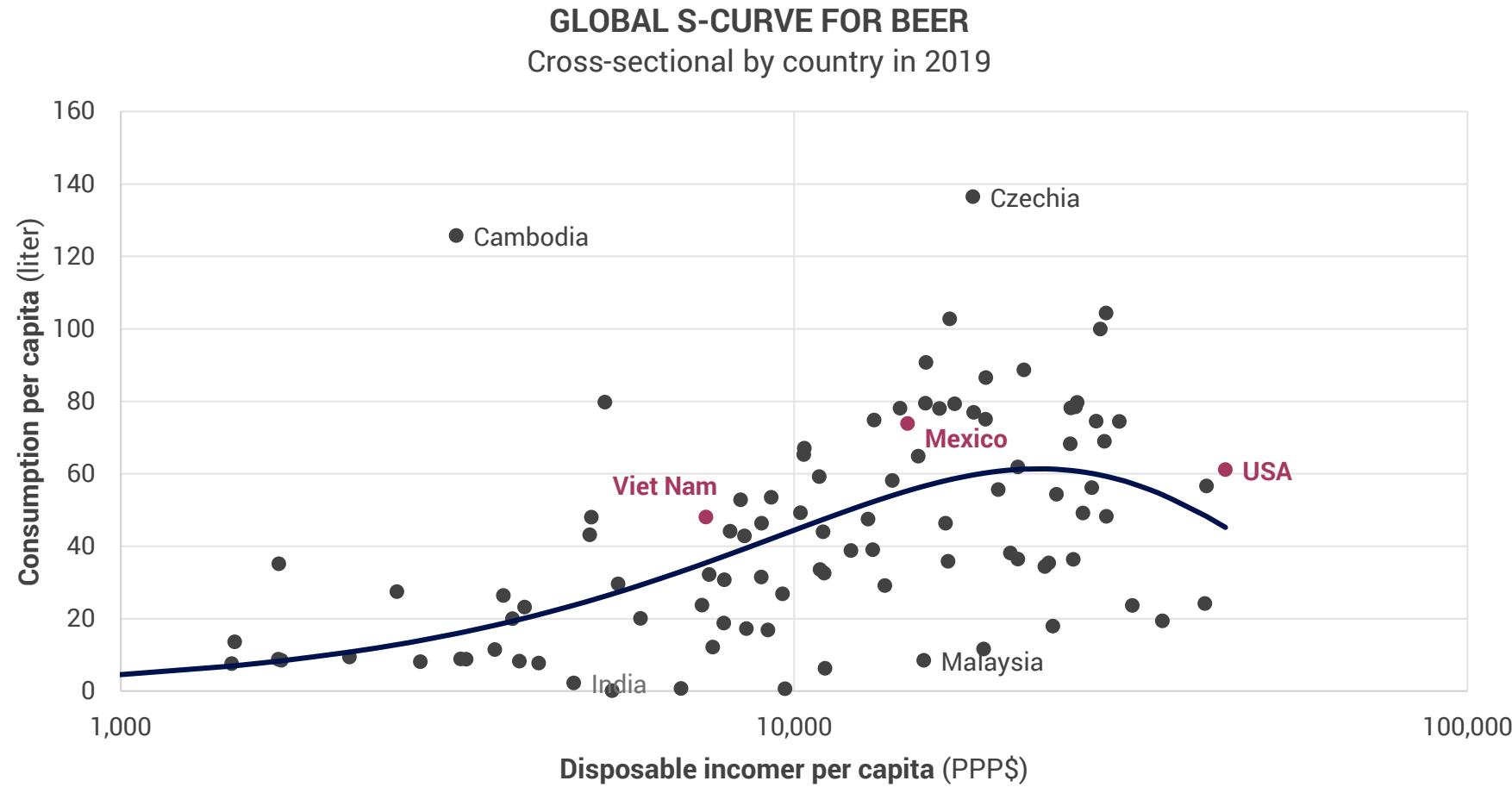
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Instructions

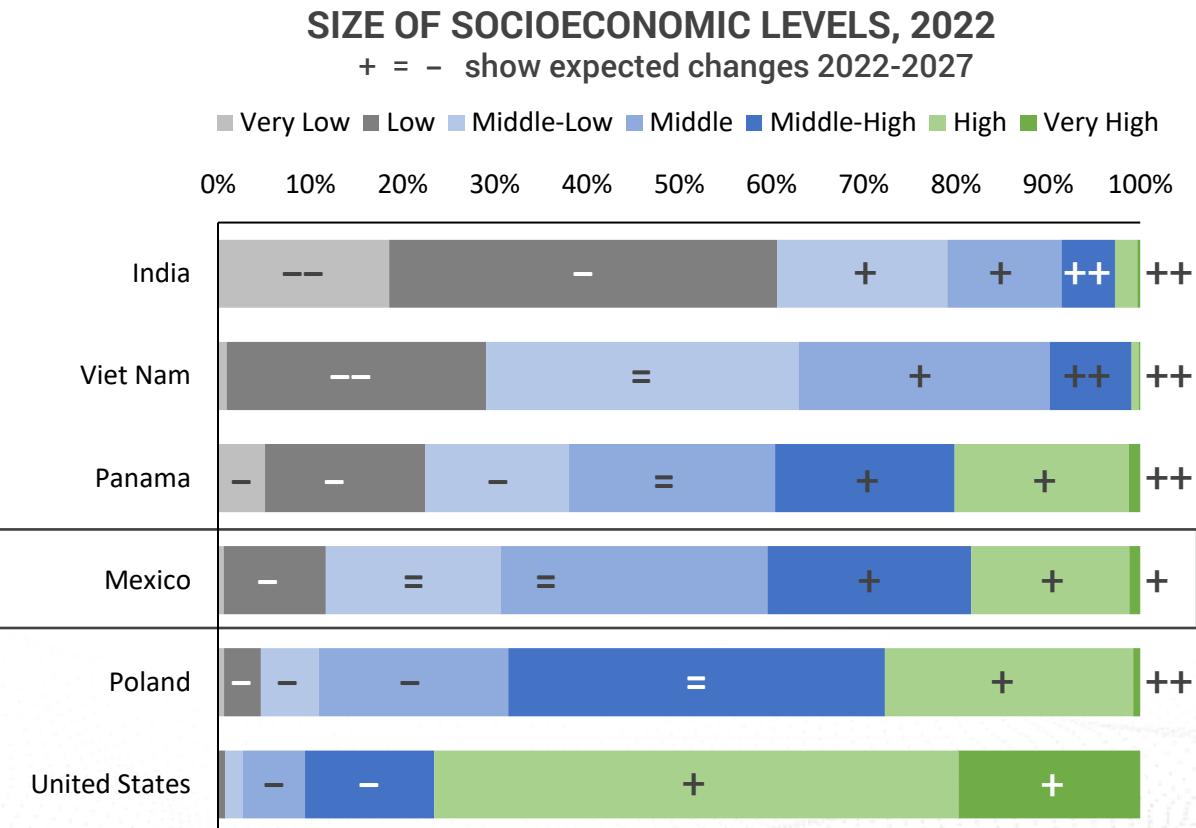
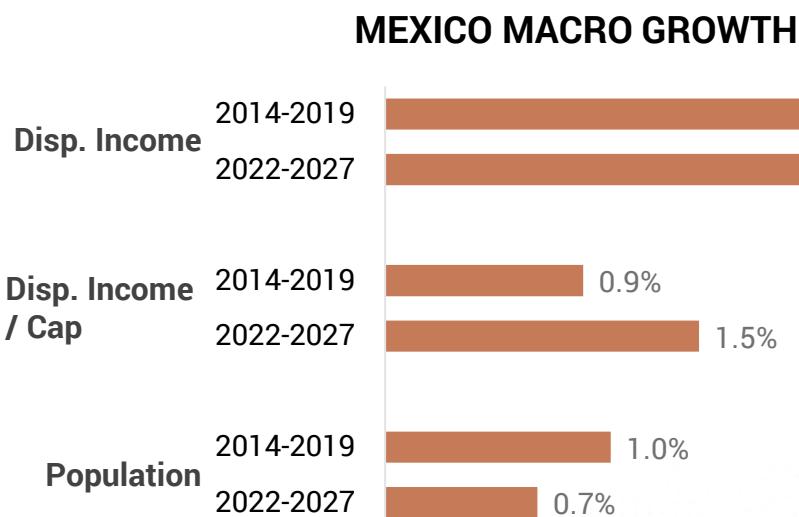
- You get 3 slides with historical data for the global beer market and your assigned country: Mexico, the United States or Mexico
- Your task is to predict the future market growth drawing on these data, and to argue your case
- There is no correct answer

There are 3 questions on the last page

Mexico: Beer Global S-Curve



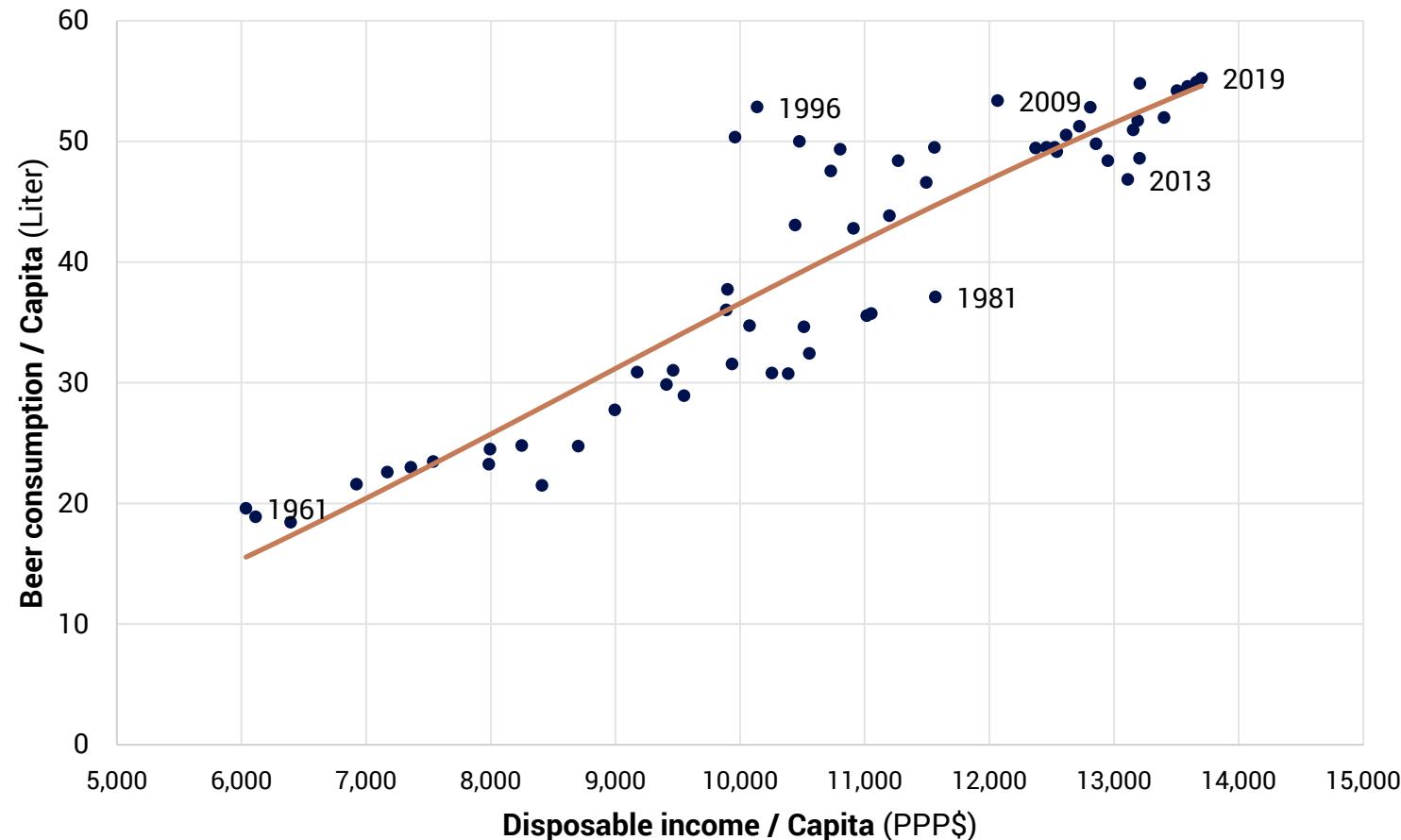
Mexico: Macro Context



Mexico: Beer Market

MEXICO BEER CONSUMPTION VS INCOME (S-CURVE)

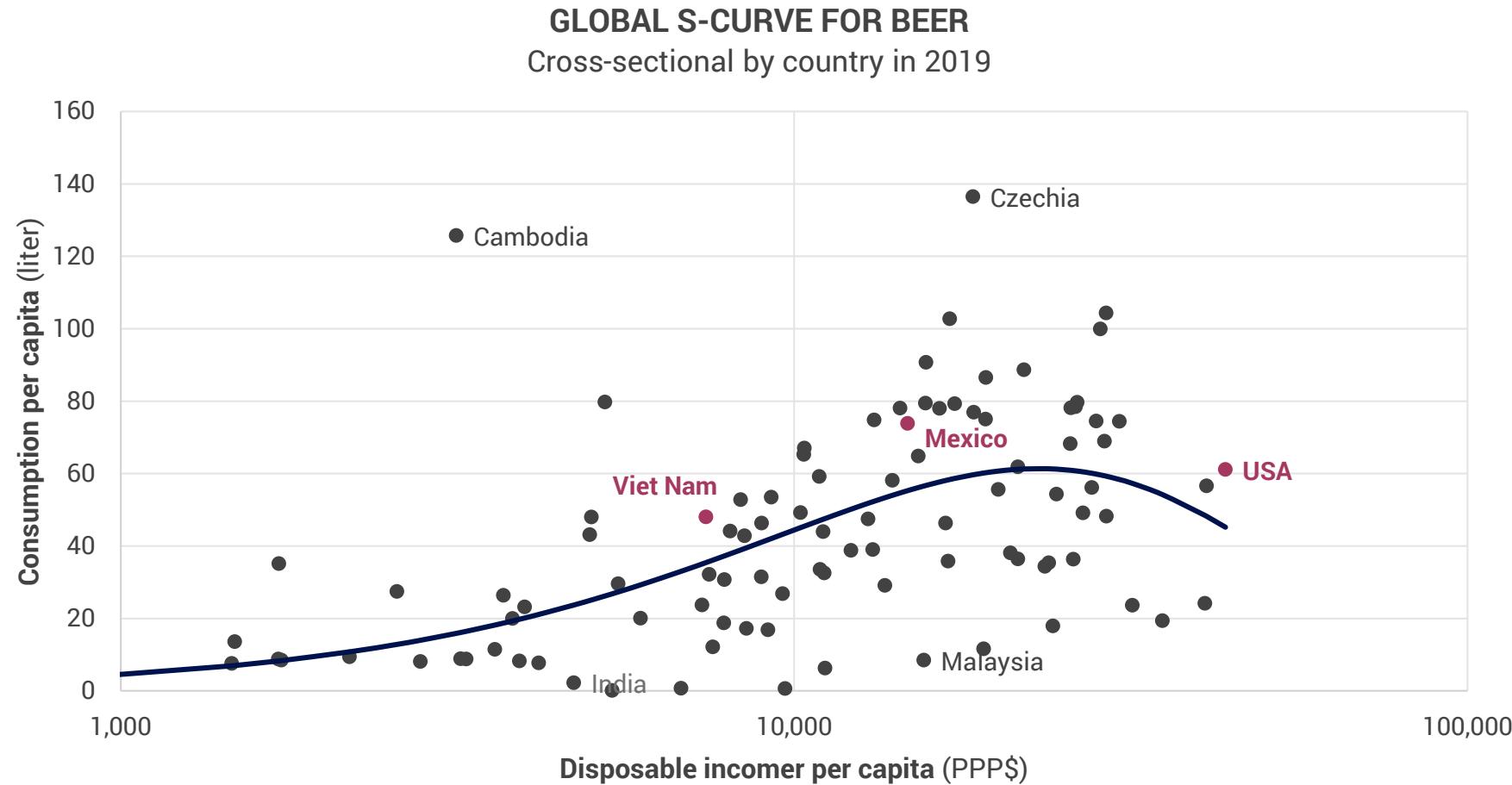
Actual vs diff. eq. model with damping for high consumption; 1961-2019



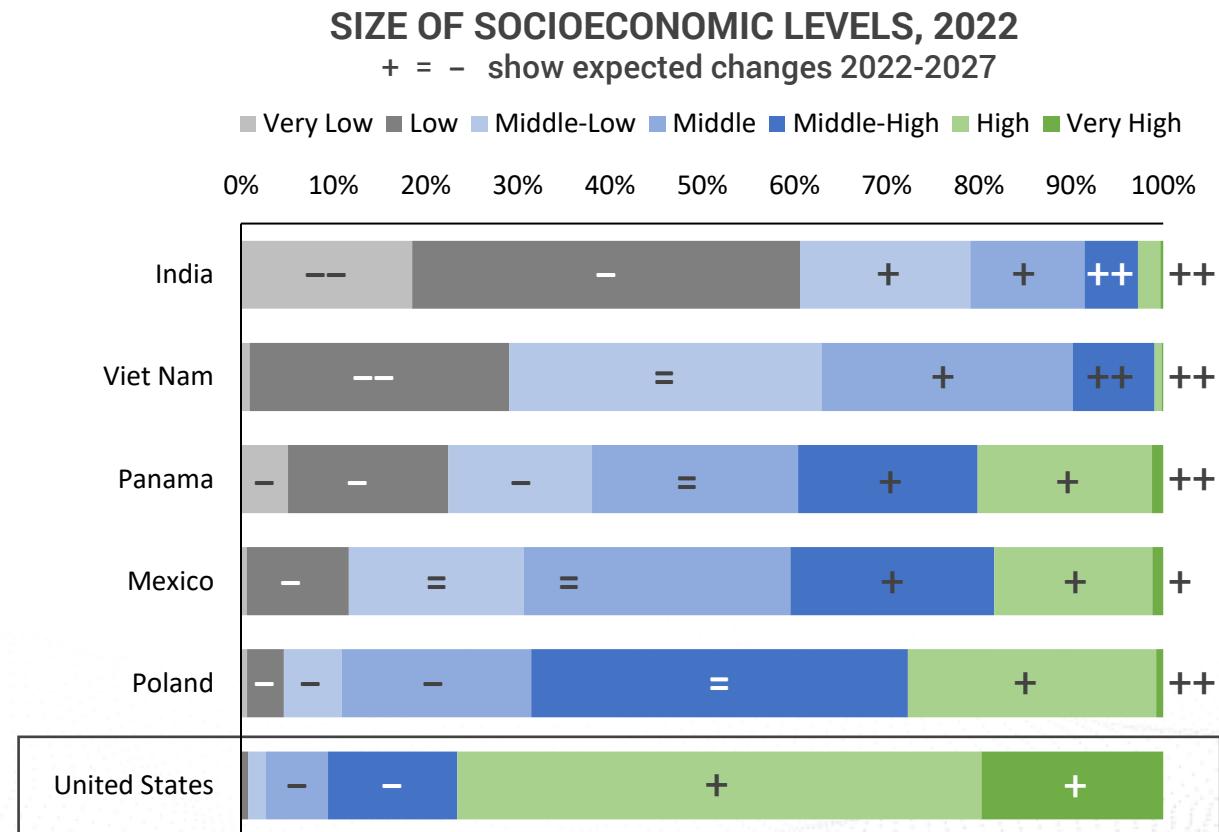
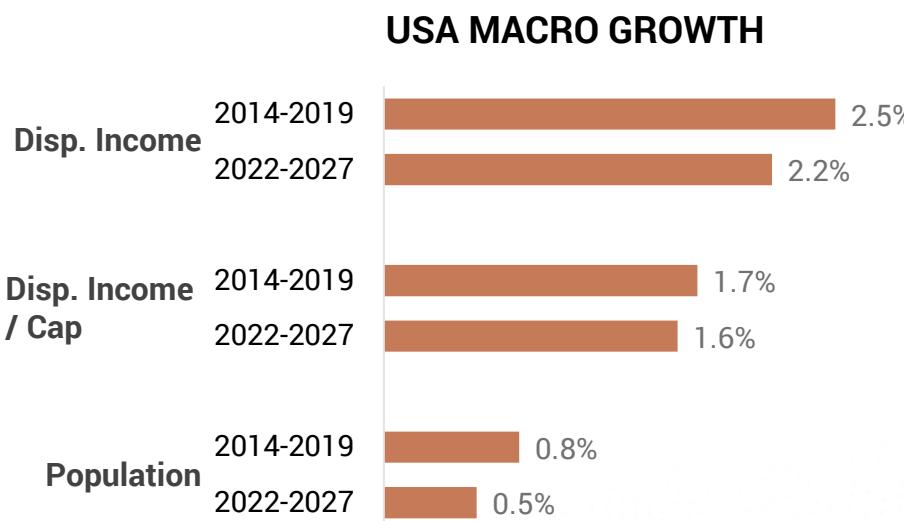
Mexico: Questions

- Assume the pandemic was neutral on demand 2019-2021. 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

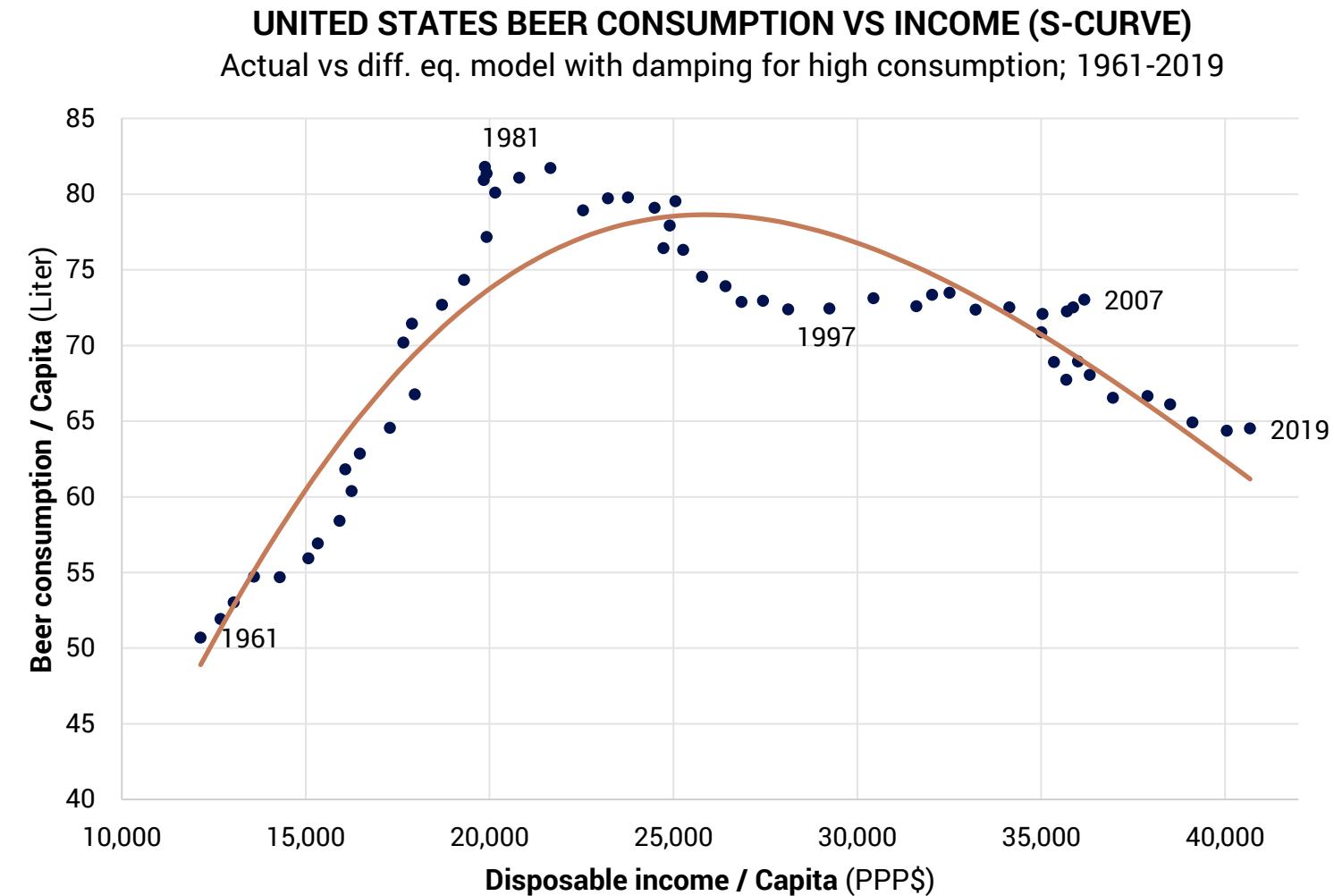
USA: Beer Global S-Curve



USA: Macro Context



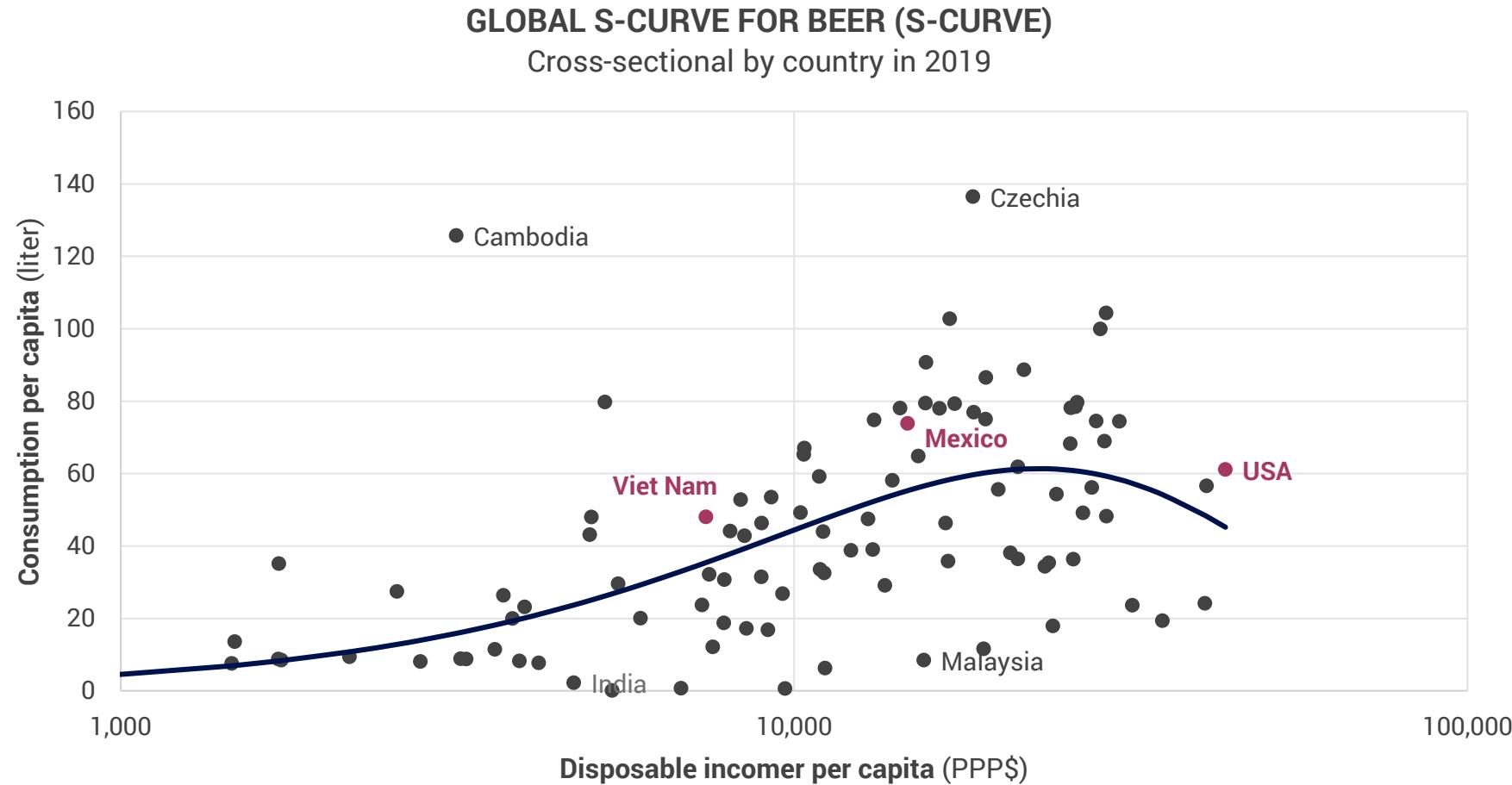
USA: Beer Market



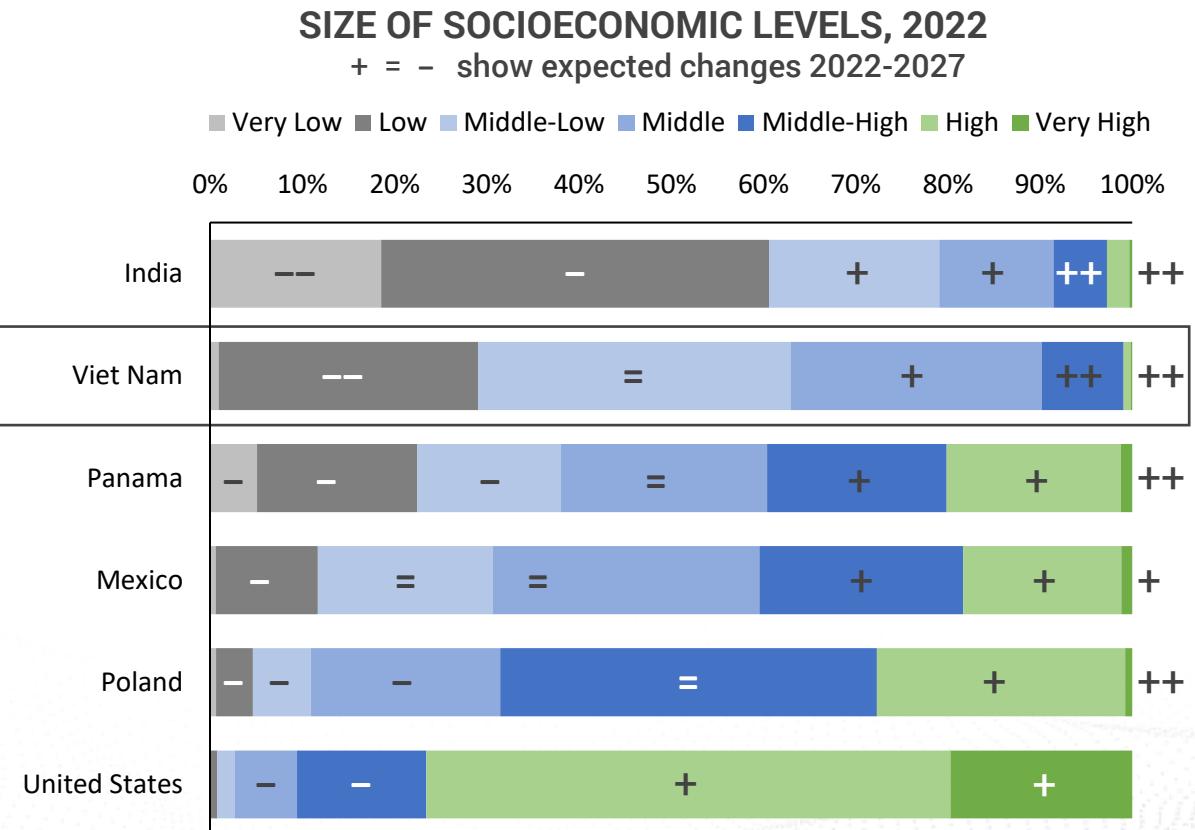
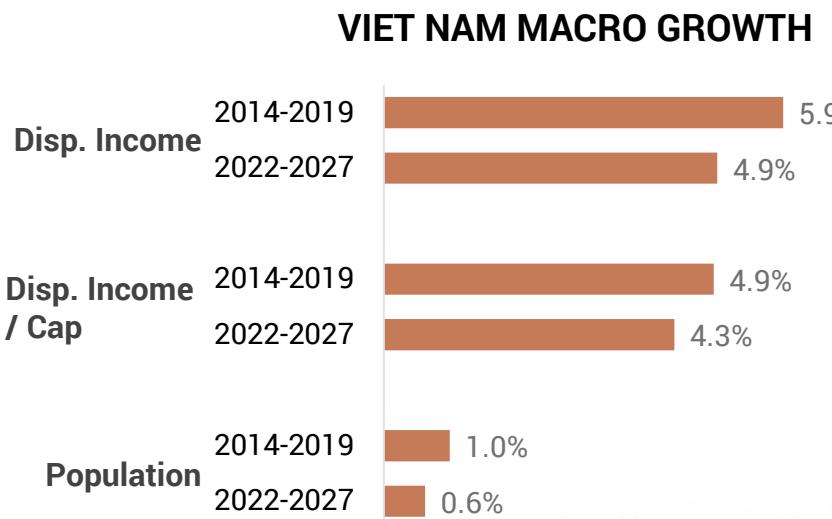
USA: Questions

- Assume the pandemic was neutral on demand 2019-2021. 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

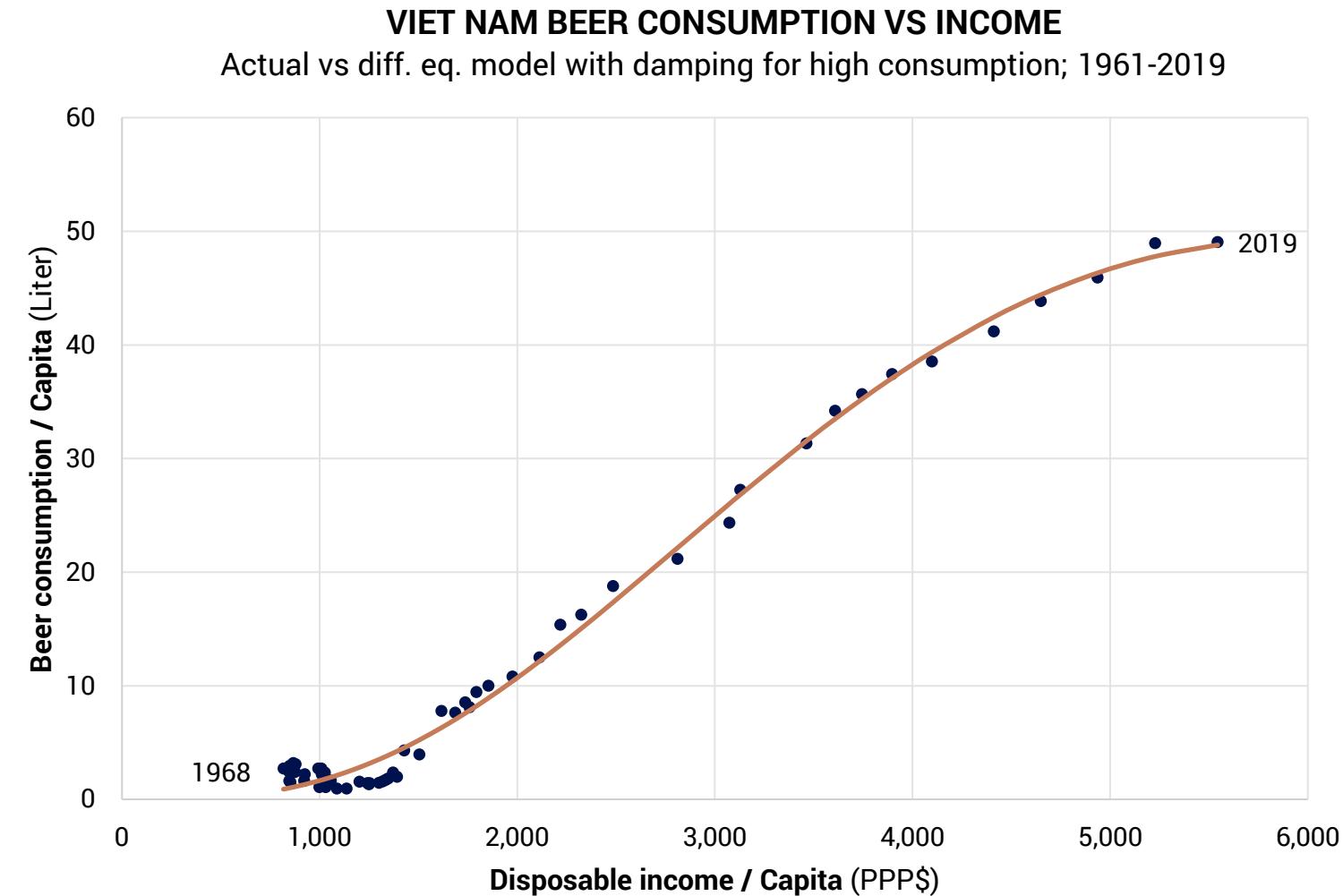
Viet Nam: Beer Global S-Curve



Viet Nam: Macro Context



Viet Nam: Beer Market



Viet Nam: Questions

- Assume the pandemic was neutral on demand 2019-2021. 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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