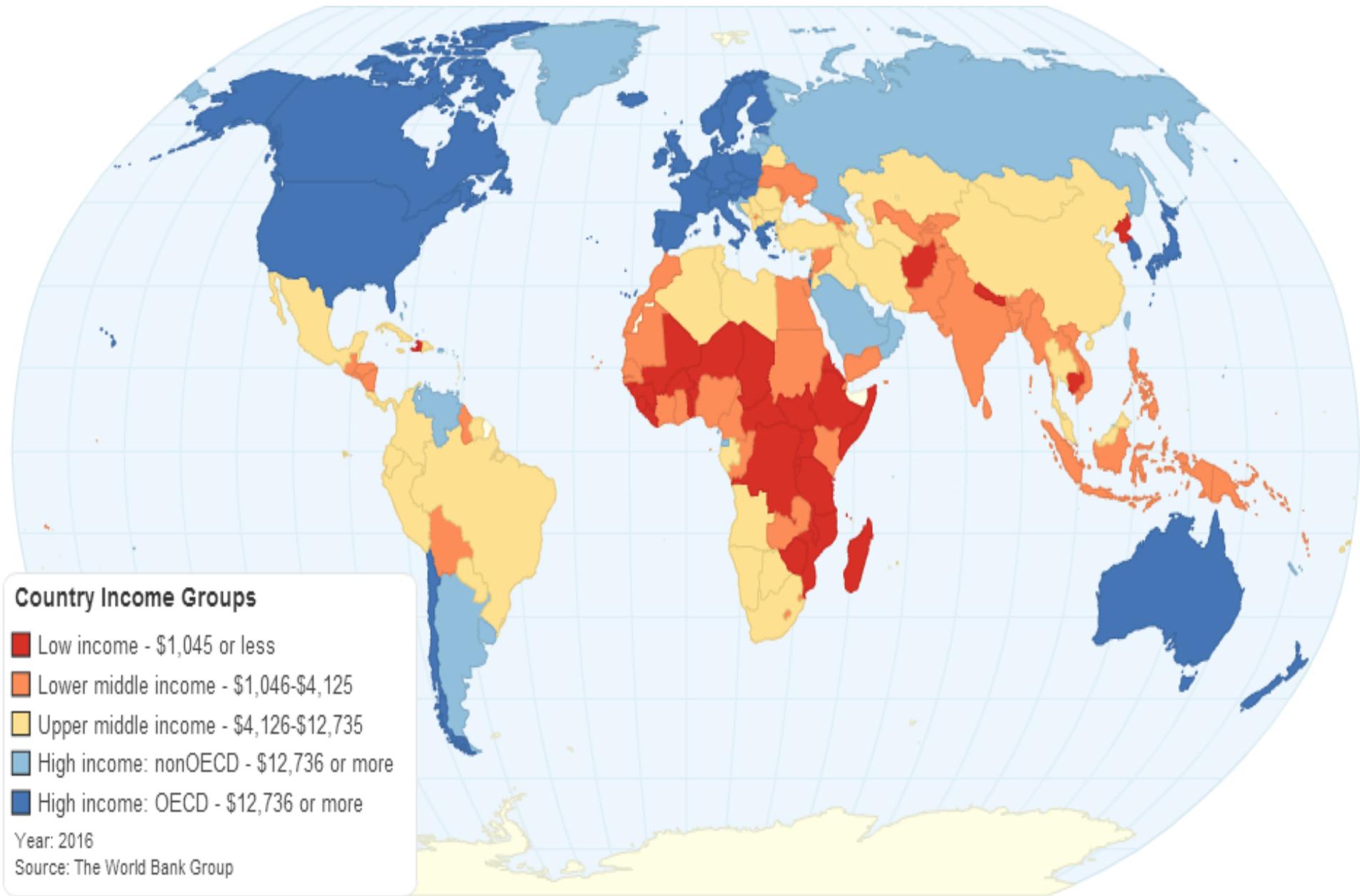


Introduction to Economics

DR. PARUL MATHUR
IIIT - HYDERABAD



What is Economics? -Understanding the discipline

- Why are some countries rich and some countries poor?
- Why do women earn less than men?
- What causes recessions/crises?
- Why popcorn costs so much in the movie theatre?
- What do schoolteachers and sumo wrestlers have in common?
- How did the legalization of abortion affect the rate of violent crime?

"The consequences for human welfare involved in questions like these are simply staggering: Once one starts to think about them it is hard to think of anything else."..... Robert Lucas

Top-10 most concerning world issues, according to Millennial's - World Economic Forum

10. Lack of economic opportunity and employment (12.1%)
9. Safety / security / wellbeing (14.1%)
8. Lack of education (15.9%)
7. Food and water security (18.2%)
6. Government accountability and transparency / corruption (22.7%)
5. Religious conflicts (23.9%)
4. Poverty (29.2%)
3. Inequality (income, discrimination) (30.8%)
2. Large scale conflict / wars (38.9%)
1. Climate change / destruction of nature (48.8%)

Sustainable Development Goals - UN

The 17 Sustainable Development Goals address the **root causes of poverty and the universal need for development** that works for all people.

Sustainable development - development that meets the needs of the present **without compromising the ability of future generations** to meet their own needs.

The goals cover the three dimensions of sustainable development: **economic growth, social inclusion and environmental protection**.



SUSTAINABLE DEVELOPMENT GOALS

17 GOALS TO TRANSFORM OUR WORLD

1 NO
POVERTY



2 ZERO
HUNGER



3 GOOD HEALTH
AND WELL-BEING



4 QUALITY
EDUCATION



5 GENDER
EQUALITY



6 CLEAN WATER
AND SANITATION



7 AFFORDABLE AND
CLEAN ENERGY



8 DECENT WORK AND
ECONOMIC GROWTH



9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



10 REDUCED
INEQUALITIES



11 SUSTAINABLE CITIES
AND COMMUNITIES



12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION



13 CLIMATE
ACTION



14 LIFE
BELOW WATER



15 LIFE
ON LAND



16 PEACE, JUSTICE
AND STRONG
INSTITUTIONS



17 PARTNERSHIPS
FOR THE GOALS



 SUSTAINABLE
DEVELOPMENT
GOALS

Glimpse of exciting economic research, 2017

“Interpreting Signals in the Labor Market: Evidence from Medical Referrals”

by Heather Sarsons

Specialization: Behavioral economics

Main finding: After a bad outcome, female surgeon's referrals went down much more than male surgeons.

Glimpse of exciting economic research, 2017

**“The aggregate and distributional effects of financial globalization:
evidence from macro and sectoral data”**

by Davide Furceri, Prakash Loungani and Jonathan D. Ostry

Specialization: Globalization and economic development

Main finding: Foreign finance has led to more inequality.

Glimpse of exciting economic research, 2017

Cycling to School: Increasing Secondary School Enrollment for Girls in India

By Karthik Muralidharan, Nishith Prakash

Authors study the impact of an **innovative program** in the Indian state of Bihar

- that aimed to reduce the gender gap in secondary school enrollment
- by providing girls who continued to secondary school with a bicycle that would improve access to school.
- They also find that the **Cycle program was much more cost effective** at increasing girls' secondary school enrollment than comparable conditional cash transfer programs in South Asia.

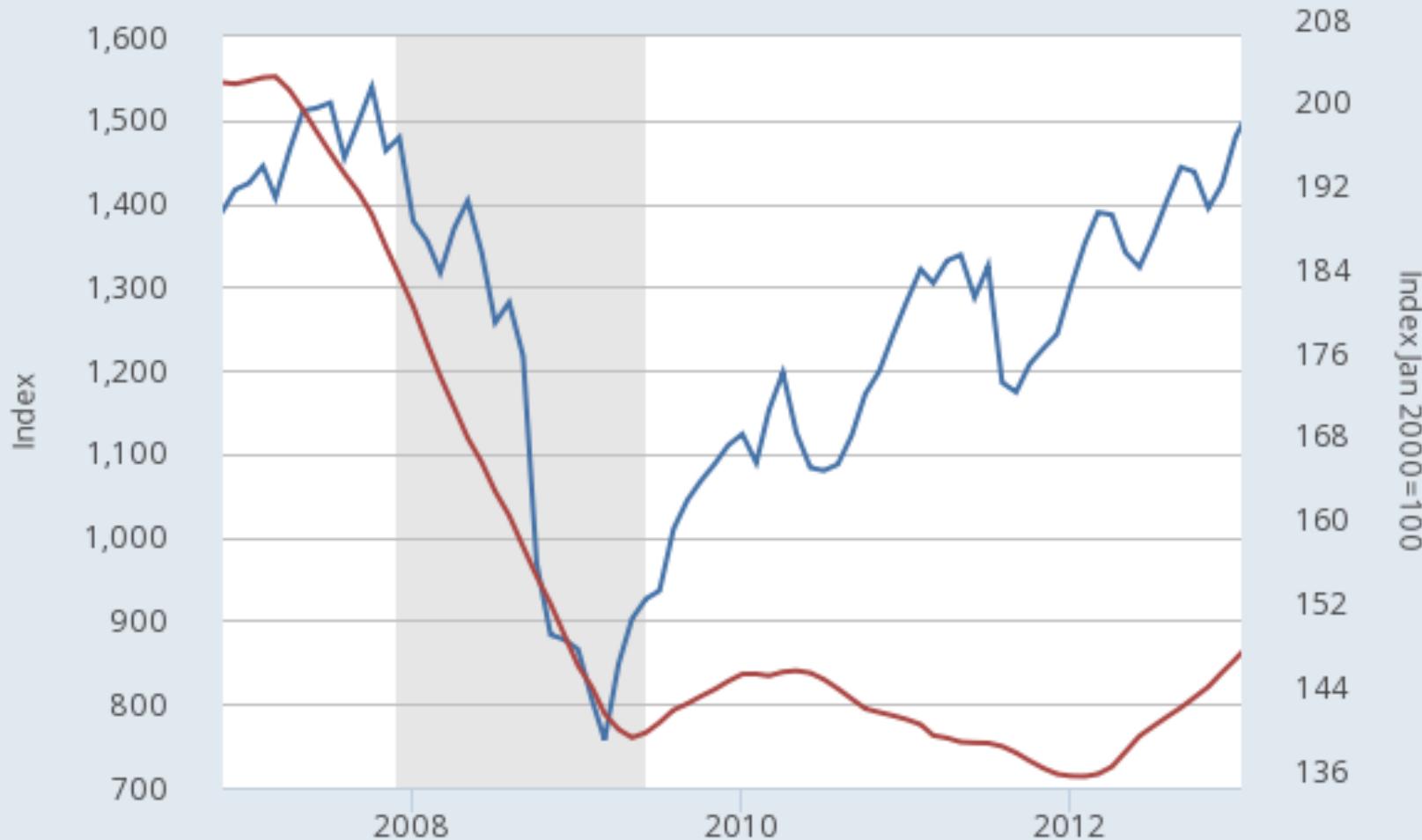
Growth of the Discipline

- "We are pattern-seeking, story-telling animals."

Over the last 25 years—

- the rise of **experimental economics and behavioral economics**
- that economics has become more **scientific**
- economists have become **more aware of flaws in economic theory.**

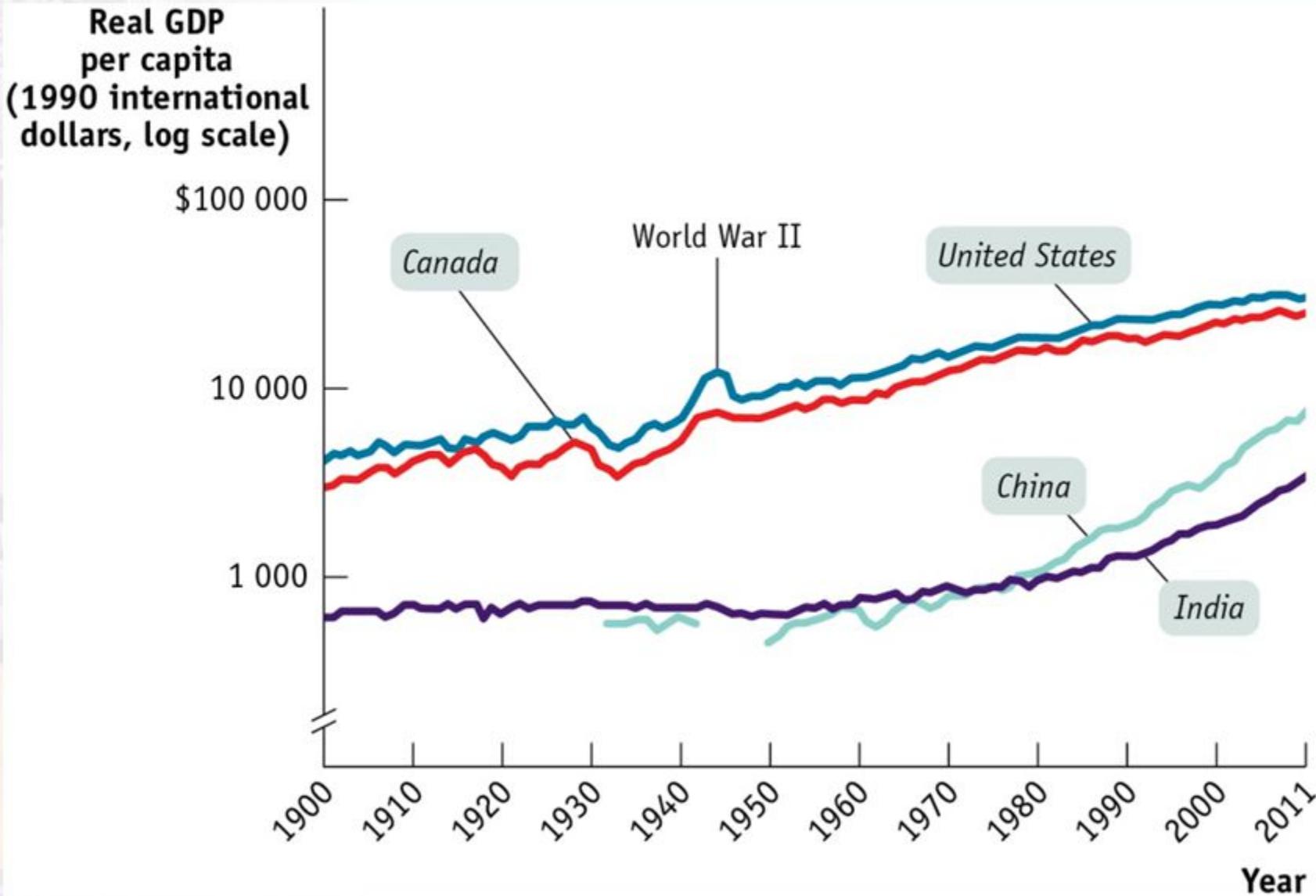
— S&P 500® (left)
— S&P/Case-Shiller 20-City Composite Home Price Index® (right)



What is the study of Economics about?

- Economics is about **making choices**.
 - Economics has been called the '**dismal science**' because it studies the most fundamental of all problems, **Scarcity**.
 - Because of scarcity we all face the dismal reality that there are limits to what we can do.
 - Is it really that dismal as Malthus predicted?

Economic Growth Across Time and Space



Thinking like an Economist

- Scientific method of inquiry

- Work with models
 - Assumptions
 - Test theory with data for evidence

- Policy evaluations : Cost –Benefit analysis

Economics of Recycling:

- About 56 percent of paper and cardboard was recycled in 2000.
- In contrast, only about 9 percent of plastic packaging is recycled.

- Cardboard - Low collection costs ; Economically more rewarding

- Plastics - High separation costs ; cheaper substitutes making it economically less rewarding

Cost benefit analysis
When Should Governments Subsidize Health?
:The Case of Mass Deworming

Should the WHO withdraw support for mass deworming?

What is the appropriate subsidy level for health products, focusing on the specific case of deworming?

Although intestinal worm infections can be treated using **safe, low-cost drugs**,

Some have challenged the view that mass school-based deworming should be a policy priority.

When Should Governments Subsidize Health? :The Case of Mass Deworming

The existing evidence shows,

- **Consistent positive impacts on**
 - school participation in the short run
 - academic test scores, employment, and income in the long run
- while suggesting that most parents will not pay for deworming treatment that is not fully subsidized.
- There is also evidence for a fiscal externality through higher future tax revenue, which may exceed the cost of the program.
- Their analysis suggests that the **economic benefits of school-based deworming programs are likely to exceed their costs in places where worm infestations are endemic.**

Cost benefit analysis :Teacher Absenteeism in India

- A nationwide representative sample of public schools in rural India found **teacher absence rate of 23.6%**.
- **Increases in school monitoring** were strongly correlated with reductions in teacher absence rates.
- Investing in reducing teacher absence through better monitoring could be over **ten times more cost effective** than investing in hiring more teachers.
- Thus, policies that decrease the inefficiency of public education spending **are likely to yield substantially higher marginal returns** than those that augment inputs.

Thinking like an Economist

:Opportunity cost

- What is the biggest cost of your going to college ?
- iswhat you could otherwise earn by working.
- On average, **three-fourths** of the private cost of a college education--the cost borne by the student and the student's family--is the income that college students give up by not working.
- A good measure of this "opportunity cost" is the income that a newly minted high school graduate could earn by working full-time.

Thinking like an Economist

:Opportunity cost

- In United States, A study of the economic returns to college since the 1970s showed:
- that the benefits of both a bachelor's degree and an associate's degree **still tend to outweigh the costs**, with both degrees earning a return of about 15 percent over the past decade.
- The return has remained high in spite of rising tuition and falling earnings **because the wages of those without a college degree have also been falling**,
- **keeping the college wage premium near an all-time high while reducing the opportunity cost of going to school.**

Thinking like an Economist : Incentives matter

- ~~What parents do affects their child's incentives~~

- Incentives provided by parents:
- Parent-onomics 101: Can Economics Help You Be a Better Parent?, by Donald Cox
- Mr. Sharma providing just a bit too much help with homework--thereby diluting his child's work incentives.
- “Crowding out,” -situation where outside help merely supplants private efforts to solve a problem
- Examples of social security and retirement savings, welfare payments and work effort, or public safety nets and charitable giving....

Thinking like an Economist : Incentives matter

- In the late 1960s Becker wrote a trail-blazing article whose working assumption is that the :
- **Decision to commit crime is a function of the costs and benefits of crime.**

- From this assumption, he concluded that the **way to reduce crime is to raise the probability of punishment or to make the punishment more severe – Importance of Incentives**
- His insights into crime, helped spawn a new branch of economics – Law and Economics

Thinking like an Economist : Incentives matter

Do Safety regulations increase unsafe behavior? – Peltzman

Mandatory safety devices such as seat belts reduced the probability of harm to the driver, if the car crashed

That in turn, encouraged people to drive more recklessly, hence leading to more accidents and danger to pedestrians.

He found that the regulation of making seat belts mandatory did indeed

- **cause more accidents,**
- **though the number of fatalities remained largely unchanged.**

Thinking like an Economist : Unintended consequences

- Does unintended breaking of a window help the economy by creating jobs for glass-repairers?
- "What is Seen and What is Not Seen", Frédéric Bastiat
- Have you ever been witness to the fury of that solid citizen, James Goodfellow, when his incorrigible son has happened to break a pane of glass?
- What would become of the glaziers if no one ever broke a window?..."

Thinking like an Economist

:At the Margin, please

- Think about your next step forward.
 - “Marginal” = “Additional”
 - The first glass of lemonade on a hot day quenches your thirst, but the next glass, maybe not so much.
 - If you think at the margin, you are thinking about what the next or additional action means for you.
 - Or "marginal" means the derivative or slope of a curve.
-
- Why are diamonds more expensive than water?
 - Paradox of unessential vs. essential good
 - People are choosing between one additional diamond versus one additional unit of water
 - **Marginal utility**

Thinking like an Economist

- Scientific method of inquiry

- Work with models
 - Assumptions
 - Test theory with data for evidence

- Policy evaluations : Cost –Benefit analysis

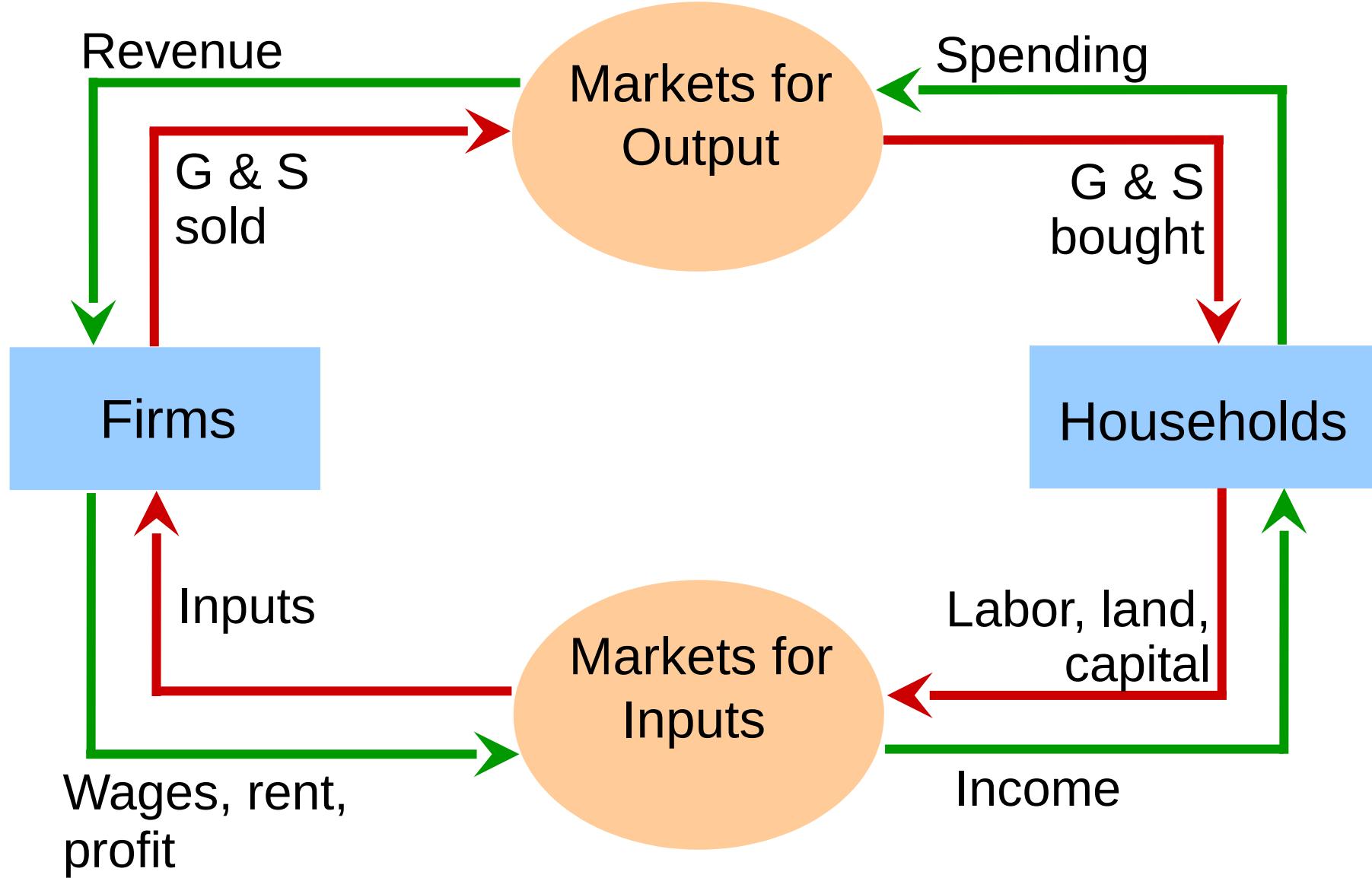
The Origins of Macroeconomics

- Macroeconomics examines the **aggregate behavior** of the economy.
- Macroeconomics came into it's own as a branch of economics during the Great Depression.
- In an effort to understand economic slumps and find ways to prevent them.

Example of model for Macroeconomy

- **Macroeconomy: Study of the economy as a whole.**
- An example of model for macroeconomy
- **Circular flow diagram**
- a simple depiction of the macroeconomy
- illustrates spending, revenue, and income flowing within an economy

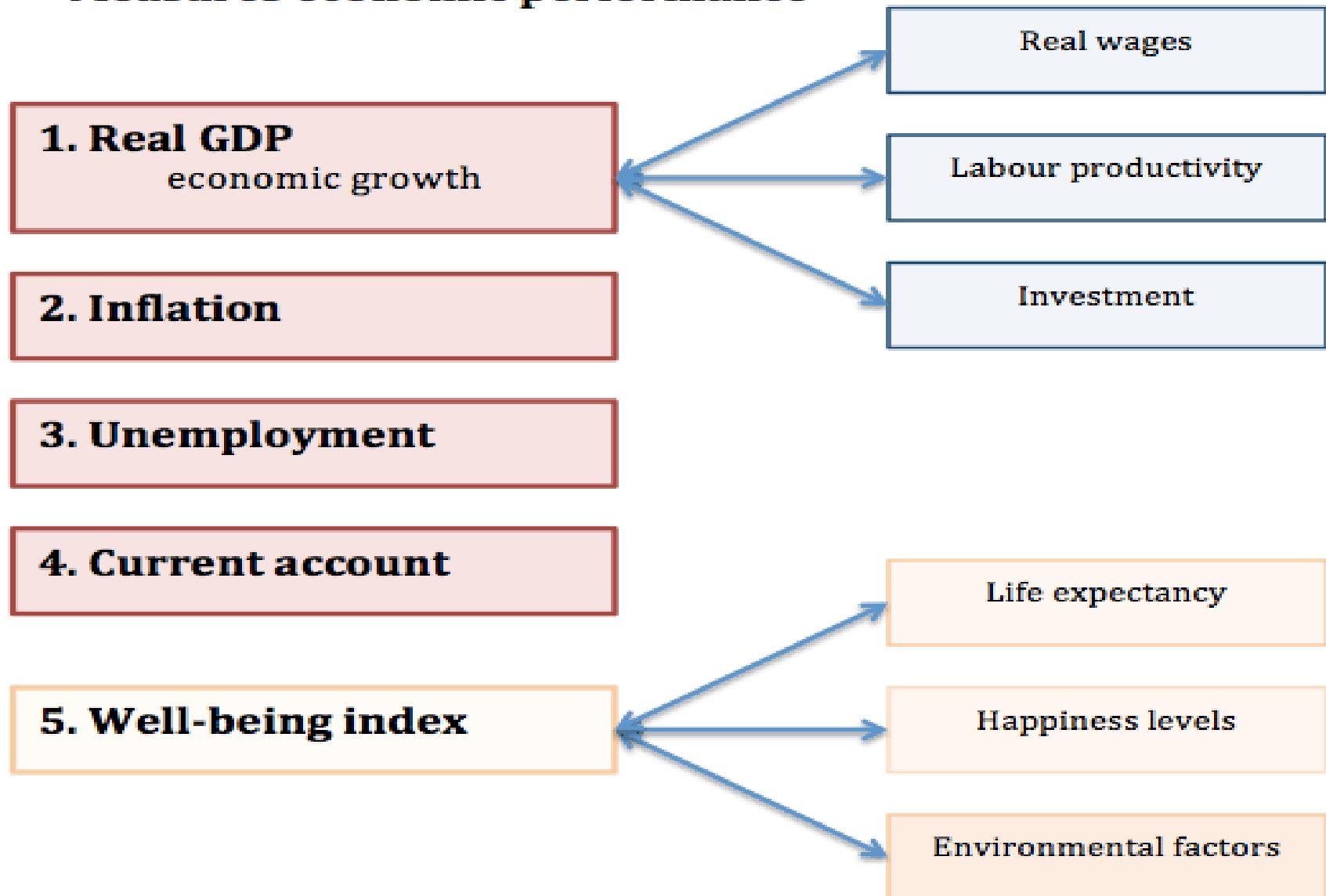
The Circular-Flow Diagram



Measuring the Macroeconomy

- Almost all countries calculate the **National Income and Product accounts**.
 - The national accounts keep track of the flows of money between different parts of the economy.
-
- Flows such as spending of consumers, business investment spending, government purchases.
 - In India, these numbers are calculated by the Central Statistical Organization (CSO).

Measures economic performance



GDP: Speedometer of the economy

- **GDP: Gross Domestic Product**

- GDP is like a speedometer: it tells you whether your economy is going faster or slower.
- As in cars, a speedometer is useful but doesn't tell you everything you want to know.

- For example, it won't tell you whether you are overheating, or about to run out of fuel.
- Above all, the speedometer doesn't tell you whether or not you're going in the right direction.

GDP is....

...the market value of all final goods & services produced within a country in a given period of time.

- Measures **size of the economy**
- Useful for
 - comparing the economies of other countries
 - how an economy changes over time.

Measurement of GDP

- **GDP = Total Income = Total Expenditure of an economy**

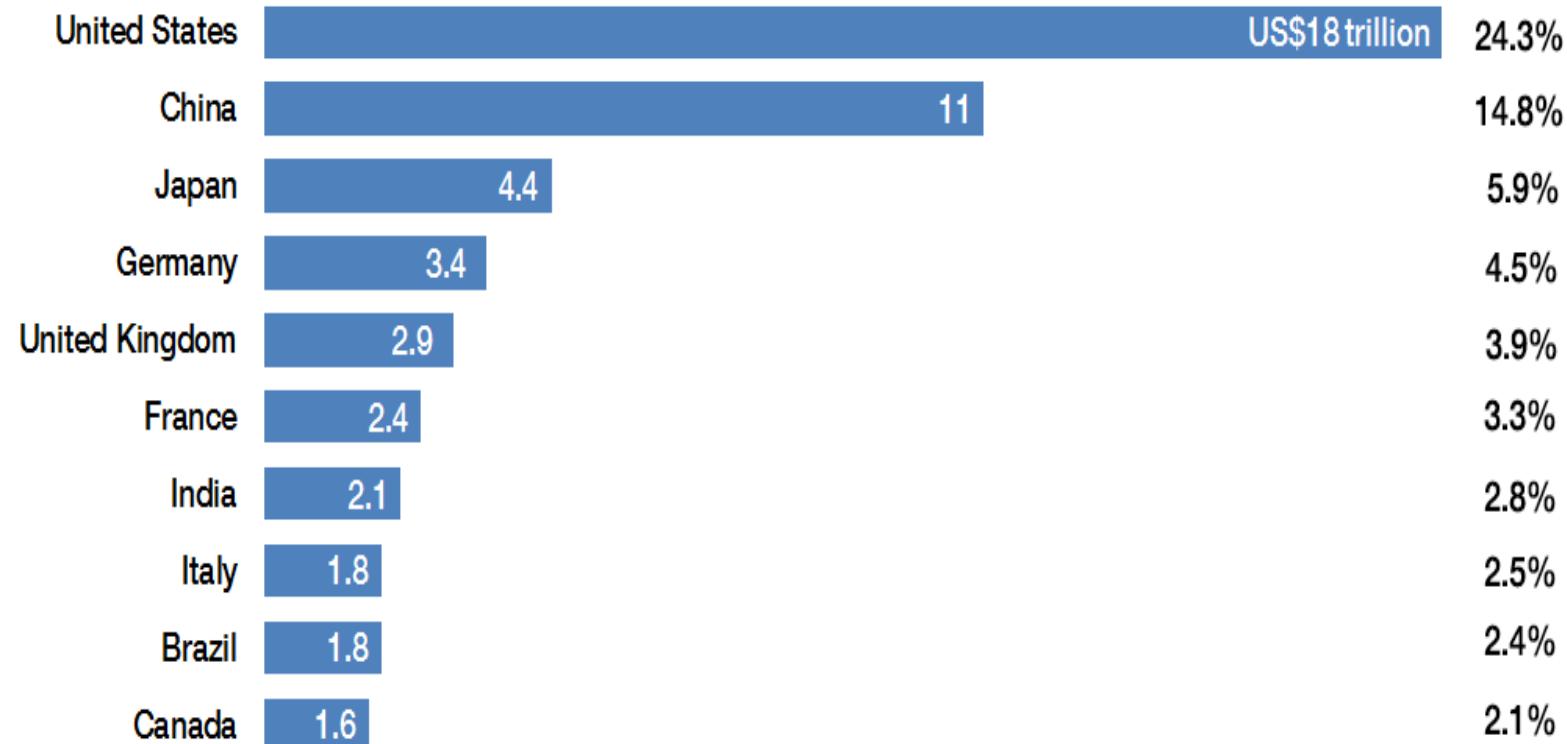
- Four components of expenditure:
- Consumption
- Investment
- Government Purchases
- Net Exports

U.S. GDP and Its Components

	<i>billions</i>	% of GDP
GDP	\$13,841	100.0
Consumption	9,734	70.3
Investment	2,125	15.4
Govt. spending	2,690	19.4
Net Exports	-708	-5.1

The world's biggest economies

GDP in current USD and share of global total, latest World Bank data, 2015



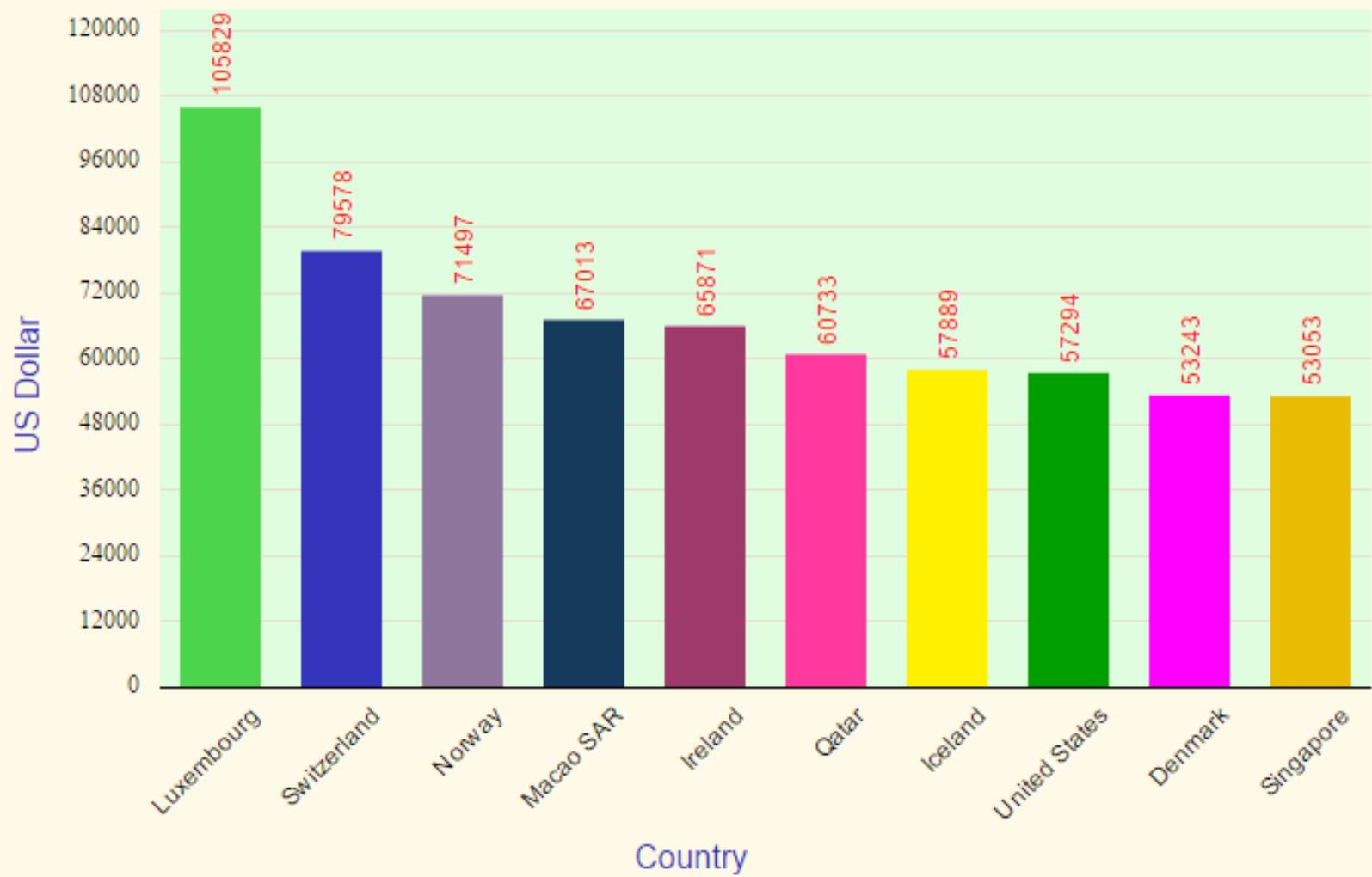
Source: World Bank and Visual Capitalist

GDP per capita

- GDP is a measure of a country's Total output.
 - **A country with larger population = Larger GDP**
 - So, how do we compare GDP across countries by eliminating the population size difference?
-
- **GDP per capita = GDP / Total Population**
 - Indicator of standard of living
 - Indicator for relative performance of the countries

Top 10 countries by GDP (Nominal) per capita 2016

Source : IMF (Outlook October 2016)



A typical family with all their possessions in the U.K., an advanced economy



GDP per capita: \$35,580

Life expectancy: 79 years

Adult literacy: 99%

A typical family with all their possessions in Mexico, a middle income country



GDP per capita: \$11,410

Life expectancy: 76 years

Adult literacy: 92%

*A typical family with all their possessions in Mali,
a poor country*



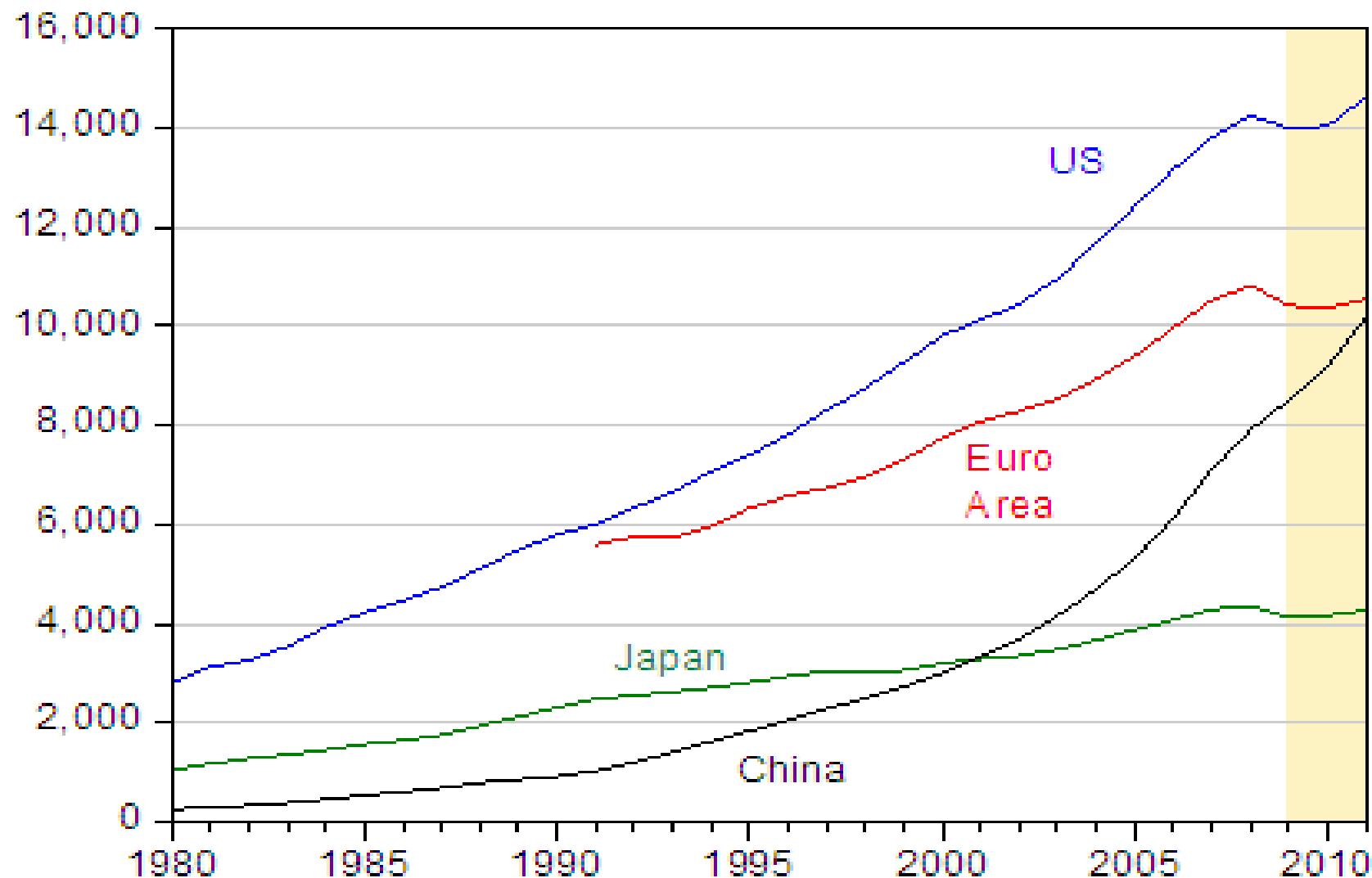
GDP per capita: \$742.70

Life expectancy: 50 years

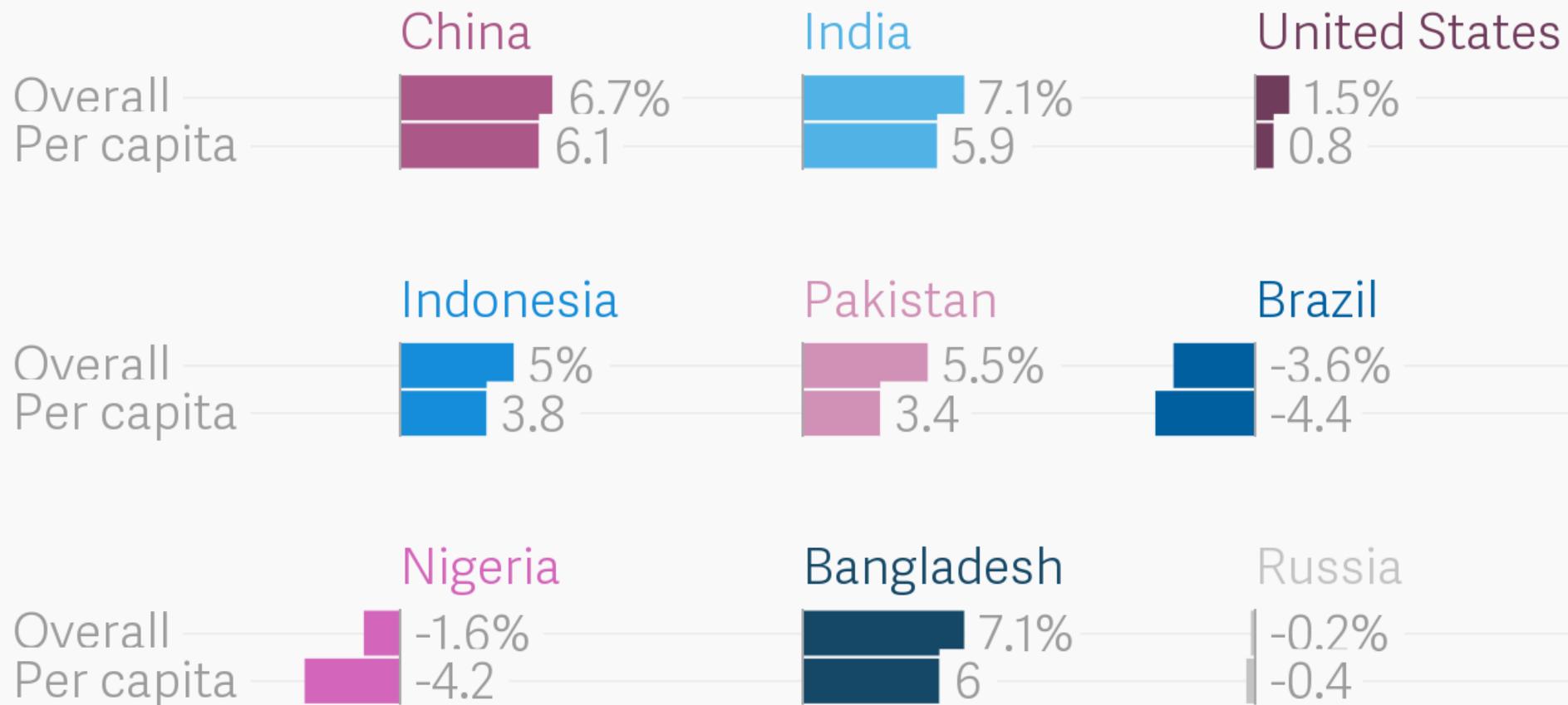
Adult literacy: 46%

Growth patterns

- Argentina : Growth Disaster
- Japan, South Korea : Growth Success
- Great Britain, France: Steady Growth
- So, will the richer continue to grow richer and poor poorer?



GDP growth in 2016



Bad, But Getting Better



GDP GROWTH AT 4-YEAR LOW

% ANNUAL RATE

FY13 **5.5**

FY14 **6.4**

FY15 **7.5**

FY16 **8**

FY17 **7.1**

FY18* **6.5 (Forecast)**

THE BAD NEWS

Manufacturing and consumption yet to recover



Slower farm sector growth amidst agrarian discontent



THE GOOD NEWS

GST and DeMo effect fading out; second half growth back at **7%**

Investments showing some spark, up **4.5%**

Services, jobs-intensive construction have shown higher growth this Year

GDP and well-being

But GDP is not a perfect measure of well-being.

Example

- the quality of the environment
- leisure time
- non-market activity, such as the child care a parent provides his or her child at home
- an equitable distribution of income

Alternatives for Measuring Economic Progress

- Let's look at some alternatives, then...
- **Human Development Index**
- HDI measures a nation's achievement in three dimensions of human development:
 - long and healthy life (indicated by **life expectancy at birth**),
 - knowledge (indicated by **literacy and school enrollment rates**), and
 - decent standard of living (indicated by **GDP per capita**).

Alternatives for Measuring Economic Progress

- Gross National Happiness
- The GNH Index is used to measure the happiness and well-being of Bhutan's population
- India ranked at 122  out of 155 countries in the World Happiness report, 2017

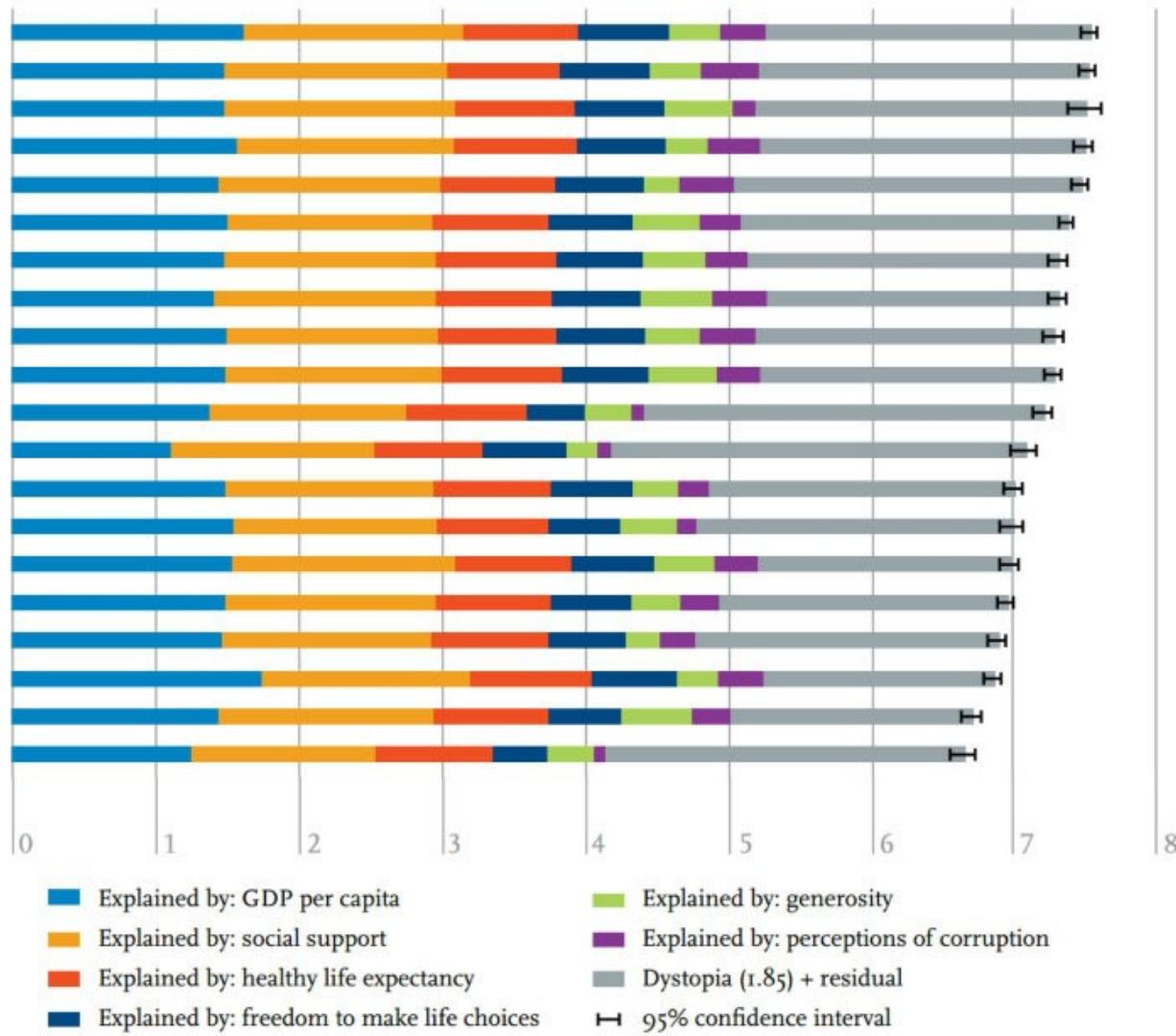
The 10 Happiest Countries in the World



The 20 Happiest Countries in the World (2014-2016)

1. Norway (7.537)
2. Denmark (7.522)
3. Iceland (7.504)
4. Switzerland (7.494)
5. Finland (7.469)
6. Netherlands (7.377)
7. Canada (7.316)
8. New Zealand (7.314)
9. Australia (7.284)
10. Sweden (7.284)
11. Israel (7.213)
12. Costa Rica (7.079)
13. Austria (7.006)
14. United States (6.993)
15. Ireland (6.977)
16. Germany (6.951)
17. Belgium (6.891)
18. Luxembourg (6.863)
19. United Kingdom (6.714)
20. Chile (6.652)

WORLD
HAPPINESS
REPORT
2017



Are we a happy bunch?◀?

- Generally speaking, how happy would you say you are?
 - **Very happy**
 - **Fairly happy**
 - **Not too happy**

- In general, are you **satisfied or dissatisfied** with the way things are going in your personal life?

ELEMENTS OF WELL-BEING, WORLDWIDE AND BY REGION

% Thriving

	IN THREE OR MORE ELEMENTS	PURPOSE	SOCIAL	FINANCIAL	COMMUNITY	PHYSICAL
World	16.9	17.9	23.7	25.7	24.9	24.2
Americas	31.3	36.0	42.5	29.7	35.2	32.9
Europe	22.4	23.3	28.2	39.9	29.0	24.0
Former Soviet Union	18.6	21.6	28.0	27.8	23.9	18.4
Middle East and North Africa	15.0	12.4	22.5	25.0	24.8	22.7
Asia	13.4	13.5	19.0	24.6	22.4	23.2
Sub-Saharan Africa	10.2	13.9	17.0	9.5	20.4	20.7

Source: Gallup-Healthways Global Well-Being Index. Based on surveys conducted in 145 countries and areas in 2014. Sample sizes are approximately 1,000 in each country. Differences of fewer than three percentage points between any two countries' respective scores are typically not statistically significant.

GALLUP®

Level of Prices doesn't matter

- Common complaint : Inflation makes everyone poorer
- Not true!
- As prices change, incomes /wages change too.
- No effect on purchasing power
- Rise in prices since early 1960's cannot make India poorer,
- If Incomes rise by the same amount as prices
 - Real Income remain unchanged
- Level of Prices doesn't matter...

....But the rate of change of Prices does

- **Inflation rate = Rate of change of increase in Prices**
- High rates of Inflation impose significant economic costs...

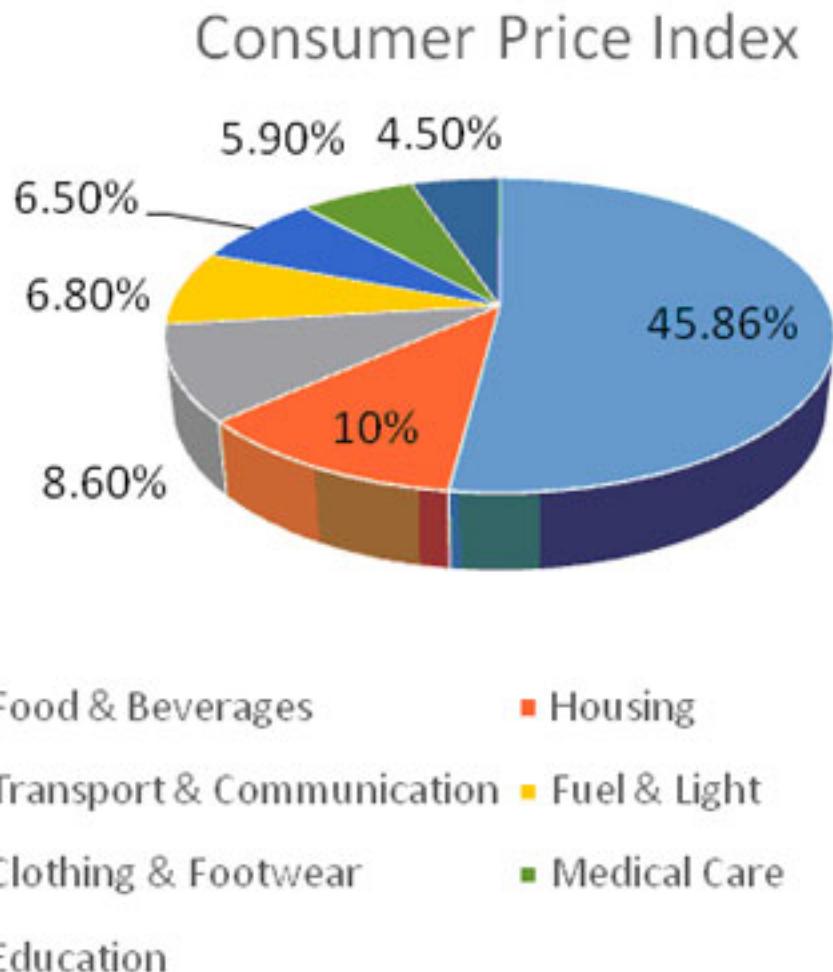
Inflation and Deflation

- A rising aggregate price level is **inflation**.
 - A falling aggregate price level is **deflation**.
-
- The inflation rate is the annual percent change in the aggregate price level.
 - The economy has price stability when the aggregate price level is changing only slowly.

The Consumer Price Index (CPI)

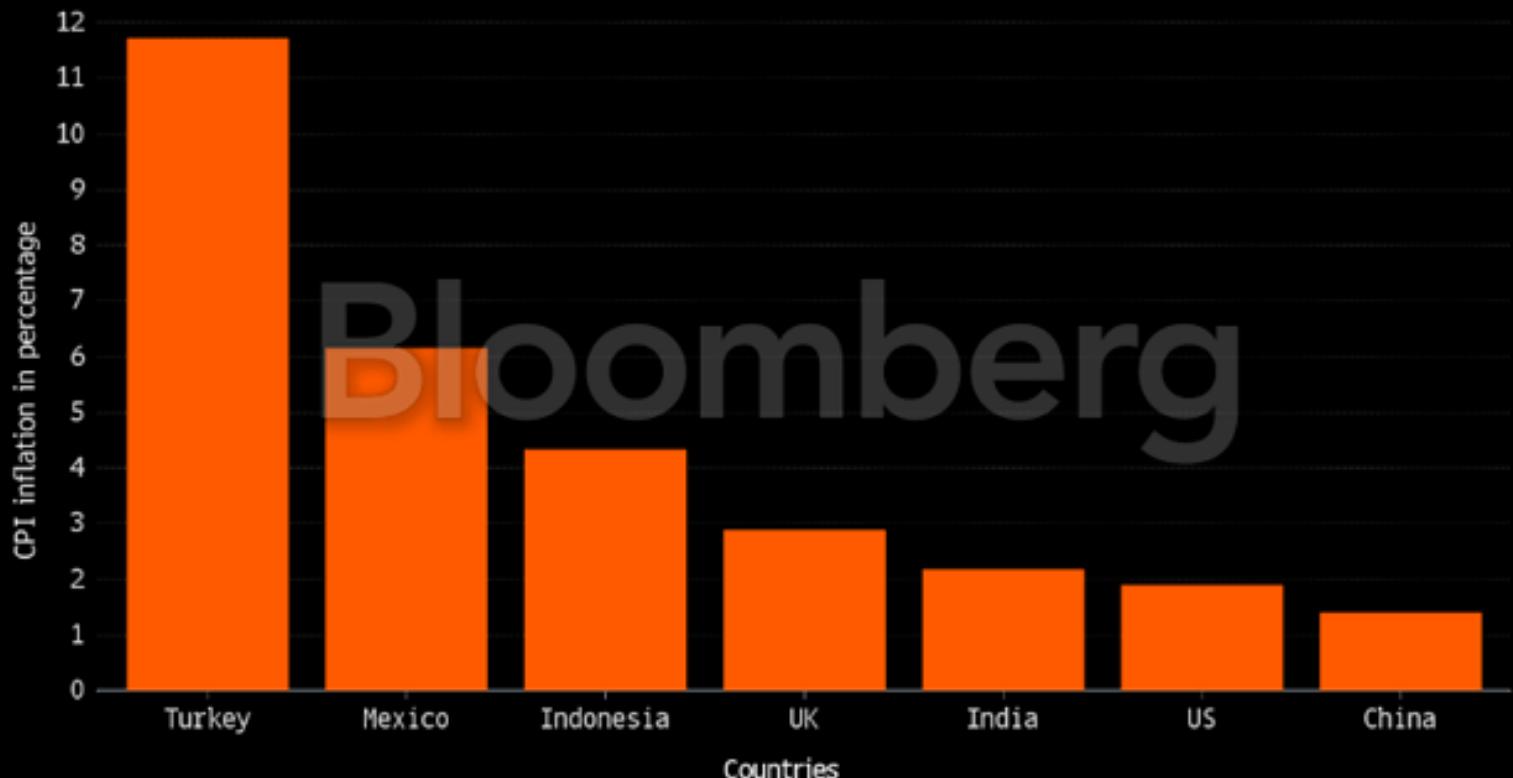
- measures the typical consumer's cost of living
- the basis of cost of living adjustments (COLAs) in many salary/wage contracts

What's in India's CPI Basket?



India's Inflation Slows To Record

India's subdued price pressures



Bloomberg

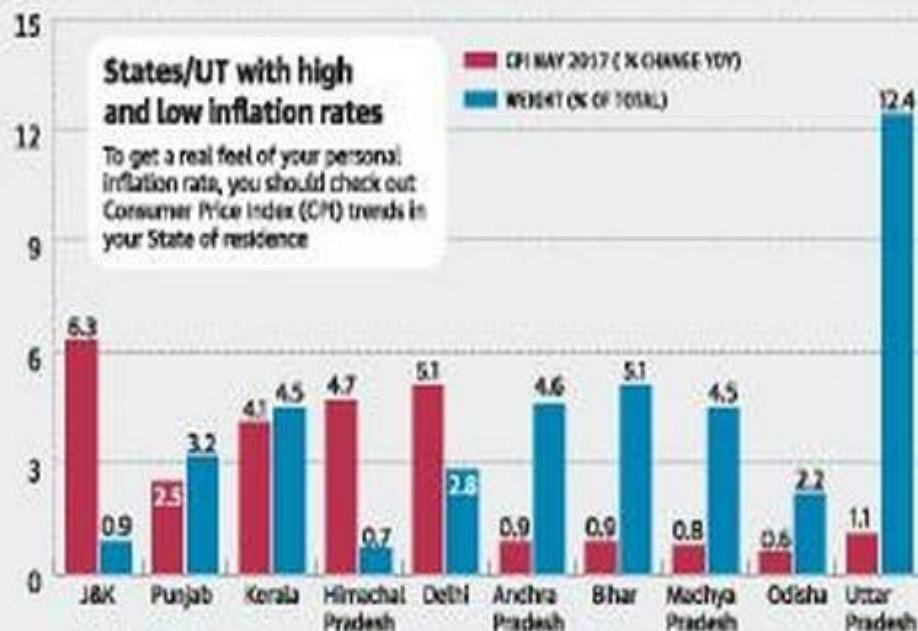
Bloomberg

Decoding inflation

Inflation has moderated of late, but for most middle class folks it is likely to be higher



Swing States: Unwary inflation in India's less populous low-spend States and Union Territories is unlikely to show up in the form of a big swing in the overall index. But even small blips in the States of Maharashtra (13.1% weight), UP (12.4%) and Tamil Nadu (7.3%) can swing the



* One should know the products and services that make up the lion's share of his/her budget to judge the real inflation.

Products vs Services:
Because the majority of Indian households belong to lower-income strata, the CPI General Index thus carries a far higher weight to products than services



Monsoon Impact: Every year, food prices usually soar in the months of April-May as they represent the pre-monsoon months when food crops are in short supply



The CPI basket: Item weights

Food & beverages	45.86
Pan, tobacco & intoxicants	2.38
Clothing & footwear	6.53
Housing	10.07
Fuel & Light	6.84
Health	5.89
Transport	8.59
Recreation	1.68
Education	4.47
Personal care	3.89
Household goods & services	3.8
Total	100

* The weights are based on the NSSO's Consumer Expenditure Survey 68th Round

* Both graphs refer to the CPI Combined Index, New Series, 2011-12 Base Year

Source: MOSPI

Examples of Costs of inflation

- **Shoe-leather costs** are the increased costs of transactions caused by inflation.
 - Wear and tear when people are avoiding holding money.
-
- **Menu cost** is the real cost of changing a listed price.
 - To update prices for consumers
-
- **Unit-of-Account costs** are costs arising from the way inflation makes money a less reliable asset.
 - Degrading of value of dollar and Uncertainty

Unemployment

Three broad Activity Status

- i) Working (engaged in an economic activity) i.e. '**Employed**'
- ii) Seeking or available for work i.e. '**Unemployed**'
- iii) **Neither seeking nor available for work.**

- ... Unemployment rate is the percent of the labor force that is without work.

- **Unemployment rate** = (Unemployed Workers / Total labor force) X 100
- **Labor participation rate** = (Total labor force/ Total Population) X 100

Limitations of indicators

Labour force participation

- Does not tell the full story.
- Factors like Age, education, income, cultural attitudes, and job opportunities.
- So, a declining rate could just mean that young people are staying out of the workforce to study

Unemployment

- Does not take into account the quality of work Indians do.
- Factors like growth in labour productivity, higher earnings, and aspects of work quality such as safety, cleanliness, flexibility, income security, and intellectual challenge.”

Disguised underemployment

- India’s employment data only indicate whether a person has worked or not, **without showing how much actual work was carried out...**
- **Underemployed?**

“A person who engages in 10 months of work is on par with one who has engaged in seven months of work during the 12-month reference period”

Social mobility

- Labour assessments don’t ask the right questions about the social lives of workers.
- Factors like standard of living, hours of work, and overall satisfaction, so that the responses can be compared every year to track changes.

Over 11 crore Indians work in what are officially called non-corporate enterprises. Outside Indian agriculture, it is the biggest example of under-employment or unemployment, disguised as employment.

1 MOM AND POP STORES

84% of these enterprises are called own-account, meaning they don't employ a single non-family person. These are family-run ultra-small businesses and include tea-stalls, puncture-repair shops and vegetable sellers

6.3cr

Number of unincorporated non-farm enterprises



2 EMPLOYED WITHOUT A JOB

More than 60% of people work in own-account enterprises (6.9 crore out of 11.1 crore). They work for their family which is a default, not a desired, job. There is often no or very small salary paid. It's the same problem that afflicts Indian agriculture

11.1cr
Number of workers employed

Of which
own-account
enterprises
employ
6.9cr

Establishments
employ
4.2cr



3 LOW-VALUE WORK

Value added (value of goods or services produced minus the cost) is only ₹8,645 a month per person

₹1.04 lakh
Annual
value added



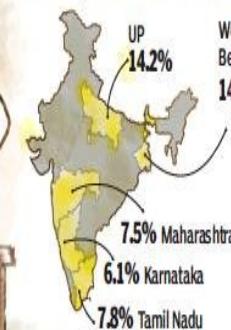
4 SUBSISTENCE LIVING

Those who are employed by these enterprises earn an average salary lower than India's per capita income, which is about ₹8,000 a month



5 REGIONAL IMBALANCE

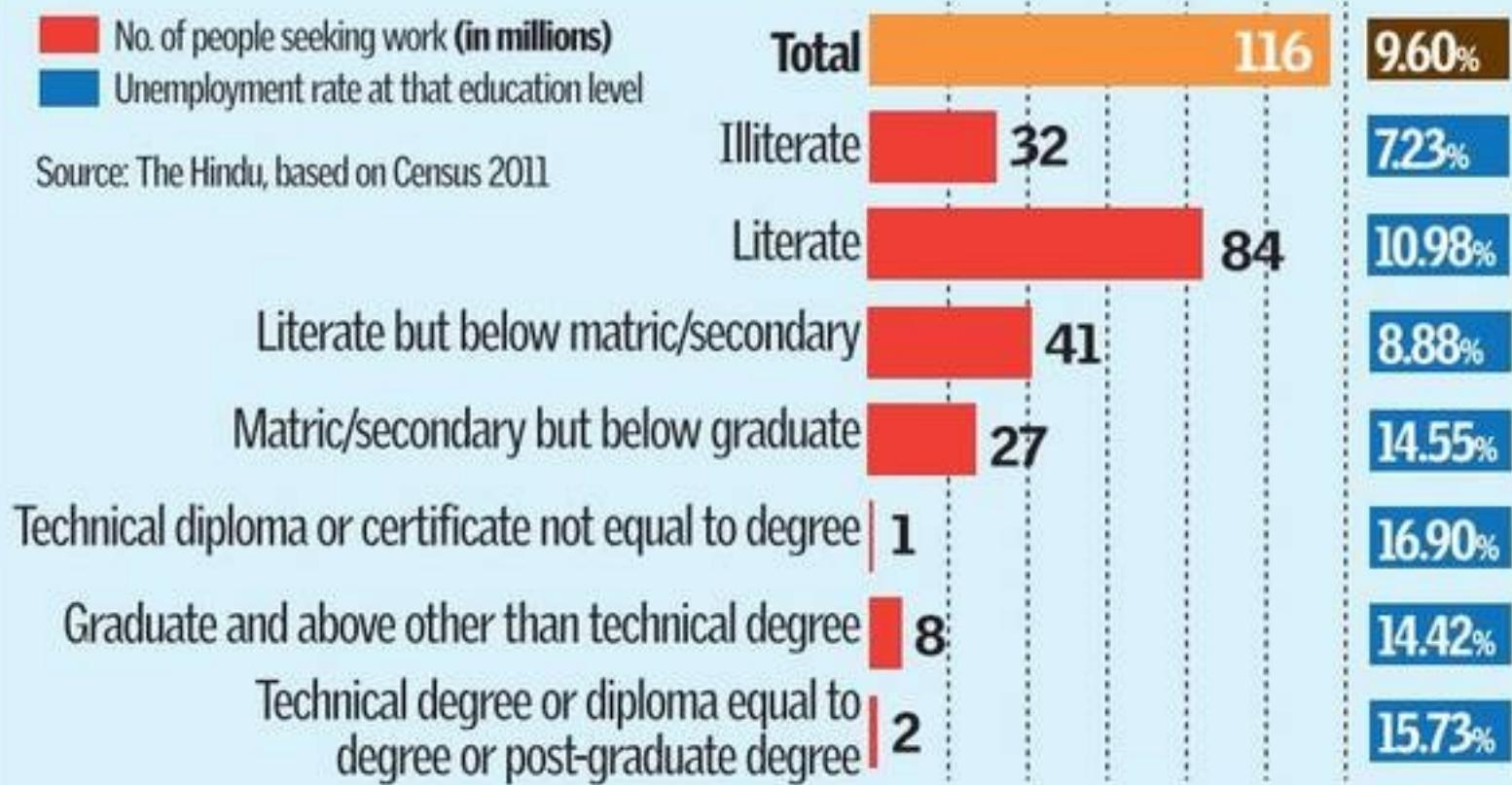
Half of these enterprises are in just five states. The assets of, and earnings from, units in Bengal are the lowest in the country



Data emerging from Census 2011 suggest unemployment rate is high among the better qualified

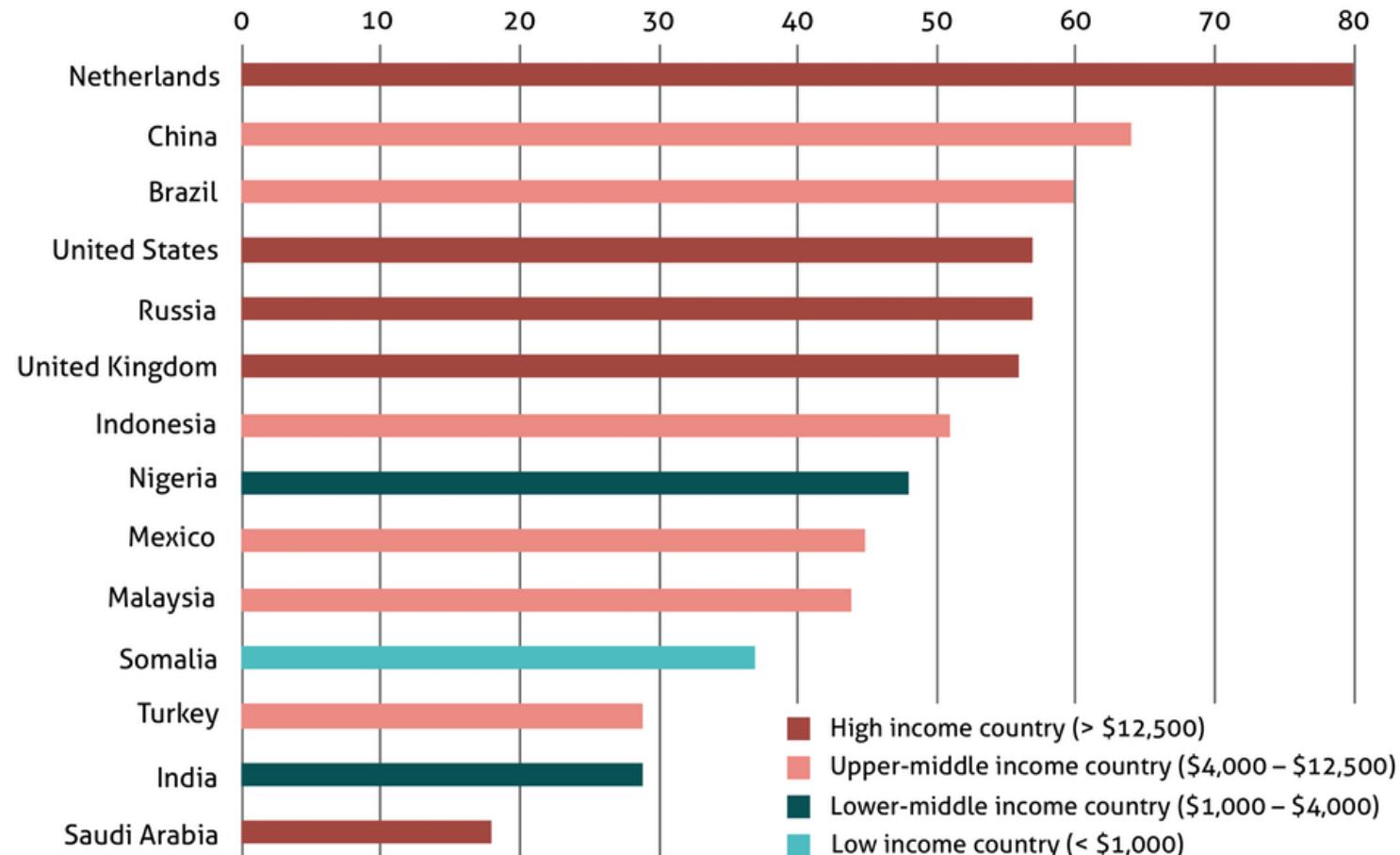
No. of people seeking work (in millions)
Unemployment rate at that education level

Source: The Hindu, based on Census 2011



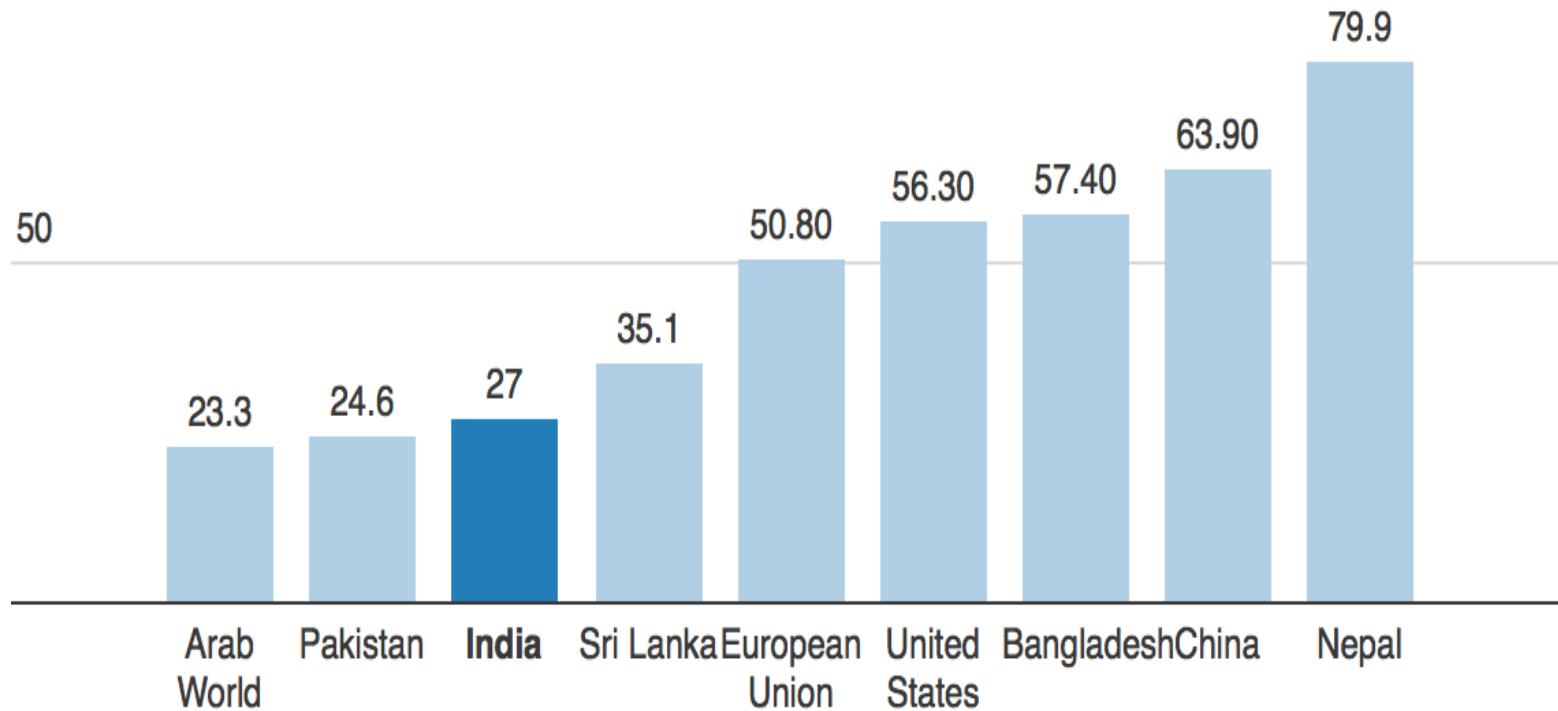
Women's workforce participation rate 2009-2013

Economically active proportion of the population older than 15 years of age



- High income country (> \$12,500)
- Upper-middle income country (\$4,000 – \$12,500)
- Lower-middle income country (\$1,000 – \$4,000)
- Low income country (< \$1,000)

Global Female Labour Force Participation (%)



Source: [World Bank](#)

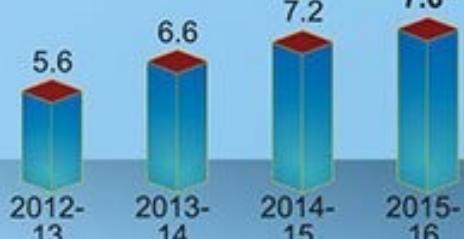


Indian Economy: A Snapshot

GDP Growth

Constant 2011-12
market prices

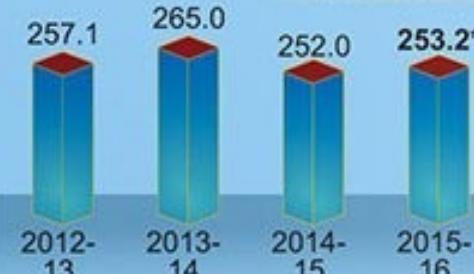
* Advance estimates



Production of Foodgrains

Million tonnes

* 2nd advance estimates



Industrial Growth

Growth in Index of
Industrial Production
Base: 2004-05 = 100

In per cent



Service Sector Growth

Growth in GVA
(in per cent)

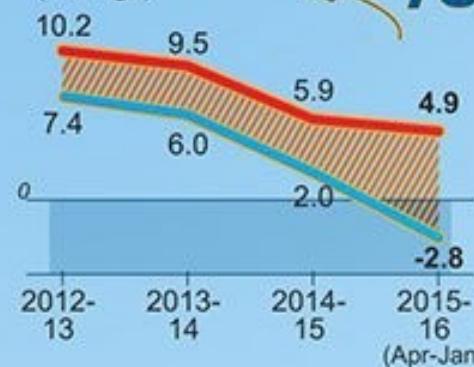


PIB/KBK

Inflation

— Based on CPI

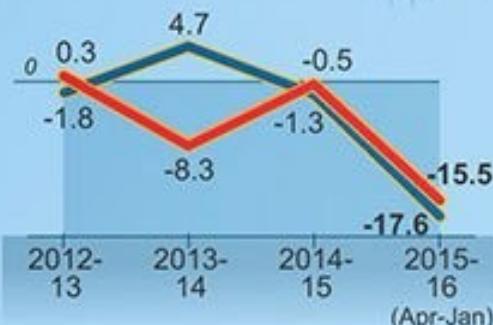
— Based on WPI
(Average)



India's Foreign Trade

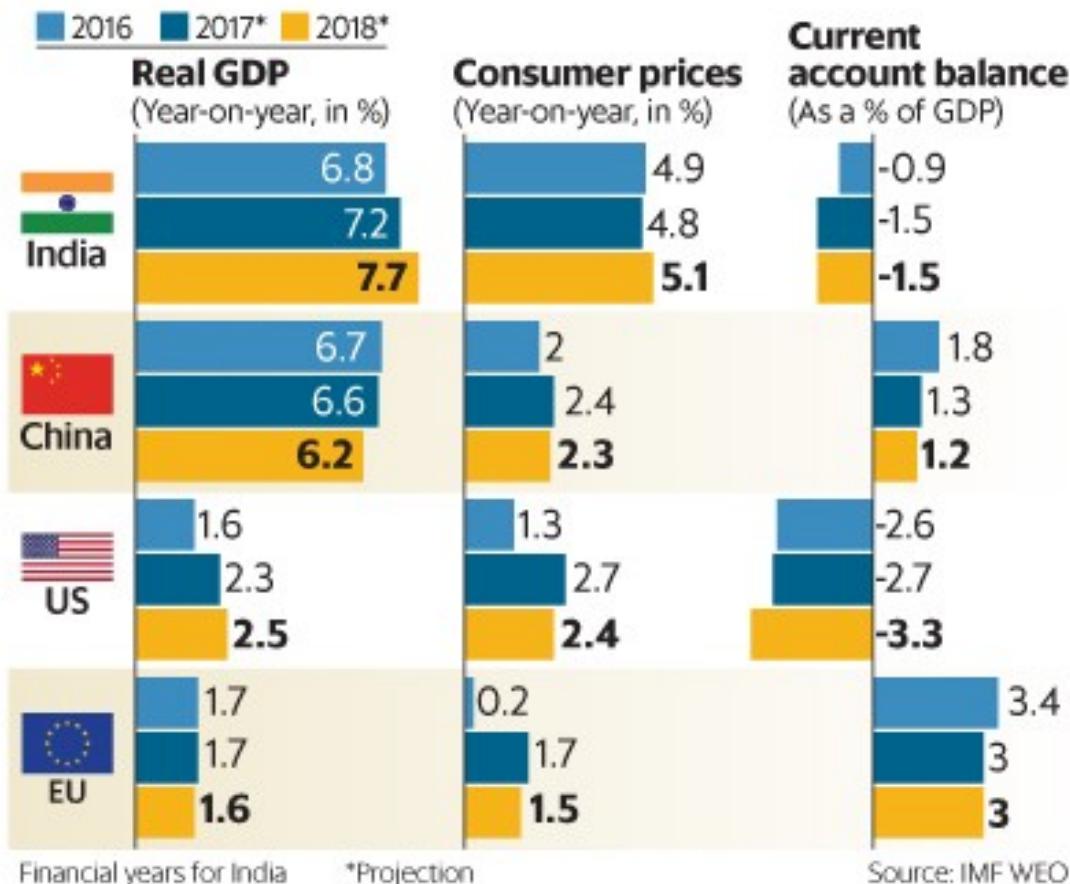
— Exports — Imports

Per cent growth



IMF RETAINS INDIA'S FY18 GROWTH PROJECTION AT 7.2%

The International Monetary Fund (IMF) on Tuesday called for accelerated economic reforms for India to achieve a higher growth trajectory, while retaining its growth projection of 7.2% for 2017-18. In its biannual World Economic Outlook (WEO), IMF raised India's growth estimate for 2016-17 to 6.8% from 6.6% estimated in January, even as it maintained that economic activity had slowed primarily due to the effects of demonetization. IMF's projection makes India the fastest growing major economy in 2016-17, with China estimated to have grown at 6.7% during 2016.



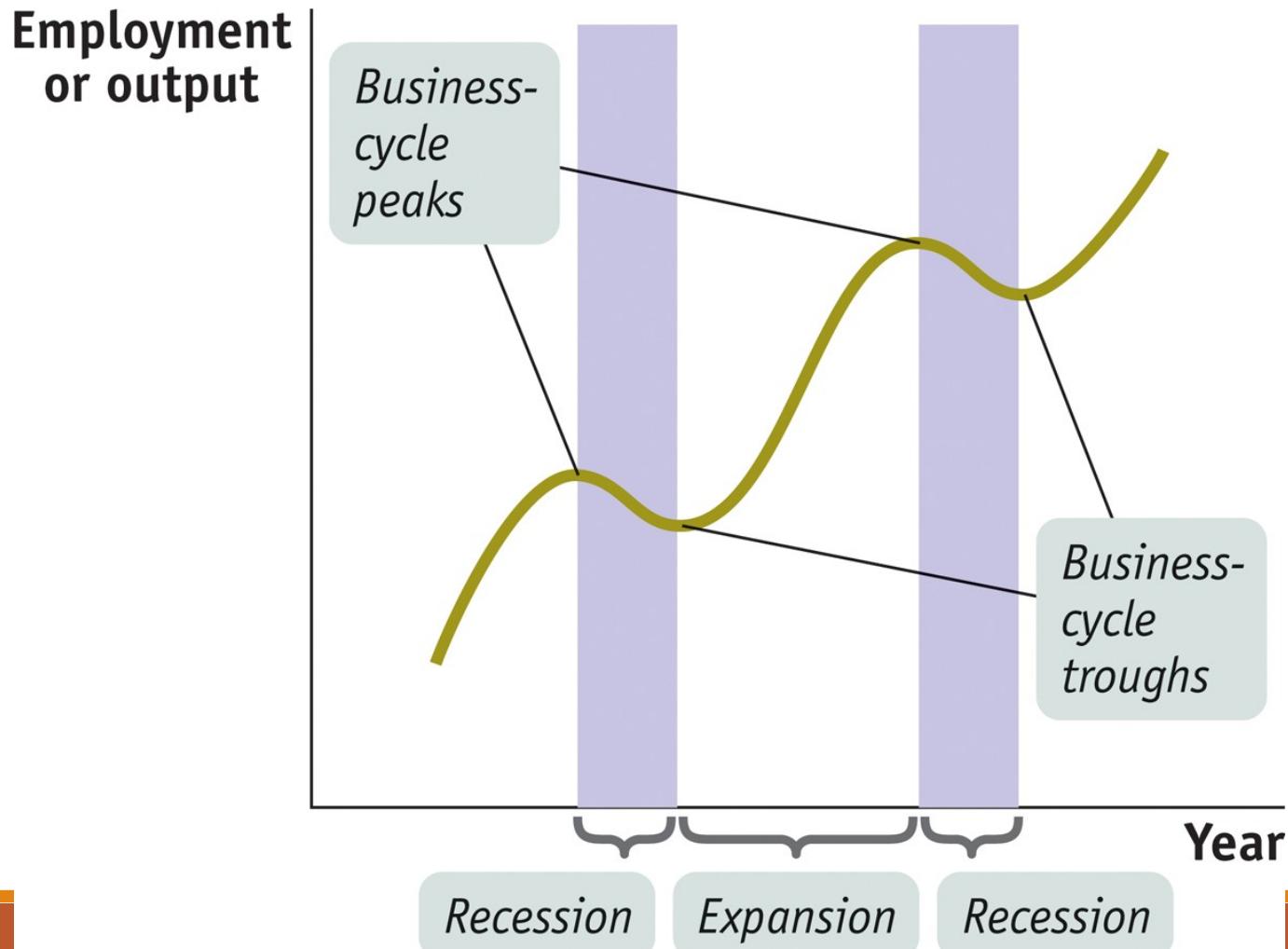
Macroeconomics: Theory and Policy

- Macroeconomists are concerned about policy, what government can do?
- Before 1930's , economy was regarded as self-regulating.
- After great depression, **Keynesian economics** transformed the study of economy.
- A depressed economy is the result of inadequate spending.



- The boost to the economy given by fiscal policy and the Federal Reserve's interest rate cuts reduced the severity and duration of the 2001 recession.

Charting the Business Cycle



The Business Cycle

- The **business cycle** is the short-run alternation between economic downturns and economic upturns.

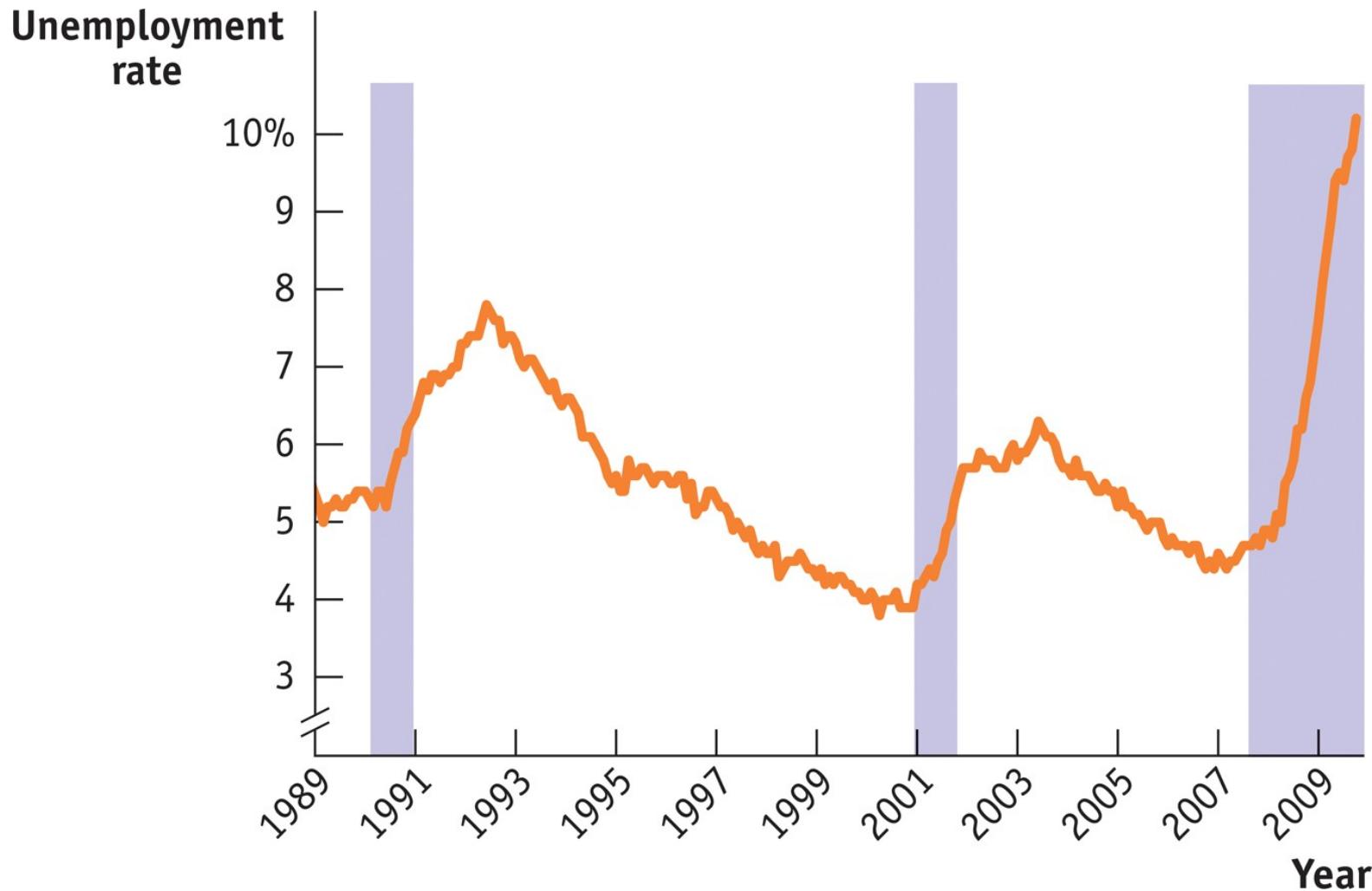
- A **depression** is a very deep and prolonged downturn.
- **Recessions** are periods of economic downturns when output and employment are falling.
- **Expansions**, sometimes called recoveries, are periods of economic upturns when output and employment are rising.

Defining Recessions and Expansions

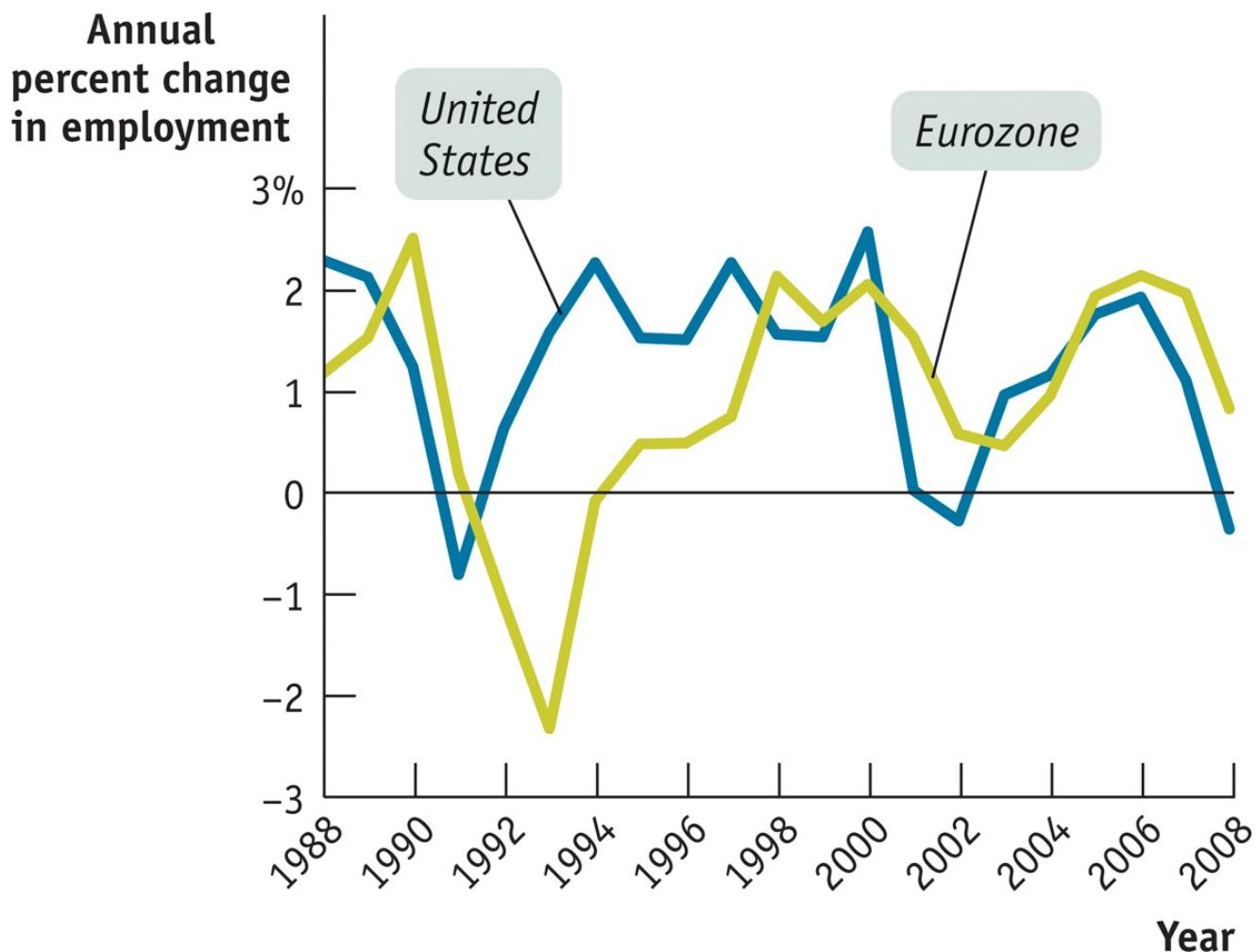
- When to declare recession?

- In many countries, economists adopt
 - at least 6 months, or two quarters, during which aggregate output falls.
- In the U.S., National Bureau of Economic Research (NBER) look at a number of economic indicators, with the main focus on employment and production

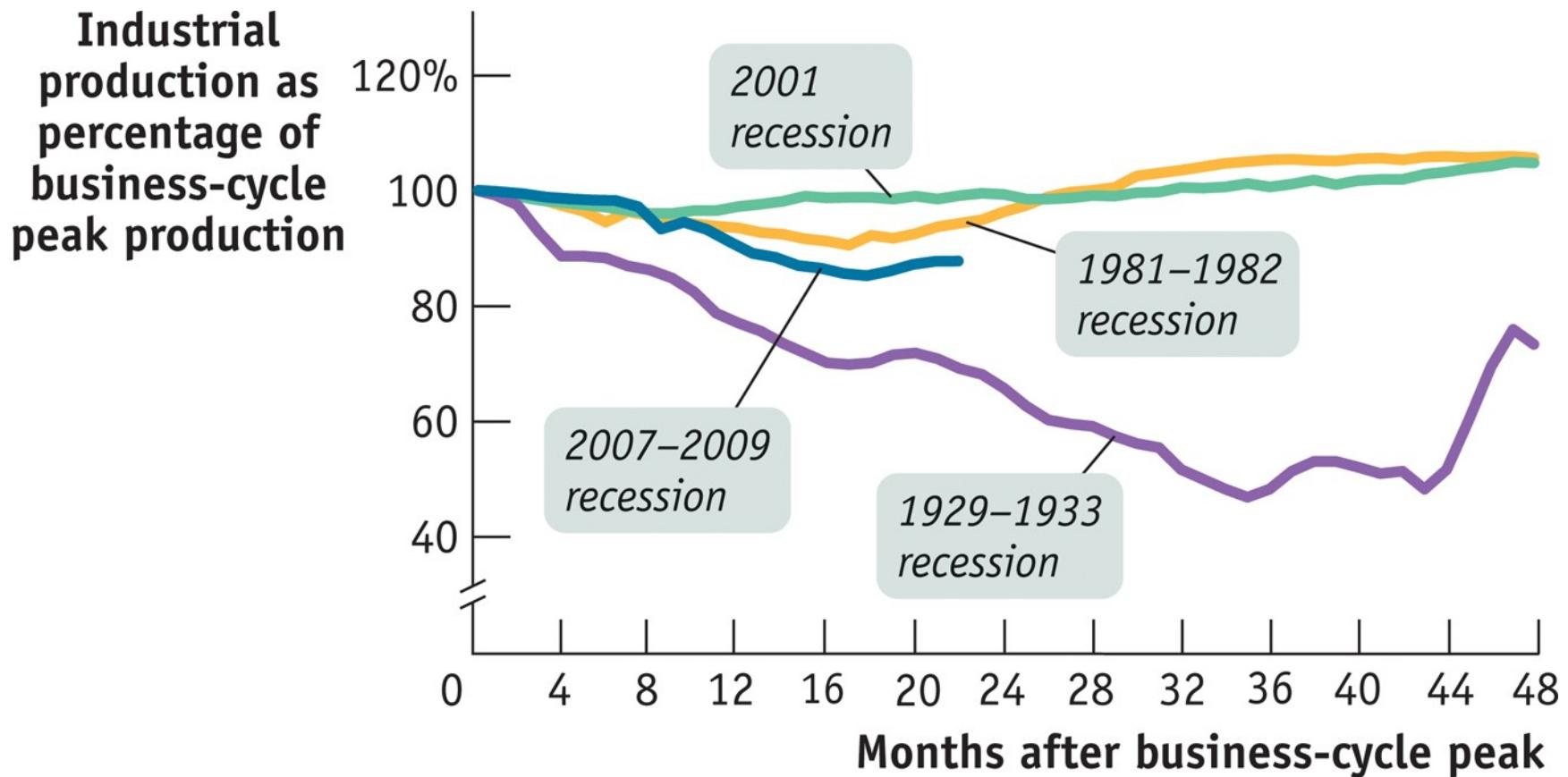
The U.S. Unemployment Rate



International Business Cycles



Comparing Recessions



Taming the Business Cycle

Policy efforts undertaken to **reduce the severity of recessions** are called **Stabilization Policy**.

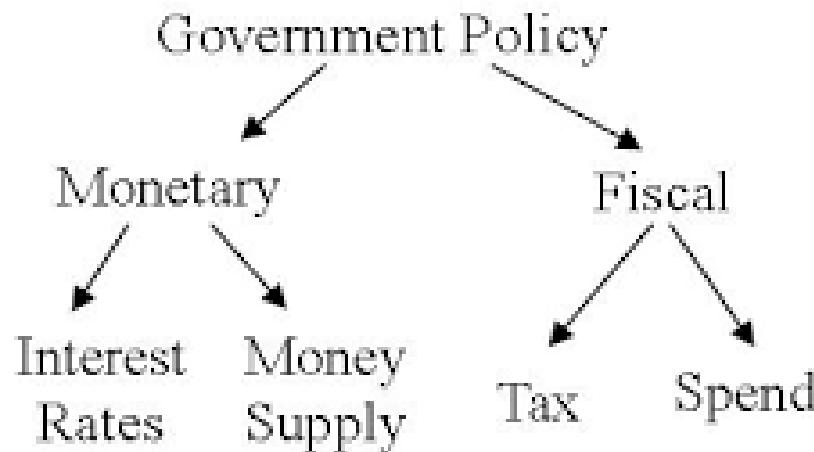


Chart 1

TOO BIG A DEFICIT

India's government deficit is one of the highest among the G-20 nations.

General government overall balance /GDP (in %)

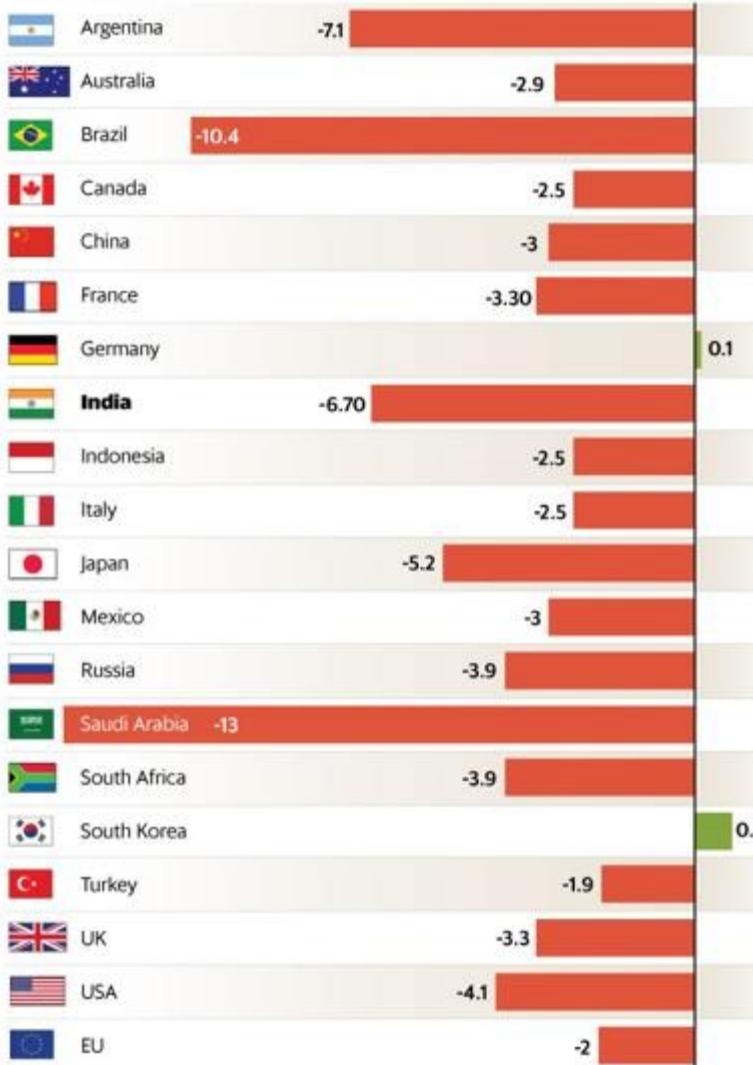


Chart 2

DECENT EFFORT

India's government revenue/GDP figure isn't bad, given its level of per capita income.

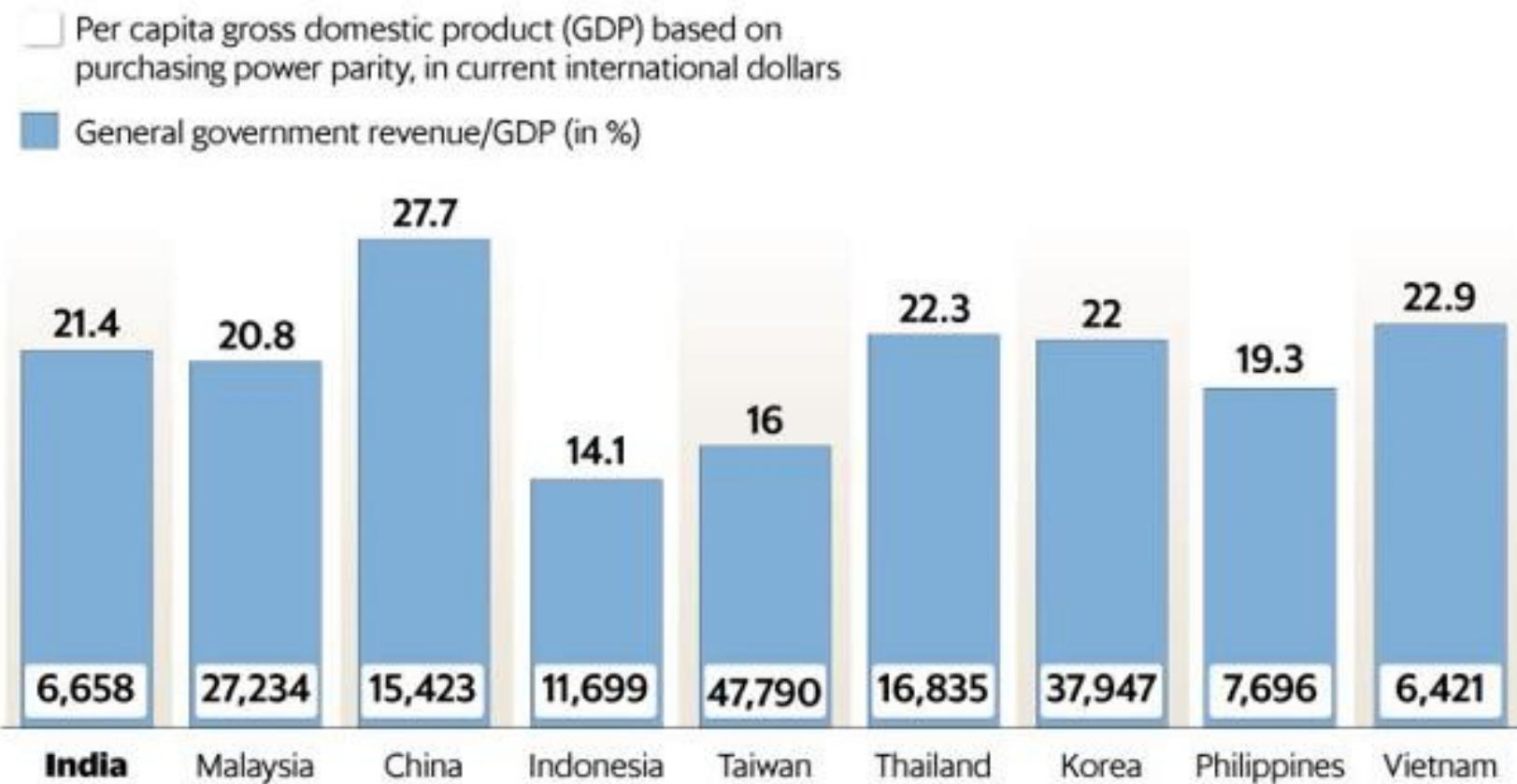
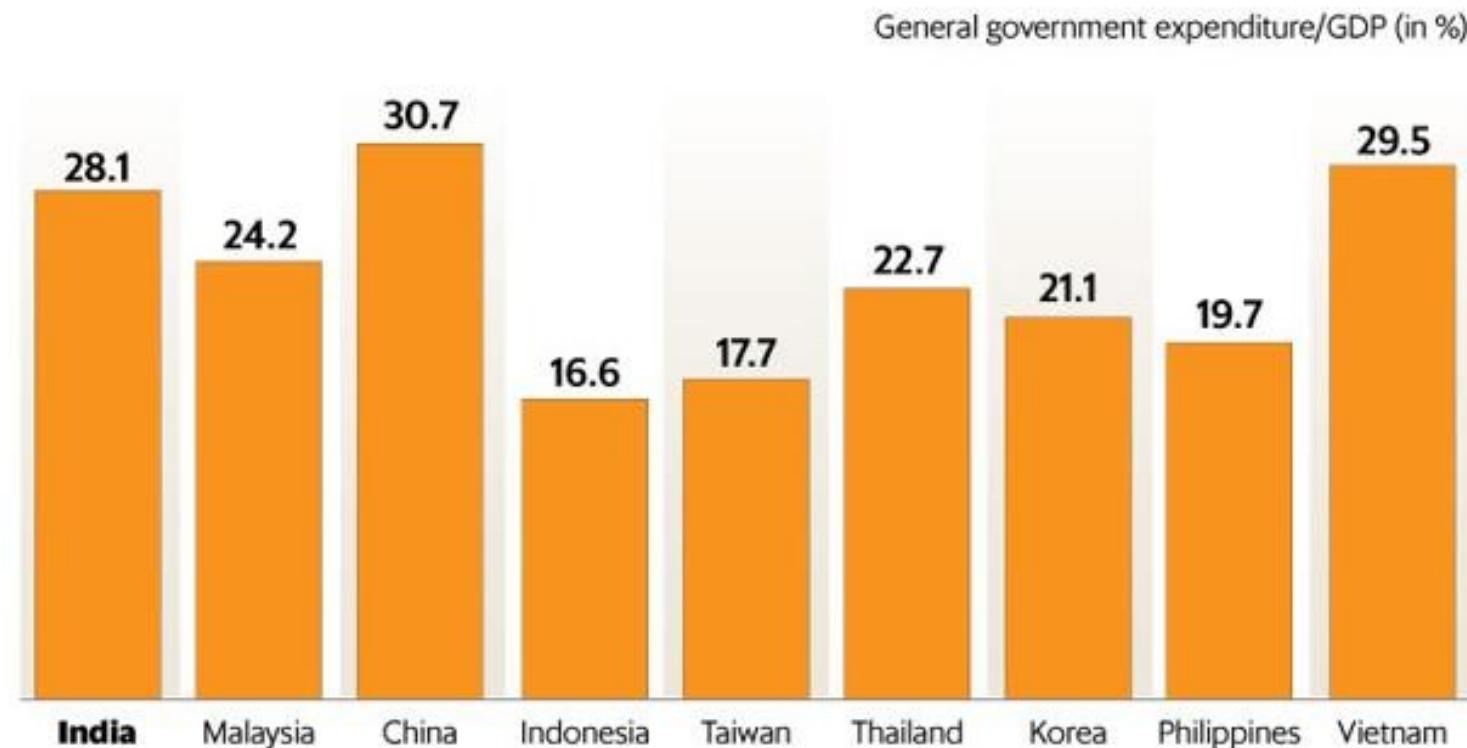


Chart 3

DOES OUR GOVERNMENT SPEND TOO MUCH?

Indian government expenditure is well above the average for the region.



Eye On Interest Rates

Monetary Policy Committee to set interest rate with a target **inflation rate of 4% (+/- 2%)**

RBI MEMBERS IN THE PANEL

1

Urjit Patel
(Chairperson),
RBI governor

2

R Gandhi
Dy governor
in charge of
monetary policy

3

Michael Patra
Executive
Director

WORKING PRINCIPLE

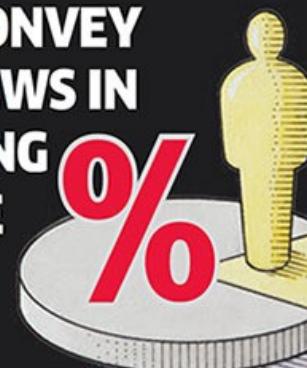
Decision by a
majority vote



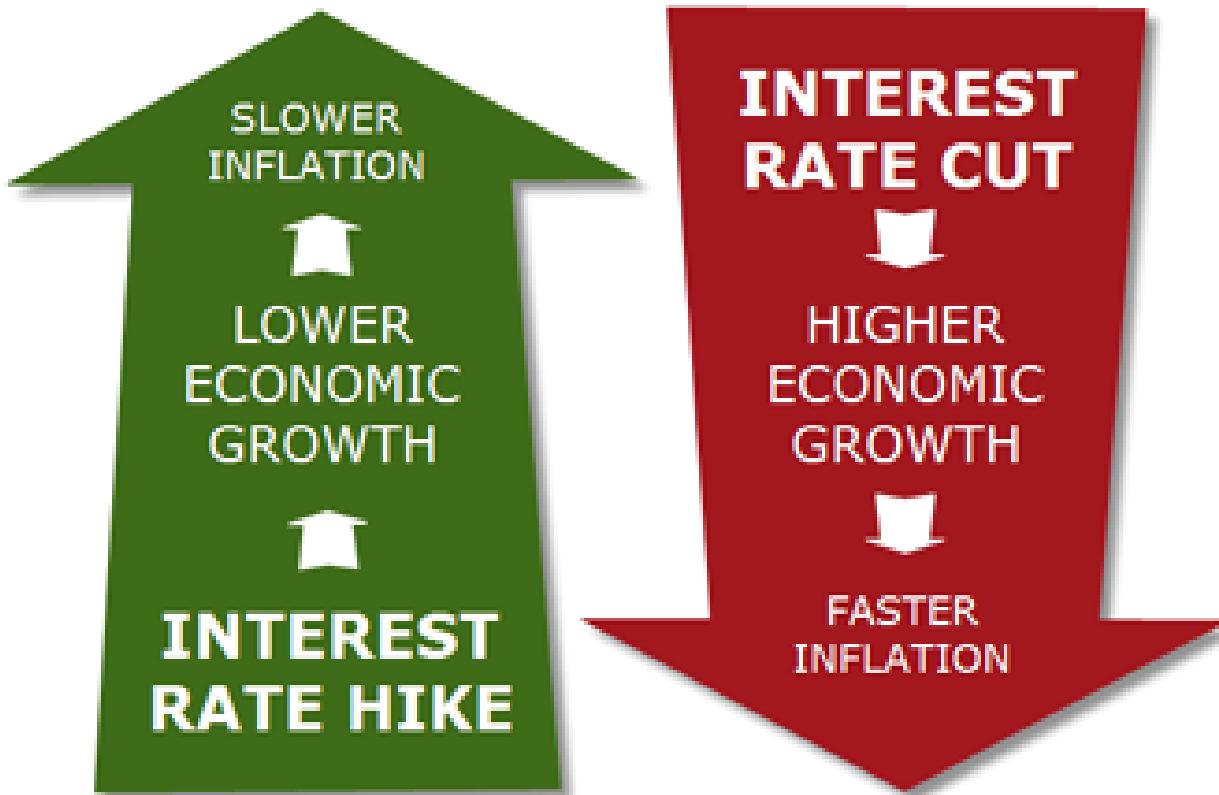
RBI gov gets
to vote again
if there is a tie

At least four members
needed for quorum

**GOVERNMENT
CAN CONVEY
ITS VIEWS IN
WRITING
TO THE
MPC**



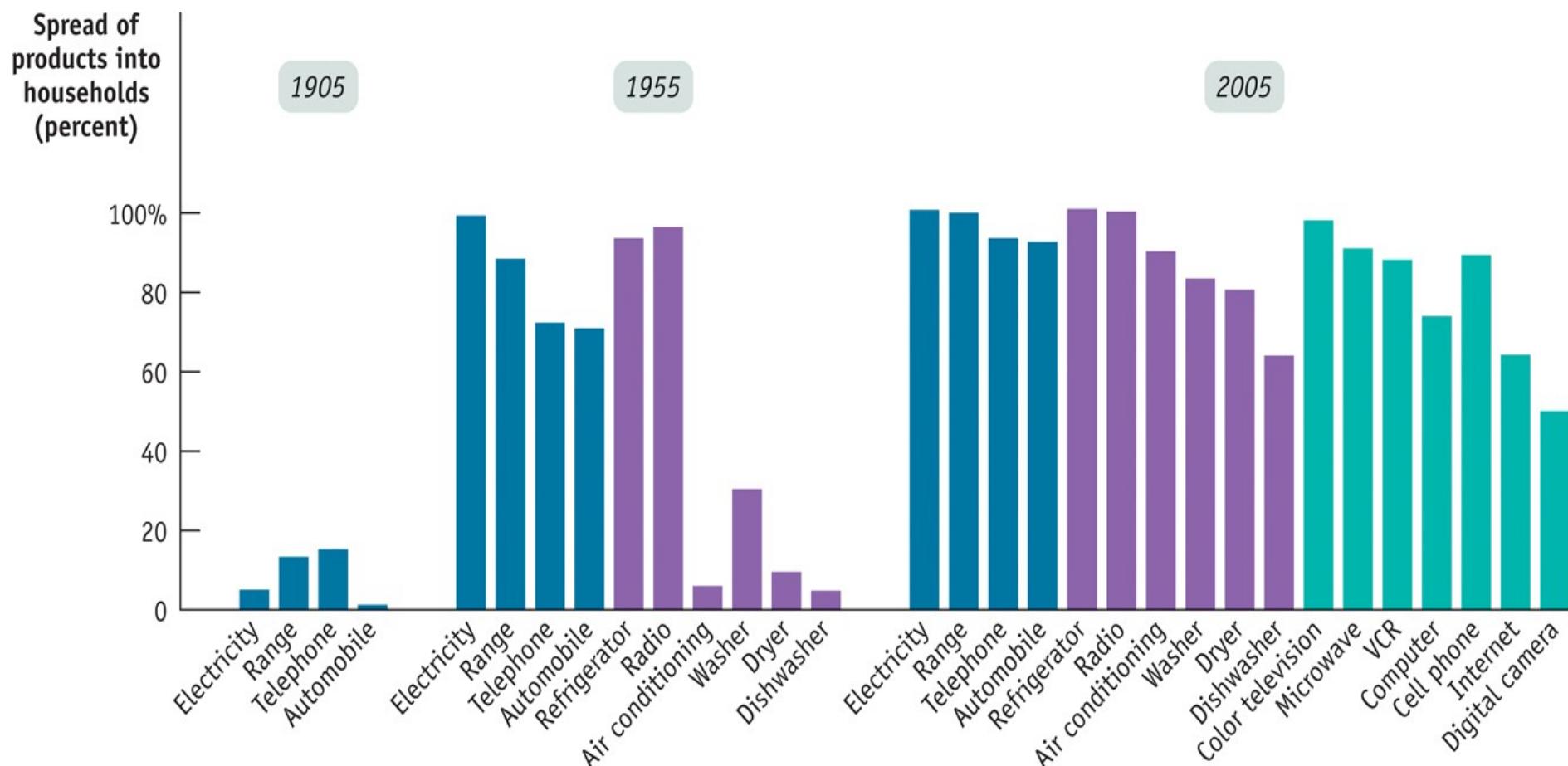
Interest rate and Inflation



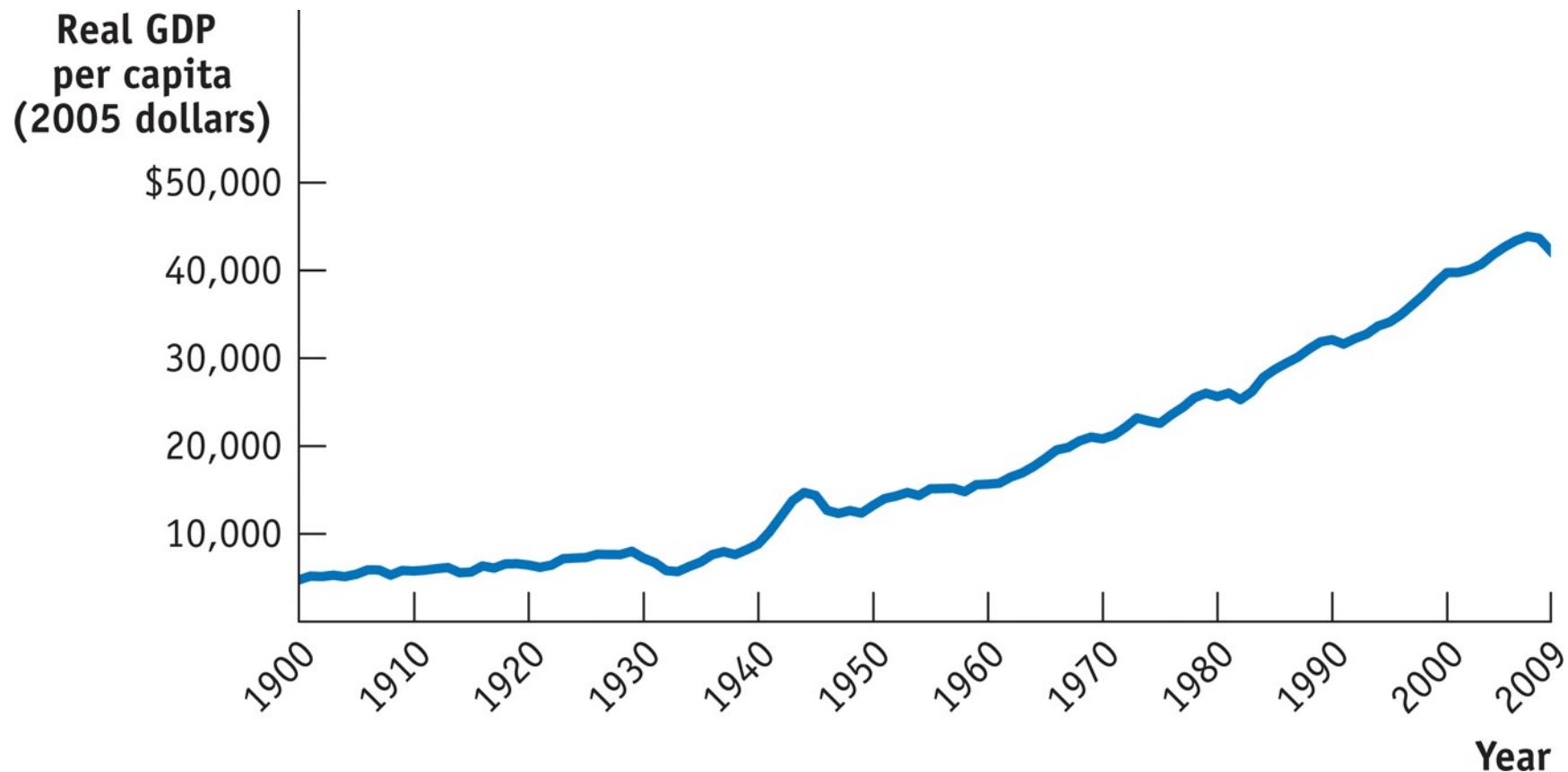
Long-Run Economic Growth

- **Long-run economic growth** is the sustained upward trend in the economy's output over time.
- A country can achieve a permanent increase in the standard of living of its citizens only through **long-run growth**.
- A central concern of macroeconomics is what determines long-run economic growth.

The Fruits of Long-Run Growth

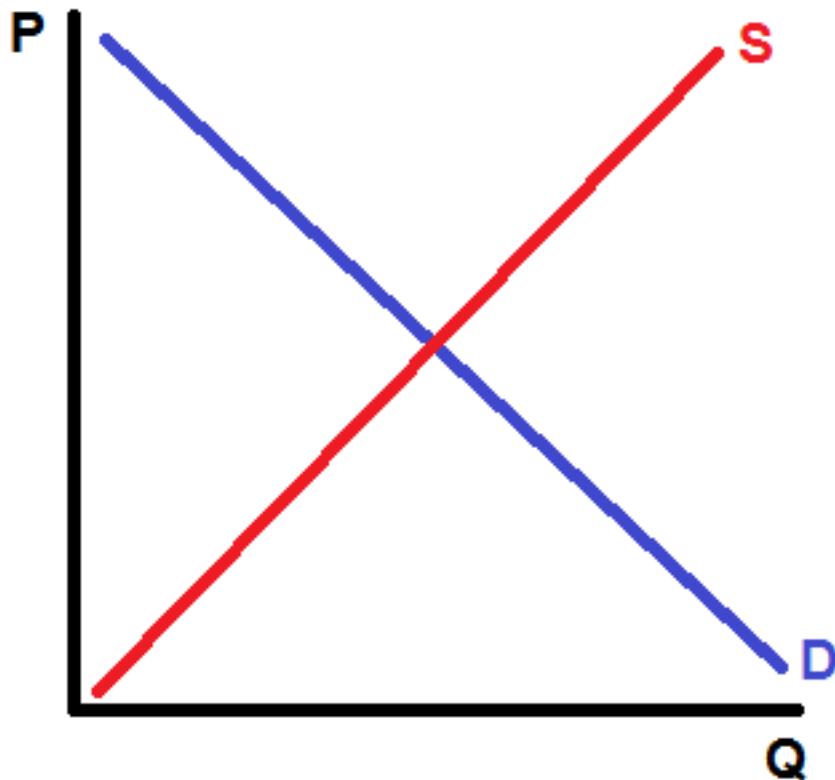


Growth, the Long View



Economics of Markets

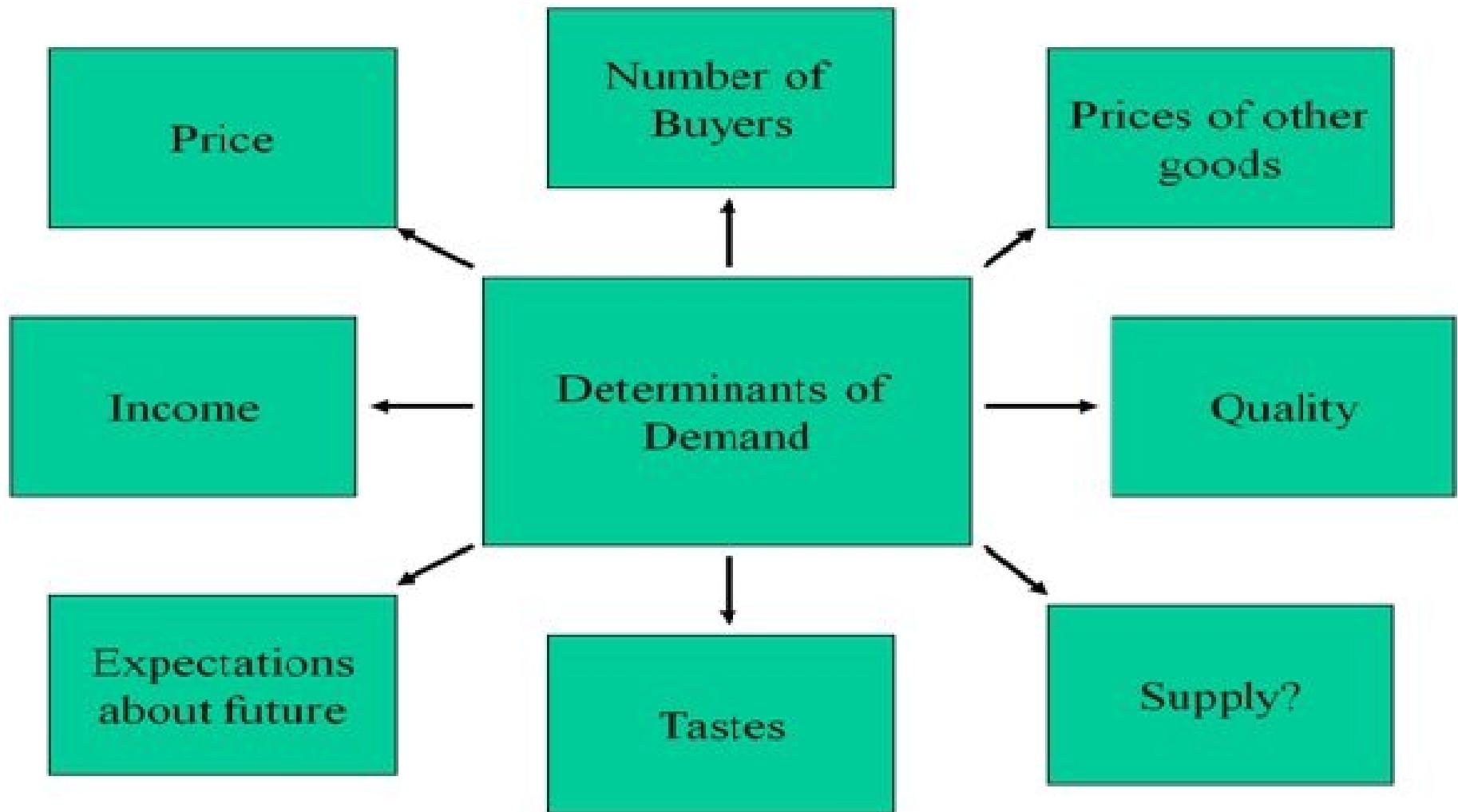
The most famous picture in economics



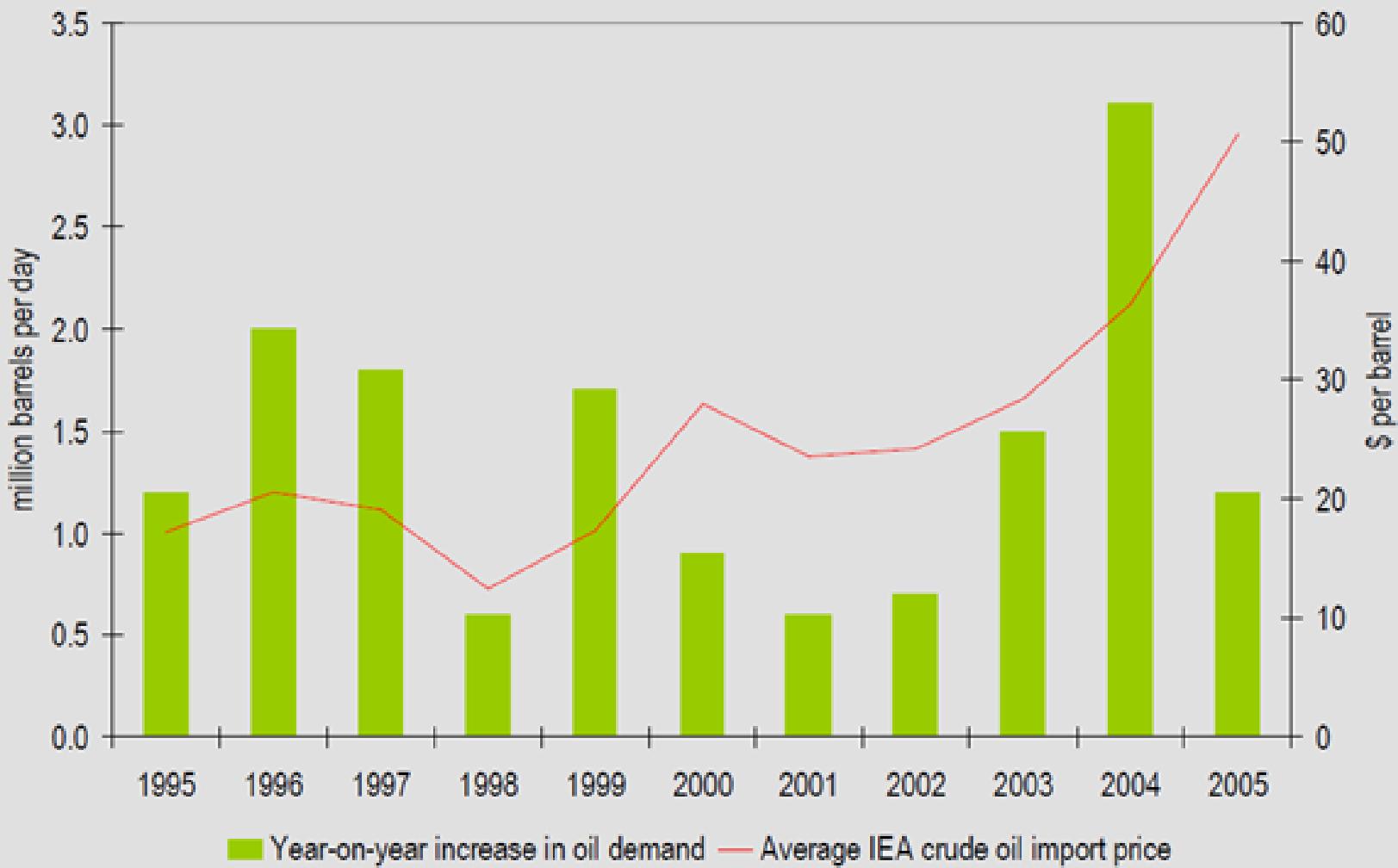
How are prices determined?

- Markets
- Demand – Supply forces





Crude Oil Price and Increase in Global Oil Demand



Source: IEA databases.

Factors of Demand for Baskin Robbins

