great recession

shutdown

SECOND EDITION
WITH A NEW SECTION: "ON ROBUSTNESS & FRAGILITY"

NEW YORK TIMES BESTSELLER

THE

BLACK SWAN

The Impact of the
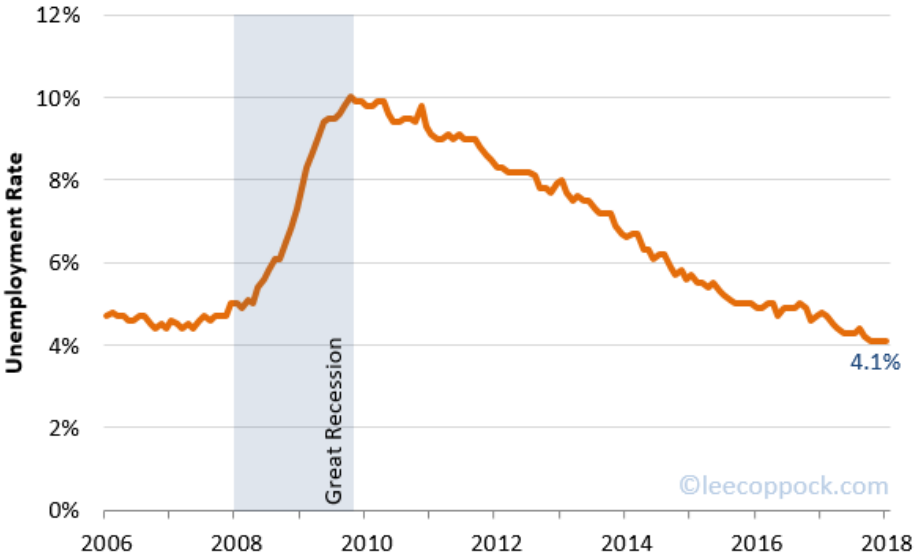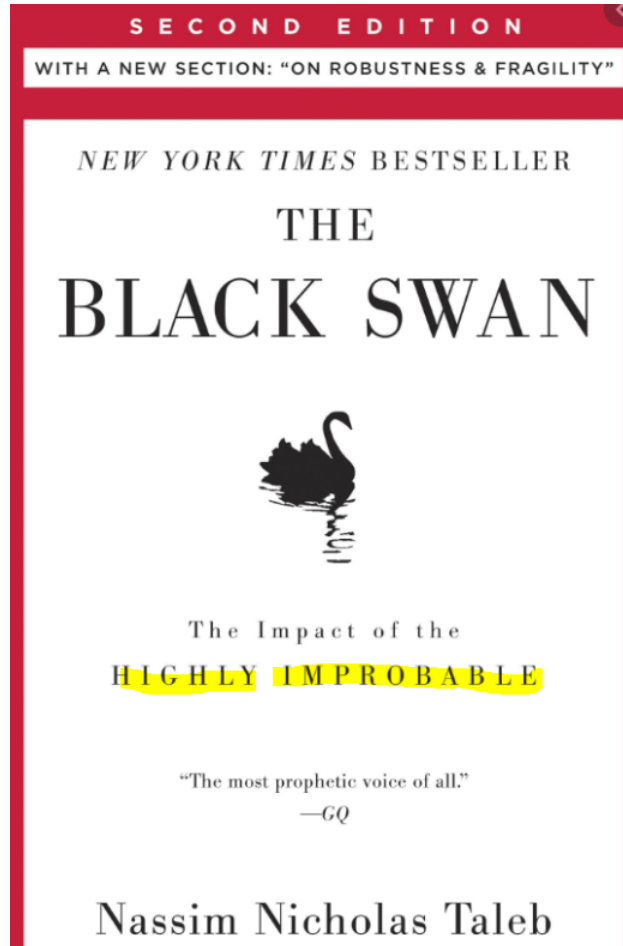HIGHLY IMPROBABLE

"The most prophetic voice of all."
—GQ

Nassim Nicholas Taleb

Theron Mohamed
Apr. 8, 2020, 03:27 PM

SHARE

Universa Investments

- A "Black Swan" hedge fund posted a 4,144% return last quarter after the novel coronavirus outbreak tanked markets.
- Universa Investments' chief, Mark Spitznagel trumpeted the massive gain in a letter to clients.
- Spitznagel — a protégé of Nassim Nicholas Taleb, the author of "The Black Swan: The Impact of the Highly Improbable" — warned that markets would fall further.

how bad?

Jobless rate soars to 14.7%, worst level since Great Depression

U.S. shed 20.5 million jobs in April amid pandemic

Analysts warned it could take many years to return to the 3.5 percent unemployment rate experienced in February.

By Heather Long · 1 hour ago

• **Analysis: What the brutal jobs report means for Trump**

Workers fear for their health and finances as states rush to reopen

Many of the 33 million unemployed Americans may not be ready to retake their old jobs but may not have much choice.

By Tony Romm · 2 hours ago

130 Years of Unemployment

Great Depression 25.5% in Aug. 1932

14.7% in April 2020

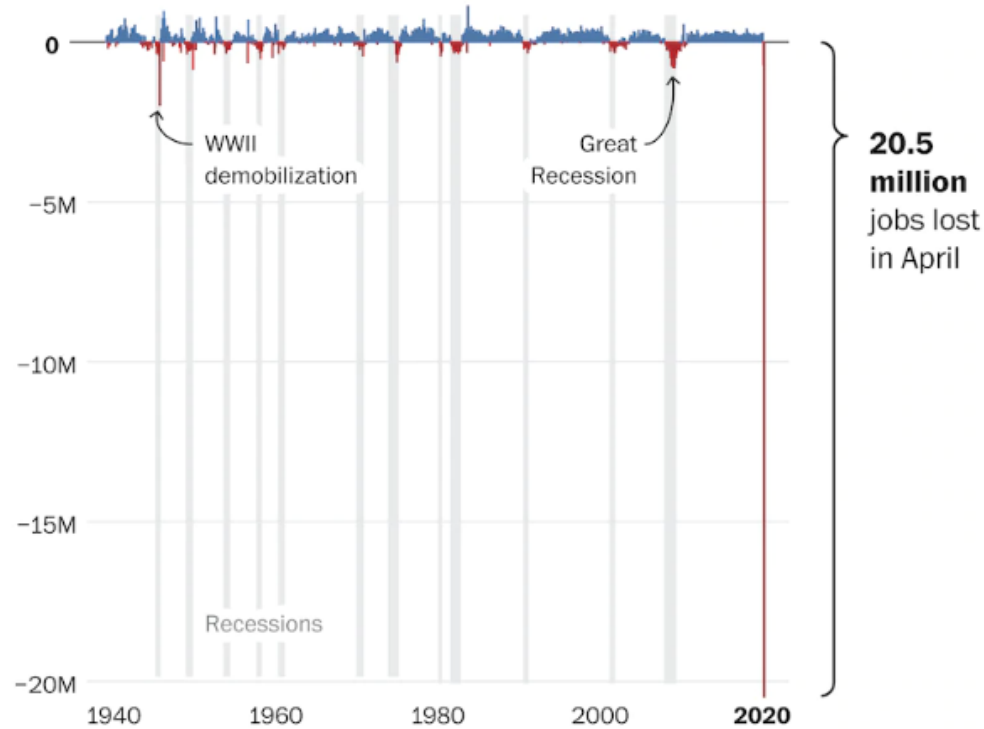Great Recession 10.0% in Oct. 2009

Recessions
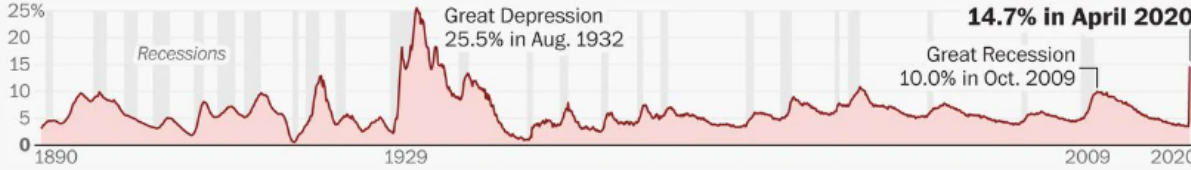
Seasonally adjusted. Data since 1948 from U.S. Dept. of Labor; earlier estimates from Journal of Monetary Economics. (Andrew Van Dam/The Post)
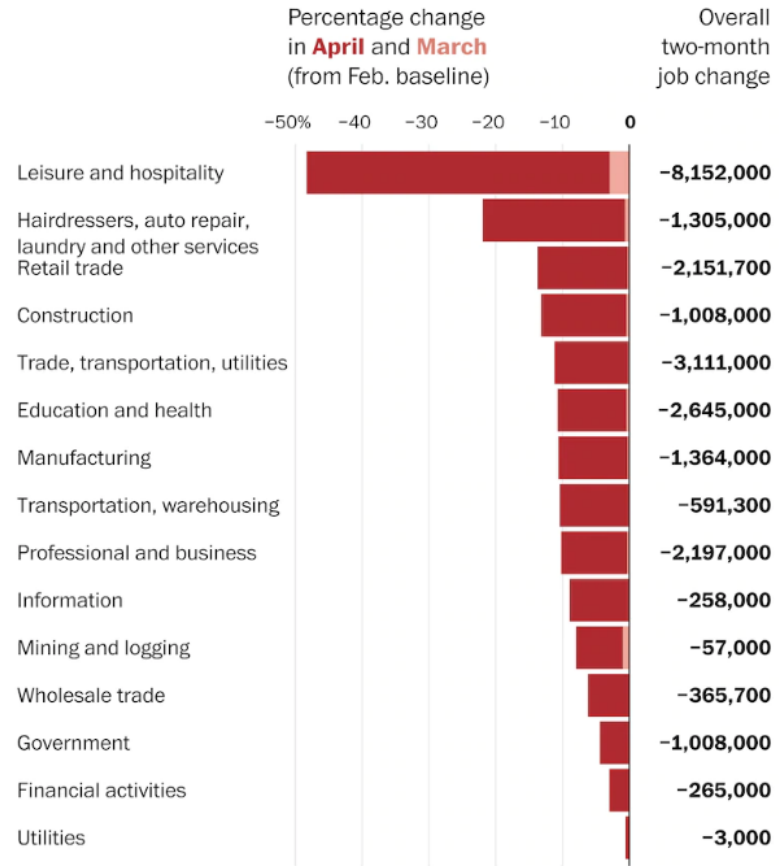
how bad?

Monthly job gains or losses in the U.S. since 1939

0

WWII demobilization

Great Recession

20.5 million jobs lost in April

−5M

−10M

−15M

Recessions

−20M

1940   1960   1980   2000   **2020**

Note: Nonfarm payrolls, seasonally adjusted
Source: Labor Department

THE WASHINGTON POST

How the crisis hit the economy, sector by sector

Percentage change in **April** and **March** (from Feb. baseline)

Overall two-month job change

−50%   −40   −30   −20   −10   **0**

Sector	Overall two-month job change
Leisure and hospitality	−8,152,000
Hairdressers, auto repair, laundry and other services	−1,305,000
Retail trade	−2,151,700
Construction	−1,008,000
Trade, transportation, utilities	−3,111,000
Education and health	−2,645,000
Manufacturing	−1,364,000
Transportation, warehousing	−591,300
Professional and business	−2,197,000
Information	−258,000
Mining and logging	−57,000
Wholesale trade	−365,700
Government	−1,008,000
Financial activities	−265,000
Utilities	−3,000

Note: Seasonally adjusted
Source: Labor Department

THE WASHINGTON POST

worse?

(23m)/156.4m =14.7%

HOUSEHOLD DATA
Summary table A. Household data, seasonally adjusted
[Numbers in thousands]

Category	Apr. 2019	Feb. 2020	Mar. 2020	Apr. 2020	Change from: Mar. 2020- Apr. 2020
Employment status					
Civilian noninstitutional population............................	258,693	259,628	259,758	259,896	138
Civilian labor force..	162,546	164,546	162,913	156,481	-6,432
Participation rate..	62.8	63.4	62.7	60.2	-2.5
Employed..	156,696	158,759	155,772	133,403	-22,369
Employment-population ratio.............................	60.6	61.1	60.0	51.3	-8.7
Unemployed..	5,850	5,787	7,140	23,078	15,938
Unemployment rate...	3.6	3.5	4.4	14.7	10.3
Not in labor force...	96,147	95,082	96,845	103,415	6,570
Unemployment rates					
Total, 16 years and over...	3.6	3.5	4.4	14.7	10.3

(23m+12m+5m)/156.4m =25.6%

NEWS RELEASE
BUREAU OF LABOR STATISTICS
U.S. DEPARTMENT OF LABOR
BLS

HOUSEHOLD DATA
Summary table A. Household data, seasonally adjusted
[Numbers in thousands]

Category	Apr. 2019	Feb. 2020	Mar. 2020	Apr. 2020	Change from: Mar. 2020- Apr. 2020
				259,896	138
				156,481	-6,432
				60.2	-2.5
				133,403	-22,369
				51.3	-8.7
				23,078	15,938
				14.7	10.3
				103,415	6,570
			4.4	14.7	10.3

UNEMPLOYMENT INSURANCE DATA FOR REGULAR STATE PROGRAMS

WEEK ENDING	May 2	April 25	Change
Initial Claims (SA)	3,169,000	3,846,000	-677,000
Initial Claims (NSA)	2,849,090	3,495,703	-646,613
4-Wk Moving Average (SA)	4,173,500	5,035,000	-861,500

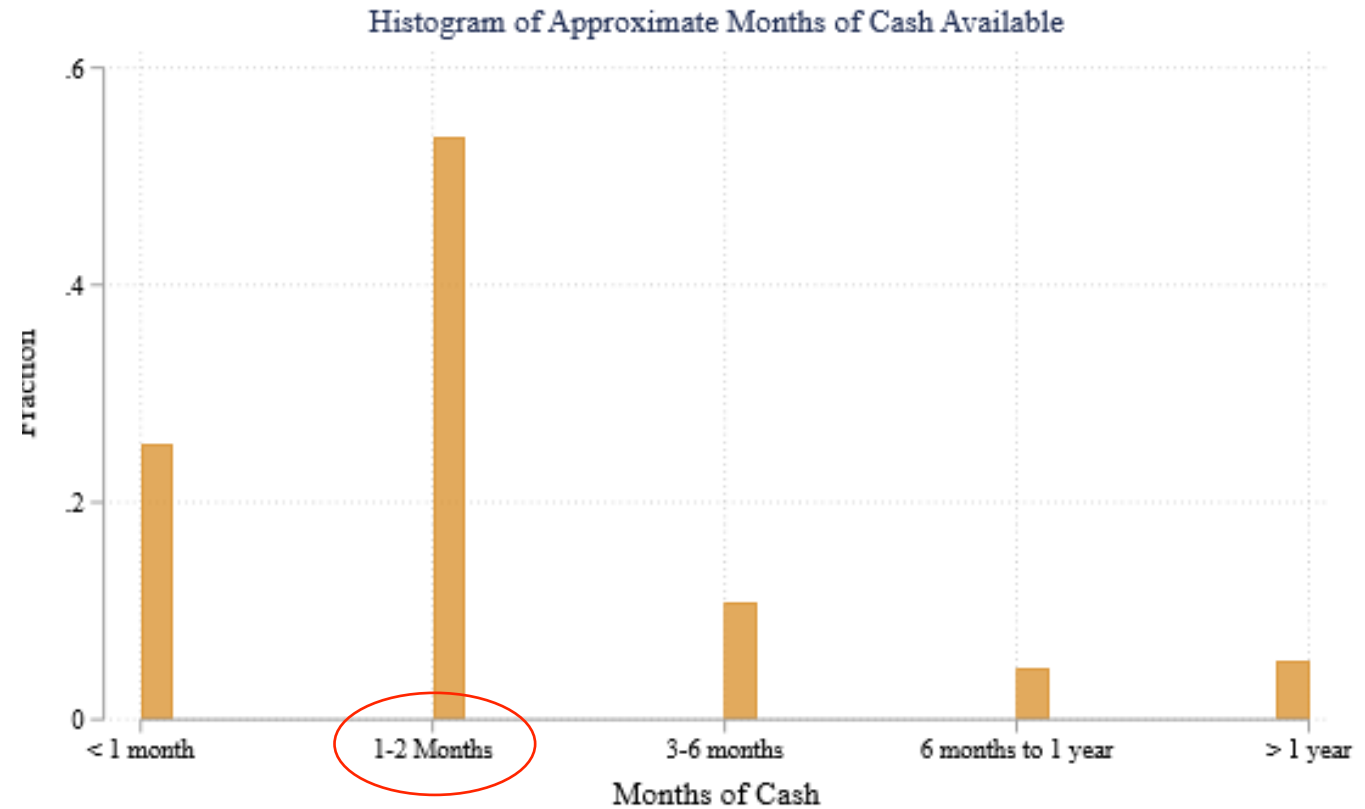| WEEK ENDING	May 16	May 9	Change
Initial Claims (SA)	2,438,000	2,687,000	-249,000
Initial Claims (NSA)	2,174,329	2,356,594	-182,265
4-Wk Moving Average (SA)	3,042,000	3,543,000	-501,000

5% of 30.7m

more jobless

Histogram of Approximate Months of Cash Available

N=4184

(25.6% – 3.5%)*2 = -44.2%

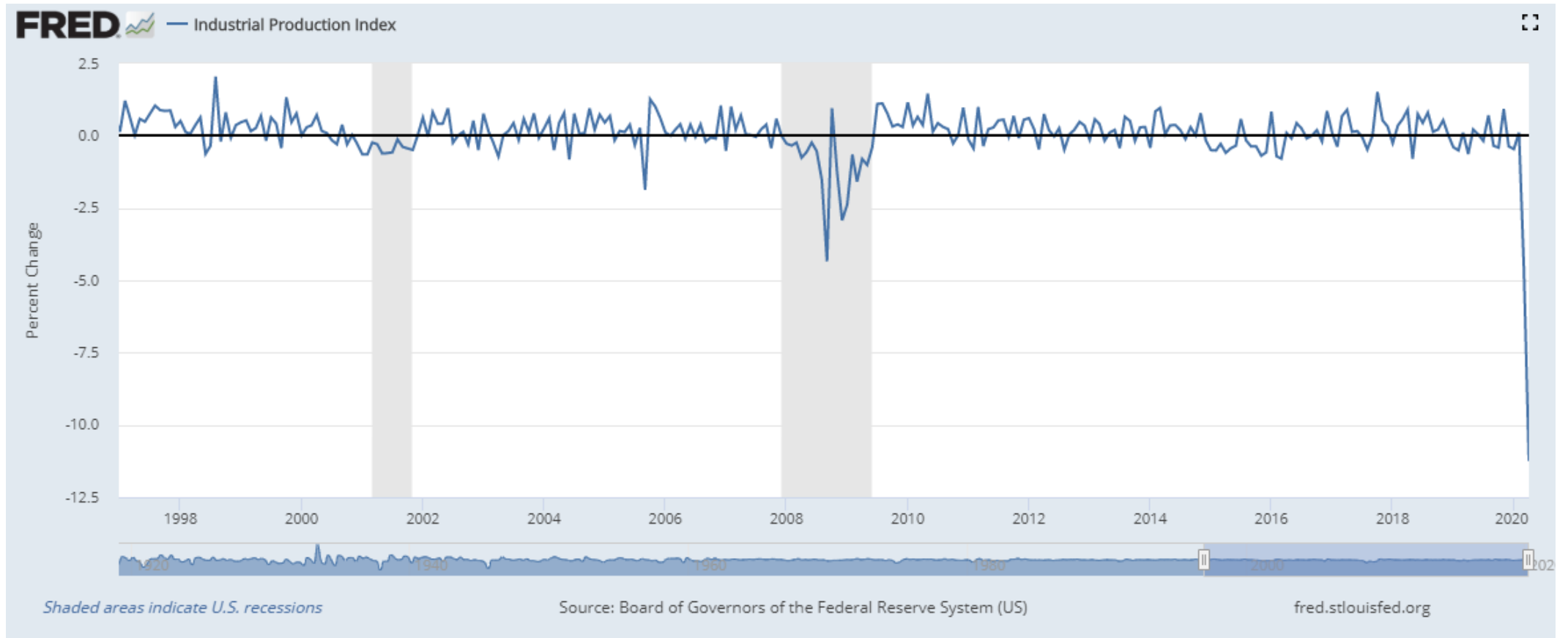Figure 1
Real-time and revised loops in Okun's relationship
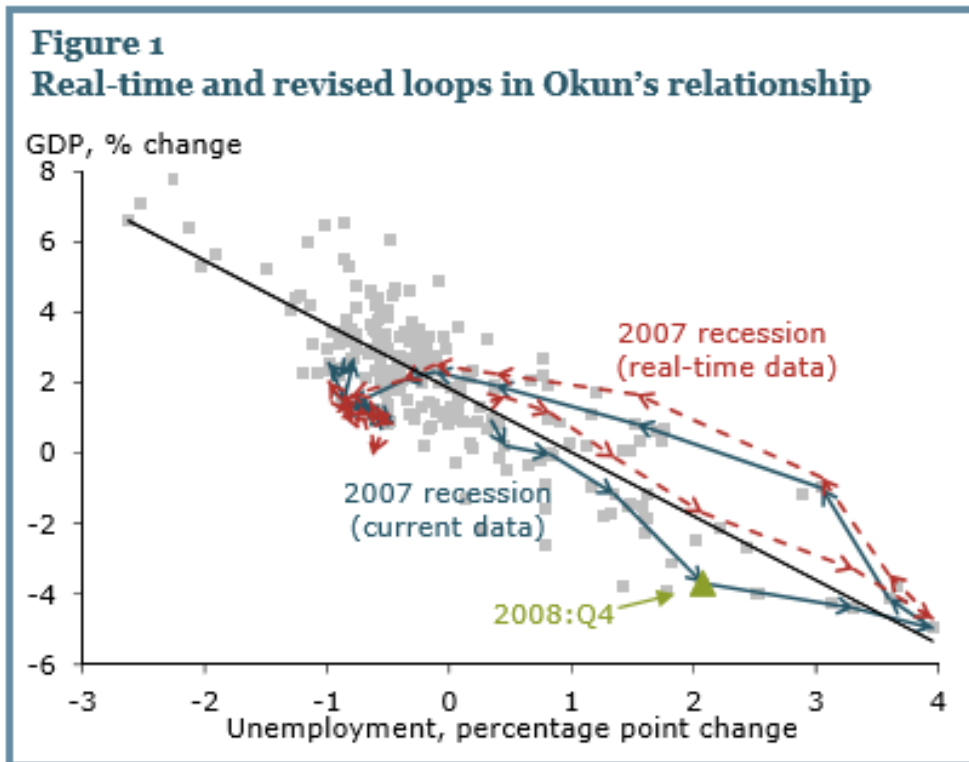
JPMorgan Forecasts 20% Unemployment And 40% Hit To Second-Quarter GDP

Sergei Klebnikov Forbes Staff
Markets
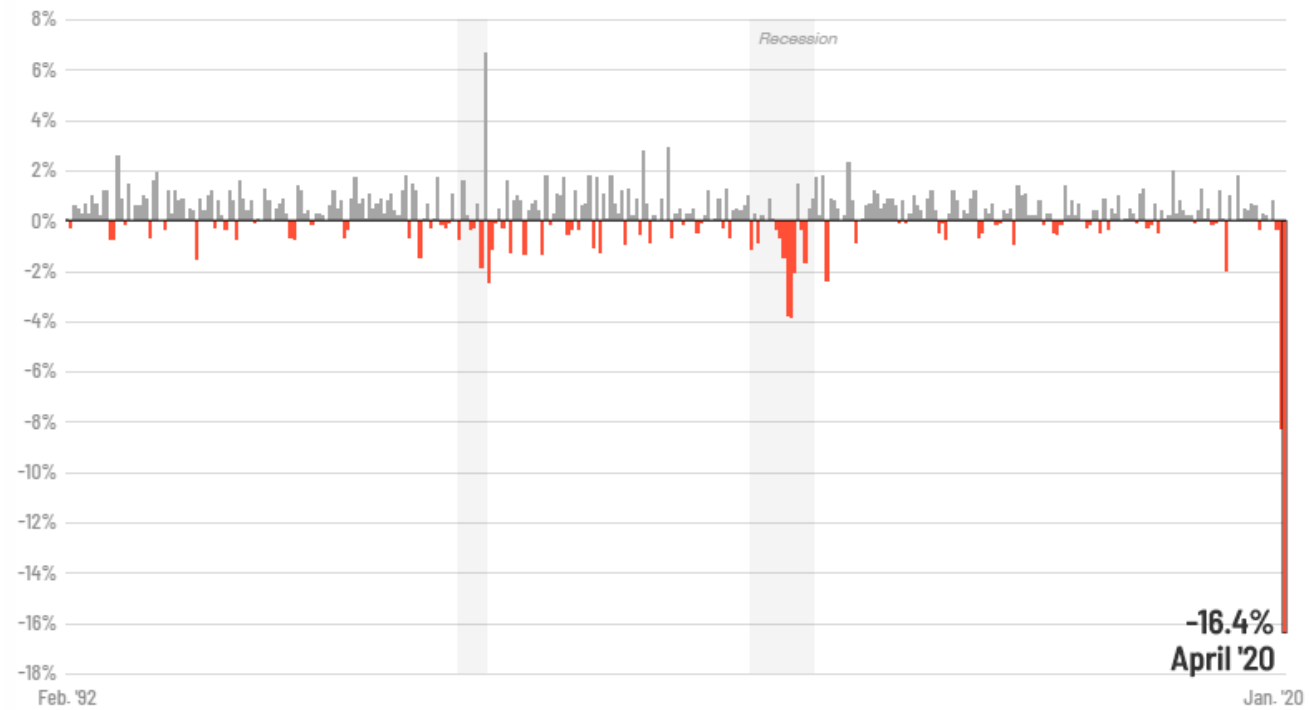*I cover breaking news, with a focus on money and markets.*

supply

demand

US retail sales drop to lowest on record

The 16.4% decline was the largest since the data series began in 1992.

–16.4%
April '20

Feb. '92   Jan. '20

Note: Seasonally adjusted sales, monthly percent change
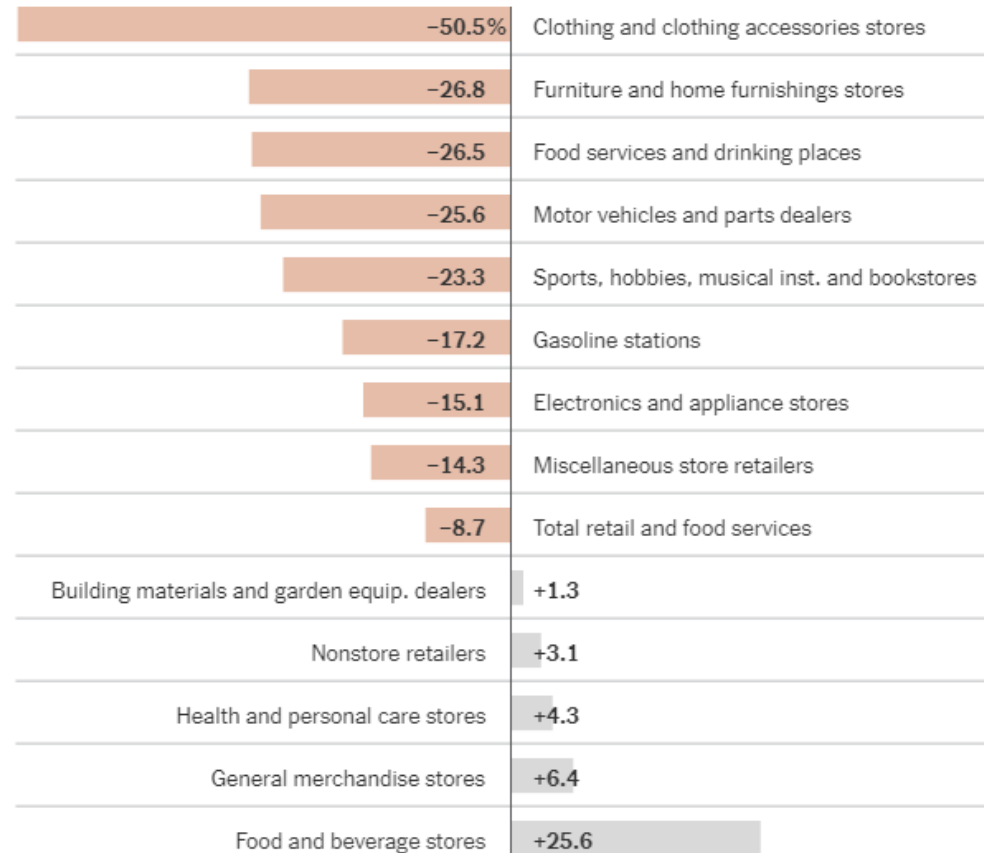
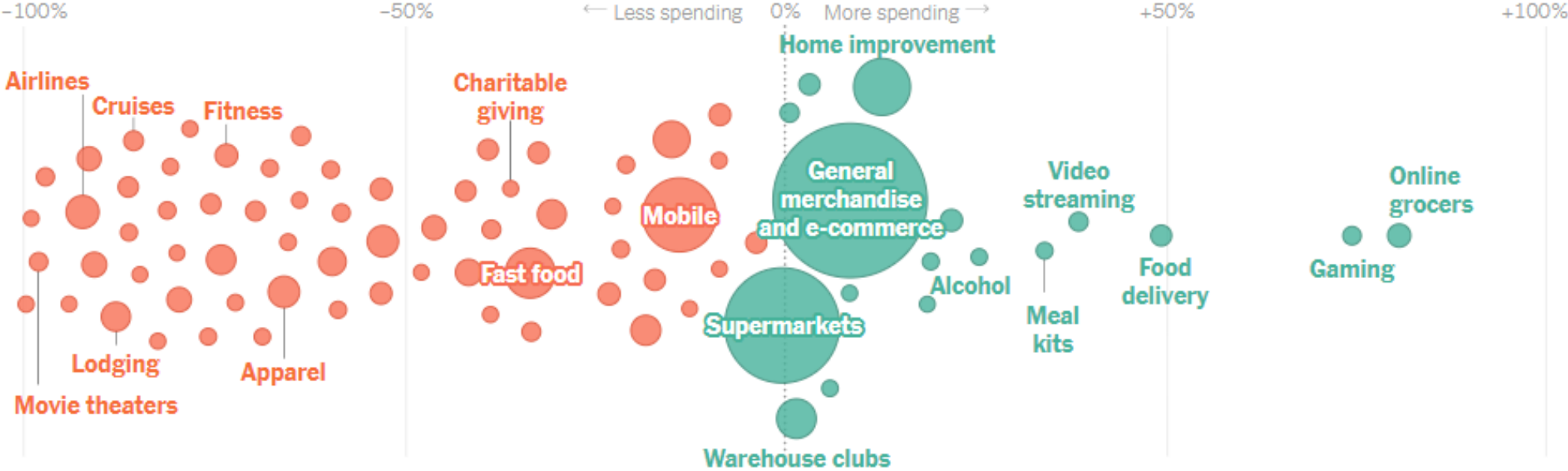Source: US Census Bureau
Graphic: Tal Yellin, CNN

demand

MARCH RETAIL SALES, BY SECTOR
Change from previous month

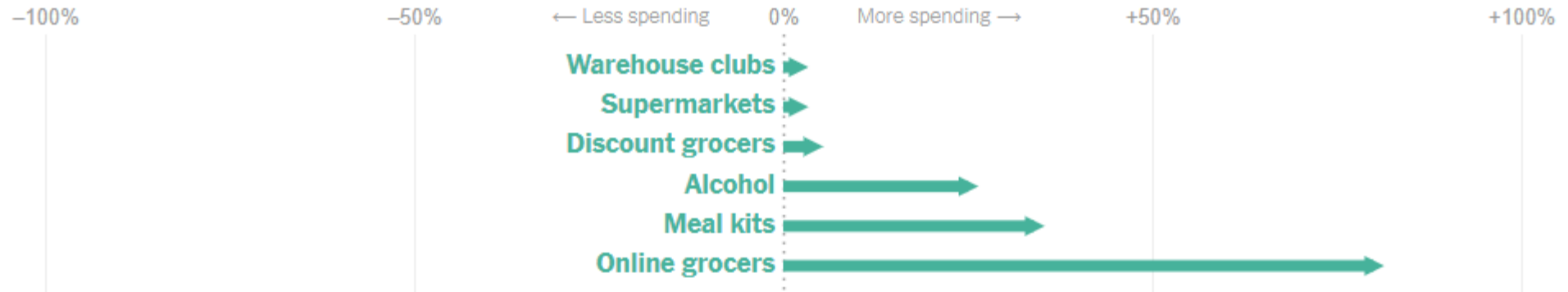|	
−50.5%	Clothing and clothing accessories stores
−26.8	Furniture and home furnishings stores
−26.5	Food services and drinking places
−25.6	Motor vehicles and parts dealers
−23.3	Sports, hobbies, musical inst. and bookstores
−17.2	Gasoline stations
−15.1	Electronics and appliance stores
−14.3	Miscellaneous store retailers
−8.7	Total retail and food services
Building materials and garden equip. dealers	+1.3
Nonstore retailers	+3.1
Health and personal care stores	+4.3
General merchandise stores	+6.4
Food and beverage stores	+25.6

Note: Seasonally adjusted · Source: U.S. Department of Commerce · By The New York Times

industries

grocery

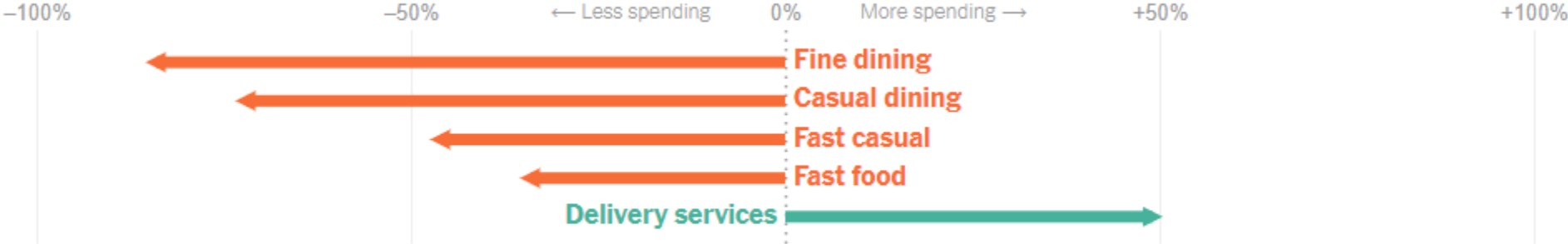Grocery sales are way up, as people cook at home.

−100% −50% ← Less spending 0% More spending → +50% +100%

Warehouse clubs
Supermarkets
Discount grocers
Alcohol
Meal kits
Online grocers

earnest

travel

Spending on travel has slumped
as people hunker down.

−100%   −50%   ← Less spending   0%   More spending →   +50%   +100%

Airlines
Lodging
Cruises
Online travel agencies
Rental cars

earnest
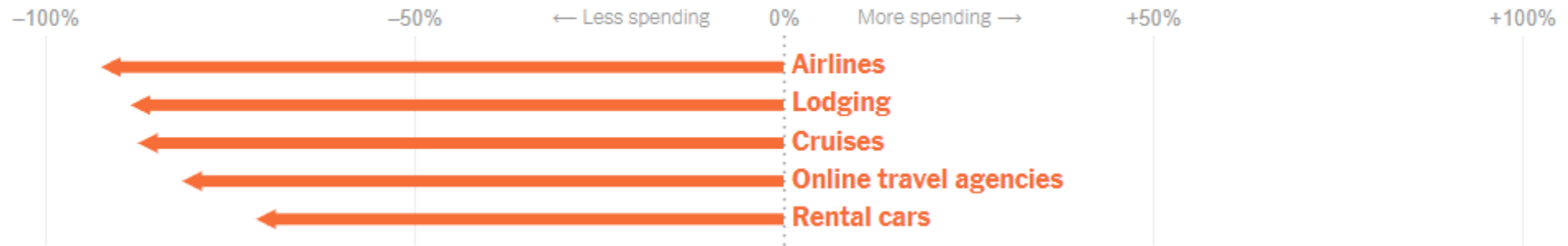
restaurant

Restaurant sales have plummeted.

| −100% | −50% | ← Less spending | 0% | More spending → | +50% | +100% |

Fine dining
Casual dining
Fast casual
Fast food
Delivery services

earnest

shopping

Shopping is down overall, especially at brick-and-mortar stores.

health

Spending on health, paradoxically, has also fallen.

gdp forecasts

The COVID-19 pandemic will severely impact growth across all regions.

(real GDP, annual percent change)	2019	PROJECTIONS 2020	2021
World Output	**2.9**	**-3.0**	**5.8**
Advanced Economies	**1.7**	**-6.1**	**4.5**
United States	2.3	-5.9	4.7
Euro Area	1.2	-7.5	4.7
Germany	0.6	-7.0	5.2
France	1.3	-7.2	4.5
Italy	0.3	-9.1	4.8
Spain	2.0	-8.0	4.3
Japan	0.7	-5.2	3.0
United Kingdom	1.4	-6.5	4.0
Canada	1.6	-6.2	4.2
Other Advanced Economies	1.7	-4.6	4.5
Emerging Markets and Developing Economies	**3.7**	**-1.0**	**6.6**
Emerging and Developing Asia	**5.5**	**1.0**	**8.5**
China	6.1	1.2	9.2
India	4.2	1.9	7.4
ASEAN-5	4.8	-0.6	7.8

Real GDP Growth in 2019 and 2020 (40 largest economies)

Based on data from International Monetary Fund, World Economic Outlook, April 2020
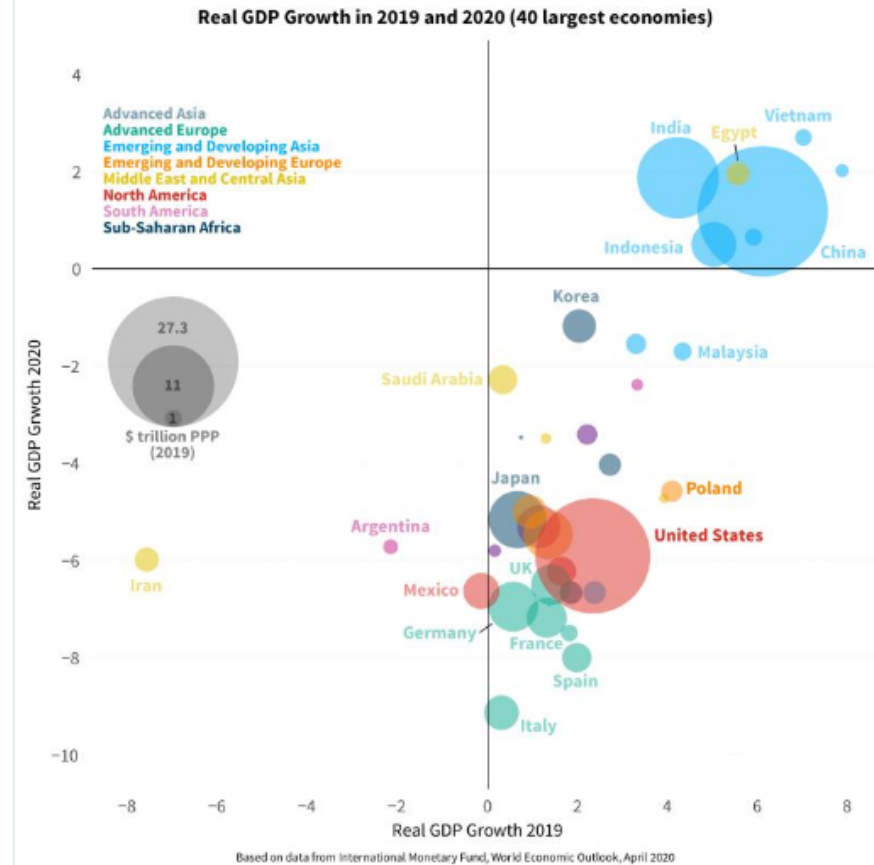
473 · 97 Comments

assumptions

Impact of the CARES Act in 2020					
				Total impact on GDP, %	
Provision	**2020 impact, $, blns**	**% of GDP**	**2020 Multiplier range***	**Low**	**High**
Unemployment benefits	250	1.2	0.4 to 1.0	0.5	1.2
S&L govt relief fund	150	0.7	0.4 to 1.0	0.3	0.7
Emergency supplemental	275	1.3	0.5 to 1.0	0.7	1.3
Cash payments to households	290	1.4	0.2 to 0.5	0.3	0.7
Corporate tax relief	600	2.9	0.0 to 0.2	0.0	0.6
Total	1565	7.6		1.7	4.5

*Spending multipliers would likely be higher during a normal downturn, but are capped at 1 due to widespread lockdowns.

Source: Oxford Economics, CBO

Federal Reserve Bank of Chicago

What Happened to the US Economy During the 1918 Influenza Pandemic? A View Through High-Frequency Data

François R. Velde

April 10, 2020

WP 2020-11

https://doi.org/10.21033/wp-2020-11

*Working papers are not edited, and all opinions and errors are the responsibility of the author(s). The views expressed do not necessarily reflect the views of the Federal Reserve Bank of Chicago or the Federal Reserve System.

Most of the evidence indicates that the economic effects of the 1918 influenza pandemic were short-term.
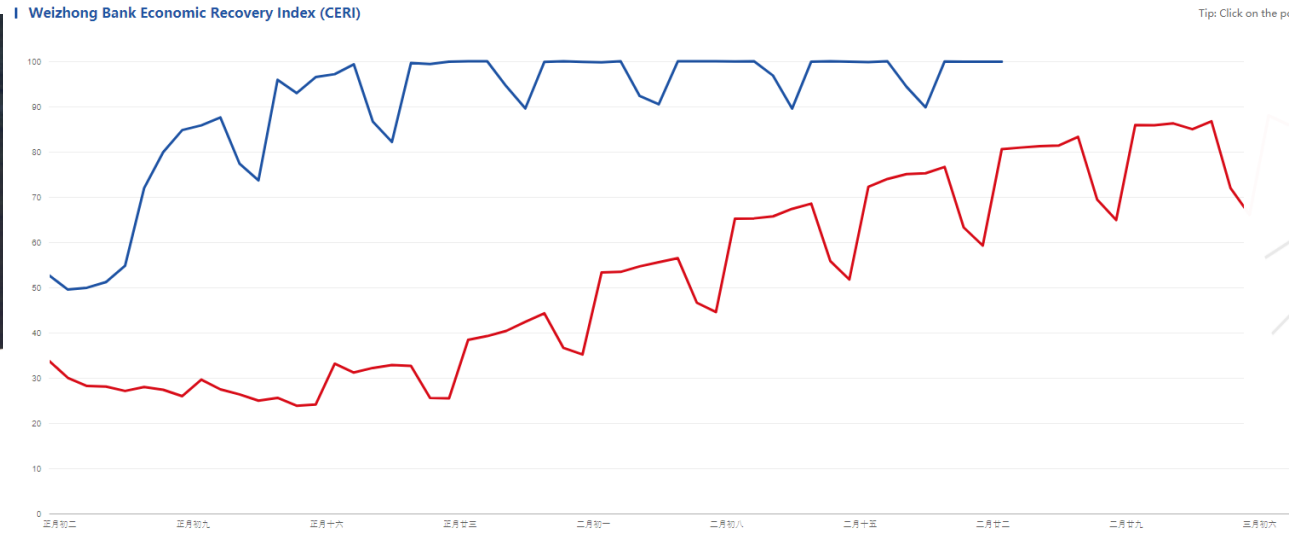
contagion
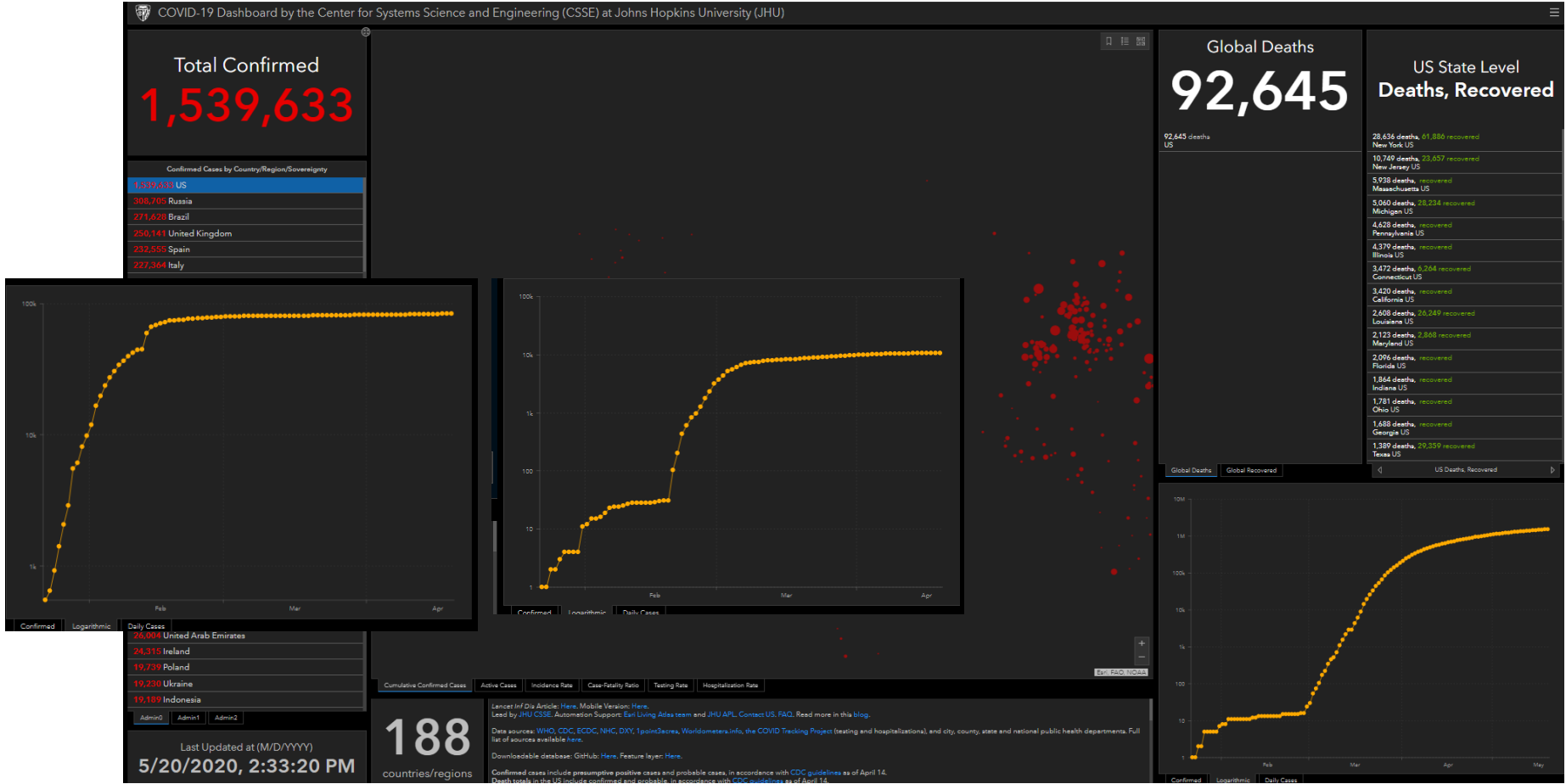
china recovery

A series of studies on China's post-epidemic economic impact based on AI and alternative data
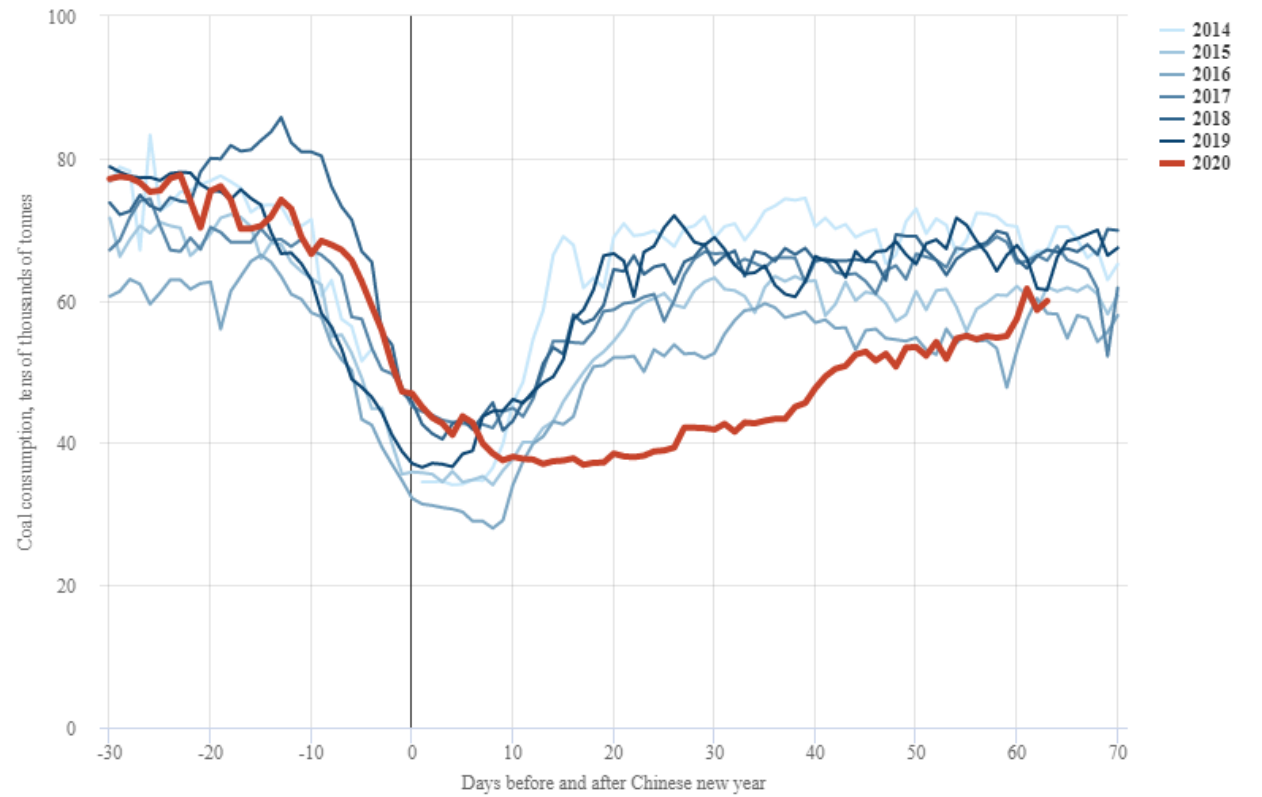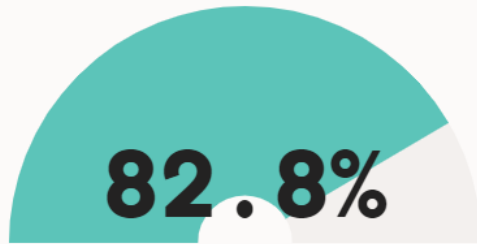
MOONSHOT 微众·揽月

在控制疫情后 ▶ 复工复产开始

0:24 / 1:36

| Weizhong Bank Economic Recovery Index (CERI)

Tip: Click on the p

china recovery

Daily coal consumption at six major power firms

Coal consumption, tens of thousands of tonnes

Days before and after Chinese new year

Legend: 2014, 2015, 2016, 2017, 2018, 2019, 2020

china recovery

82.8%

83%

82.6%

Trivium National Business Activity Index

This index looks at the current state of China's overall economic capacity utilization as compared with "normal" levels prior to the virus outbreak.

How we calculate it

We estimate the currently operating proportion of typical national output by aggregating our in-house resumption rate estimates for large and small enterprises, and weighting the two indices by their proportion in overall GDP (for more information see our notes below).
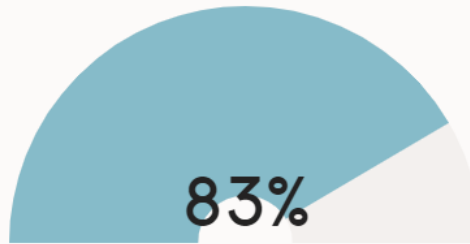
Trivium National Large Enterprise Activity Index

This index estimates current production levels at China's large industrial and manufacturing enterprises as a proportion of normal activity levels.

How we calculate it

We produce our proprietary resumption index for large enterprises by tracking public reporting of provincial resumption rates, then adjusting for the weight of each province in national GDP and for estimated average capacity utilization rates among these enterprises.
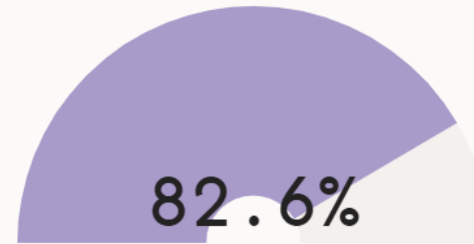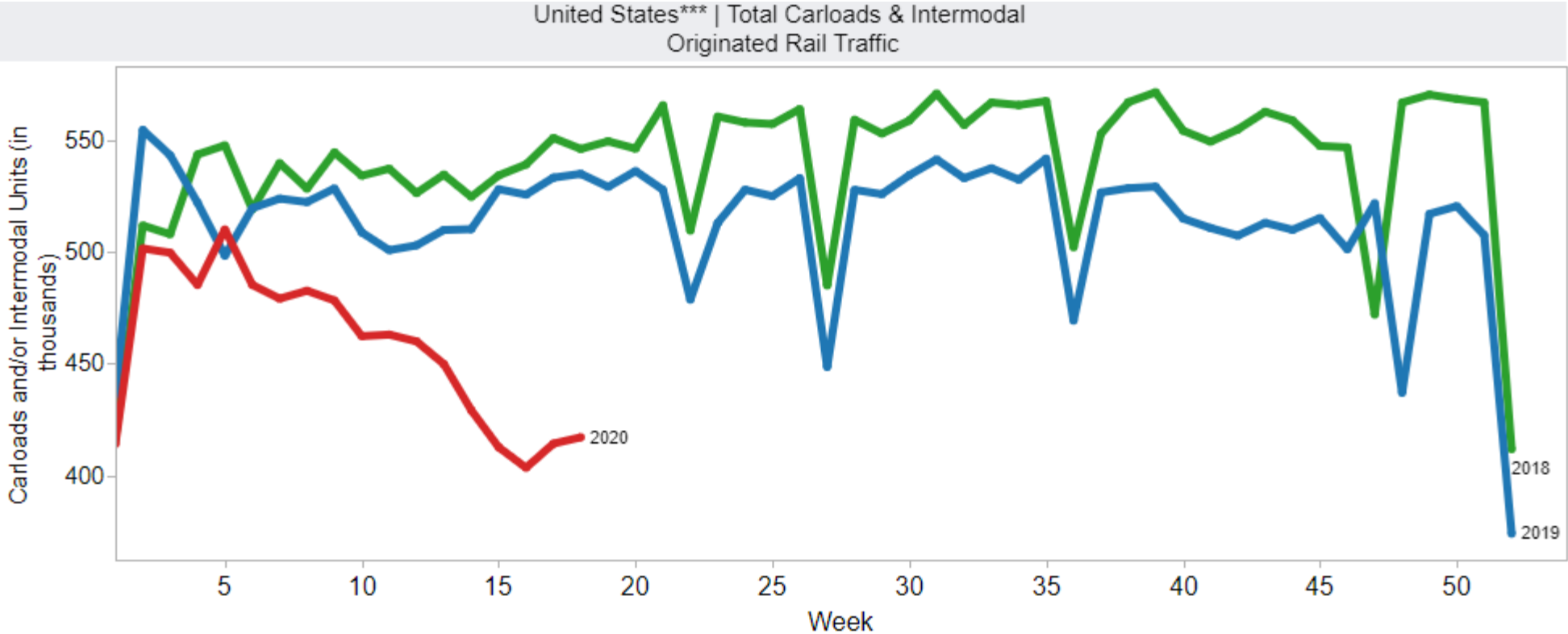
Trivium National SME Activity Index

The Trivium National SME Activity Index estimates current production levels at China's SMEs as a proportion of normal activity levels.

How we calculate it

We produce our proprietary index for SME resumption rates by cross-checking official SME resumption rates against our on-the-ground channel checks and anecdotal research, and adjusting for estimated average capacity utilization rates.
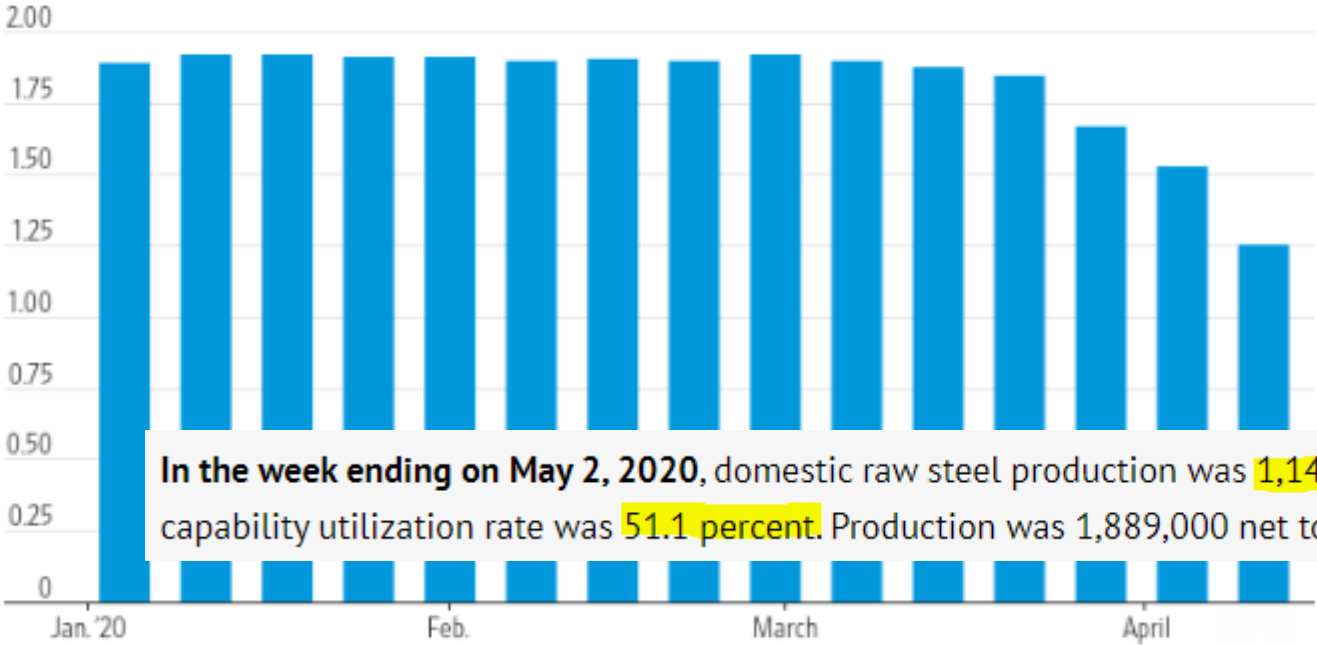
trivium china

us recession

United States*** | Total Carloads & Intermodal
Originated Rail Traffic

Carloads and/or Intermodal Units (in thousands) vs Week

2020

2018

2019

ASSOCIATION OF
AMERICAN RAILROADS

us recession

U.S. weekly raw steel production

2.25 million tons

In the week ending on May 2, 2020, domestic raw steel production was 1,144,000 net tons while the capability utilization rate was 51.1 percent. Production was 1,889,000 net tons in the week ending May 2,

Source: American Iron and Steel Institute

debate

V-SHAPED RECOVERY

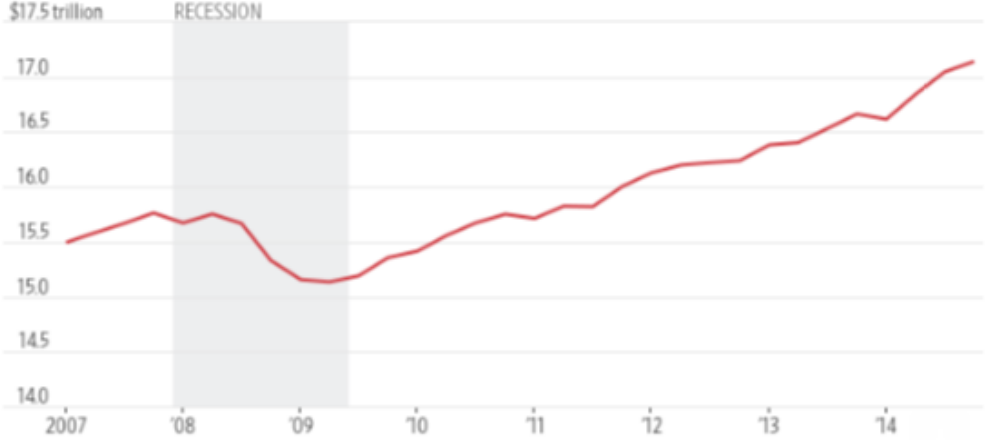W-SHAPED RECOVERY

L-SHAPED RECOVERY

SWOOSH-SHAPED RECOVERY
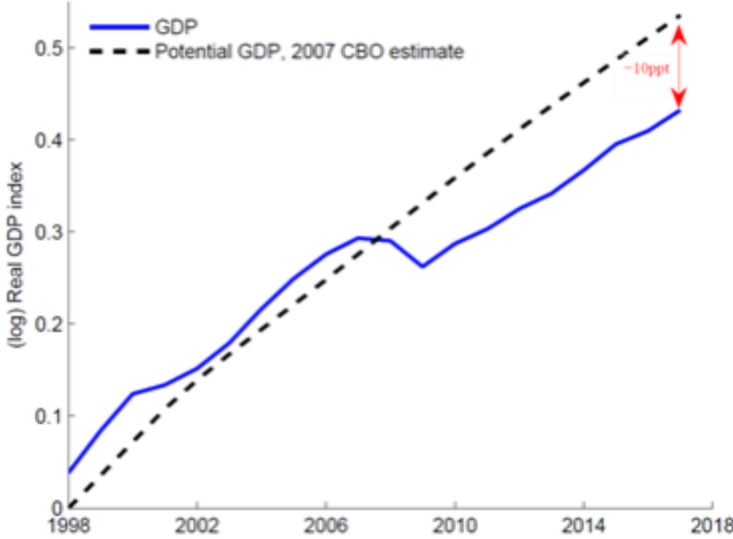
great recession

Swoosh-Shaped Recovery
The U.S. recovery from the 2008 recession was swoosh-shaped.

Quarterly GDP in 2012 dollars

Source: Federal Reserve Bank of St. Louis

USA:

caution

United States Personal Savings Rate   1959-2020 Data | 2021-2022 Forecast | Historical

Summary   Forecast   Stats   Download ▾

Household Saving Rate in the United States increased to 13.10 percent in March from 8 percent in February of 2020.

📅 1Y   5Y   10Y   25Y   MAX   📊 Chart   ⤬ Compare   ⤓ Export   ⦀ API   🖼 Embed

SOURCE: TRADINGECONOMICS.COM | U.S. BUREAU OF ECONOMIC ANALYSIS

## How people are spending their coronavirus relief payments, by work status

CivicScience survey crosstab of US adults who received a stimulus payment

	Working as usual or remote	Not working, but still paid	Reduced hours/ pay; Not working/ not paid
Invested it	3%	25%	6%
Saved it	47	27	31
Purchased necessities	12	18	21
Paid down debt / bills	27	8	30
Treated myself to things I want	4	18	2
Donated it	3	2	3
Other	4	2	7

Data: CivicScience; Table: Axios Visuals

consumer debt

Total Debt Balance

$16.0 trillion

Non-housing debt   Housing debt
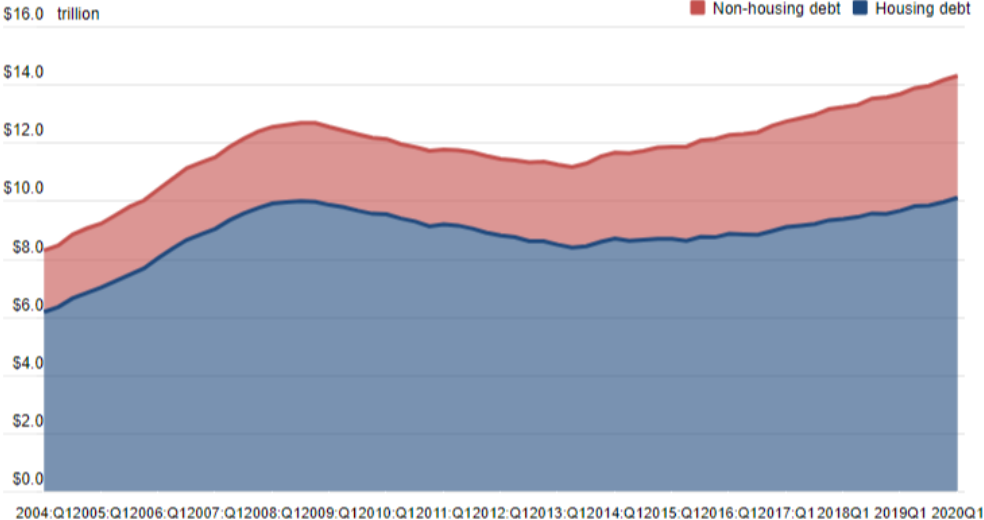
Source: FRBNY Consumer Credit Panel/Equifax

Non-Housing Debt Balance

$4.5 trillion

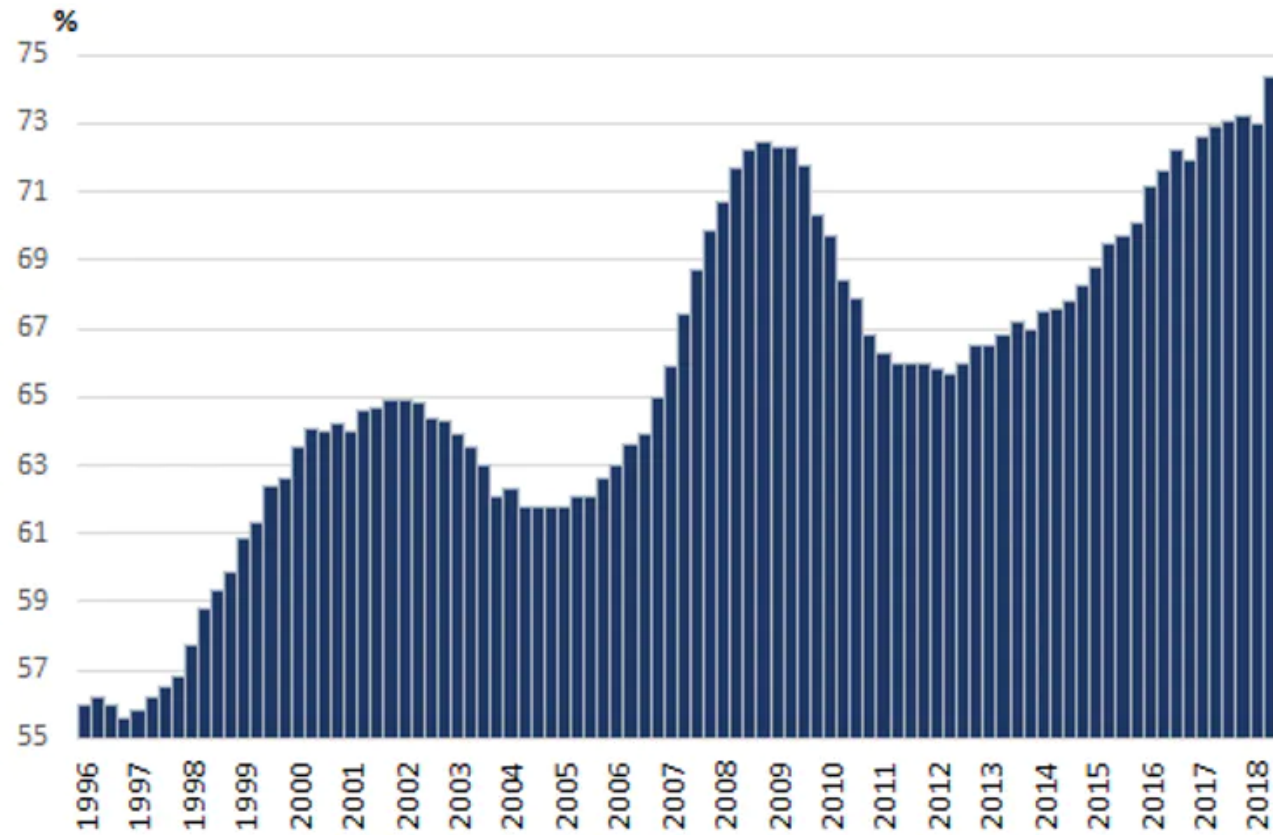Student Loan   Other   Credit Card   Auto Loan
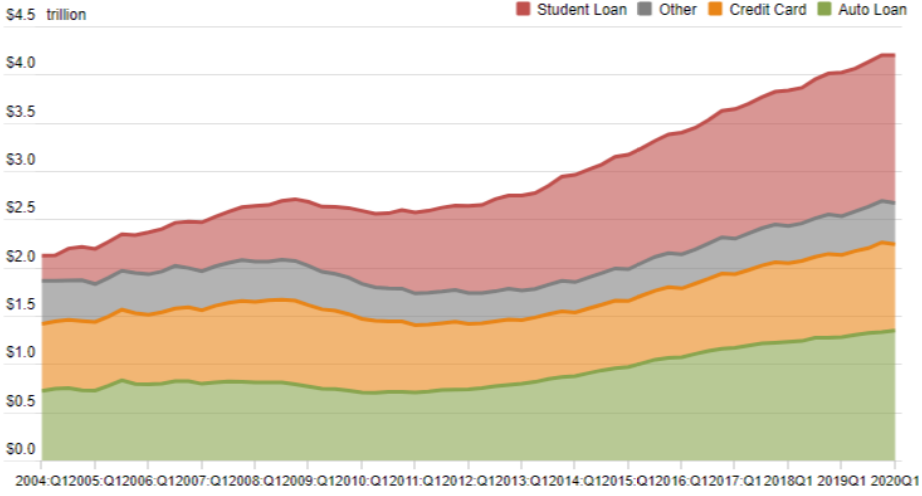
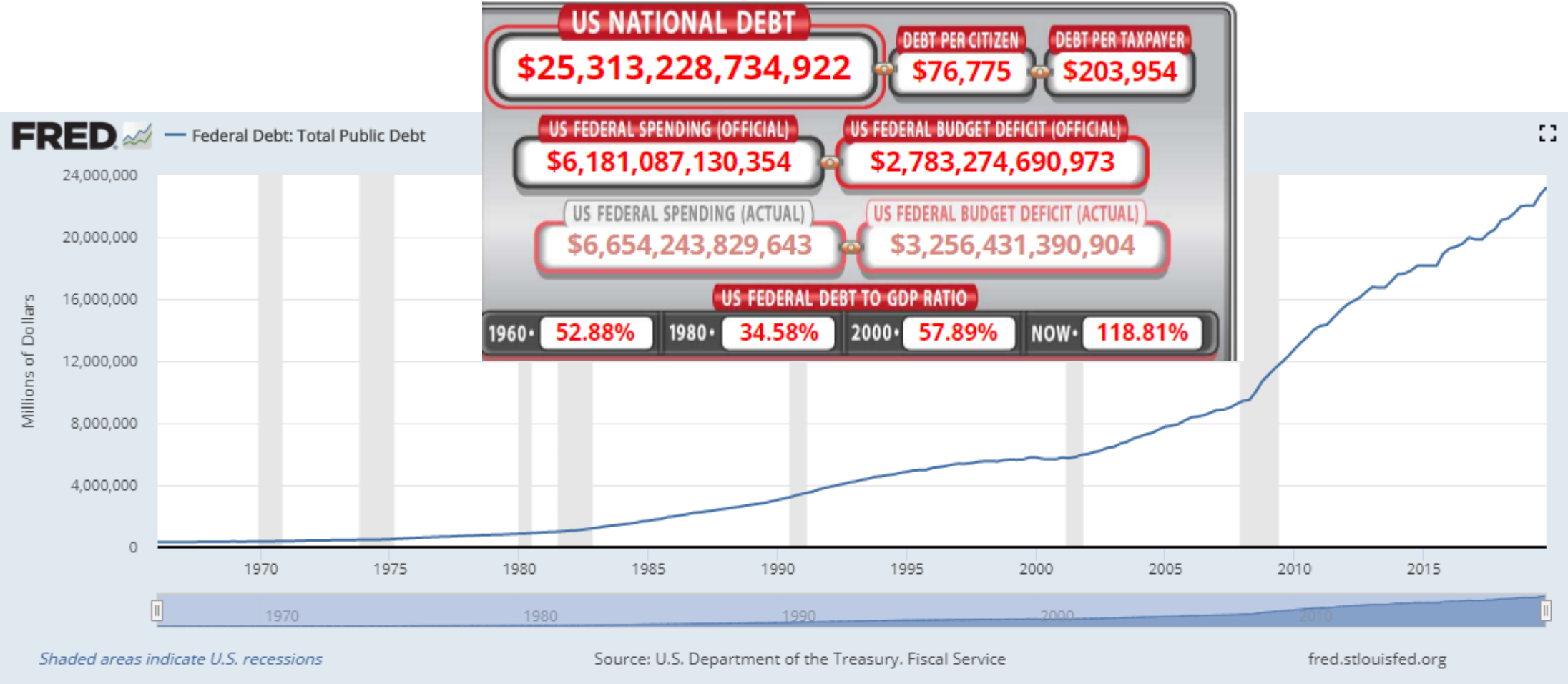Source: FRBNY Consumer Credit Panel/Equifax

corporate debt

US corporate debt as a % of GDP

Going up. Wolf Street
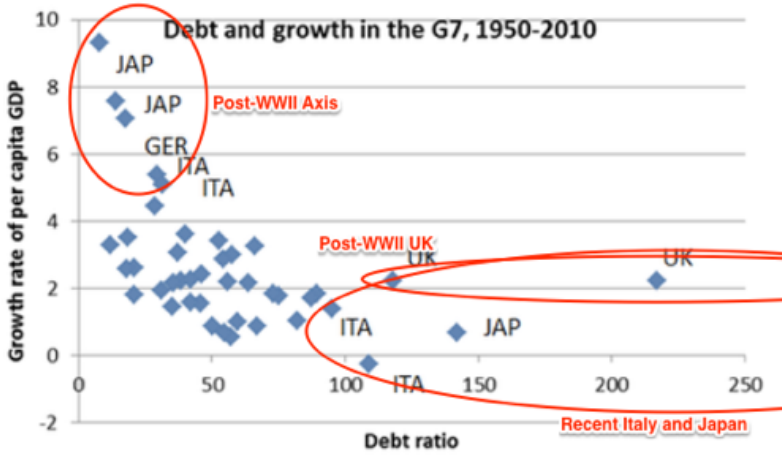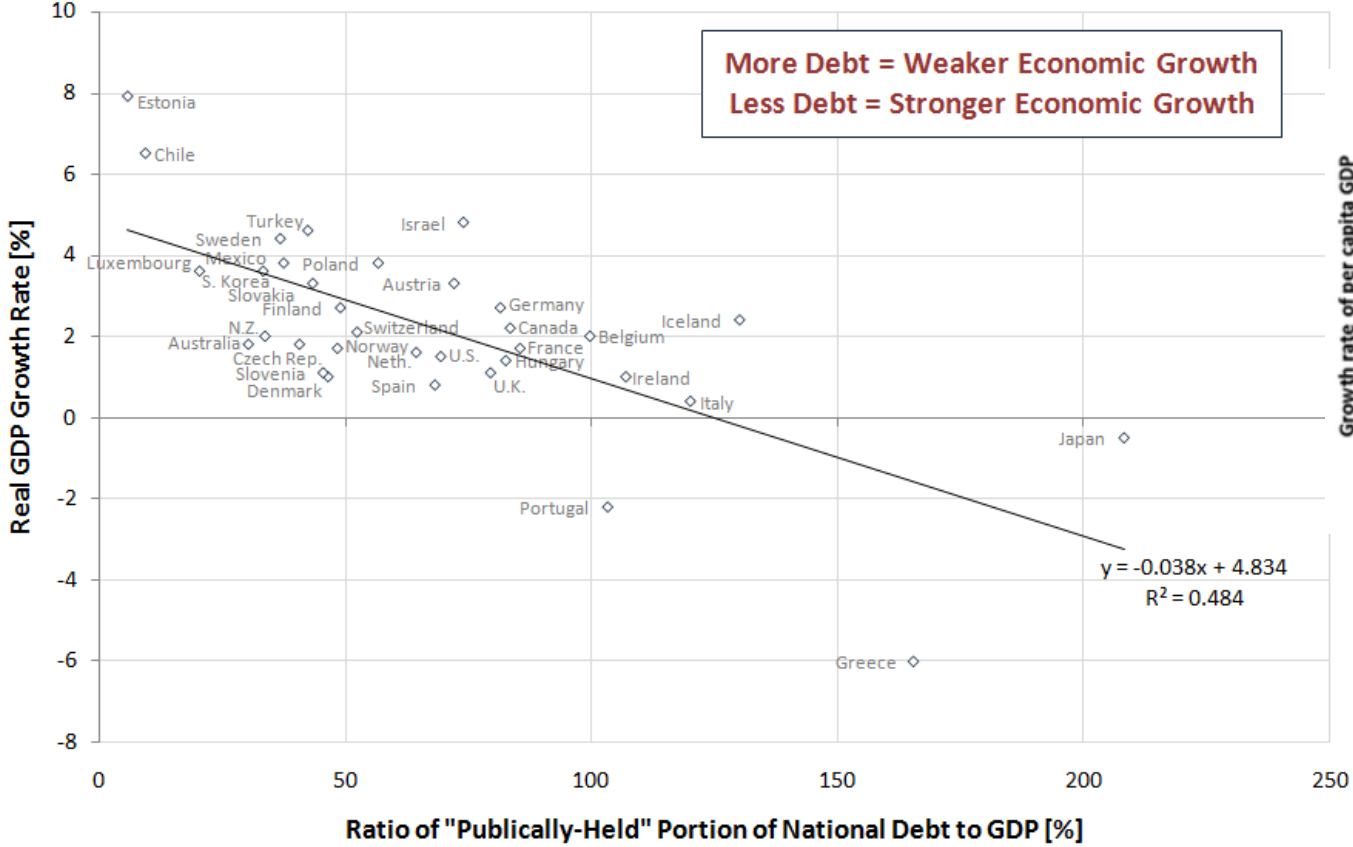
public debt

growth

OECD Nations: Real Growth Rate of GDP vs "Publically-Held" Portion of National Debt to GDP Ratio, 2011

More Debt = Weaker Economic Growth
Less Debt = Stronger Economic Growth

$y = -0.038x + 4.834$
$R^2 = 0.484$

Ratio of "Publically-Held" Portion of National Debt to GDP [%]

Real GDP Growth Rate [%]

Debt and growth in the G7, 1950-2010

Post-WWII Axis

Post-WWII UK

Recent Italy and Japan

Growth rate of per capita GDP

Debt ratio

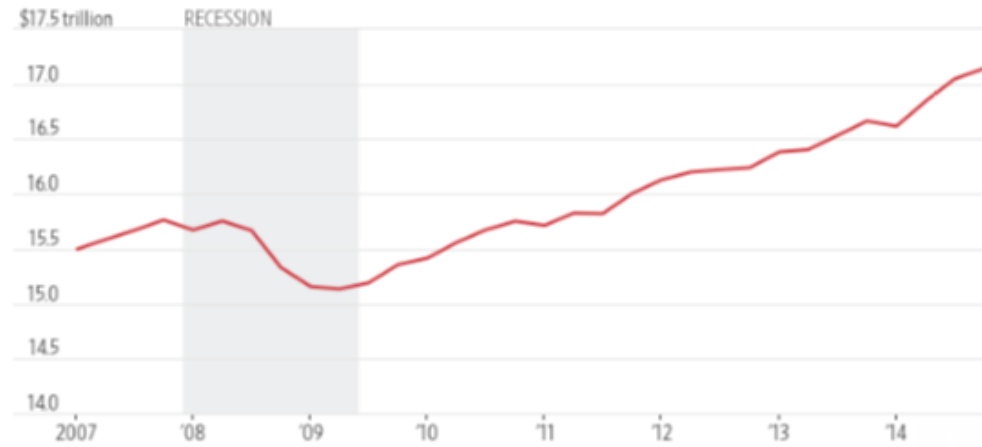Data Source: CIA World Factbook, Accessed 27 May 2012

© Political Calculations 2012

great recession 2.0

Swoosh-Shaped Recovery
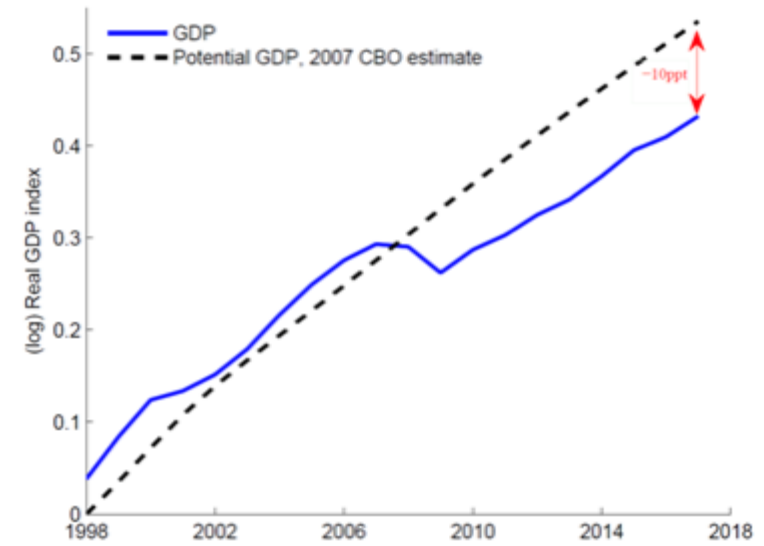The U.S. recovery from the 2008 recession was swoosh-shaped.

Quarterly GDP in 2012 dollars

Source: Federal Reserve Bank of St. Louis

USA:

risk

Figure 2

Companies expect significant growth in advanced automation over the next two years

"Describe the level at which your organization currently uses the following automation technologies and expects to use the automation technologies in two years."

Respondents who are scaling or mature in each technology

Although a simpler technology, it is relatively new.

Increasing complexity
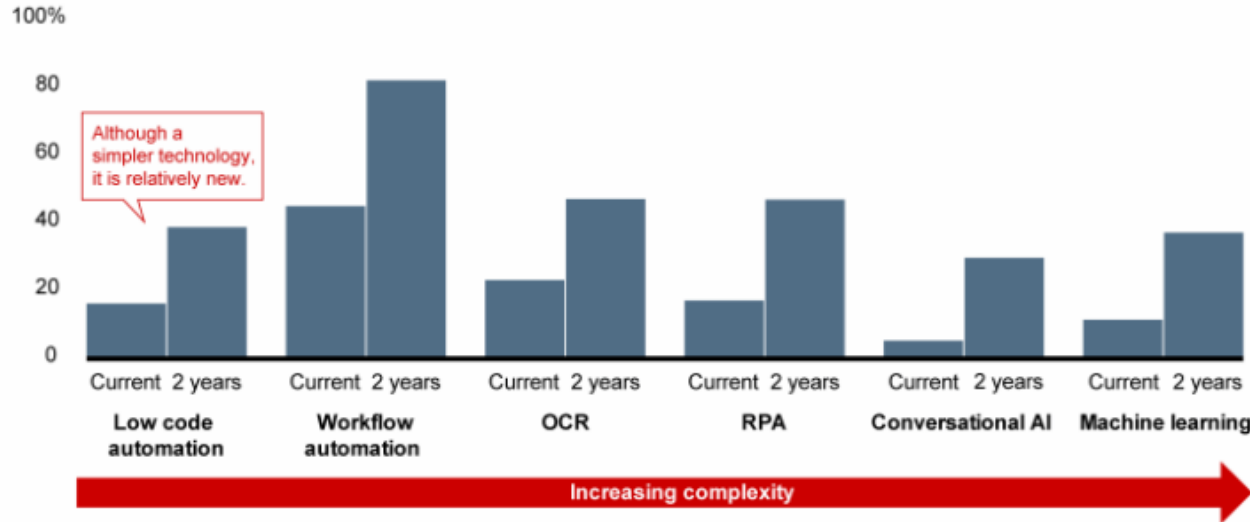
Notes: OCR is optical character recognition; RPA is robotic process automation
Sources: Bain Global Automation Survey, 2019 (n=796); market participant interviews

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Becker Friedman Institute
FOR ECONOMICS AT THE UNIVERSITY OF CHICAGO
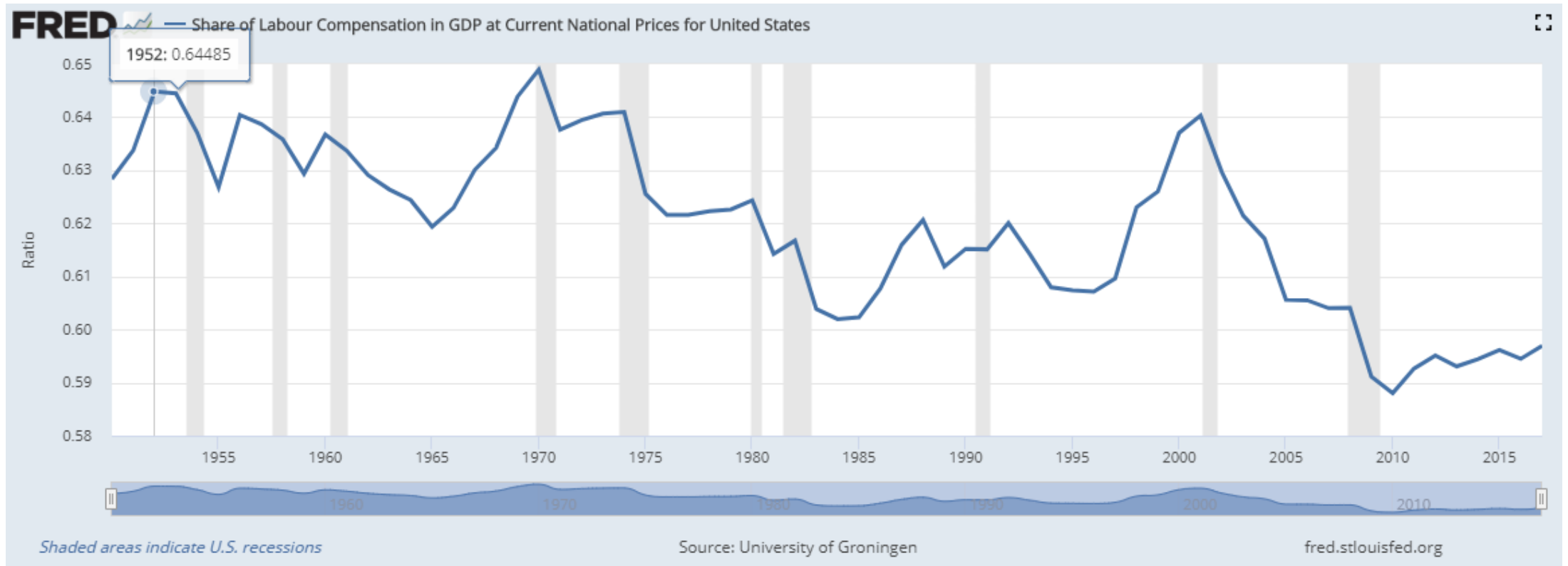
COVID-19 Is Also a Reallocation Shock

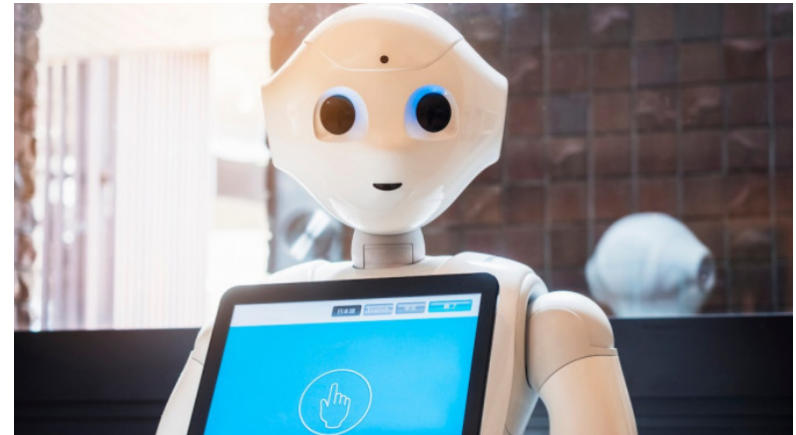Jose Maria Barrero, Nick Bloom and Steven J. Davis

5 May 2020

Abstract

Drawing on firm-level expectations at a one-year forecast horizon in the Survey of Business Uncertainty (SBU), we construct novel, forward-looking reallocation measures for jobs and sales. These measures rise sharply after February 2020, reaching rates in April that are 2.4 (3.9) times the pre-COVID average for jobs (sales). We also draw on special questions in the April SBU to quantify the near-term impact of the COVID-19 shock on business staffing. We find 3 new hires for every 10 layoffs caused by the shock and estimate that 42 percent of recent layoffs will result in permanent job loss. Our survey evidence aligns well with anecdotal evidence of large pandemic-induced demand increases at some firms, with contemporaneous evidence on gross business formation, and with a sharp pandemic-induced rise in equity return dispersion across firms. After developing the evidence, we consider implications of our evidence for the economic outlook and for policy responses to the pandemic. Unemployment benefit levels that exceed worker earnings, policies that subsidize employee retention, occupational licensing restrictions, and regulatory barriers to business formation will impede reallocation responses to the COVID-19 shock.
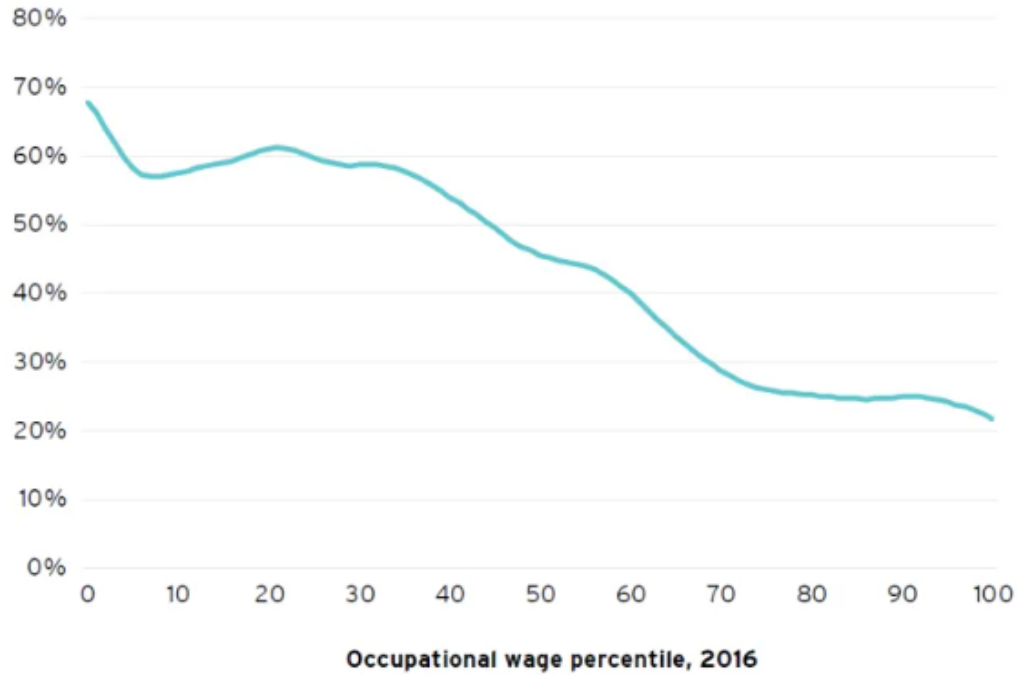
substitution

Share of Labour Compensation in GDP at Current National Prices for United States

1952: 0.64485

Ratio

Shaded areas indicate U.S. recessions

Source: University of Groningen

fred.stlouisfed.org

trend

acceleration

The lowest wage jobs are the most exposed to automation
Automation potential, United States, 2016

Occupational wage percentile, 2016

Note: Figures have been smoothed using a LOWESS regression
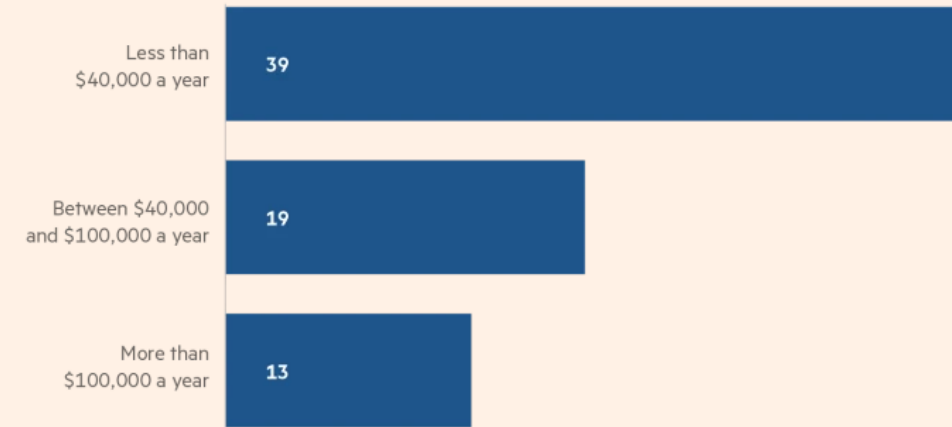Source: Brookings analysis of BLS, Census, EMSI, and McKinsey data

acceleration

Lower-income households are more likely to have lost a job

% of Fed survey who experienced job loss, by income

Income	%
Less than $40,000 a year	39
Between $40,000 and $100,000 a year	19
More than $100,000 a year	13

Source: US Federal Reserve
© FT

at risk

Could a machine do your job?

Field	Risk of automation
Food preparation and service	81%
Production operations	79%
Office and administrative support	60%
Farming/fishing and forestry	56%
Transportation and material moving	55%
Construction and extraction	50%
Installation/maintenance and repair	49%
Sales	43%
Healthcare support	40%
Legal	38%
Computer and math	37%
Protective services	36%

| Field	Risk of automation
Legal	38%
Computer and math	37%
Protective services	36%
Personal care and service occupations	34%
Healthcare practitioners and technical jobs	33%
Life/physical and social science	32%
Management	23%
Community and social service	22%
Building and grounds cleaning	21%
Arts/design/entertainment/sports and media	20%
Architecture and engineering	19%
Education/training and library	18%
Business and financial operations	14%

gap

Pay Hasn't Kept Pace

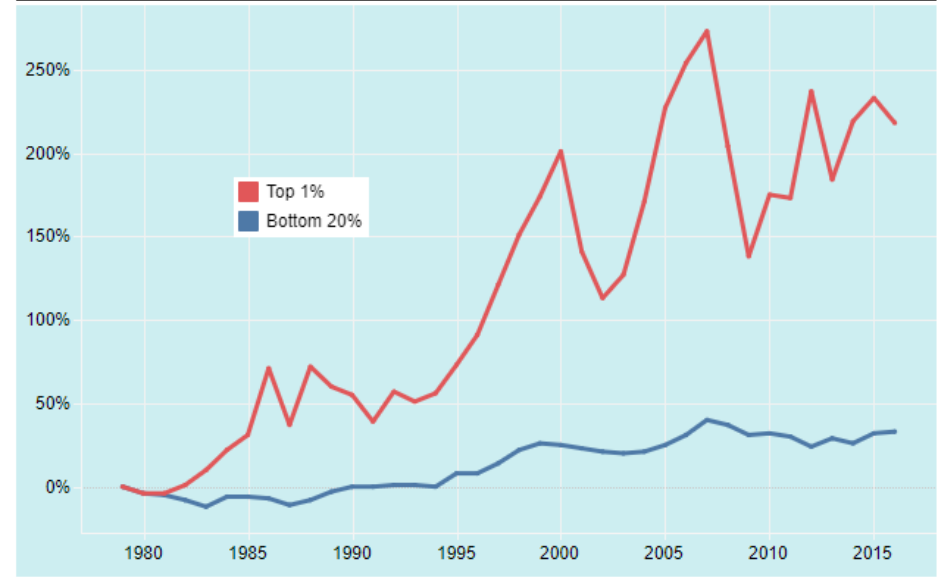Real output per hour   Real compensation per hour
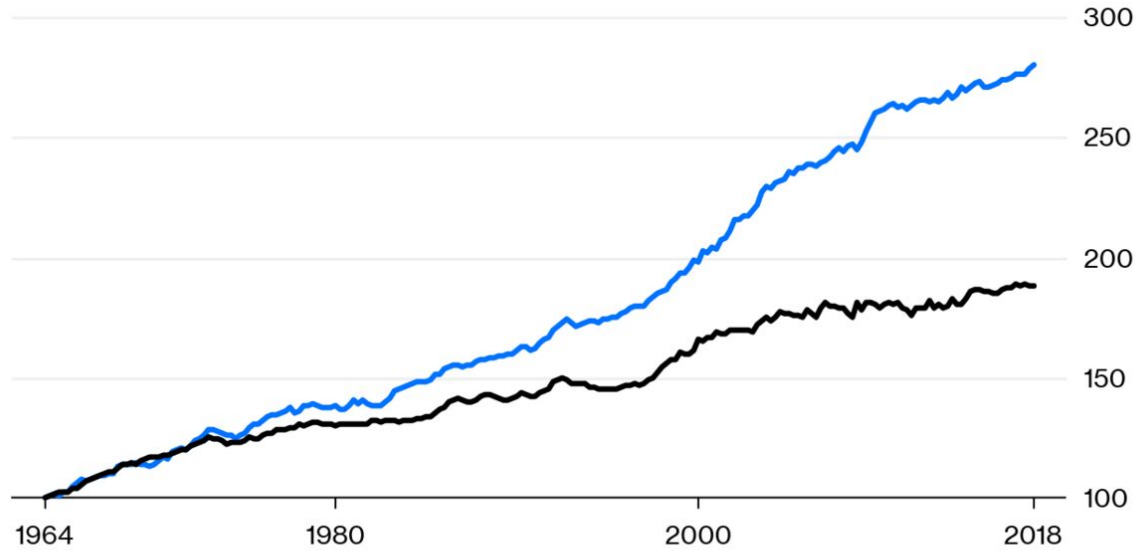
Index: 100 = 1964
Source: Federal Reserve Bank of St. Louis

BloombergOpinion

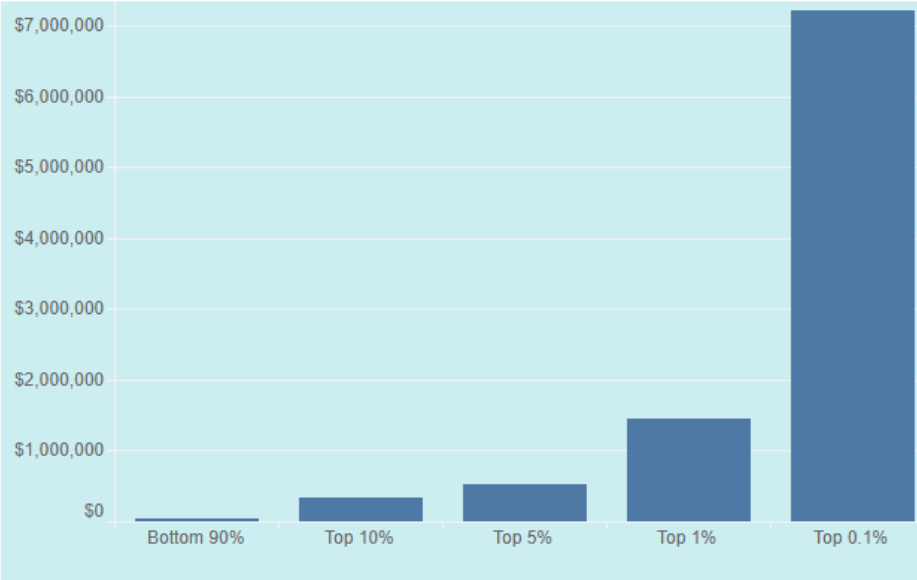## The Richest Americans Have Had the Fastest Income Growth
Growth in U.S. before-tax income, 1979-2016

Top 1%
Bottom 20%

Source: Congressional Budget Office

inequality

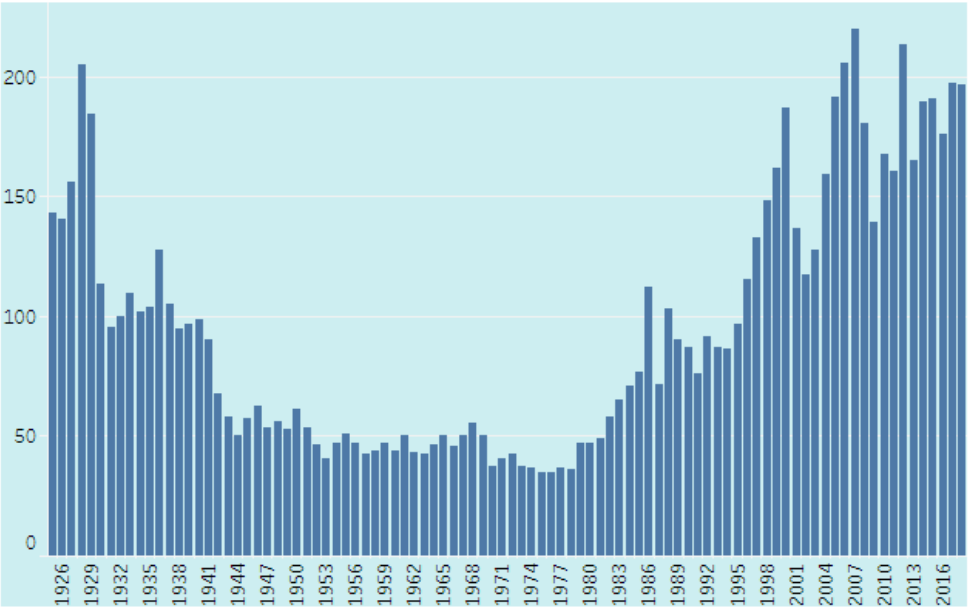Richest 0.1% Take in 196 Times As Much as Bottom 90%
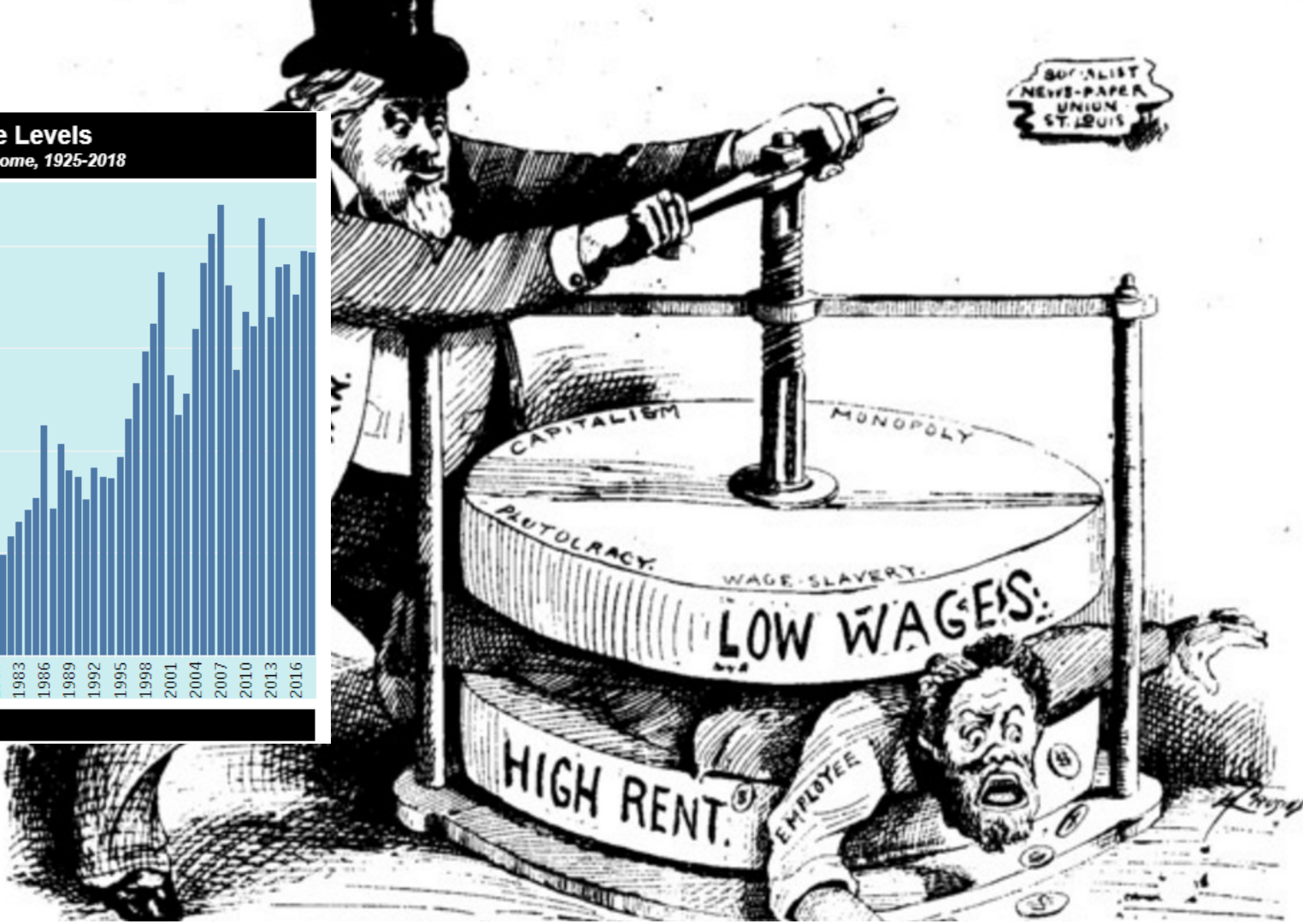U.S. average income, 2018

Source: Emmanuel Saez, UC Berkeley

inequality
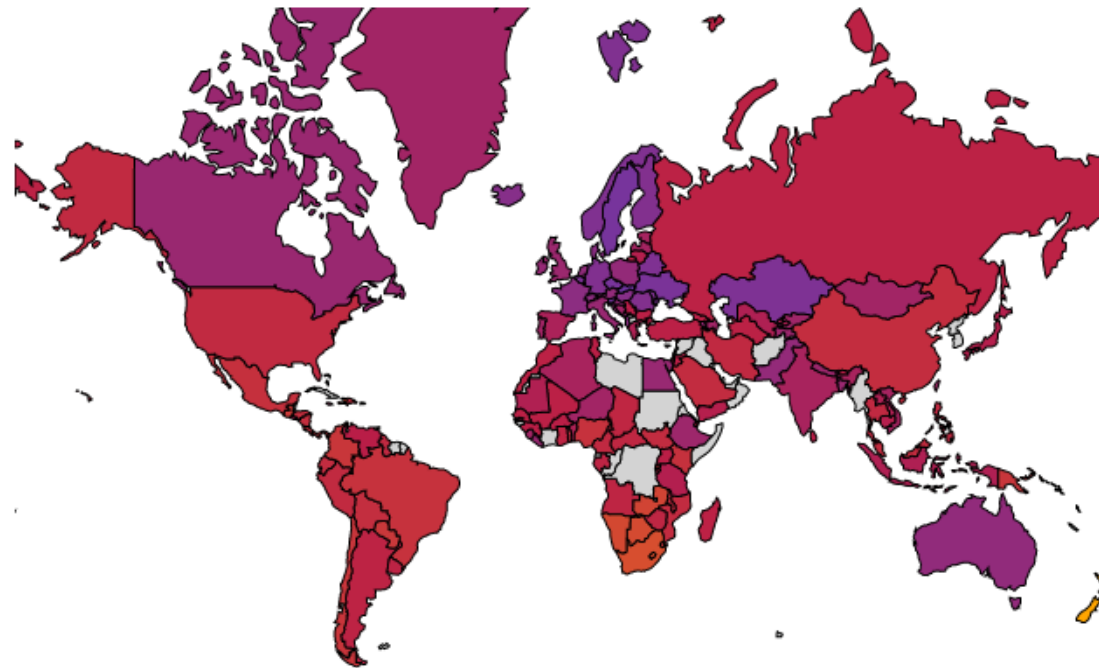

U.S. Inequality Has Returned to Gilded Age Levels
Income of America's top 0.1% as a multiple of bottom 90% income, 1925-2018

Source: Emmauel Saez, UC Berkeley

inequality

Gini Index

< 25 | > 25 | > 30 | > 35 | > 40 | > 45 | > 50 | > 55 | > 60 | > 65

🇺🇸 **United States**

Gini Index: 45 | Population 2020: 331,002,651

🇨🇳 **China**

Gini Index: 46.5 | Population 2020: 1,439,323,776

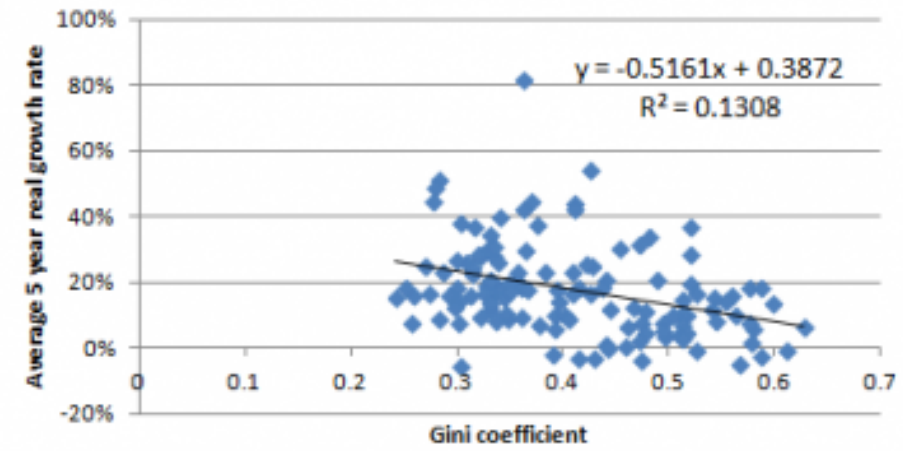🔗 Gini Coefficient By Country by Population 2020   Source: COUNTR

⬇ CSV   ⬇ JSON

Flag	Country	Gini Index ▾	Population 2020
	Lesotho	63.2	2,142,249
	South Africa	62.5	59,308,690
	Haiti	60.8	11,402,528
	Botswana	60.5	2,351,627
	Namibia	59.7	2,540,905
	Zambia	57.5	18,383,955
	Comoros	55.9	869,601
	Hong Kong	53.9	7,496,981
	Guatemala	53	17,915,568
	Paraguay	51.7	7,132,538
	Colombia	51.1	50,882,891
	Papua New Guinea	50.9	8,947,024
	Panama	50.7	4,314,767
	Chile	50.5	19,116,201
	Swaziland	50.4	1,160,164
	Rwanda	50.4	12,952,218
	Brazil	49	212,559,417
	Nigeria	48.8	206,139,589
	Kenya	48.5	53,771,296
	Costa Rica	48.5	5,094,118
	Mexico	48.2	128,932,753
	Nicaragua	47.1	6,624,554

stagnation

GDP growth rate

Average 5 year real growth rate vs Gini coefficient

$y = -0.1541x + 0.3063$
$R^2 = 0.0138$
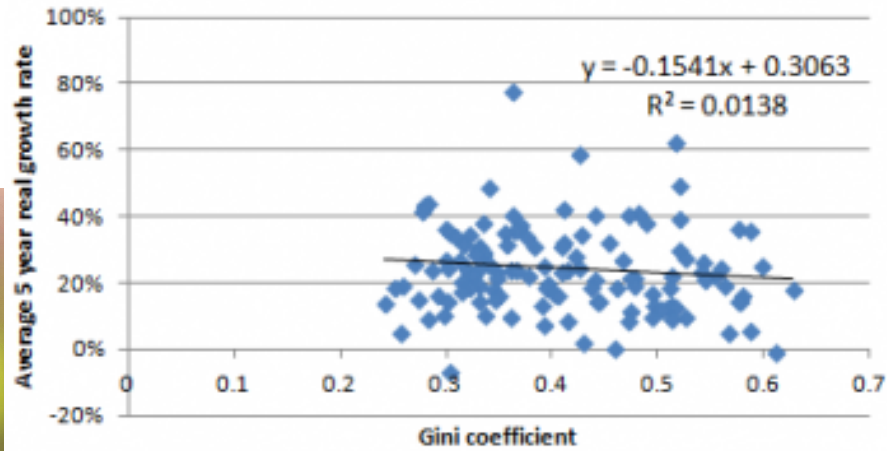
GDP per capita growth rate

Average 5 year real growth rate vs Gini coefficient

$y = -0.5161x + 0.3872$
$R^2 = 0.1308$
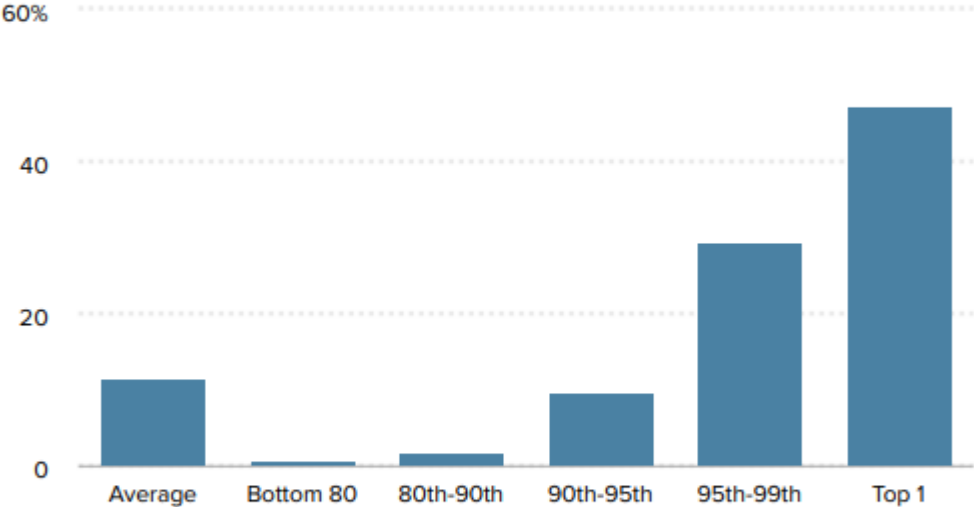
demand gap

Higher-income households have much higher savings rates
Savings as share of income by income percentiles, 1989-2013 averages

Notes: Construction of the data is described in the appendix.

Source: Author's analysis of data from the Federal Reserve Board's Survey of Consumer Finances (SCF), the Federal Reserve Board's Financial Accounts of the United States (FAUS), and Congressional Budget Office data on household income and effective tax rates (CBO 2016)

Economic Policy Institute

Lagging demand from Great Recession has also hurt economy's potential growth
Actual GDP and estimates of potential GDP, 2001–2016Q3
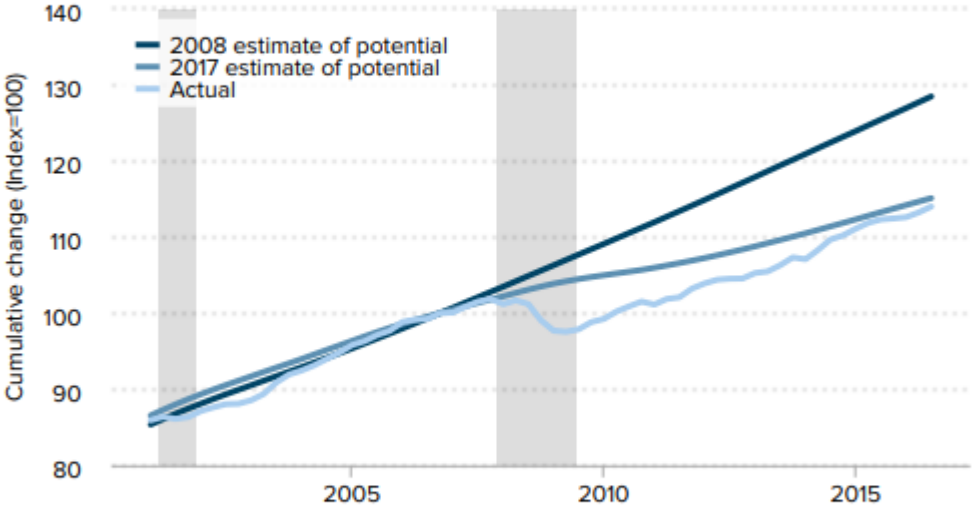
Note: Shaded areas denote recession. Measures of potential output are from the 2008 and 2017 editions of the CBO Budget and Economic Outlook.

Source: Author's analysis of data from BEA NIPA Table 1.1.6 and the Congressional Budget Office (on gross domestic product)

Economic Policy Institute

us recovery

Daily Treasury Yield Curve Rates

✉ Get updates to this content.

XML These data are also available in XML format by clicking on the XML icon.
XSD 📁 The schema for the XML is available in XSD format by clicking on the XSD icon.

If you are having trouble viewing the above XML in your browser, click here.

To access interest rate data in the legacy XML format and the corresponding XSD schema, click here.

**Select type of Interest Rate Data**
Daily Treasury Yield Curve Rates ▼ [Go]

Select Time Period
Current Month ▼ [Go]

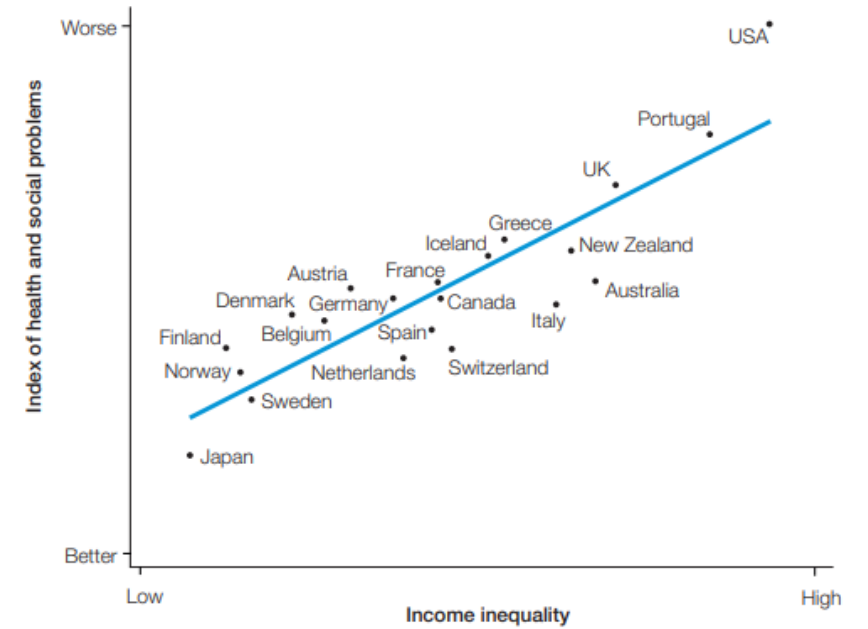| Date	1 Mo	2 Mo	3 Mo	6 Mo	1 Yr	2 Yr	3 Yr	5 Yr	7 Yr	10 Yr	20 Yr	30 Yr
05/01/20	0.10	0.11	0.12	0.12	0.17	0.20	0.25	0.36	0.53	0.64	1.04	1.27
05/04/20	0.10	0.10	0.13	0.14	0.16	0.19	0.24	0.36	0.52	0.64	1.05	1.29
05/05/20	0.09	0.11	0.13	0.15	0.16	0.19	0.24	0.36	0.53	0.66	1.07	1.32
05/06/20	0.08	0.10	0.12	0.16	0.16	0.17	0.24	0.37	0.57	0.72	1.16	1.41
05/07/20	0.10	0.11	0.11	0.14	0.15	0.13	0.19	0.29	0.49	0.63	1.05	1.31
05/08/20	0.10	0.11	0.12	0.15	0.15	0.16	0.21	0.33	0.53	0.69	1.12	1.39
05/11/20	0.09	0.11	0.12	0.16	0.16	0.17	0.24	0.36	0.56	0.73	1.16	1.43
05/12/20	0.10	0.11	0.13	0.16	0.16	0.17	0.22	0.34	0.53	0.69	1.11	1.38
05/13/20	0.10	0.10	0.13	0.15	0.15	0.16	0.20	0.31	0.50	0.64	1.07	1.35
05/14/20	0.09	0.10	0.12	0.15	0.15	0.16	0.20	0.31	0.48	0.63	1.03	1.30
05/15/20	0.09	0.09	0.12	0.15	0.15	0.16	0.19	0.31	0.49	0.64	1.05	1.32
05/18/20	0.10	0.11	0.13	0.15	0.17	0.18	0.24	0.38	0.57	0.73	1.17	1.44
05/19/20	0.09	0.11	0.13	0.15	0.16	0.17	0.22	0.35	0.54	0.70	1.15	1.43

Tuesday May 19, 2020
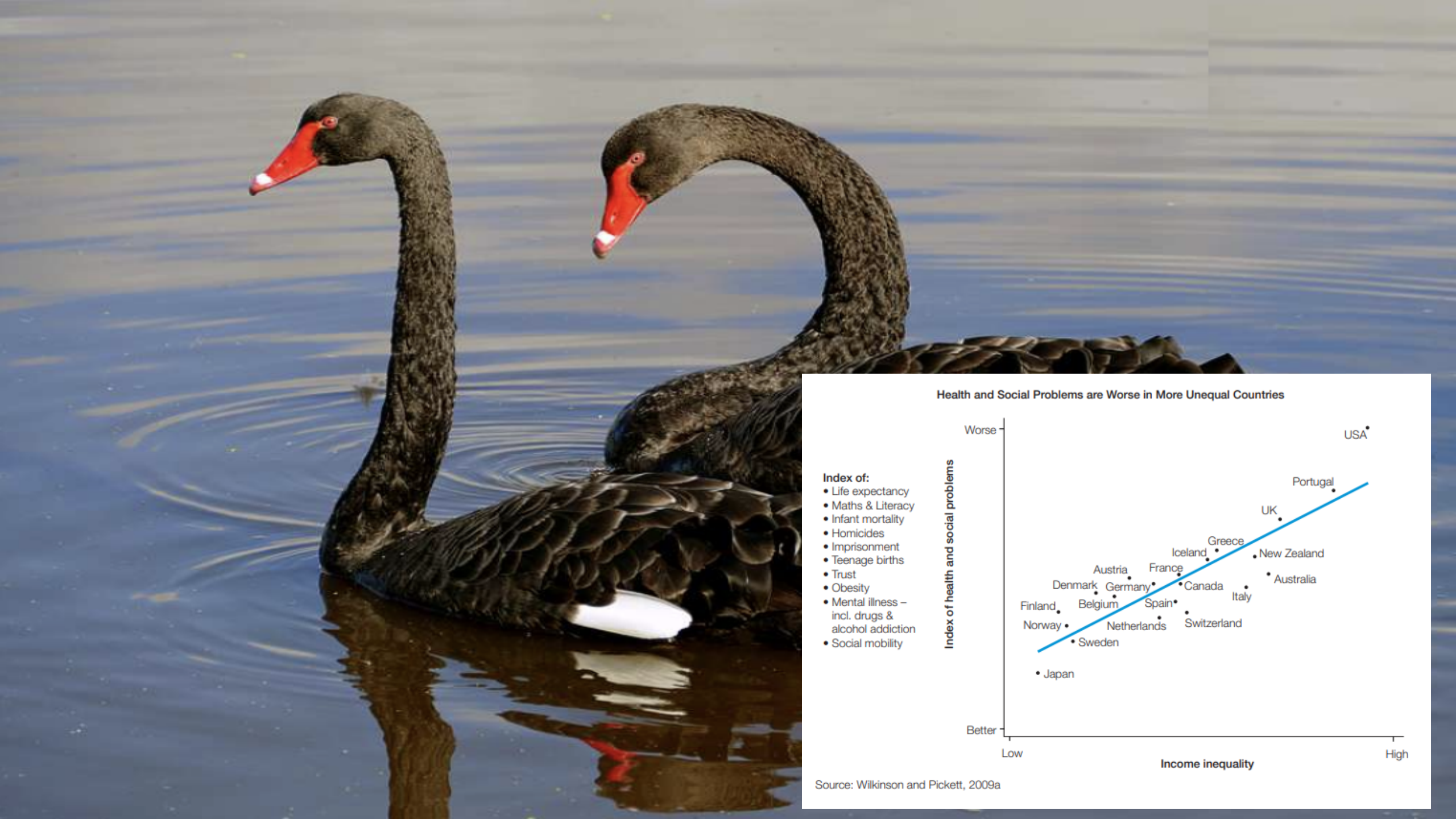
Health and Social Problems are Worse in More Unequal Countries

Index of:
• Life expectancy
• Maths & Literacy
• Infant mortality
• Homicides
• Imprisonment
• Teenage births
• Trust
• Obesity
• Mental illness –
  incl. drugs &
  alcohol addiction
• Social mobility

Index of health and social problems

Worse

USA
Portugal
UK
Greece
Iceland
New Zealand
Austria
France
Australia
Denmark
Germany
Canada
Italy
Finland
Belgium
Spain
Norway
Netherlands
Switzerland
Sweden
Japan

Better

Low   Income inequality   High

Source: Wilkinson and Pickett, 2009a