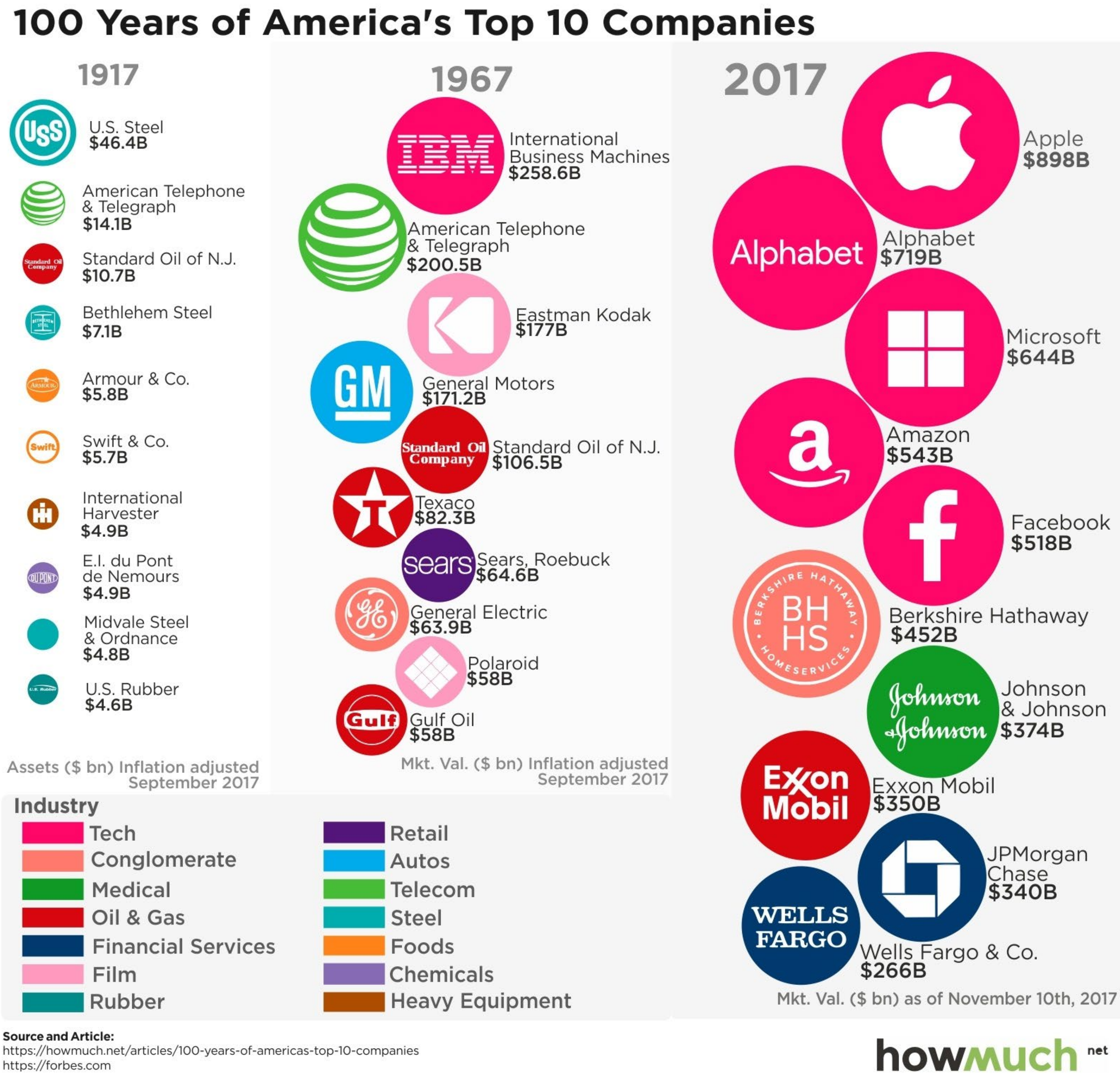
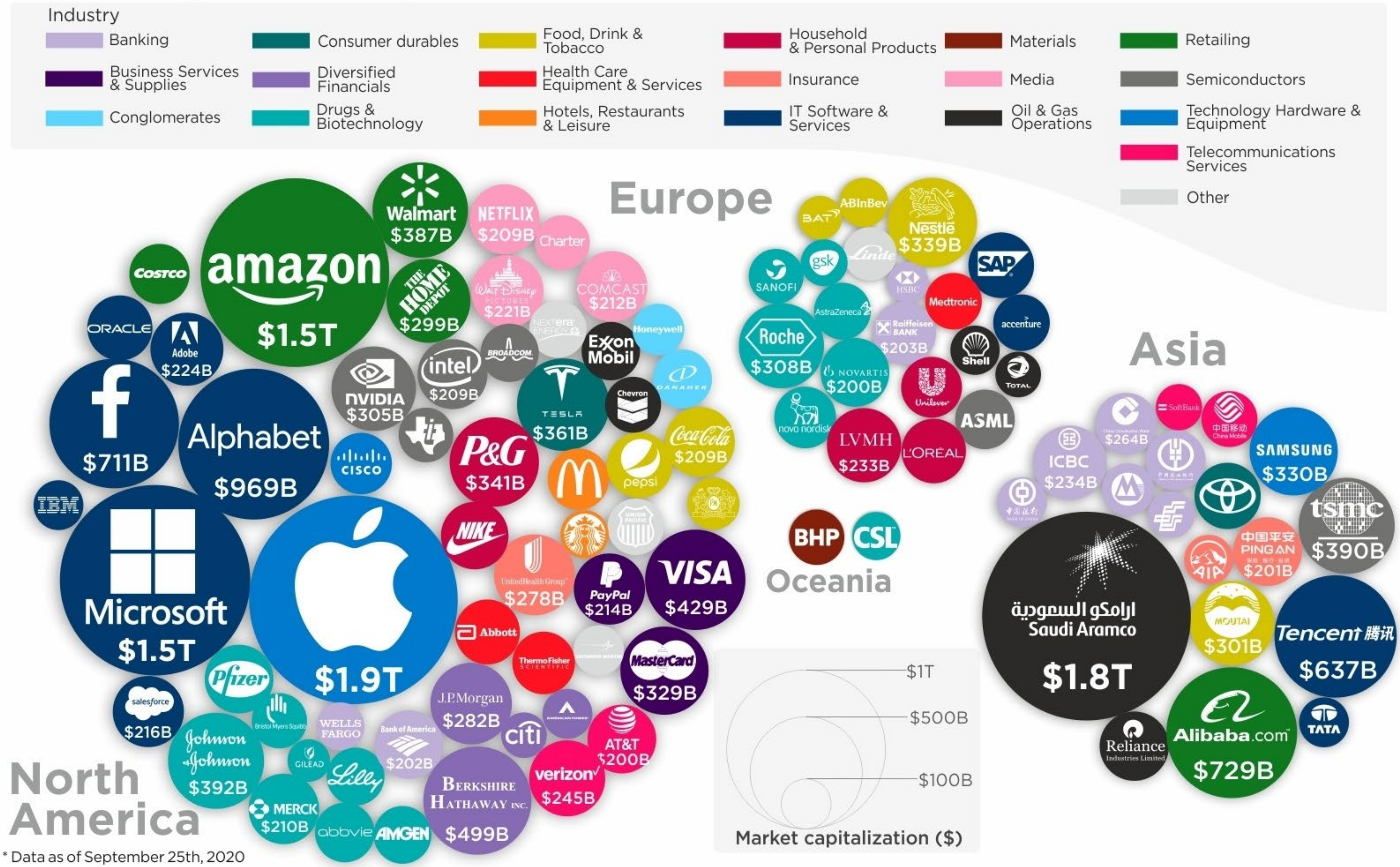
FIRMS: changes at the top (click here!)



The Largest Companies in the World in 2020

Top 100 by Market Capitalization*



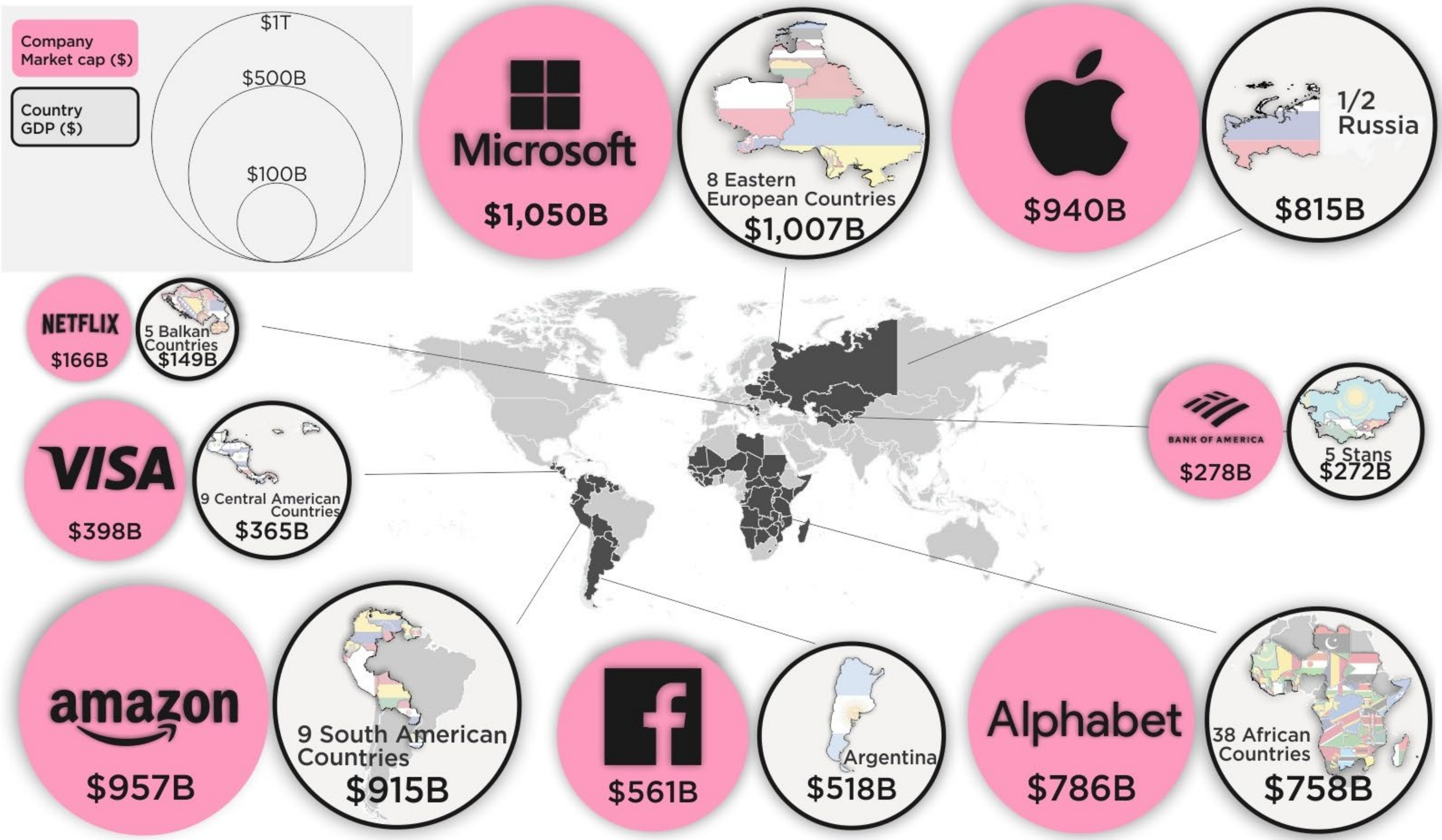
* Data as of September 25th, 2020

Article & Sources:
https://howmuch.net/articles/largest-companies-in-the-world-2020
Yahoo Finance - https://finance.yahoo.com

howmuch.net

Putting American Companies' Economic Power Into Perspective

Comparing Companies' Market Cap vs. Countries' GDP



Note: A breakdown of countries are listed in our article & sources.
Article & Sources:
https://howmuch.net/articles/putting-companies-power-into-perspective
International Monetary Fund - https://imf.org
Yahoo Finance - https://finance.yahoo.com

howmuch net

Do firms maximize profits?

Economics frequently treats firm as "**blackbox**" which transforms inputs into outputs through a process of profit maximization.

How realistic an approximation is this?
In reality, firms involve a collection of individuals and stakeholders with different interests

Is there enough discipline to lead firm to profit (value) maximization?

1) Internal discipline

Who controls managers within the firm?

- Shareholders (problem: dispersion)
- Boards of directors (problem: insiders)
- Other stakeholders (problem: how)

How to control firm managers.

- Agency problem (owners as principal)
- Asymmetric information, moral hazard, risk aversion
- High and low-powered incentive schemes
- Optimal solution and feasible solution

2) Labor market discipline

Managers don’t always work for the same firm

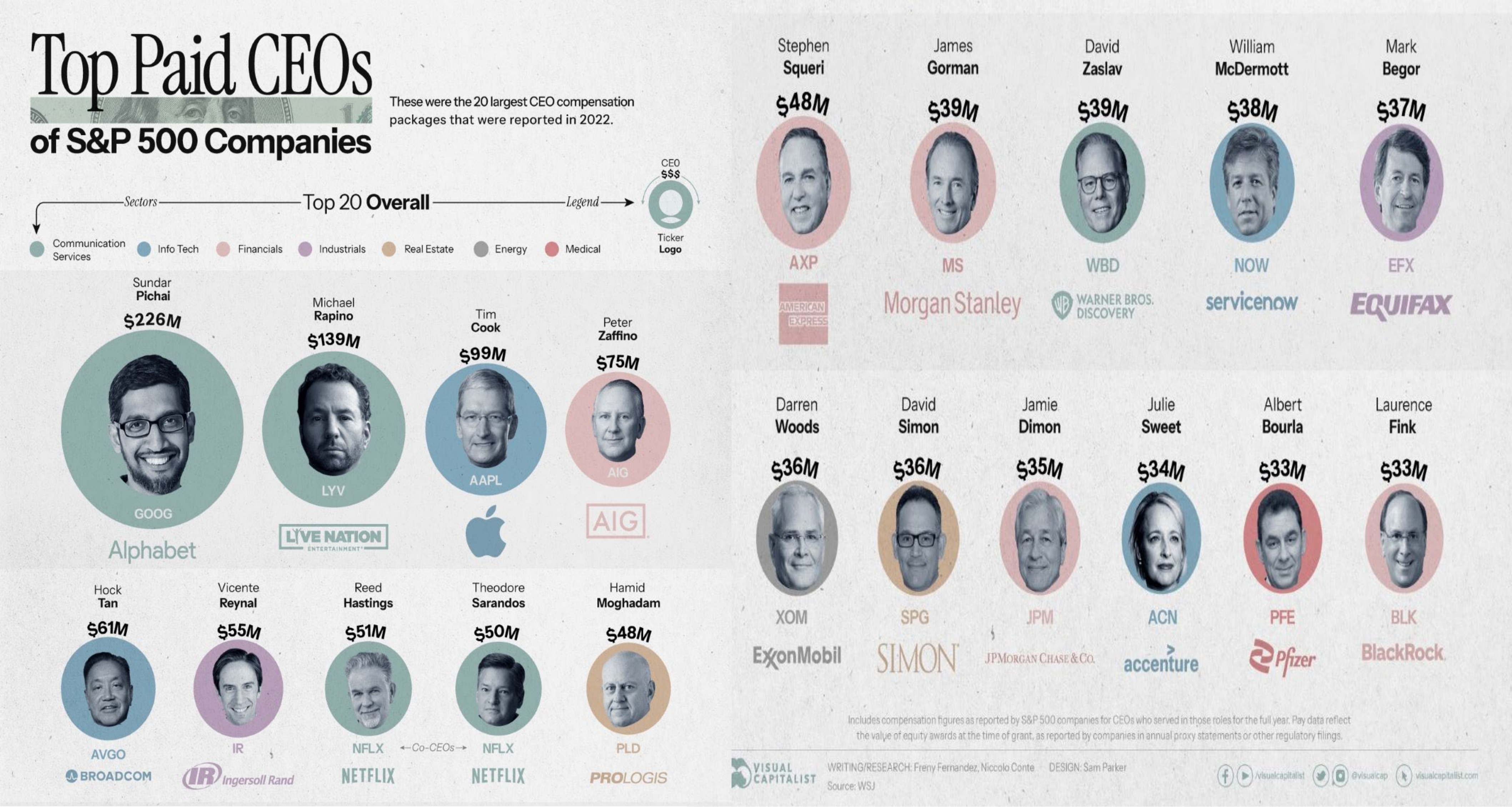
Managers’ reputation is a function of past performance

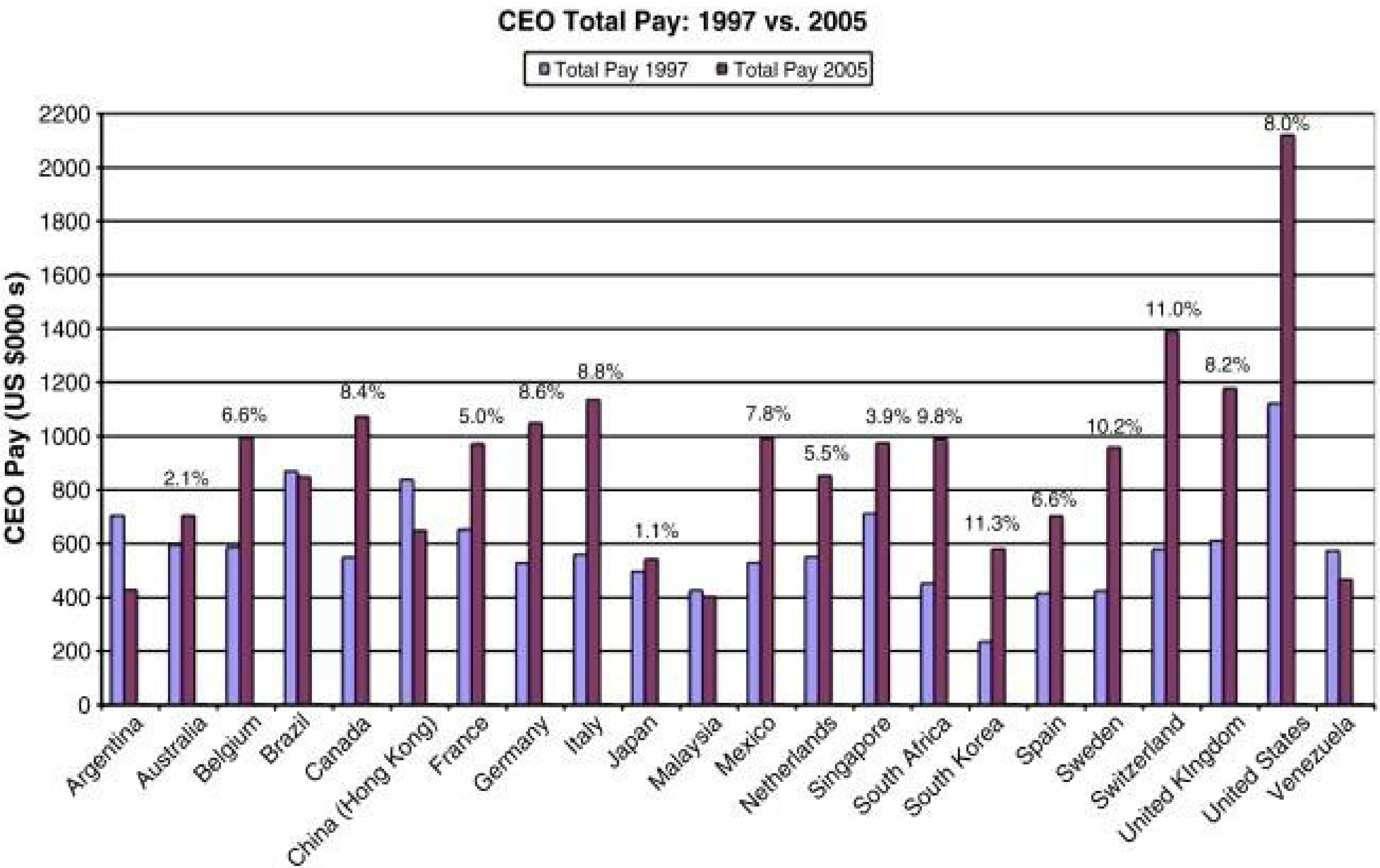
Managers’ future compensation is a function of reputation

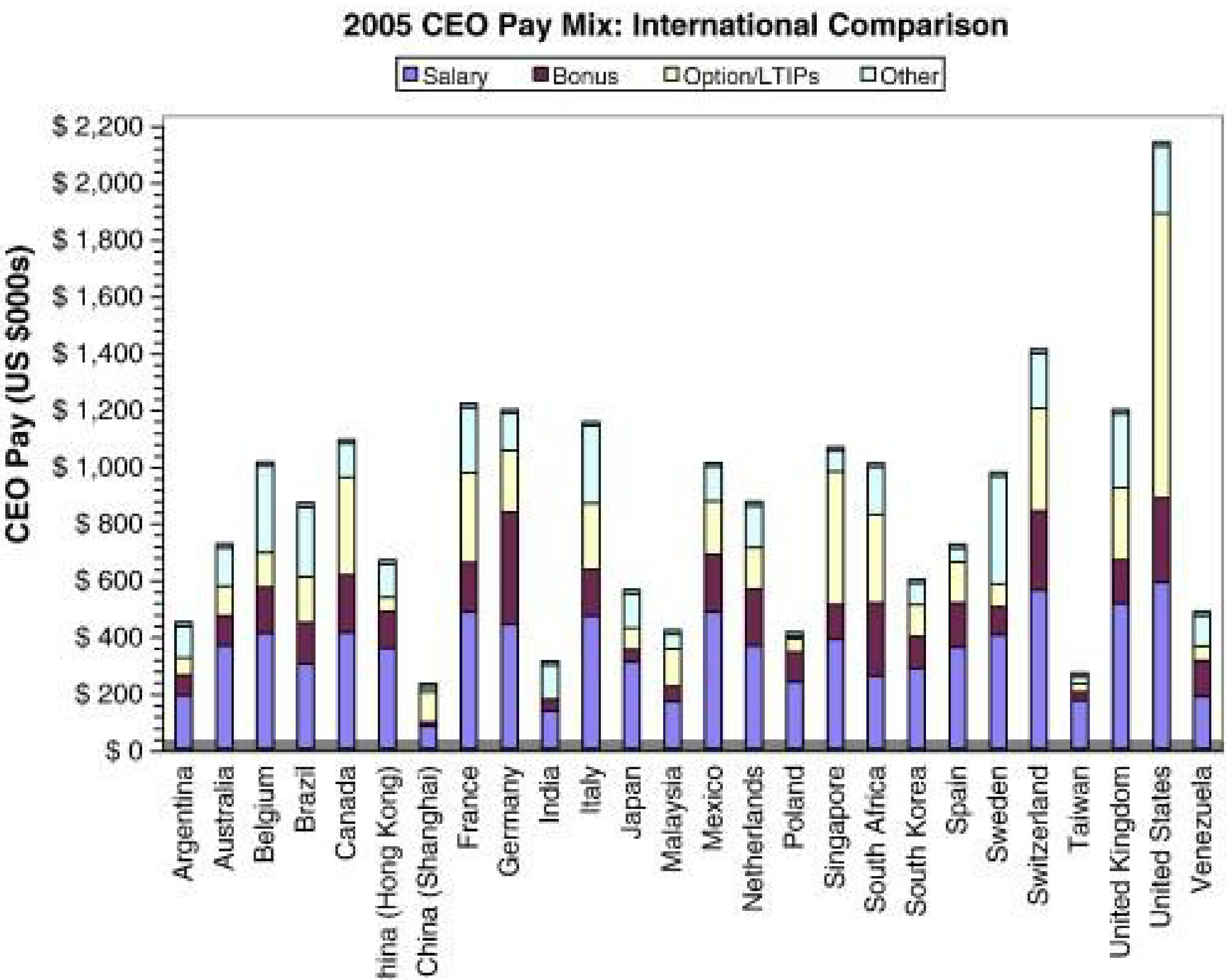
Hence, managers have an incentive to perform (financially speaking)

Top US Executive Pay in 2014

Executive	Corporation	Position	Compensation
Angela Ahrendts	Apple	Vice President	$73,351,124
Steven M. Mollenkopf	Qualcomm	Chief Executive Officer	$60,740,592
Paul E. Jacobs	Qualcomm	Chairman	$56,941,992
Robert A. Iger	Walt Disney	Chairman, Chief Executive Officer	$46,497,018
Philippe P. Dauman	Viacom	Chief Executive Officer, President	$44,334,858
Thomas E. Dooley	Viacom	Chief Operating Officer, Vice President	$34,953,714
Rex W. Tillerson	Exxon Mobil	Chairman, Chief Executive Officer	$33,096,312
Eric J. Foss	Aramark	Chief Executive Officer, President	$32,422,382
Derek K. Aberle	Qualcomm	President	$32,103,659
John S. Watson	Chevron	Chairman, Chief Executive Officer	$25,970,417
Greg C. Garland	Phillips 66	Chairman, Chief Executive Officer	$24,508,433
Stephen P. MacMillan	Hologic	Chief Executive Officer, President	$24,458,289
Eduardo H. Cue	Apple	Vice President	$24,445,739
Jeffrey E. Williams	Apple	Vice President	$24,403,235
Mark Schwartz	Goldman Sachs	Vice Chairman	$24,225,462
Lloyd C. Blankfein	Goldman Sachs	Chairman, Chief Executive Officer	$22,162,912
Charles E. Bunch	PPG Industries	Chairman, Chief Executive Officer	$21,628,081
Howard Schultz	Starbucks	Chairman, Chief Executive Officer	$21,466,454


Top Paid CEOs
of S&P 500 Companies
These were the 20 largest CEO compensation packages that were reported in 2022.
Sectors
Top 20 Overall
Legend
CEO $$$
Ticker Logo
Communication Services
Info Tech
Financials
Industrials
Real Estate
Energy
Medical
Sundar Pichai $226M GOOG Alphabet
Michael Rapino $139M LYV LIVE NATION ENTERTAINMENT
Tim Cook $99M AAPL
Peter Zaffino $75M AIG AIG
Hock Tan $61M AVGO BROADCOM
Vicente Reynal $55M IR Ingersoll Rand
Reed Hastings $51M NFLX NETFLIX
Co-CEOs
Theodore Sarandos $50M NFLX NETFLIX
Hamid Moghadam $48M PLD PROLOGIS
Stephen Squeri $48M AXP AMERICAN EXPRESS
James Gorman $39M MS Morgan Stanley
David Zaslav $39M WBD WARNER BROS. DISCOVERY
William McDermott $38M NOW servicenow
Mark Begor $37M EFX EQUIFAX
Darren Woods $36M XOM ExxonMobil
David Simon $36M SPG SIMON
Jamie Dimon $35M JPM JPMorgan Chase & Co.
Julie Sweet $34M ACN accenture
Albert Bourla $33M PFE Pfizer
Laurence Fink $33M BLK BlackRock
Includes compensation figures as reported by S&P 500 companies for CEOs who served in those roles for the full year. Pay data reflect the value of equity awards at the time of grant, as reported by companies in annual proxy statements or other regulatory filings.
VISUAL CAPITALIST
WRITING/RESEARCH: Freny Fernandez, Niccolo Conte DESIGN: Sam Parker
Source: WSJ
/visualcapitalist @visualcap visualcapitalist.com


CEO Total Pay: 1997 vs. 2005
Total Pay 1997
Total Pay 2005
CEO Pay (US $000 s)
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
2.1%
6.6%
8.4%
5.0%
8.6%
8.8%
1.1%
7.8%
5.5%
3.9%
9.8%
11.3%
6.6%
10.2%
11.0%
8.2%
8.0%
Argentina
Australia
Belgium
Brazil
Canada
China (Hong Kong)
France
Germany
Italy
Japan
Malaysia
Mexico
Netherlands
Singapore
South Africa
South Korea
Spain
Sweden
Switzerland
United Kingdom
United States
Venezuela



2005 CEO Pay Mix: International Comparison
Salary
Bonus
Option/LTIPs
Other
CEO Pay (US $000s)
$ 2,200
$ 2,000
$ 1,800
$ 1,600
$ 1,400
$ 1,200
$ 1,000
$ 800
$ 600
$ 400
$ 200
$ 0
Argentina
Australia
Belgium
Brazil
Canada
China (Hong Kong)
China (Shanghai)
France
Germany
India
Italy
Japan
Malaysia
Mexico
Netherlands
Poland
Singapore
South Africa
South Korea
Spain
Sweden
Switzerland
Taiwan
United Kingdom
United States
Venezuela

3) Product market discipline

Under intense competition only the best survive

Only when the tide goes out do you discover who's been swimming naked. *—Warren Buffett*

Competition as yardstick

4) Capital market discipline

Non-profit maximizing firms have lower than potential value. Hence, they are prime target for acquisition

<u>Problem 1</u>: If raider can increase firm value why haven't shareholders done so?

<u>Problem 2</u>: If raider is going to increase firm value, why do I sell my shares to the raider?

What determines the firm's boundaries?

Why should firms be of the size they are; why not smaller or bigger?
What does economic analysis have to say about firm size?

Useful to divide this into two questions:
what determines the horizontal extension of the firm
what determines the degree of vertical integration

Horizontal boundaries are largely determined by the cost function
Examples: cement factories vs bakeries (different Minimum Efficient Scales)

Vertical boundaries are mostly due to specific assets: the Fisher Body case (coach maker bought by General Motors)
Intermediate cases, e.g.:

- Tapered integration
- Franchising

Minimum Efficient Scales at the plant and firm-level

Table (a)

Product	MES as % of production: UK	MES as % of production: EU	% additional cost at $^1/_2$ *MES*
Individual plants			
Cellulose fibres	125	16	3
Rolled aluminium semi-manufactures	114	15	15
Refrigerators	85	11	4
Steel	72	10	6
Electric motors	60	6	15
TV sets	40	9	9
Cigarettes	24	6	1.4
Ball-bearings	20	2	6
Beer	12	3	7
Nylon	4	1	12
Bricks	1	0.2	25
Tufted carpets	0.3	0.04	10
Shoes	0.3	0.03	1
Firms			
Cars	200	20	9
Lorries	104	21	7.5
Mainframe computers	>100	n.a.	5
Aircraft	100	n.a.	5
Tractors	98	19	6

Source: Michael Emerson et al. in footnote 1 below

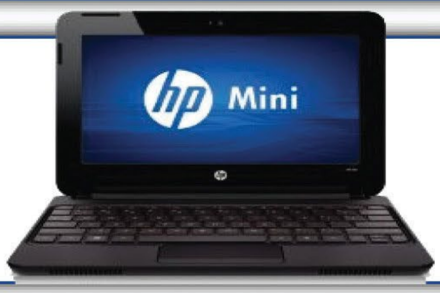
1 C.F. Pratten, 'A survey of the econo...

Efficiency of production requires only 5 car manufacturers in the EU and no more than one aircraft firm in the UK

Horizontal integration refers to pursuing a concentration strategy by acquiring or merging with a rival. The term ***merger*** *is generally used when two similarly sized firms are integrated into a single entity. In an acquisition, a larger firm purchases and absorbs a smaller firm. We illustrate examples of each below.*

ExxonMobil is a direct descendant of John D. Rockefeller's Standard Oil Company. It was formed by the 1999 merger of Exxon and Mobil. As in many mergers, the new company name combines the old company names.

Starbucks acquired competitor Seattle's Best Coffee—which had a presence in Borders Bookstores and Subway Restaurants—in order to target a more working-class audience without diluting the Starbucks brand.



Bill Hewlett and Dave Packard formed Hewlett-Packard in a garage after graduating from Stanford in 1935. In recent years, HP has pursued horizontal integration through a merger with Compaq and the acquisition of Palm.

DaimlerChrysler was formed in 1998 when Chrysler entered into what was billed as a "merger of equals" with Germany's Daimler-Benz AG. The marriage failed, and Chrysler is currently owned by Italian automaker Fiat.

Global pharmaceutical firm GlaxoSmithKline plc was formed by the merger of GlaxoWellcome plc and SmithKline Beecham plc in 2000.

When using vertical integration, firms get involved in different elements of the value chain. This concept gets top billing at American Apparel, a firm that describes its business model as "vertically integrated manufacturing." The elements of their integrated process for designing, manufacturing, wholesaling, and selling basic T-shirts, underwear, leggings, dresses, and other clothing and accessories for men, women, children, and dogs is illustrated below.

Backward vertical integration – entering a supplier's business—is evident as all clothing design is done in-house—often using employees as models.

Manufacturing is conducted in a 800,000 square foot factory in downtown Los Angeles.

Ironically, it was a Canadian named Dov Charney who founded American Apparel in 1989.

The vertical integration process allows the company to keep pace with the fast-moving world of fashion. It takes just a couple of weeks to go from idea to retail floor.

American Apparel uses **forward vertical integration**—entering a buyer's business—by operating 250 plus company-owned stores worldwide.

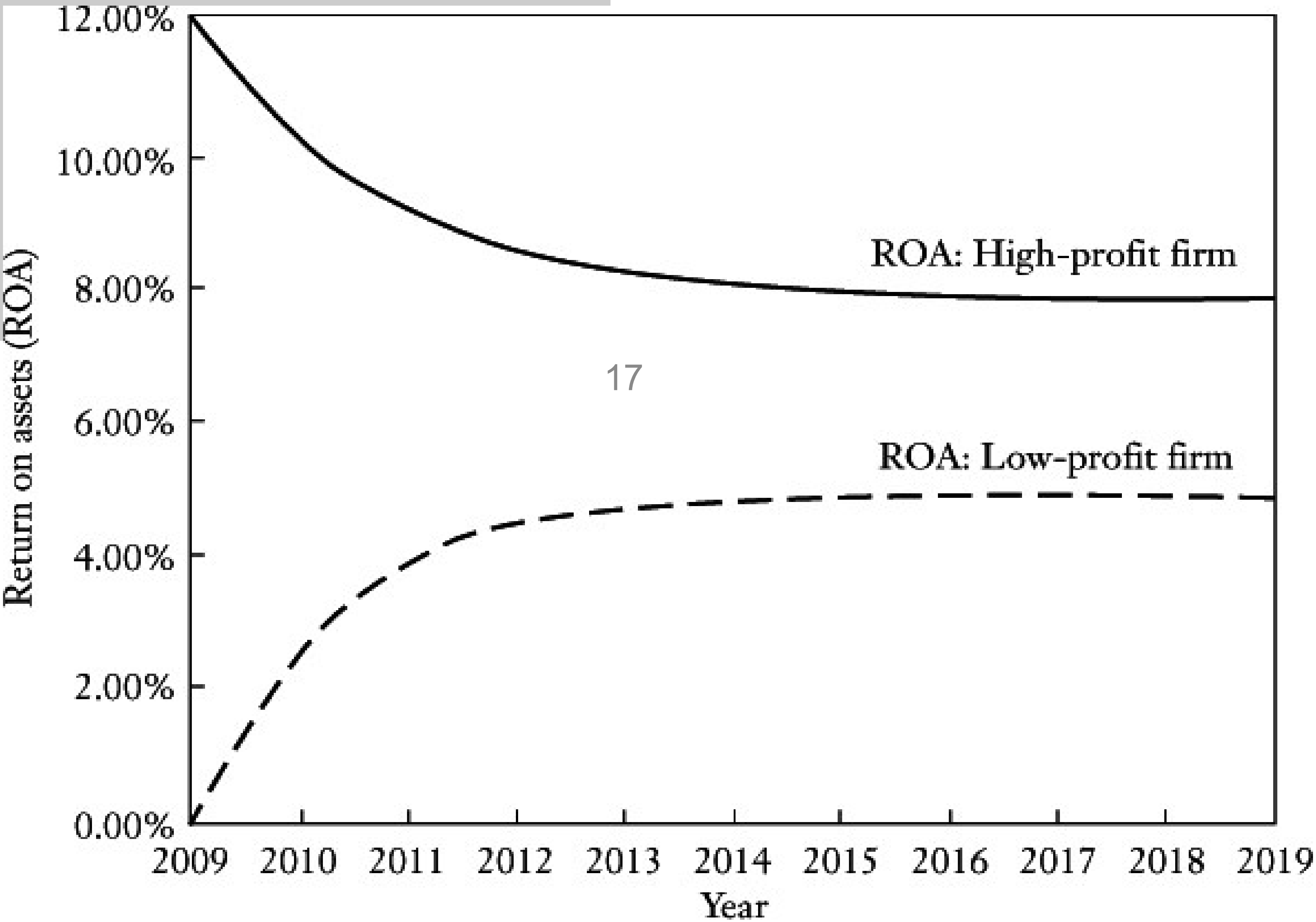
Why are firms different?

Only 20% of the variance in firm profit rates can be explained by observable firm and industry characteristics (size, investment in R&D and advertising, market share, concentration ratios, ownership, etc.).

Where does the remaining 80% come from? Why don't lower performance firms imitate higher performance firms?

- unique resources, e.g.: patents (e.g., aspartame), trade secrets (e.g., Coke formula), star talent (e.g., Steve Jobs)
- causal ambiguity (e.g., Toyota)
- History (e.g., learning curves, network effects)
- Firm strategy: some firms play their cards better

Persistence of profits for high profit firms



Takeaways

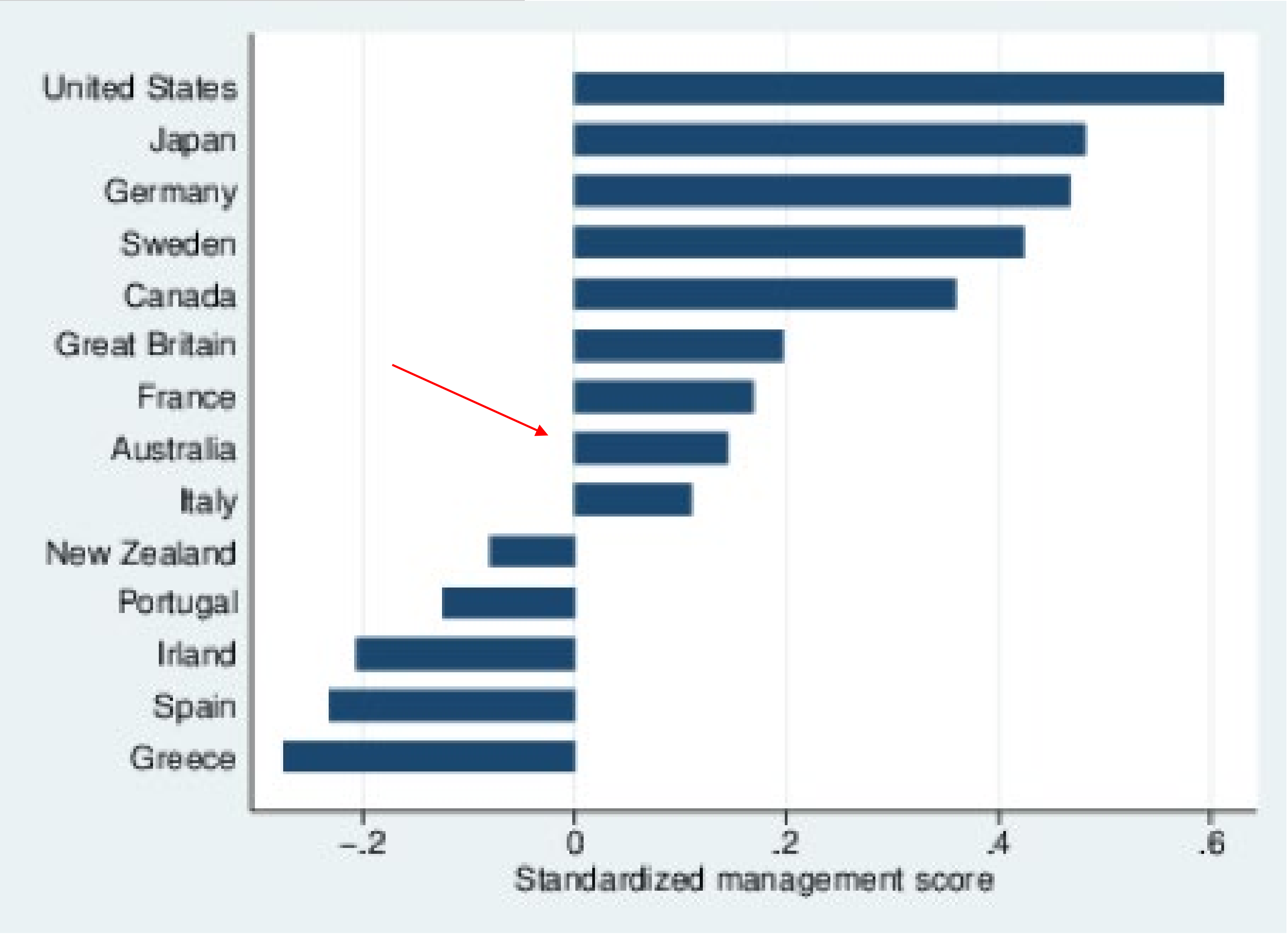
Although management and ownership are normally separated, there are reasons to believe that deviations from profit maximization cannot be too large The precise meaning of “not too large” remains an unresolved empirical question

The horizontal boundaries of the firm are largely determined by cost considerations. The vertical boundaries result from the balance between investment incentives (specific assets) and performance incentives

Firm performance varies a great deal. Firms are different because of impediments to imitation, causal ambiguity, historical events, or simply firm strategy

Managerial practices are very important in order for firms to enter survive and grow!!
https://www.core-econ.org/the-economy/book/text/16.html#q9kYwVciFnI

Managerial practices at the frontier (careful programming of activities, clearly defined goals, ex-post measurement, use of incentives, training programs for workers, pay linked to productivity premia – *Key Performance Indicators*)



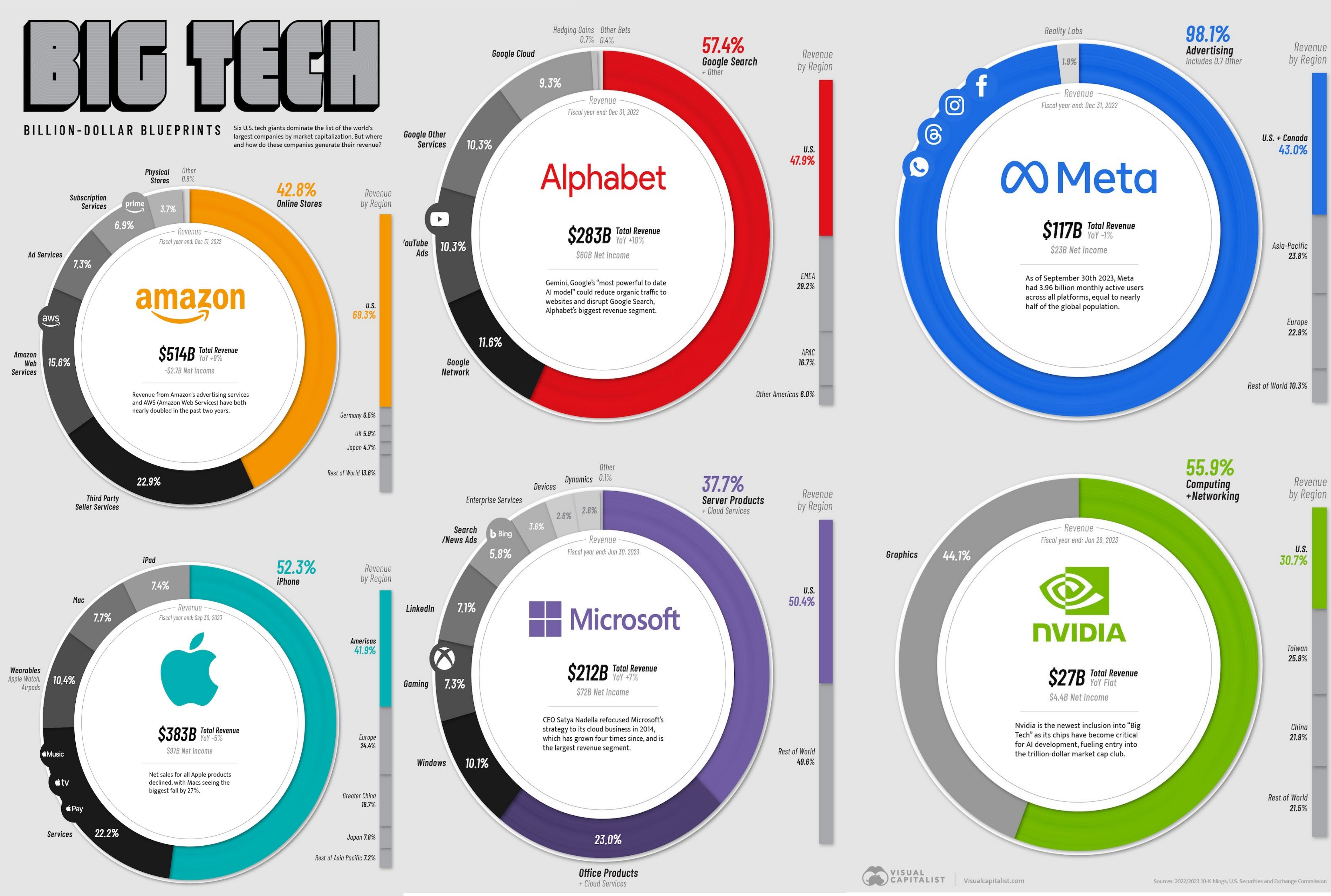
THE TECH-TITANS: GAFAM

(Google/Alphabet, Amazon, Facebook/Meta, Apple, Microsoft)

Giants active on *two sided markets (*that link firms with consumers, firms with firms or consumers with consumers) that reached a size such that there are risks of abuse of a dominant position (exclusion of rivals, barriers to entry) or of collusion.

- Internal growth (Apple and Amazon) or acquisitions? (Whatsapp and Instagram bought by Facebook, Youtube and Double Click bought by Google)
- Personalized prices (discrimination)
- Gathering of data that can be used in a non-trasparent way or can be leaked (privacy and data security)
- Diffusion of fake news

(The last two issues are more related to social and political aspects, and less to economics)


BIG TECH
BILLION-DOLLAR BLUEPRINTS
Six U.S. tech giants dominate the list of the world's largest companies by market capitalization. But where and how do these companies generate their revenue?
Revenue
Fiscal year end: Dec 31, 2022
amazon
$514B Total Revenue YoY +9%
-$2.7B Net Income
Revenue from Amazon's advertising services and AWS (Amazon Web Services) have both nearly doubled in the past two years.
42.8% Online Stores
Physical Stores
Other 0.8%
3.7%
Subscription Services 6.9%
prime
Ad Services 7.3%
aws
Amazon Web Services 15.6%
Third Party Seller Services 22.9%
Revenue by Region
U.S. 69.3%
Germany 6.5%
UK 5.9%
Japan 4.7%
Rest of World 13.6%
Revenue
Fiscal year end: Dec 31, 2022
Alphabet
$283B Total Revenue YoY +10%
$60B Net Income
Gemini, Google's "most powerful to date AI model" could reduce organic traffic to websites and disrupt Google Search, Alphabet's biggest revenue segment.
57.4% Google Search + Other
Hedging Gains 0.7%
Other Bets 0.4%
Google Cloud 9.3%
Google Other Services 10.3%
YouTube Ads 10.3%
Google Network 11.6%
Revenue by Region
U.S. 47.9%
EMEA 29.2%
APAC 16.7%
Other Americas 6.0%
Revenue
Fiscal year end: Dec 31, 2022
Meta
$117B Total Revenue YoY -1%
$23B Net Income
As of September 30th 2023, Meta had 3.96 billion monthly active users across all platforms, equal to nearly half of the global population.
98.1% Advertising Includes 0.7 Other
Reality Labs 1.9%
Revenue by Region
U.S. + Canada 43.0%
Asia-Pacific 23.8%
Europe 22.9%
Rest of World 10.3%
Revenue
Fiscal year end: Sep 30, 2023
$383B Total Revenue YoY -5%
$97B Net Income
Net sales for all Apple products declined, with Macs seeing the biggest fall by 27%.
52.3% iPhone
iPad 7.4%
Mac 7.7%
Wearables Apple Watch, Airpods 10.4%
Music
tv
Pay
Services 22.2%
Revenue by Region
Americas 41.9%
Europe 24.4%
Greater China 18.7%
Japan 7.8%
Rest of Asia Pacific 7.2%
Revenue
Fiscal year end: Jun 30, 2023
Microsoft
$212B Total Revenue YoY +7%
$72B Net Income
CEO Satya Nadella refocused Microsoft's strategy to its cloud business in 2014, which has grown four times since, and is the largest revenue segment.
37.7% Server Products + Cloud Services
Other 0.1%
Dynamics 2.6%
Devices 2.6%
Enterprise Services 3.6%
Search /News Ads 5.8%
Bing
LinkedIn 7.1%
Gaming 7.3%
Windows 10.1%
Office Products + Cloud Services 23.0%
Revenue by Region
U.S. 50.4%
Rest of World 49.6%
Revenue
Fiscal year end: Jan 29, 2023
NVIDIA
$27B Total Revenue YoY Flat
$4.4B Net Income
Nvidia is the newest inclusion into "Big Tech" as its chips have become critical for AI development, fueling entry into the trillion-dollar market cap club.
55.9% Computing +Networking
Graphics 44.1%
Revenue by Region
U.S. 30.7%
Taiwan 25.9%
China 21.9%
Rest of World 21.5%
VISUAL CAPITALIST
visualcapitalist.com
Sources: 2022/2023 10-K filings, U.S. Securities and Exchange Commission

What to do?→Mentimeter

- Let them free to operate without rules?
  (think about internet search engines)
- Break-up the giants into smaller firms?

  (AT&T was trasnformed into 6 different companies, the Baby Bells)
- Force them to change business practice?
  (Telecom companies were forced to guarantee the *number portability* or monthly tariffs, Microsoft was forced to make his operating systems compatible with the systems developed by rival firms)
- Monitor them constantly?
  (why do personalized advices frequently appear on emails or on fb-wapp?)
- Severely punish them with fines?
  (Many recent Antitrust investigations are relative to GAFAM or other similar firms)

- Example: if one searches “Nikon camera” on Google he gets at the top of the screen offers that are selected by Amazon and by **Unieuro**, firms that pay a fee to Google. To the right, one can see a shop located in Rivoli (certainly not the closer shop to the SME's school!), and other 15 shops, that are paying fees as well. The required information (light blue arrow) finally appears, but it is not on the top!
- If one uses other search engines (Bing, MSN), a different set of information is obtained!