



Key Terms of Supply Management

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The ISM Glossary of Key Supply Management Terms

The updated *ISM Glossary of Key Supply Management Terms* is an important reference for supply professionals, academics, researchers, students, general business professionals and those studying for the Certified Professional in Supply Management (CPSM[®]) and Certified Professional in Supplier Diversity (CPSD[™]) designations. Every supply management office should have the glossary in its library.

The latest addition includes more than 425 additional terms of relevance and importance to the field. Included are terms in finance, technology, sustainability and social responsibility, law and, of course, supply management and its related components.

<https://www.ismworld.org/15204346-the-ism-glossary-of-key-supply-management-terms/>

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Supply management

Supply management is the identification, analysis, determination, procurement and fulfillment of the goods and services an organization needs to meet short- and long-term objectives.

By managing external partners' capabilities and linking them to organizational goals, supply management contributes to the strategic direction of an organization through total cost and capabilities management.

By effective oversight and engagement of people, processes and relationships, supply management creates competitive advantage through innovation, cost management, quality improvement, asset optimization, risk mitigation, social responsibility and sustainability.

1Q21 Top 15 Semiconductor Sales Leaders (\$M, Including Foundries)

1Q21 Rank	1Q20 Rank	Company	Headquarters	1Q20 Total IC	1Q20 Total O-S-D	1Q20 Total Semi	1Q21 Total IC	1Q21 Total O-S-D	1Q21 Total Semi	1Q21/1Q20 % Change
1	1	Intel	U.S.	19,508	0	19,508	18,676	0	18,676	-4%
2	2	Samsung	South Korea	14,030	767	14,797	16,152	920	17,072	15%
3	3	TSMC (1)	Taiwan	10,319	0	10,319	12,911	0	12,911	25%
4	4	SK Hynix	South Korea	5,829	210	6,039	7,323	305	7,628	26%
5	5	Micron	U.S.	5,004	0	5,004	6,580	0	6,580	31%
6	7	Qualcomm (2)	U.S.	4,050	0	4,050	6,281	0	6,281	55%
7	6	Broadcom Inc. (2)	U.S.	3,673	409	4,082	4,355	485	4,840	19%
8	9	Nvidia (2)	U.S.	3,074	0	3,074	4,630	0	4,630	51%
9	8	TI	U.S.	2,974	190	3,164	3,793	235	4,028	27%
10	16	MediaTek (2)	Taiwan	2,022	0	2,022	3,849	0	3,849	90%
11	18	AMD (2)	U.S.	1,786	0	1,786	3,445	0	3,445	93%
12	11	Infineon	Europe	1,828	876	2,704	2,170	1,083	3,253	20%
13	10	Apple* (2)	U.S.	2,770	0	2,770	3,080	0	3,080	11%
14	14	ST	Europe	1,483	745	2,228	2,011	994	3,005	35%
15	13	Kioxia	Japan	2,567	0	2,567	2,585	0	2,585	1%
—	—	Top-15 Total		80,917	3,197	84,114	97,841	4,022	101,863	21%

(1) Foundry (2) Fabless

Source: Company reports, IC Insights' Strategic Reviews database

*Custom processors/devices for internal use.

AMD Announces Ambitious Goal to Increase Energy Efficiency of Processors Running AI Training and High Performance Computing Applications 30x by 2025



— High-performance AMD EPYC™ CPUs and AMD Instinct™ accelerators target delivering unprecedented advance in energy efficiency for Artificial Intelligence training and Supercomputing applications —

SANTA CLARA, Calif. 09/29/2021

AMD (NASDAQ: AMD) today announced a goal to deliver a [30x increase in energy efficiency](#) for AMD EPYC CPUs and AMD Instinct accelerators in Artificial Intelligence (AI) training and High Performance Computing (HPC) applications running on accelerated compute nodes by 2025.

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Supply management creates competitive advantage through *innovation*

3D CHIPLET TECHNOLOGY

hket
香港經濟日報

AMD

tsmc

料年底前生產運用

AMD、台積電聯手

開發3D Chiplet技術

A PACKAGING BREAKTHROUGH FOR HIGH-PERFORMANCE COMPUTING

[2021/06/01](#)

Total cost and capabilities management

TSMC Customer Share of Revenues

	2019	2020	2021
Apple	24%	24.2%	25.4%
HiSilicon	15%	12.8%	0%
Qualcomm	6.1%	9.8%	7.6%
Nvidia	7.6	7.7%	5.8%
Broadcom	7.7%	7.6	8.1%
AMD	4%	7.3%	9.2%
Intel	5.2%	6%	7.2%
Mediatek	4.3%	5.9%	8.2%

Taiwan Semiconductor Manufacturing Co. (TSMC) is the world's largest contract manufacturer of semiconductor chips, accounting for about 70 percent of global contract production of micro control units (MCUs).

AMD produces most of its CPUs, GPUs, and custom SoCs (system-on-chips) at TSMC, the company may become the foundry's second-largest customer, right after Apple.

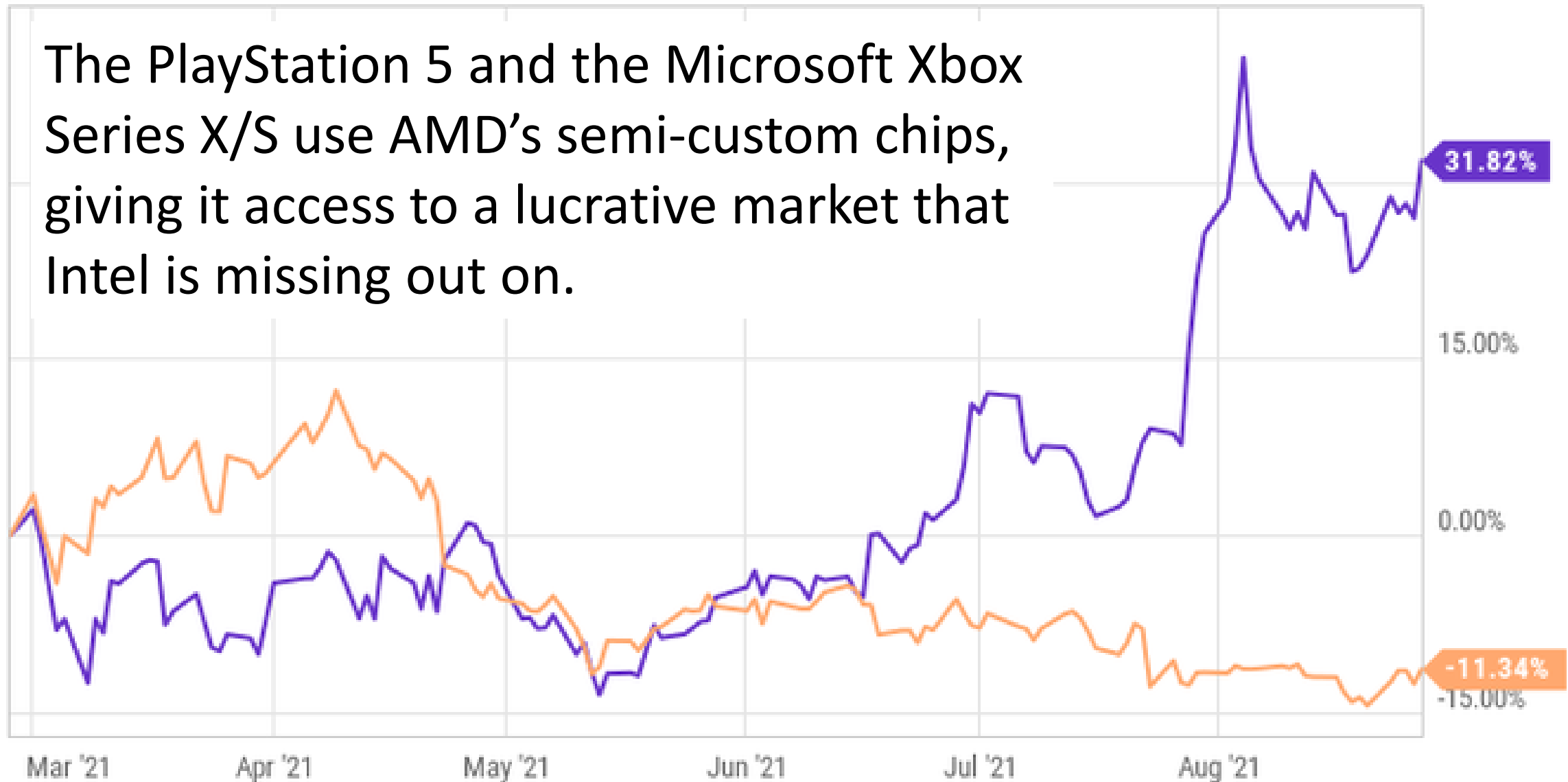
<https://www.tomshardware.com/news/amd-tsmc-second-largest-customer>

AMD Deepens Partnership with TSMC

- At Computex 2021, Lisa Su, AMD's CEO, revealed that it had been jointly developing a processor with TSMC's 3DFabric technologies. It marks the first time that AMD adopts 3D chiplet technology (小晶片技術) to its products.
- The announcement signals a tighter partnership between the chip designer and the chip manufacturer.
- TSMC's advanced 7nm process was crucial to AMD's overtaking of Intel when AMD released its Zen 2-based Ryzen 3000 processor in 2019, when Intel was still struggling with its 10nm and 7nm processes.
- Intel's delay allowed AMD, its main rival in desktop CPU, to swiftly catch up.

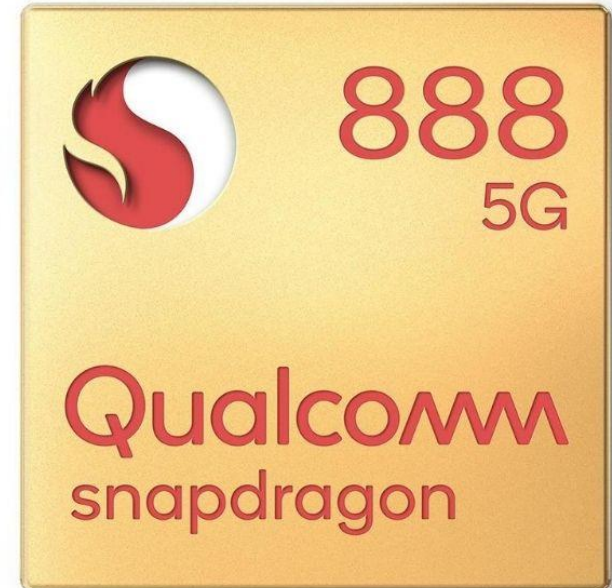
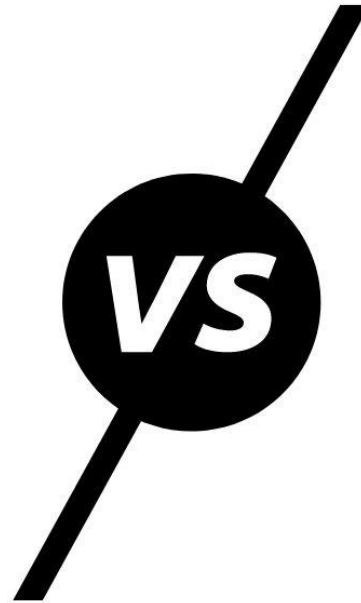
- Advanced Micro Devices Inc Price % Change
- Intel Corp Price % Change

The PlayStation 5 and the Microsoft Xbox Series X/S use AMD's semi-custom chips, giving it access to a lucrative market that Intel is missing out on.





Produced by TSMC



Produced by Samsung

Supply management creates competitive advantage through *quality improvement*



The first Xiaomi Mi 11 smartphones to introduce the “Snapdragon 888” processor experienced many overheated problems and power consumption issues.

Qualcomm Snapdragon 895 (the upcoming flagship chip) to ditch Samsung, use TSMC cores to fix overheating in Snapdragon 888.

[June 04, 2021](#)

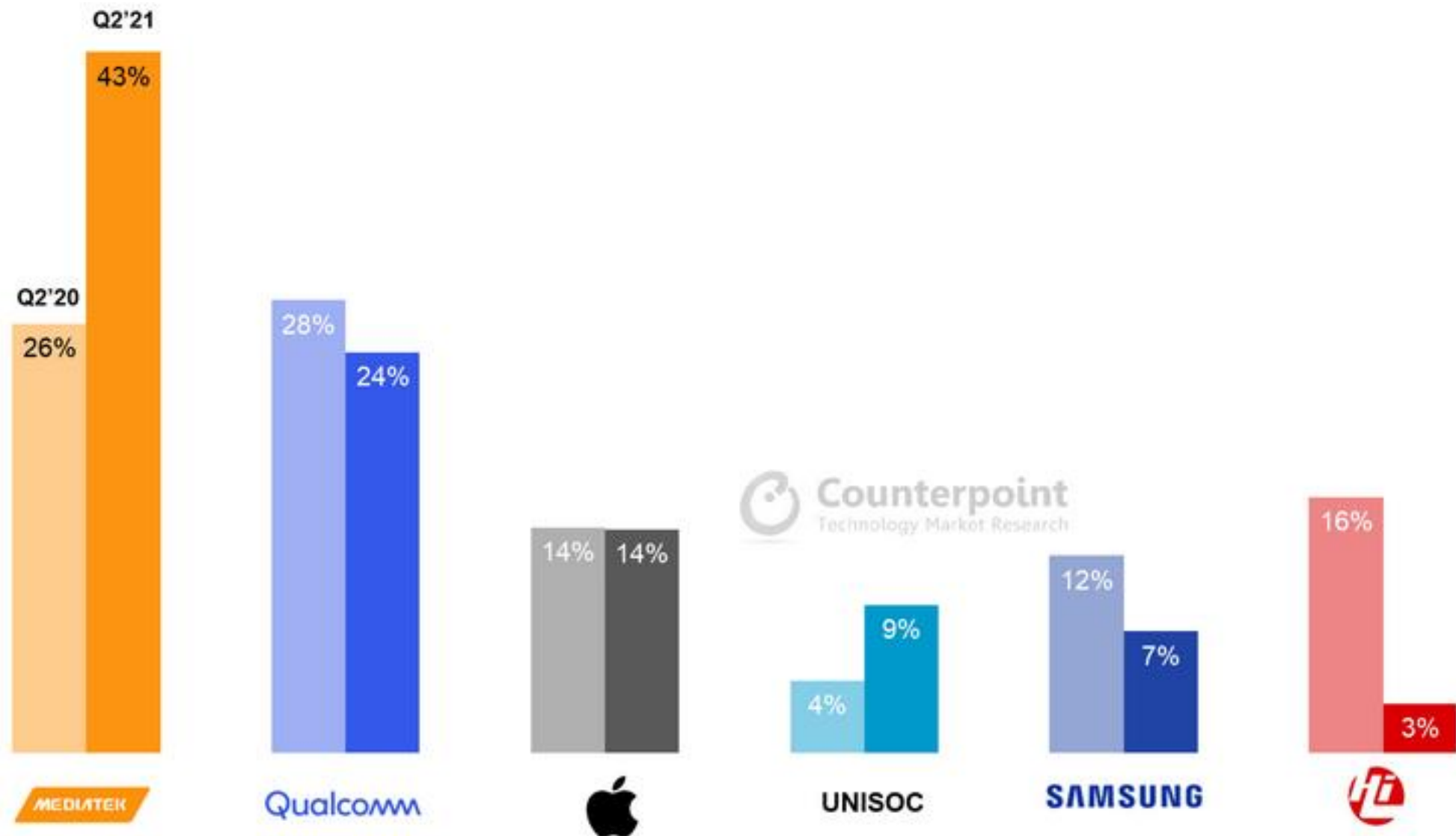


MediaTek Dimensity
2000 SoC will use
TSMC's 4nm tech and
could have better specs
than Qualcomm
Snapdragon 898.

[Oct 21, 2021](#)



Global smartphone application processor (AP) and system-on-chip (SoC) chipset shipment market share (%), Q2 2020 vs Q2 2021



Outsourcing vs insourcing

Outsourcing

- A version of the make-or-buy decision in which an organization elects to purchase a good or service that previously was made or performed in-house.
- Outsourcing may involve sourcing and using a supplier that provides the completed item or service rather than buying the components and manufacturing them in-house.

Insourcing

- The act of bringing inside an organization a function that has been performed outside the organization (outsourced).

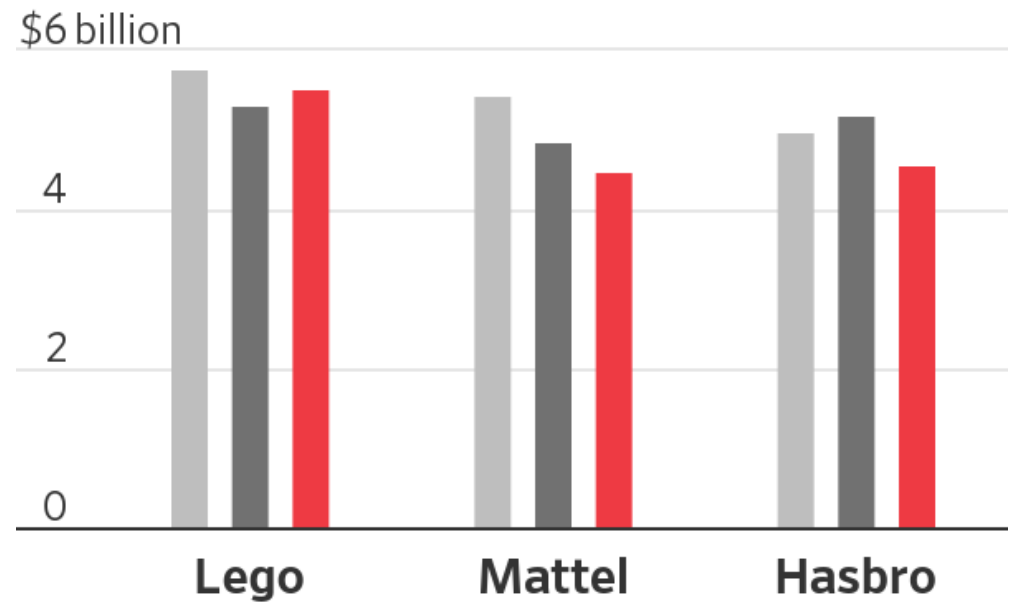


Brick by Brick

LEGO's return to growth last year cements its position as the world's largest toymaker.

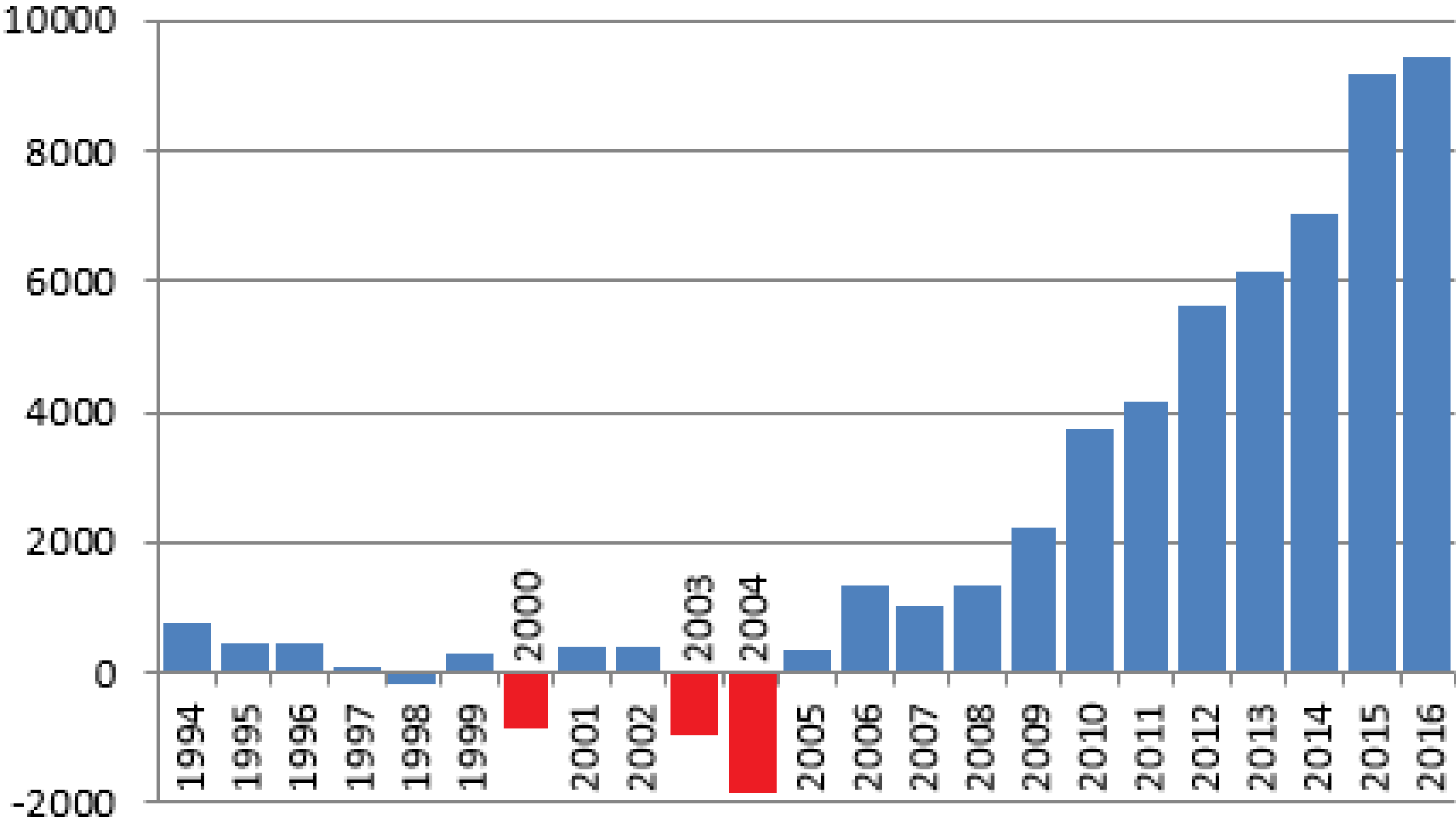
Revenue in U.S. dollars

■ 2016 ■ 2017 ■ 2018



Note: Lego figures converted at \$1=6.55 Danish kroner

LEGO Profit (mDKK)





The LEGO Group's outsourcing plan in 2006

- Under CEO Jørgen Vig Knudstorp's rescue plan, known as Shared Vision, a substantial part of the LEGO Group's production was outsourced to a contract partner, Flextronics.
- The aim of the plan, set in motion in 2006, was to cut costs as the LEGO Group at the time faces serious economic difficulties.
- In 2006 Flextronics was one of the world's largest providers of manufacturing services, particularly to the telecommunications and mobile-phone industries.



Company name Flextronics was changed to Flex in 2015



Problems arise

1. One of the problems is the LEGO DUPLO flower: Flextronics cannot make enough of them.



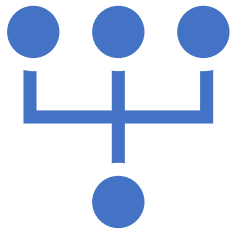
2. Another issue is that sales of LEGO bricks are increasing faster than expected and the LEGO Group needs flexibility in the production chain, which is cheaper to achieve within the LEGO Group's own walls.



The LEGO Group brought production home in 2008

- The production difficulties with Flextronics were solved in 2008 when the LEGO Group negotiated a new agreement to terminate the partnership.
- The outsourcing that began in 2006 became insourcing two years later.
- *“The all-important thing we learned is that one should know what is the core competence of a company. The molding of bricks is a core competency, and that we should not hand over”*
The LEGO Group’s Chief Operating Officer (2012)

Sourcing & Strategic sourcing



Sourcing

- (1) The process of identifying sources that could provide needed products or services for the acquiring organization;
- (2) The term used to reflect the entire purchasing process or cycle.

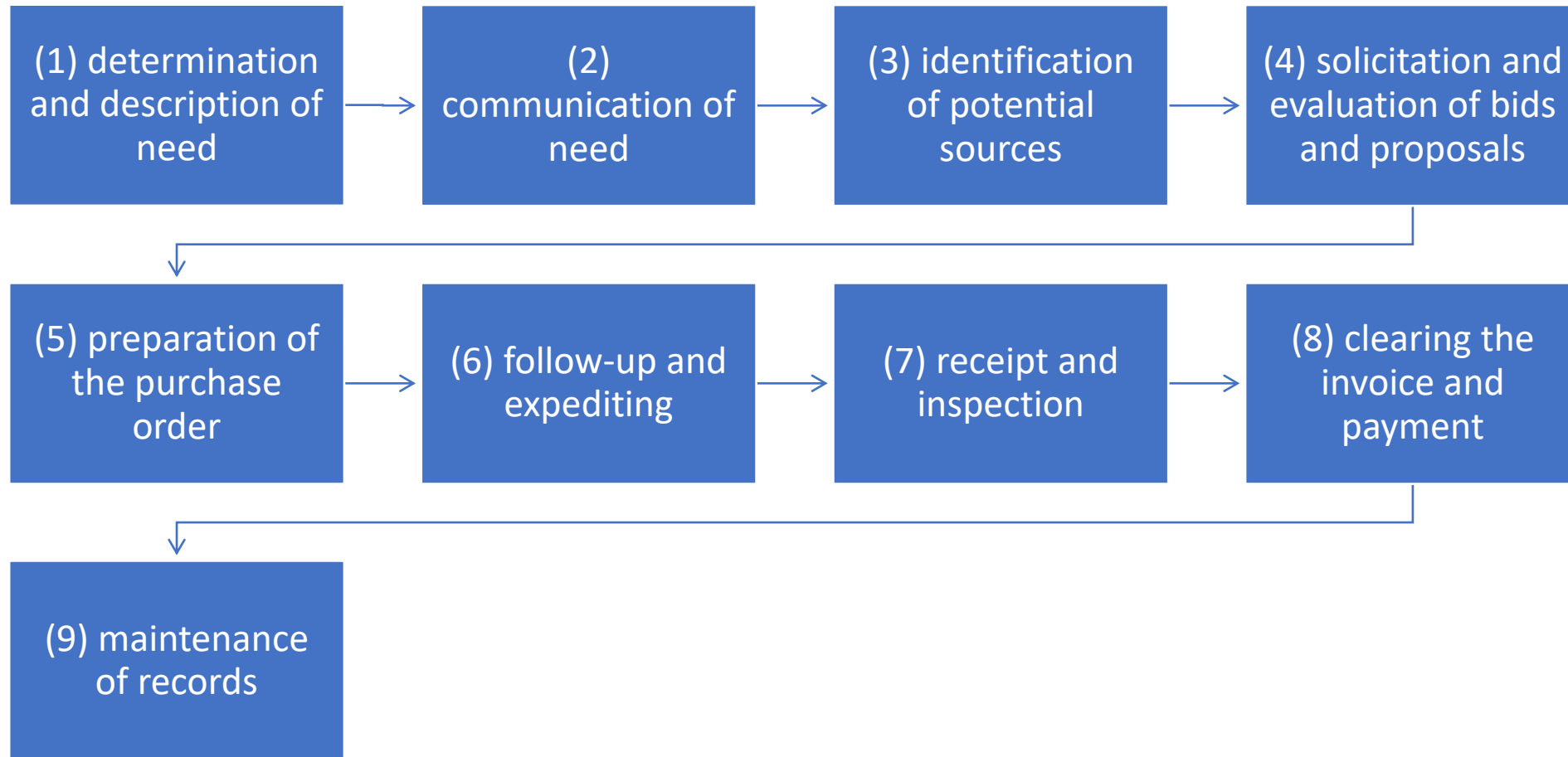


Strategic sourcing

The selection and management of suppliers with a focus on achieving the long-term goals of a business.

Purchasing process

The series of activities involved in obtaining necessary inputs for an organization.





Huawei kicks its top phone assembler out of the supply chain

- Flex is the world's second largest contract manufacturer after Foxconn by revenue, and Huawei's largest phone assembler.
- Huawei contributes nearly 2.5 billion yuan to Flex's revenue.
- In May 2019, Huawei was added to the Entity List on national security grounds which barred it from buying U.S. goods and services.
- Huawei ruled Flex out of their supply chain after the company realized production requirements cannot be met.

Offshoring, nearshoring and reshoring

Offshoring

- A relocation of business processes (this may include production/manufacturing) to a non-domestic location, usually to reduce costs.

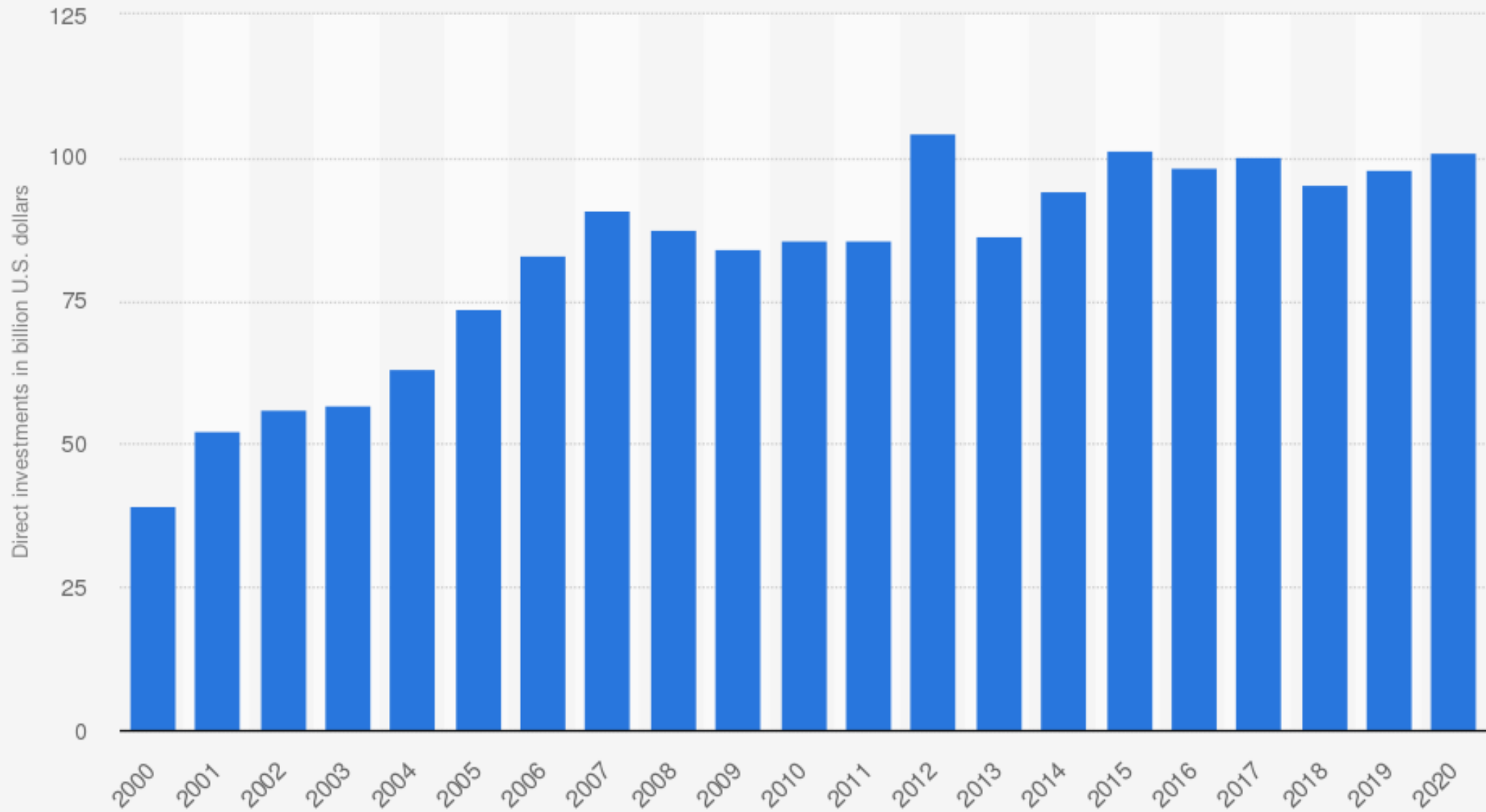
Nearshoring

- A form of outsourcing in which business processes are relocated to locations which are geographically nearer to the buying organization than alternate more distant supply choices (farshoring), usually to reduce costs; also called “nearshore outsourcing.”

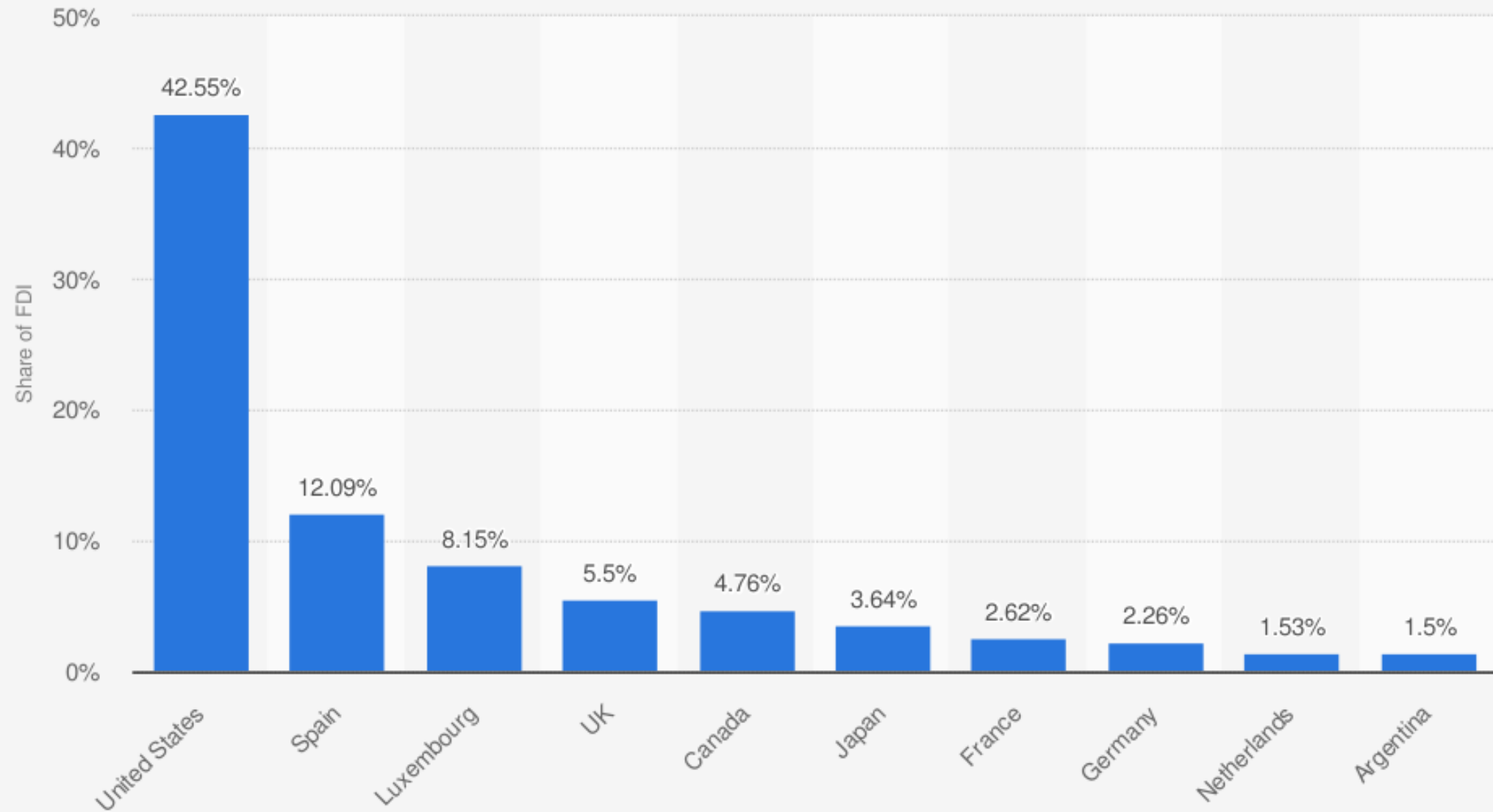
Reshoring

- The process of returning the production and manufacturing of goods back to the company’s original country.

Direct investment position of the United States in Mexico from 2000 to 2020 (in billion U.S. dollars, on a historical-cost basis)

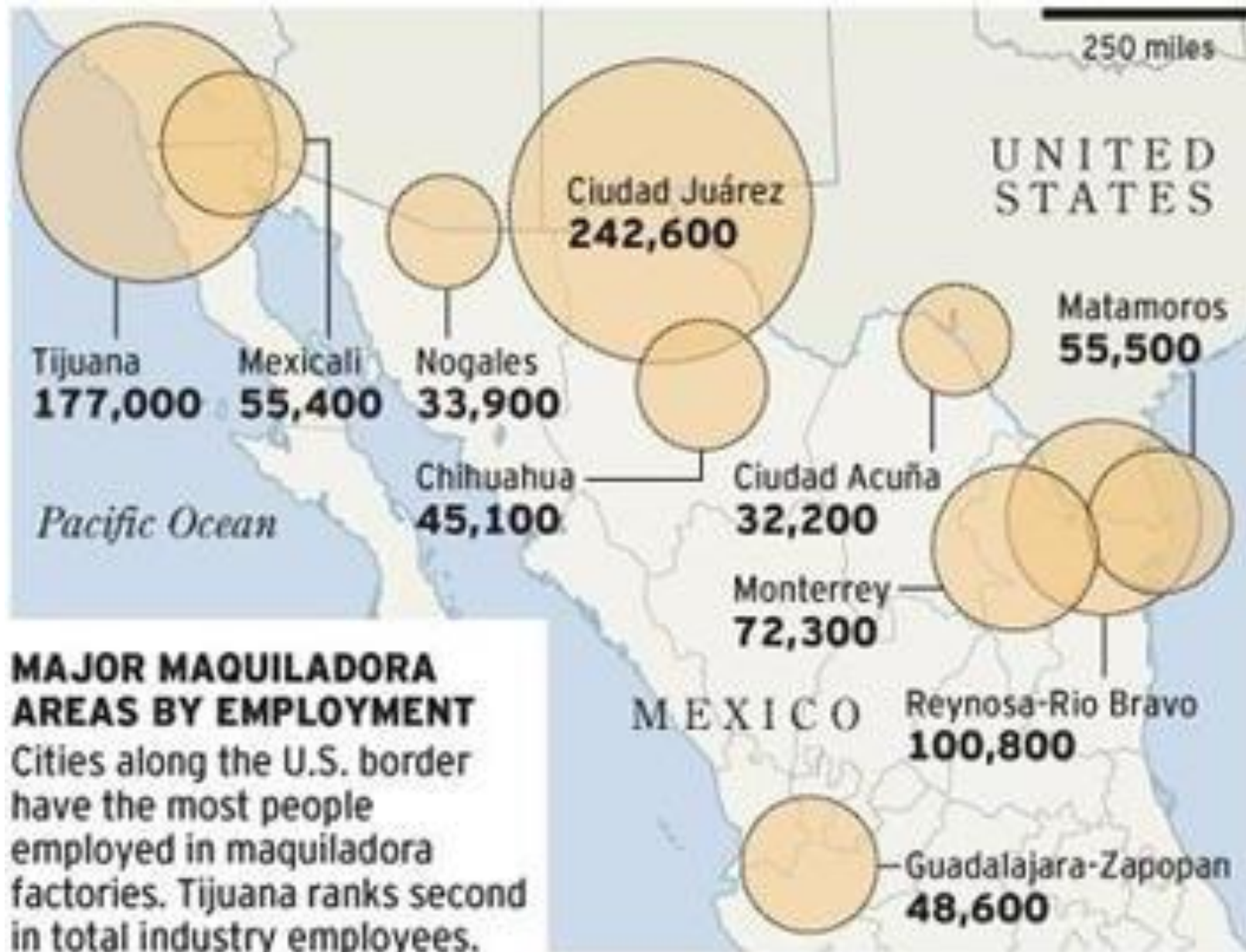


Distribution of foreign direct investment (FDI) in Mexico in first quarter 2021, by country of origin



Maquiladoras in Mexico

- A maquiladora is a Mexican assembly plant that imports materials and equipment on a duty-free and tariff-free basis.
- Maquiladoras receive raw materials from companies in the U.S. to assemble and export back as finished products.
- Maquiladoras are generally owned by U.S. companies that are incentivized to build Maquilas in Mexican border towns in return for low-cost labor and savings .



MAJOR MAQUILADORA AREAS BY EMPLOYMENT

Cities along the U.S. border have the most people employed in maquiladora factories. Tijuana ranks second in total industry employees.

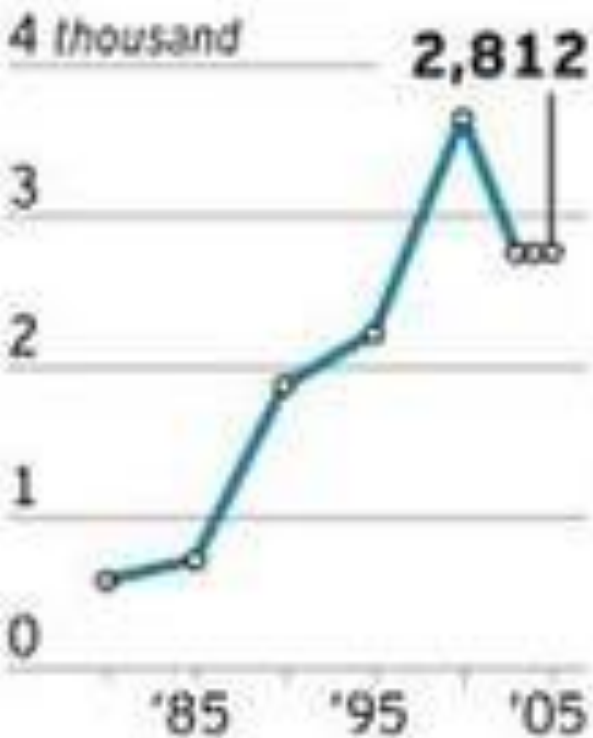
SOURCE: Global Insight Inc.

MATT PERRY / Union-Tribune

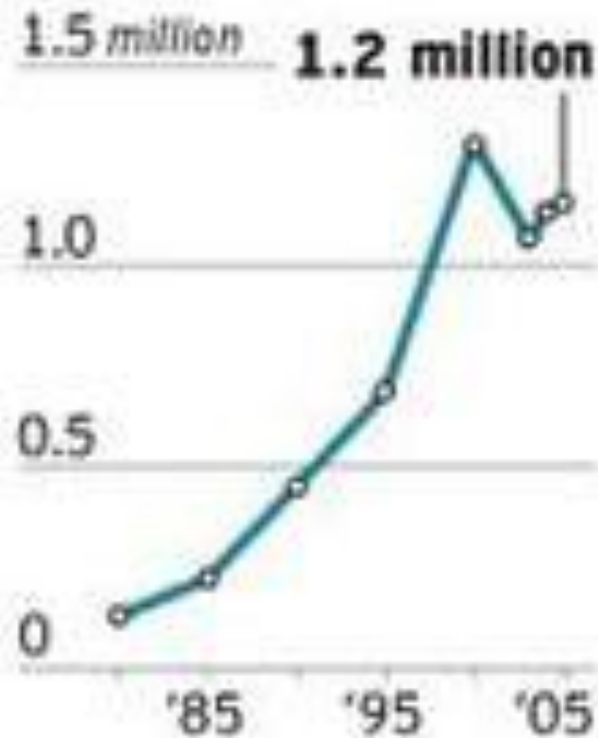
The maquiladora industry in Mexico

More than 2,800 maquiladora plants employing more than a million people were operating in 2005, with combined exports of nearly \$100 billion. These plants are foreign-owned factories in Mexico where workers assemble imported parts into products for export.

FACTORIES



EMPLOYEES



EXPORTS



Outsourcing of personnel to third-party firms

- Companies operating in Mexico usually set up separate firms to employ most of their workers as a way of avoiding legal and tax burdens including a mandatory annual profit-sharing payment to employees.
- Mexico had seen a significant uptick in outsourcing, as numbers of subcontracted or outsourced employees rose from around 1 million in 2003 to approximately 4.6 million in 2018.

<https://www.bloomberg.com/news/articles/2021-04-05/mexico-seeks-to-ban-outsourcing-after-agreement-with-business>

<https://nearshoreamericas.com/mexicos-outsourcing-ban-leaves-businesses-with-limited-options/>

Mexico's outsourcing ban

- The outsourcing ban, which was passed into law on April 23, 2021, stipulates that workers engaged in “core business activities” cannot be outsourced, and that such outsourced workers must be brought onto company payrolls within three months.
- It also forces outsourcing companies to provide the same benefits to outsourced employees as they would enjoy if directly employed, improving profit shares.

<https://thebogotapost.com/3-reasons-why-colombia-could-benefit-from-mexicos-outsourcing-ban/48996/>