



SEMICONDUCTOR  
INDUSTRY  
ASSOCIATION

2018 2019 2020 2021 2022

DATABOOK

# SEMICONDUCTOR INDUSTRY ASSOCIATION ANNUAL DATABOOK

## REVIEW OF GLOBAL AND U.S. SEMICONDUCTOR COMPETITIVE TRENDS

The semiconductor industry has fundamentally transformed the world's industrial structure. By providing the "building blocks" of the microelectronic revolution, semiconductor technology fuels development and productivity in crucial industrial sectors, including consumer electronics, telecommunications, factory automation, and defense electronics. Advancements made possible by the semiconductor industry and related "downstream" electronics industries have visibly impacted the economic, social, and political structures of the United States and other countries throughout the world.

The importance of the semiconductor industry has generated widespread interest on the part of business, government, and the academic and financial communities in statistics that offer insight into the industry's performance. This report provides a series of critical indicators of the U.S. semiconductor industry's financial and operating performance since 1999.

The 2020 Semiconductor Industry Association Databook (hereafter, The Databook) comprises more than 50 historical data series that document key trends in the U.S.-based semiconductor industry. Included in this report are measures of operating performance, employment, cost structure, productivity, and profitability. The Databook is intended to provide industry observers with insights into its historical evolution. The impact of the "Silicon Cycle" is examined, as well as long-term industry trends.

### DESCRIPTION OF DATA SOURCES

The principal source of data for the charts and tables presented in this report are the World Semiconductor Trade Statistics (WSTS) program from 2000 to 2019, SIA annual financial surveys from 1998 to 2007, and the 10K and 10Q filings of U.S. semiconductor companies with the U.S. Securities and Exchange Commission (SEC). U.S. export data is official trade data from the U.S. Government provided by the U.S. International Trade Commission (USITC). For comparative R&D and capital expenditure spending as a percent of sales data, the 2019 EU Industrial R&D Investment Scoreboard was used.

The Databook accounts for over 95 percent of total U.S.-based semiconductor sales revenues. Because of this high rate, total U.S. industry performance trends may be readily inferred from WSTS and 10K/10Q data except where noted (such as in the discussion of capital expenditures).

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### ORGANIZATION OF REPORT

The following is a brief outline of the trends covered in the SIA Databook.

- Section 1: Global Industry Overview**
- Section 2: U.S. Industry Overview**
- Section 3: Global Market**
- Section 4: U.S. Industry Business Profile**
- Section 5: Capital and R&D Investment**
- Section 6: Jobs**
- Section 7: Productivity & Profitability**

### DESCRIPTION OF RESULTS

The majority of charts and tables present historical trends in a ratio format, and include "mean" and "median" data. Mean values are determined by first totaling both the ratio numerator and denominator for firms, and dividing these totals to determine the "average" industry result. Computed in this manner, the result is weighted by the relative size of each firm: large firms impact the ratio in greater proportion than small firms. However, the median value is not weighted by firm size because one-half of the respondents report a higher ratio, and one-half report a lower ratio.

In some cases total sales, market shares, or investments levels are presented. Sales and market share data are derived from the WSTS. Total industry outlays for investment and research and development (R&D) are inferred from the expenditure rates of survey respondents, the respondents' share of the U.S.-based industry, and the 10k/10q filings of U.S. semiconductor companies to the SEC.

# SEMICONDUCTOR INDUSTRY ASSOCIATION ANNUAL DATABOOK

## List of Figures

(Page Numbers in Parentheses)

### (1) SECTION 1: GLOBAL INDUSTRY OVERVIEW

- (2) The Global Semiconductor Industry has been One of the Fastest Growing Industrial Sectors in the Global Economy
- (3) Annual Growth Rates of Worldwide Semiconductor Industry Sales have been Cyclical and Volatile
- (4) The Semiconductor Industry has been Characterized by Short-Term Sales Volatility
- (5) Annual Growth Rates for Worldwide Sales of Memory Semiconductors have Historically been more Volatile than Non-Memory Semiconductors

### (6) SECTION 2: U.S. INDUSTRY OVERVIEW

- (7) The U.S. Semiconductor Industry has Nearly Half of the Global Market Share
- (8) U.S. Industry Semiconductor Sales have Displayed Similar Steady Annual Growth as the Overall Global Industry
- (9) Annual Percentage Changes in U.S. Semiconductor Industry Revenues have been Cyclical
- (10) U.S.-Based Semiconductor Companies Maintain Market Share Leadership in Most Major Regional Semiconductor Markets
- (11) U.S.-Based Semiconductor Companies Maintain Nearly 50 percent of Global Semiconductor Market Share and Lead in Most Major Regional Markets
- (12) Semiconductors are one of America's Top Exports

### (13) SECTION 3: GLOBAL MARKET

- (14) Global Semiconductor Sales are Diversified by Type of Product Sold
- (15) While the Type of Semiconductor Products Sold has not Changed Much Over Time, the Share of Each Product of Total Semiconductor Sales has Shifted
- (16) Memory and Logic Semiconductors Represent the Largest Share of Global Semiconductor Sales by Major Product Sector
- (17) Historically, Memory Semiconductors have Displayed the Most Volatile Growth Rate of Any Major Semiconductor Product Sector
- (18) Today, Asia Pacific is by Far the Largest Regional Semiconductor Market
- (19) Leading Regional Semiconductor Markets have Shifted Over Time, with Asia Pacific Currently the Largest Market
- (20) Annual Growth Rates in Regional Markets Exhibit Similar Cyclical Patterns



# SEMICONDUCTOR INDUSTRY ASSOCIATION ANNUAL DATABOOK

## List of Figures

(Page Numbers in Parentheses)

### (21) SECTION 4: U.S. INDUSTRY BUSINESS PROFILE

- (22) Annual Operating Expenses Remain Relatively Stable Even when the Industry Experiences Volatility
- (23) Operating Expenses Differ for Fabless Firms and Integrated Device Manufacturers (IDMs), Mainly Because IDMs have Higher Capital Equipment Costs than Fabless Firms
- (24) Major Cost Components have Exhibited Similar Cyclical Patterns as the Industry as a Whole
- (25) The Cost Structure of U.S.-Based Semiconductor Producers has Changed Slightly since 2000
- (26) Annual Industry Cost per Chip Sold in 2019 Totaled \$0.63
- (27) Annual Industry Cost per Chip Sold has Steadily Decreased since 2001
- (28) Annual Industry Cost per Chip Sold by Share since 2001 Roughly Reflects Total Cost Trends
- (29) Manufacturing Cost of Goods Sold (Less Depreciation and Amortization) as a Percent of Sales Revenues has Followed Predictable Cyclical Patterns
- (30) Manufacturing Cost of Goods Sold (Less Depreciation and Amortization) as a Percent of Sales Revenues Differs for Fabless Firms vs. IDMs
- (31) Depreciation and Amortization Expense as a Percent of Sales Revenues has Ranged from 9 to 19 percent since 2000
- (32) Depreciation and Amortization Expense as a Percent of Sales Revenues Differs for Fabless vs. IDMs
- (33) SG&A Costs as a Percent of Sales Revenues have Ranged from 9 to 17 Percent since 2000
- (34) Annual R&D Expenditures as a Percent of Sales Revenues have Generally Exceeded 10 Percent Over the Past 20 Years, an Unprecedented Rate Among U.S. Industries

# SEMICONDUCTOR INDUSTRY ASSOCIATION ANNUAL DATABOOK

## List of Figures

(Page Numbers in Parentheses)

### (35) SECTION 5: CAPITAL AND R&D INVESTMENT

- (36) Capital and R&D Investment are Critical to Maintaining a Competitive Semiconductor Industry
- (37) The U.S. Semiconductor Industry R&D Spending Rate is Among the Highest of any U.S. Industry
- (38) Asset Turnover Rates Differ for Fabless Firms vs. IDMs
- (39) Total Annual Levels of Investment in Capital and R&D are High for the Industry
- (40) The Total Rate of Investment in Capital and R&D Tends to Remain High During Market Upturns and Downturns
- (41) Investment in Capital Expenditures and R&D per Employee is Very High – It has Increased at a Rate of about 4 Percent per Year Over the Past 20 Years
- (42) U.S. Semiconductor Industry Capital Expenditures Declined Slightly in 2019
- (43) Capital Expenditures as a Percent of Sales Revenues have Historically been Very High
- (44) Semiconductor Industry R&D Expenditure Trends are Highly Countercyclical
- (45) The U.S. Semiconductor Industry is a Leader in R&D Spending as a Percent of Sales Among U.S. Industries
- (46) The U.S. Semiconductor Industry Spends More on R&D as a Percent of Sales than any Other Country's Semiconductor Industry
- (47) The U.S. Semiconductor Industry is a Leader in Capital Spending as a Percent of Sales Among Major U.S. Industries
- (48) Net Fixed Assets in the Industry have Risen Faster than Revenues
- (49) Each Semiconductor Industry Employee is Supported by Over \$280,000 in Net Fixed Assets

### (50) SECTION 6: JOBS

- (51) Employment by U.S.-based Semiconductor Firms has Grown over the Long Term
- (52) U.S.-based Semiconductor Industry Annual Employment Levels have been Cyclical
- (53) The U.S. Semiconductor Industry Accounts for Roughly a Quarter of a Million Direct Jobs in the United States
- (54) The U.S. Semiconductor Industry Accounts for Over a Million Additional Indirect Jobs in the United States
- (55) The Average Annual Pay Rate for Employees in the U.S. Semiconductor Industry is Higher than Average Pay Rates for All Jobs and All Manufacturing Jobs in the United States
- (56) U.S. Semiconductor Industry Average Annual Pay Rates have Steadily Increased
- (57) U.S. Semiconductor Industry Average Annual Pay Rates have been Consistently Higher than Rates for All U.S. and All U.S. Manufacturing Jobs

# SEMICONDUCTOR INDUSTRY ASSOCIATION ANNUAL DATABOOK

## List of Figures

(Page Numbers in Parentheses)

### (58) SECTION 7: PRODUCTIVITY AND PROFITABILITY

- (59) U.S. Semiconductor Firms have Experienced Rapid Improvements in Productivity over the Past 20 Years
- (60) Since 2001 Annual Industry Costs per Semiconductor have Consistently Run below Annual Sales per Semiconductor
- (61) Semiconductor Industry Financial Performance is Highly Cyclical
- (62) Semiconductor Industry Labor Productivity has Almost Doubled since 1999
- (63) The U.S. Semiconductor Industry Maintains a High Gross Margin, Indicating the High Value Added Created by U.S. Semiconductor Companies
- (64) As Measured by Pre-tax Income as a Percent of Sales Revenues, the Semiconductor Industry has been Profitable in 17 of the Last 20 Years
- (65) The U.S. Semiconductor Industry has been Profitable in Each of the Past 10 Years