SEMICONDUCTOR INDUSTRY ASSOCIATION

2018 2019 2020 2021 2022

2020 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 fillings 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 fillings of U.S. semiconductor companies to the SEC.

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