Public Comments

THE GEORGE WASHINGTON UNIVERSITY

WASHINGTON, DC

Inconsistent Census Bureau, BEA, and BLS Statistics for Semiconductor, Computer, and Other Manufacturing Sectors

Andrew Reamer, Research Professor

Presentation to the President's Council of Advisors on Science and Technology (PACST)

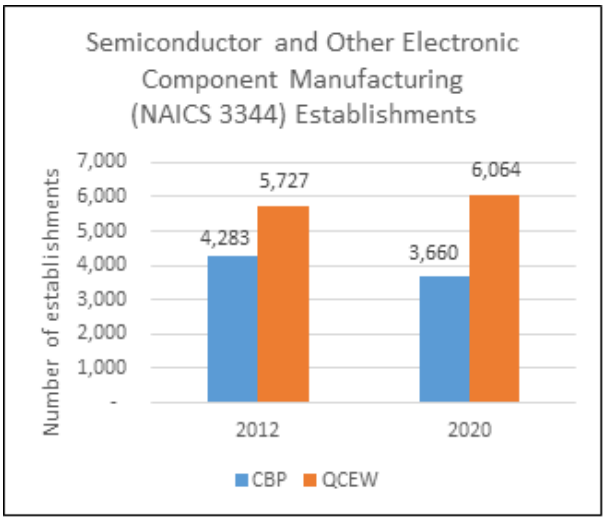
September 7, 2022

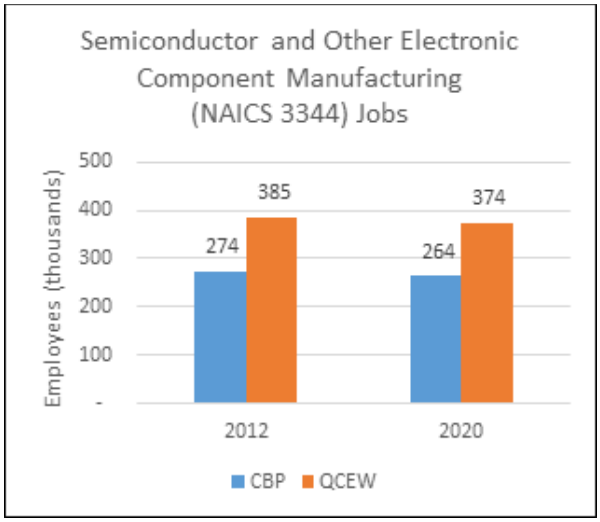
Observations

- The federal government's capacity to promote a strong domestic semiconductor section is weakened because the Census Bureau, the Bureau of Economic Analysis (BEA), and the Bureau of Labor Statistics (BLS) are **prohibited from producing one reliable set of key NAICS code-specific measures** such as employment, payroll, and productivity.
- The problem's source is the **U.S. Tax Code's differential treatment** of Census, BEA, and BLS regarding access to business Federal Tax Information (FTI).
  - Census can request access to business FTI as needed: BEA has as-needed access to corporate FTI, but not non-corporate business FTI; and BLS cannot access any FTI.
  - The Census Business Register is constructed using both FTI and non-tax business data derived from economic surveys. As Census survey data are inextricably comingled with FTI, it cannot legally share FTI-infused data with BEA and BLS in any meaningful way.
  - As a result, a substantial percentage of **business establishments are classified in two different NAICS codes**—one in the Census Business Register and in another in the BLS Business Register.
  - Consequently, Census, BEA, and BLS measures of **employment and earnings by industry can differ substantially**.

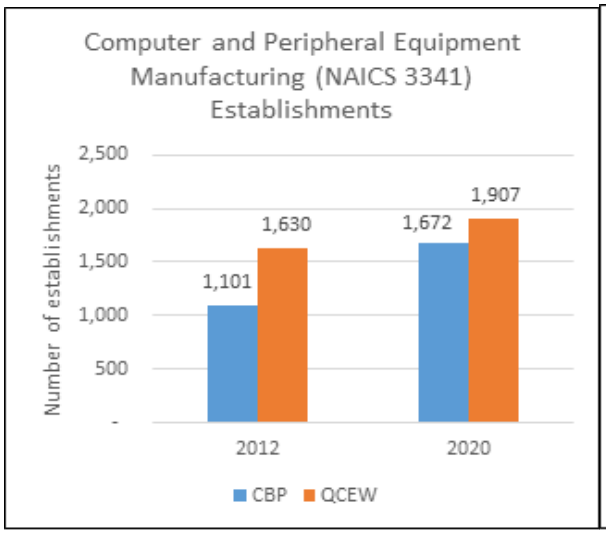
Manifestations of Census-BLS Data Inconsistency—Examples

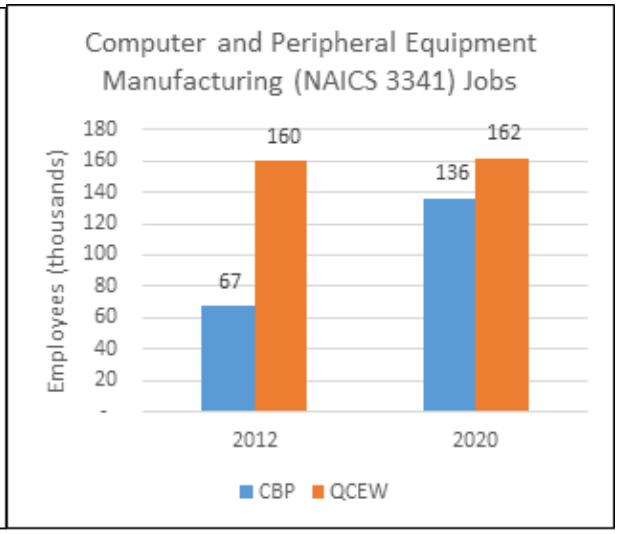
Semiconductor and Other Electronic Component Manufacturing (NAICS 3344)





Computer and Peripheral Equipment Manufacturing (NAICS 3341)





CBP: County Business Patterns (tallies from Census Bureau Business Register)
QCEW: Quarterly Census and Employment and Wages (tallies from BLS Business Register)

Examples of Analytic and Policy Problems

1) CHIPS and Science Act of 2022 (P.L 117-167)

-- Definition of "critical manufacturing industry" (Sec. 103: Semiconductor Incentives)

> (5) The term ''*critical manufacturing industry*''— (A) means an industry, industry group, or a set of related industries or related industry groups—
>
> (i) assigned a North American Industry Classification System code beginning with 31, 32, or 33; and
>
> (ii) for which the applicable industry group or groups in the North American Industry Classification System code cumulatively—
>
> > (I) manufacture primary products and parts, the sum of which account for **not less than 5 percent of the manufacturing value added** by industry gross domestic product of the United States; and
> >
> > (II) employ individuals for primary products and parts manufacturing activities that, combined, account for **not less than 5 percent of manufacturing employment** in the United States . . . .

2) ICT Supply Chain Analysis (required by E.O. 14017)

U.S. Department of Commerce and U.S. Department of Homeland Security, Assessment of the Critical Supply Chains Supporting the U.S. Information and Communications Technology Industry, February 24, 2022.

> 6.1 ICT Hardware Manufacturing Workforce (pp. 44-47)
>
> As mentioned in section 4, a significant portion of ICT manufacturing has relocated to Asia. This has contributed to a downturn in domestic production capabilities. . . . Today there are approximately 274,000 ICT manufacturing or production-related occupation jobs in the United States, representing approximately five percent of the domestic ICT workforce, according to the most recent data from the Bureau of Labor Statistics (BLS).
>
> The largest of these employment groups is Semiconductor and Other Electronic Component Manufacturing, which accounts for approximately 147,000 jobs or about 54 percent of the ICT manufacturing workforce. The manufacturing workforce in this group specialized in the production of semiconductors, printed circuit boards, connectors, passive components, and **printed circuit board assemblies**. . . .
>
> **PCB [Printed Circuit Board] Manufacturing**. While design and engineering roles play a crucial role in the value chain, not all PCB-related occupations require an advanced degree. Of the 21,000 U.S. workers in the PCB industry, 16,000 are in manufacturing roles. [Source: U.S. Census Bureau, Annual Survey of Manufactures]

Treasury Department Corrective Proposal

U.S. Department of the Treasury, General Explanations of the Administration's Fiscal Year 2023 Revenue Proposals, March 2022, pp. 78-79

> AUTHORIZE LIMITED SHARING OF BUSINESS TAX RETURN INFORMATION TO MEASURE THE ECONOMY MORE ACCURATELY
>
> The proposal would give officers and employees of BEA access to FTI of those sole proprietorships with receipts greater than $250,000 and of all partnerships. BEA contractors would not have access to FTI.
>
> The proposal would also give BLS officers and employees access to certain business (and tax-exempt entities) FTI including: Taxpayer Identification Number (TIN); name(s) of the business; business address (mailing address and physical location); principal industry activity (including business description); number of employees and total business-level wages (including wages, tips, and other compensation, quarterly from Form 941, Employer's Quarterly Federal Tax Return, and annually from Form 943, Employer's Annual Federal Return for Agricultural Employees, and Form 944, Employer's Annual Federal Tax Return); and sales revenue for employer businesses only. BLS would not have access to individual employee FTI. In other words, the proposal would allow officers and employees of each of BLS, BEA, and the Census Bureau to access the same FTI for businesses, and would permit BLS, BEA, and the Census Bureau to share such FTI amongst themselves (subject to the restrictions described below).
>
> For the purpose of synchronizing BLS and Census Bureau business lists, the proposal would permit employees of State agencies to receive from BLS the following FTI identity items: TIN, business name(s), business address(es), and principal industry activity (including business description). No BLS contractor or State agency contractor would have access to FTI.
>
> The proposal would require any FTI to which BEA and BLS would have access, either directly from the IRS, from the Census Bureau, or from each other, to be used for statistical purposes consistently with the Confidential Information Protection and Statistical Efficiency Act of 2002 (CIPSEA). The three statistical agencies and State agencies would be subject to taxpayer privacy law, safeguards, and penalties. They would also be subject to CIPSEA confidentiality safeguard procedures, requirements, and penalties. Conforming amendments to applicable statutes would be made as necessary to apply the taxpayer privacy law, including safeguards and penalties to BLS as well as the Census Bureau and BEA. BLS would be required to monitor compliance by State agencies with the prescribed safeguard protocols.
>
> The proposal would be effective on the date of enactment.

Task Force on American Innovation

Securing the future through research in the physical sciences and engineering

August 31, 2022

Frances Arnold, Ph.D.
Co-Chair
President's Council of Advisors on
Science And Technology

Francis Collins, MD, Ph.D.
Co-Chair
President's Council of Advisors on
Science And Technology

Maria T. Zuber, Ph.D.
Co-Chair
President's Council of Advisors on
Science And Technology

To the Members of the President's Council of Advisors on Science and Technology (PCAST):

The Task Force on American Innovation (TFAI)—an alliance of industry, professional societies, and university organizations—writes to thank you and your colleagues for taking the time to address the implementation of the CHIPS and Science Act, and to provide a recommendation for your report.

Specifically, as the Administration develops its FY24 budget request, we strongly urge that it include funding at the levels authorized in the CHIPS and Science Act of 2022. This level of investment is necessary to expand and accelerate research and development for the semiconductor and microelectronics industries, among many other fields where U.S. leadership is critical.

The science and technology initiatives of the National Science Foundation (NSF), Department of Energy's Office of Science, and the National Institute of Standards and Technology (NIST) have received robust, long-term, and bipartisan authorizations in the CHIPS and Science Act. As such, it is imperative that the Administration request full funding for these ambitious programs, demonstrating its commitment to advancing American research and development.

The United States needs robust and sustained funding in these areas to further strengthen the American STEM workforce, advance innovation, promote economic growth, and maintain national security. The passage of the CHIPS and Science Act was a necessary first step, and must be now followed with the significant investments it authorized.

Thank you for your thoughtful consideration of this recommendation.

Sincerely,

The Task Force on American Innovation