

D Appendix D: Data Collection

There are a number of possible alternatives for collecting CMI data. One possibility is for the Census Bureau to gather and report statistics on the number of firms that sell to *both* military and nonmilitary markets in selected sectors and the values of such sales. For example, Current Industry Report (CIR) MA37D—Aerospace Orders reports annually the number of companies in aerospace sectors, the number that sell to military purchasers, and the number that sell to nonmilitary purchasers, but not the number that sell to *both* military and nonmilitary purchasers.¹ The number and percentage of integrated firms may be deduced from the statistics that *are* published, but only within limits. The Census Bureau could report the exact number—not only for aerospace sectors, but also for other sectors surveyed

in the M-3 Monthly Survey of Manufacturers' Shipments, Inventories, and Orders.²

Unfortunately, these data would only reveal those companies that produce both defense and commercial goods and services. It would provide no information on the degree of integration of research, development, production, and administration processes within these companies. These data would not differentiate between a firm with separate defense and commercial divisions and one that builds its commercial and defense products on the same production line.

Measuring integration of processes and understanding reasons for segregation of processes would require collection of more specific information, such as that collected in the private

¹U.S. Department of Commerce, Bureau of Economic Analysis, Current Industrial Reports, MA37D—Aerospace Orders, 1992.

²The Census Bureau conducts a monthly noncompulsory survey of the shipments, inventories, and orders of “nearly all manufacturing companies with 1,000 or more manufacturing employees and a sample of smaller firms.” It solicits separate reports on defense and nondefense activities for the following industry categories: ordnance and accessories; communication equipment; complete aircraft, missiles, and space vehicles; ships, tanks, and tank components; and search and navigation equipment. [U.S. Bureau of the Census, “1993 Instruction Manual for Reporting in Monthly Survey M-3.” M-3(I) (Washington, DC: U.S. Government Printing Office, 1993).] Summary statistics for most 2-digit SIC codes and 75 combinations of 4-digit SIC codes from January 1958 through March 1993 are available on tape reel, tape cartridge, and diskette. The Census Bureau also collects data from establishments on the value of shipments to federal government agencies as part of the Census of Manufacturers. [Form MC-9675, 1-22-93.] Data from the 1992 Census of Manufacturers are being tabulated as this report goes to press.

1992 CSIS survey.³ Integration (and reasons for segregation) of firms or establishments in all sectors producing for national defense could be estimated within calculable confidence limits by surveying only a fraction of the firms, if they were selected randomly, and if a high response rate were obtained. Surveying more firms would reduce the range of uncertainty.

Achieving a high response rate will probably require making response mandatory under the law. The necessary legislation already exists to allow the Census Bureau (Title 13, U.S. Code), the Department of Commerce (section 705 of the Defense Production Act of 1950 and Executive Order 12656, section 401) or the Department of Defense (section 705 of the Defense Production Act) to collect the pertinent data. Any such mandatory collection still must be approved by the Director of the Office of Management and Budget (44 USC 3507) to ensure that it is not overly burdensome on private industry.

A model for a collection of CMI data is the Census Bureau's 1991 Survey of Manufacturing Technology, a joint effort by the Bureau of the Census and the Defense Logistics Agency's Manufacturing Engineering/Research Office.⁴ It surveyed 10,088 establishments with 20 or more employees

selected to represent a population of manufacturing establishments classified in Standard Industrial Classification (SIC) Major Groups 34-38. After adjustments to account for establishments that had gone out of business, this population was estimated as 42,250.

The 8-page, multiple-choice questionnaire was designed to collect information for measuring the degree to which manufacturing establishments use technologically advanced equipment and software and the degree to which plant characteristics influence usage. The survey achieved a 92.8-percent response rate, with a 5.5-percent refusal rate. A similar effort, using a questionnaire such as that developed by CSIS, could obtain reliable measures of prevalence of integration of research, development, production, and administration, plans to integrate, reasons for segregation, and plant characteristics. Any such collection effort, however, will require an allocation of government resources and may impose an even greater collective burden on the respondents. The 1991 Survey of Manufacturing Technology was estimated to cost the government "in the low \$400,000."⁵ OTA estimates that the public reporting burden was about **\$700,000.⁶**

³Debra van Opstal, *Integrating Civilian and Military Technologies: An Industry Survey* (Washington, DC: The Center for Strategic and International Studies, April 1993).

⁴U.S. Bureau of the Census, *The Survey of Manufacturing Technology: Factors Affecting Adoption*, SMT/91-2 (Washington, DC: U.S. Government Printing Office, May 1993).

⁵Mr. John Govoni, Chief, U.S. Bureau of the Census, Industry Division, personal communications, Dec. 13, 1993.

⁶The questionnaire used in the 1991 Survey of Manufacturing Technology estimated the public reporting burden at 30 minutes per response. About 9,000 establishments completed reports, so the total burden was about 4,500 hours. If the forms were completed by corporate officials earning an average of \$100,000 per year, with 20 percent overhead, working 48-hour week per year, the collective burden borne by the responding firms would have been about \$700,000 (1991).