DEFENSE INDUSTRIAL BASE ASSESSMENT OF THE U.S. TEXTILE AND APPAREL INDUSTRY

2017

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I. INTRODUCTION

The textile industry transforms natural or synthetic fibers into intermediate yarn or fabric products that are used to manufacture products such as apparel, household textile products, industrial textiles, technical textiles, and others. Currently, most U.S. Government statistics and reports use the North American Industry Classification System (NAICS) to classify business establishments in order to collect, analyze, and publish data related to U.S. businesses. Under NAICS, textile and apparel manufacturers are categorized in three major groups: textile mills, textile product mills, and apparel manufacturers.

Textile mills (NAICS 313) include firms that transform a basic fiber, natural or synthetic, into a product, such as yarn or fabric that is further manufactured into usable items, such as apparel, sheets, towels, and textile bags for individual or industrial consumption. The main processes in this subsector include preparation and spinning of fiber, knitting or weaving of fabric, and the finishing of the textile.

NAICS separates the manufacturing of primary textiles and the manufacturing of textile products (except apparel) when the textile product is produced from purchased primary textiles, such as fabric. The manufacturing of textile products (except apparel) from purchased fabric is classified under textile product mills (NAICS 314) and includes establishments that make textile products (except apparel). With a few exceptions, processes used in these industries are generally cut and sew (i.e., purchasing fabric and cutting and sewing to make non-apparel textile products, such as sheets and towels). This includes organizations primarily engaged in manufacturing and/or finishing carpets and rugs, manufacturing household textile products from purchased materials,

and making other textile products from purchased materials, such as textile bags and canvasses and related products, and other non-apparel textile products.

Apparel manufacturers (NAICS 315) include establishments with two distinct manufacturing processes: (1) cut and sew (i.e., purchasing fabric and cutting and sewing to make a garment), and (2) the manufacture of garments in establishments that first knit fabric and then cut and sew the fabric into a garment.

BIS/Background

In late 2015, the U.S. Congress requested that the U.S. Department of Commerce, Bureau of Industry and Security (BIS) update its 2003 assessment of the U.S. Textile, Apparel, and Footwear Industry. This report covers U.S. textile and apparel manufacturers. The U.S. footwear industry is covered in a separate BIS report.[1]

The following objectives were developed for this industrial base survey and assessment:

- Identify dependencies on foreign sources for critical materials;
- Evaluate potential threats to security due to foreign sourcing and dependency;
- Locate points of weakness within the domestic supply chain;
- Measure the industry's capacity to increase production in a national emergency;
- Examine the Berry Amendment and other Buy-American provisions; and
- Explore concerns and issues faced by domestic producers.

[1] View these and other industrial base reports on the BIS webpage: www.bis.doc.gov/dib.

BIS performed this data collection and assessment under authority delegated to the U.S. Department of Commerce under Section 705 of the Defense Production Act of 1950, as amended, and Executive Order 13603. These authorities enable BIS to conduct surveys, study industries and technologies supporting the national defense, and monitor economic and trade issues affecting the U.S. industrial base.

Other industrial base assessments recently completed by BIS include: the U.S. Space Industry "Deep Dive," the Consumers of Electro-Optical Satellite Imagery, and the U.S. Strategic Material Supply Chain Assessment: Titanium.[2]

BIS worked with a variety of U.S. Government agencies, including the U.S. Defense Logistics Agency (DLA), the Office of Textiles and Apparel (OTEXA) in Commerce's International Trade Administration (ITA), the Congressional Research Service (CRS), and the U.S. Government Accountability Office (GAO), as well as with individual textile and apparel company executives and industry organizations. BIS also conducted site visits to a number of U.S. textile and apparel manufacturers in order to gain a better understanding of operational and business practices specific to the industry. These interactions aided in designing a BIS survey instrument that covered issues faced by both industry and government stakeholders.

The content of the survey instrument, which primarily covers the periods 2012-2016 and 2017-2021, addresses multiple categories of respondent information, including sections dedicated to:

- Organizational Information
- Products
- Suppliers, Inventories, Inputs, and Sourcing

[2] See www.bis.doc.gov/dib.

- U.S. Government Defense and Non-Defense Participation
- Operations and Challenges
- Sales and Financials
- Customers
- Competitive Factors
- Workforce
- Research and Development (R&D)
- Capital Expenditures (CAPEX)

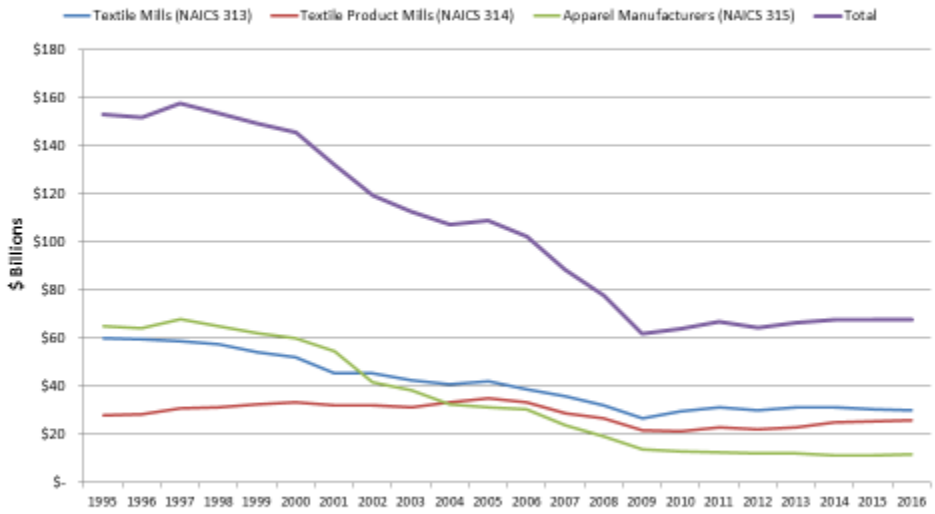
BIS distributed the textile and apparel survey in February 2017 to 1,270 organizations identified by a combination of U.S. Government and industry sources developed during our outreach efforts. A total of 571 organizations (45 percent) responded and completed the survey. The response data was reviewed, tabulated, and analyzed. Additionally, aggregated results, as contained in this report, were made publicly available and presented to strategic stakeholders across the U.S. Government, industry, and academia.

BIS exempted 699 organizations (55 percent) from the survey requirement: organizations that did not or no longer operate manufacturing facilities in the U.S., such as importers, distributors, and those who used non-U.S. contract manufacturers. BIS also exempted organizations and brands that shared a parent company, merged with other organizations on its mailing list, or were no longer in business. Additionally, many organizations were exempted for being too small – BIS focused on surveying organizations with at least 10 employees. By comparison, 58 percent were exempted from the U.S. Footwear Industry study. In both studies BIS staff was surprised by the overall decline in U.S. textile, apparel, and footwear manufacturing capabilities since the 2003 BIS study.

U.S. Textile and Apparel Industry Overview

In 2016, the seasonally adjusted value of U.S. textile and apparel shipments totaled an estimated $68 billion. This was an almost 56 percent decrease in real terms since 1995 when shipments totaled $153 billion. The breakdown of 2016 shipments by industry sector is as follows: $30.1 billion for Textile Mills; $25.9 billion for Textile Product Mills, and $12 billion for Apparel (see Figure I-1).[3]

Figure I-1: U.S. Textile, Textile Product, and Apparel Seasonally Adjusted Value of Shipments (1995-2016)



Source: U.S. Census Bureau – Manufacturers' Shipments, Inventories, and Orders (1995-2017)

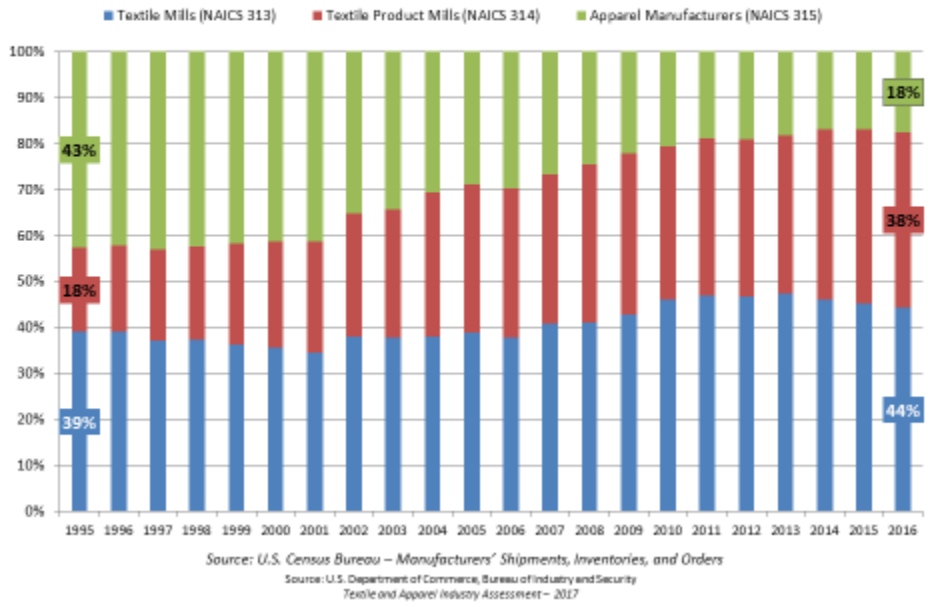
Source: U.S. Department of Commerce, Bureau of Industry and Security
Textile and Apparel Industry Assessment – 2017

U.S. textile and apparel manufacturing has been undergoing structural changes in recent years. According to the U.S. Census Bureau, textiles and textile products accounted for 82 percent of the total shipments of the U.S. textile and apparel industry as of 2016, compared to 57 percent in 1995. In 2016 textile mills accounted for 44 percent, and textile products accounted for 38

[3] *Source: U.S. Census Bureau – Manufacturers' Shipments, Inventories, and Orders (1995-2017),* https://www.census.gov/manufacturing/m3/index.html

percent of shipments. Only 18 percent of shipments came from apparel manufacturing in 2016 compared to 43 percent in 1995 (see Figure I-2).

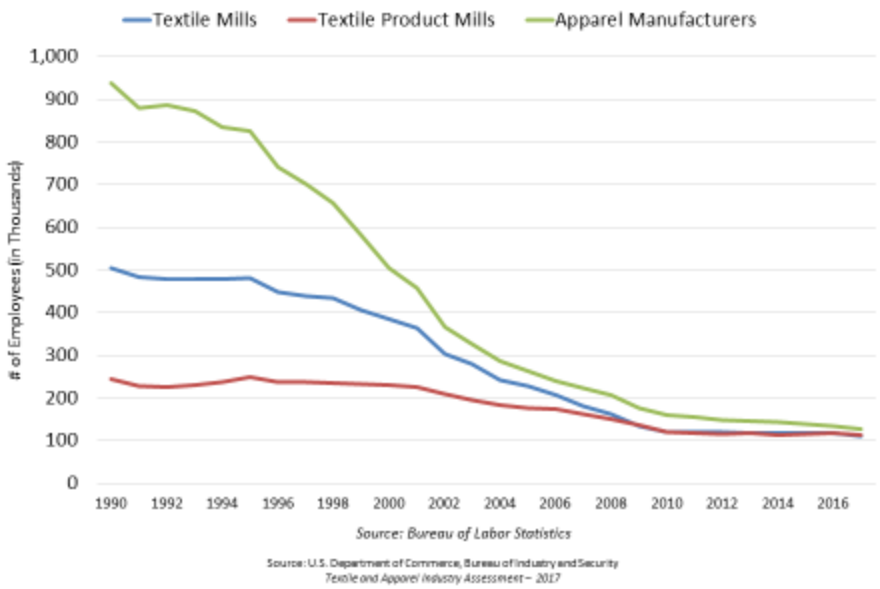
Figure I-2: Output Structure of the U.S. Textile and Apparel Industry (1995-2016)



The U.S. textile and apparel industry experienced several eras of decline in the twentieth century, the most recent of which occurred after 1990. Between 1990 and 2016, total employment in the U.S. textile and apparel industry decreased by 79 percent, from 1.7 million to 352,000 workers.[4] The apparel industry segment experienced the sharpest decline of the three business lines – 86 percent between 1990 and 2016 (see Figure I-3). Since 2012, employment levels in all three manufacturing categories have leveled off.

[4] https://www.bls.gov/iag/tgs/iag313.htm; https://www.bls.gov/iag/tgs/iag314.htm; https://www.bls.gov/iag/tgs/iag315.htm

Figure I-3: U.S. Textile and Apparel Total Employment by Business Line (1990-2016)



Source: U.S. Department of Commerce, Bureau of Industry and Security
Textile and Apparel Industry Assessment – 2017

The United States imported a total of $104.7 billion in textiles and apparel in 2016, up 3.7 percent from $101 billion in 2012.[5] The top five textiles and apparel exporters to the U.S. were China, Vietnam, India, Bangladesh, and Indonesia.

The United States is one of the largest markets for apparel consumption in the world. As a result of dramatically increasing U.S. apparel imports, U.S. apparel manufacturing has declined significantly. In 2016, apparel products accounted for around 77 percent of total U.S. textile and apparel imports. Miscellaneous textile products made up 16 percent of imports while fabrics accounted for 5.9 percent, and yarns for 1.2 percent.[6] Import penetration of the U.S. market

[5] U.S. Department of Commerce, Office of Textiles and Apparel (OTEXA), U.S. Imports of Textiles and Apparel: https://otexa.trade.gov/scripts/tqads2.exe/catpage
[6] U.S. Department of Commerce, Office of Textiles and Apparel (OTEXA), U.S. Imports of Textiles and Apparel: https://otexa.trade.gov/scripts/tqads2.exe/catpage

varies greatly between textiles and apparel: textile import penetration in 2016 was 39 percent, while apparel import penetration was 91 percent.[7]

The United Stated exported a total of $22.1 billion in textiles and apparel in 2016, down 1.8 percent from $22.5 billion in 2012.[8] The top five markets for U.S. textiles and apparel exports were Mexico, Canada, Honduras, China, and the United Kingdom. Major U.S. export product categories included fabric (39 percent), including specialty and industrial fabrics (18 percent), yarn (20 percent), made-up textile products (16 percent) such as home furnishings and other consumer goods (bedsheets, towels, etc.), and apparel (25 percent).

Supplying the U.S. Government

In response to the ever increasing level of imports of mass-produced apparel into the United States, remaining U.S. manufacturers have been forced to focus primarily on high-end, niche, and military markets. Particularly important to the U.S. textile and apparel industry is the Berry Amendment. Since the enactment of the Berry Amendment (10 USC, Section 2533a) in 1941, the U.S. Department of Defense (DoD) has been required to purchase U.S.-manufactured uniforms, textiles, and footwear, all made with U.S. materials. In 2016, the Defense Logistics Agency (DLA) purchased approximately $1.9 billion in clothing and textiles from U.S. manufacturers.[9] DLA manages the procurement of 8,000 different clothing and textile items. Given the size of the DoD procurement market and its 100 percent U.S. sourcing requirement,

[7] https://fas.org/sgp/crs/row/R44998.pdf, p. 18
[8] U.S. Department of Commerce, Office of Textiles and Apparel (OTEXA), Export Market Report: https://otexa.trade.gov/scripts/exphist.exe
[9] http://www.dla.mil/TroopSupport.aspx

many organizations view the Berry Amendment as essential to the viability of the remaining U.S. textile, apparel, and footwear industrial base.

Additionally, the Kissell Amendment (6 USC 453b), which was enacted in 2009, expands the provisions of the Berry Amendment to U.S. Department of Homeland Security (DHS) procurement for textiles, clothing, and footwear products for the U.S. Coast Guard (USCG) and other DHS agencies, such as U.S. Customs and Border Protection (CBP), U.S. Immigration and Customs Enforcement (ICE), National Protection and Programs Directorate (NPPD), the Transportation Security Administration (TSA) and the U.S. Secret Service. However, unlike the Berry Amendment, the Kissell Amendment contains a number of exceptions to its Buy-American provisions such as a requirement that it be applied consistently with U.S. international trade agreements. In fact, the U.S. Government Accountability Office (GAO) recently reported that only 42 percent of the value of uniform items procured by DHS (excluding the USCG) between October 2014 and June 2017, valued at $69 million, was of U.S. origin.[10] The value of the foreign-sourced uniform contracts during this time period totaled $95.6 million.

By enforcing Berry Amendment-like provisions in the Kissell Amendment, foreign-sourced uniforms could be reshored. Many U.S. manufacturers view the action as potentially helping increase sales volumes and further stabilizing the viability of their U.S. workforce and production lines.

[10] https://www.gao.gov/assets/690/688512.pdf

II. SELECT FINDINGS

Respondent Profile:

- BIS received 571 survey responses from organizations that manufacture textiles, textile products, or apparel in the United States. The 571 respondents represented 1,122 manufacturing facilities, of which 879 (78 percent) were located in the United States and 243 (22 percent) were located outside the U.S.
- The 571 organizations reported 212,768 total full time equivalent (FTE) employees in 2016; 135,374 of those FTE employees were directly related to textile and/or apparel manufacturing.
- Based on the primary product line categories, the 571 respondent organizations represented 230 textile mills, 128 textile product mills, and 213 apparel manufacturers.

Sales and Financials:

- Total reported sales for the 571 textile and apparel respondents were $41.4 billion in 2016, an eight percent increase from 2012. Total sales from products manufactured in the United States were $20.5 billion in 2016, a three percent decrease over the same five-year period.

- On average, Berry Amendment-related sales accounted for 12 percent of sales from products manufactured in the U.S. Berry Amendment-related sales decreased from $2.7 billion in 2012 to $2.4 billion in 2016. Foreign Military Sales (FMS) more than quadrupled between 2012 and 2016, from $20 million to $84 million.

- U.S. textile and apparel exports dropped 10 percent between 2012 and 2016, from $2.2 billion to $1.98 billion. On average, exports accounted for only 12 percent of total sales.

- The 571 respondents provided data on select financial accounting items, including net and operating income, assets, liabilities, and inventories. BIS used this financial data and developed a customized financial risk metric to better capture the overall financial condition of respondents. For the five-year period, BIS categorized 339 respondents as being at low/neutral financial risk, 88 respondents at moderate/elevated risk, and 17 respondents at high/severe risk. BIS could not calculate overall financial risk scores for 120 respondents.

Capital Expenditures (CAPEX) and Research and Development (R&D):

- The overall total Capital Expenditures (CAPEX) of the 571 respondents rose 90 percent from 2012 to 2016 - from $1.6 billion to $3.1 billion. Textile and/or apparel-related CAPEX constituted just over one-third (36 percent) of the total. Textile and/or apparel-related CAPEX grew 64 percent between 2012 and 2016 – from $631 million to $1 billion.

- The top CAPEX priorities cited by respondents for 2017-2021 were improving productivity (by increasing automation and efficiencies) and replacing old machinery and equipment.

- Thirty-eight percent of organizations conducted research and development (R&D) between 2012 and 2016. Textile mills were most likely to engage in R&D with 50 percent response rate, followed by textile product mills at 35 percent, and apparel manufacturers at 28 percent. Seventy-one percent of large organizations conducted R&D, compared to only 25 percent of small organizations.

- Total R&D expenditures reported grew by 10 percent from 2012 to 2016 - from $848 million to $935 million. Textile and/or apparel-related R&D expenditures increased by 12 percent - from $392 million to $437 million during the same period, with large companies constituting

76 percent of 2016 expenditures. Reported defense-related textile and/or apparel R&D accounted for 8 percent of expenditures during this five-year period.

Workforce:

- The U.S. textile and apparel industry employed a total of 212,768 full-time equivalent (FTE) employees in 2016, an eight percent increase from 2012. Apparel manufacturers constituted 50 percent of the total 2016 FTEs, textile mills employed 32 percent, and textile product mills employed 18 percent.

- Overall, 349 respondents (61 percent) reported that they had difficulties hiring and/or retaining employees for their textile and apparel operations, specifically production line workers such as operators and machine technicians. The skill gaps in the labor market for those positions were by far the biggest ones identified for the industry.

- Two hundred thirty-eight respondents (44 percent) believed that the average age of their organization's workforce had increased since 2012. Three hundred and seventeen respondents (59 percent) were at least somewhat concerned about their current workforce retiring in the near future. Fifty-eight percent anticipated difficulties in finding and recruiting younger workers to fill vacancies.

Production Capabilities:

- The proportion of Berry Amendment-related production output varied across business lines. For textile mills, an average of 12 percent of U.S. output was Berry Amendment-related; for textile product mills the average was 21 percent, and for apparel production it averaged 26 percent.

- The majority of respondents (71 percent) indicated that they were at least somewhat confident that they could obtain the material necessary to ramp up production in the event of a national emergency. Eighty-two percent estimated that they would be able to raise production from current levels to 100 percent capacity within six months, 63 percent within three months, and 32 percent within a month. The response rates were similar across textile and apparel manufacturers, company size, and USG and DoD suppliers.

- "Availability of Workforce" and "Availability of Input Materials" were the leading factors identified as limiting an organization's ability to ramp up production and increase their manufacturing utilization rate to 100 percent.

Customers and Competitors:

- Respondents listed a total of 1,309 U.S. competitors and 552 non-U.S. competitors. Chinese companies were cited as the number one source of foreign competition.

- While price was the number one listed competitive attribute of both U.S. and non-U.S. competitors, it was much more profound among foreign competition. U.S.-based competitors offered a mix of "Price," "Range of Capabilities," and "Other" characteristics.

- "Quality," "Lead Time," and "Innovation" were the top three competitive advantages of U.S. textile and apparel manufacturers as they related to foreign competition. The top disadvantage of U.S. textile and apparel manufacturers was by far "Labor Costs."

Competitive Factors:

- For the 319 respondents who produced for the U.S. Department of Defense, 51 percent expected their competitive prospects to improve in the near future. For those organizations serving commercial customers, 262 respondents (52 percent) anticipated improved business.

- Two hundred twenty-two respondents (43 percent) believed that reshoring was occurring in textile and apparel manufacturing. Almost all of these respondents believed that "Shorter Lead Times" and the "Marketability of the 'Made in USA' Label" were the factors driving the trend.

- The Affordable Care Act (ACA), Minimum Wage regulations (Federal, State, and Local), and U.S. Trade Policy were the top governmental regulations and provisions cited as negatively impacting the competitiveness of U.S. textile and apparel manufacturers.

Challenges and Outreach:

- "Labor Availability," "Healthcare Costs," and "Foreign Competition" were the top three organizational challenges identified by all respondents. Textile manufacturers were relatively more concerned with "Foreign Competition" and "U.S. Trade Policy" than were apparel manufacturers and textile product mills. Apparel manufacturers listed the challenges of "Domestic Competition" and "Access to Capital" at a higher rate.

- Three of the top five organizational challenges listed were workforce related, with "Labor Availability," "Aging Workforce," and "Worker/Skills Retention" being identified first, fourth, and fifth-most often.

Supply Chain Network:

- Thirty-six percent of respondents who manufactured for the USG indicated supply chain sourcing issues, compared to 23 percent of those who did not manufacture for the USG.

- Thirty-three percent of textile and apparel manufacturers (181 respondents) considered themselves to be dependent on foreign sources for supplies, which was highest among textile mills.

- Survey responses highlighted the fragility of the U.S. supply chain and its contraction over the last two decades. Several Berry Amendment producers stated that they are down to only one or two suppliers for certain Berry Amendment-compliant inputs and materials. Increased demand for commercial products made in the U.S. could create an incentive for more U.S. suppliers to enter the market.

- Just over 10 percent of respondents reported machinery or equipment sourcing issues since 2012.

- One hundred ninety-one respondents (37 percent) reported that they considered themselves to be dependent on non-U.S. sourcing for their machinery or equipment. Respondents listed a variety of machine types that were scarce or no longer available in the United States.

Cybersecurity:

- Forty-one percent of respondents (222) reported being aware of the Defense Federal Acquisition Regulation Supplement (DFARS) 252.204-7009, Limitation on the Use or Disclosure of Third-Party Contractor Reported Cyber Incident Information. Among USG suppliers the positive response rate was 54 percent.

- Two hundred and forty-eight cybersecurity incidents were reported by 192 respondents. The leading categories were "User idle time and lost productivity" and "Ransomware Attack." Seven percent of reported incidents were ranked as having a "Severe" impact level, while 25 percent had "Moderate" impact. The remaining 68 percent of reported incidents were either ranked as "Low" or "None."

USG Participation and the Berry and Kissell Amendments:

- Of the 571 total respondents, 319 (56 percent) reported that they had manufactured textiles and/or apparel for the USG between 2012 and 2016 (132 apparel manufacturers, 117 textile mills, and 70 textile product mills).

- A total of 123 respondents considered themselves dependent on USG programs for continued viability, while 165 organizations were calculated to have more than 25 percent of the 2016 sales devoted to the USG.

- Sixty-seven percent of respondents believed that the Berry Amendment had a positive impact on their organization's business.

- While one-third of respondents believed that Berry Amendment noncompliance was a problem within the textile and apparel industry, only 6 percent had reported instances of suspected violations between 2012 and 2016. Only 5 percent of respondents had been offered or had taken part in Berry Amendment compliance training. Of those organizations who had not undertaken compliance training, 70 percent claimed they were interested in doing so.

- A majority of respondents favored “Expanding the number of USG agencies subject to the Berry Amendment,” “Expanding the number of product groups subject to the Berry Amendment,” and/or “Leaving the provisions unchanged.”

- Over half of respondents (145, 52 percent) believed that “Expanding the number of USG agencies subject to the Kissell Amendment” would have a positive impact on the textile and apparel industry and can help smooth out variations in USG textile and apparel orders.

III. Survey Respondent Profile

BIS received 571 completed survey responses from organizations that manufacture textile, textile products, or apparel in the U.S. With the intent to create organizational profiles for further analysis, BIS asked a series of questions related to organization size, type, and capabilities. Respondents were asked to list their organization's manufacturing facility locations within the U.S. and outside the U.S., their primary product line, and whether their manufacturing operations included any defense-related production. Additionally, respondents reported on their manufacturing, design, and research and development (R&D) capabilities.

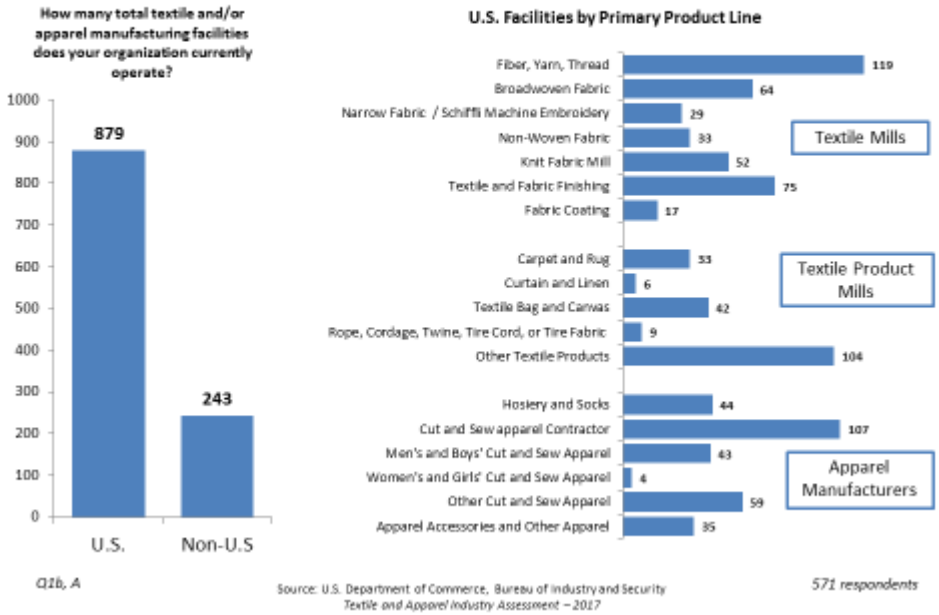
The scope of the BIS survey and assessment was limited to U.S. manufacturers of textiles, textile products, and apparel, as defined and classified by the North American Industry Classification System (NAICS), and represented by NAICS codes 313, 314, and 315. Excluded from the scope of the survey were organizations such as distributors, importers, suppliers, service providers, designers, etc. The primary product line reported (some respondents indicated multiple product lines/capabilities) was used to categorize survey respondents into textile mills, textile product mills, or apparel manufacturers (see Figure III-1). Based on the primary product line categories, the 571 respondent organizations represented 230 textile mills, 128 textile product mills, and 213 apparel manufacturers.

Figure III-1: Textile and Apparel Categories and Number of Organizations

Source: U.S. Department of Commerce, Bureau of Industry and Security
Textile and Apparel Industry Assessment – 2017

The 571 survey respondents reported operating 1,122 textile and/or apparel manufacturing facilities. Of those facilities, 879 (78 percent) were in the U.S. and 243 (22 percent) were located outside the U.S. When segmented by the listed U.S. facility's primary product line, 389 facilities were textile mills, 194 were textile product mills, and 292 were apparel manufacturing operations (see Figure III-2).

Figure III-2: U.S. Textile and Apparel Manufacturing Facilities

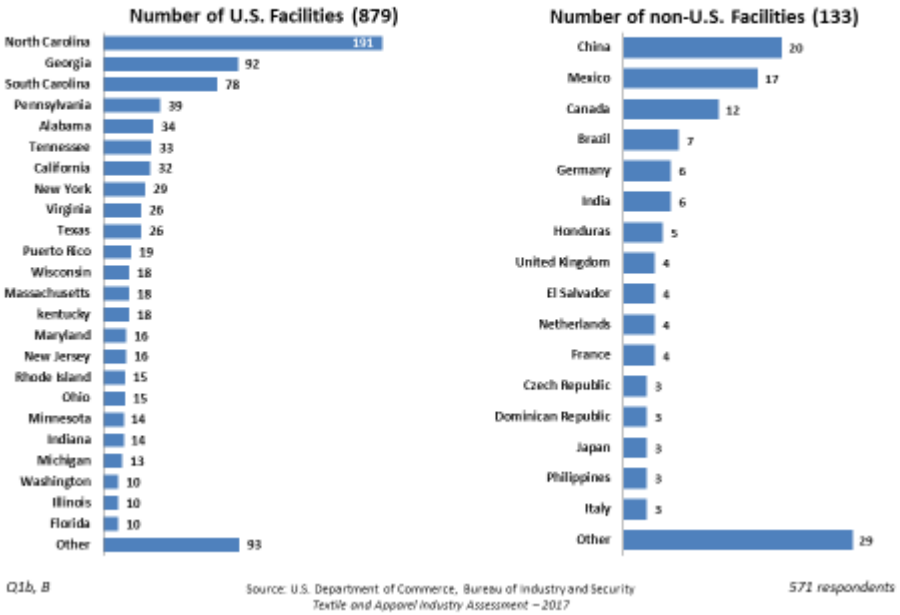


The 571 survey participants reported total textile and/or apparel-related sales of $41.4 billion in 2016. About half of that total, $20.5 billion in 2016, came from sales of products manufactured in the U.S.

U.S. manufacturing facilities listed were spread across 46 states and the U.S. Territory of Puerto Rico. North Carolina hosted the largest number of facilities with 191 (22 percent of the total), followed by Georgia with 92 (10 percent), and South Carolina with 78 (nine percent). Organizations provided information on 133 non-U.S. facilities[11], with the most common locations being China, Mexico, and Canada with 20, 17, and 12 facilities, respectively (see Figure III-3).

[11] In the BIS survey, respondents reported a total of 243 non-U.S. textile and/or apparel manufacturing facilities. They were asked to identify the location and the primary product line for only their top five non-U.S. facilities based on production volume. BIS received the above information for 133 facilities.

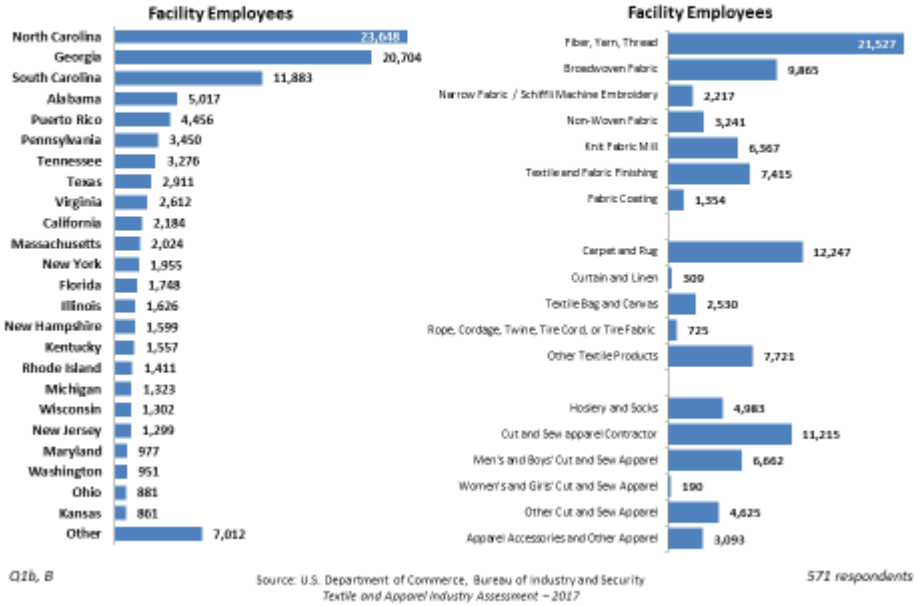
Figure III-3:Textile and Apparel Manufacturing Facilities – Location



The 571 companies that responded to the BIS survey reported 212,768 total full time equivalent (FTE) employees in 2016. Textile and/or apparel-related employees in 2016 were 135,374. This figure also included FTEs that did not participate directly in the manufacturing process. Examples of occupations include FTEs employed at company headquarters (administrative, management, legal), designers, logistics and distribution, sales, retail, and others. Survey participants reported 106,667 FTEs directly involved in production at the 879 U.S. manufacturing facilities listed.

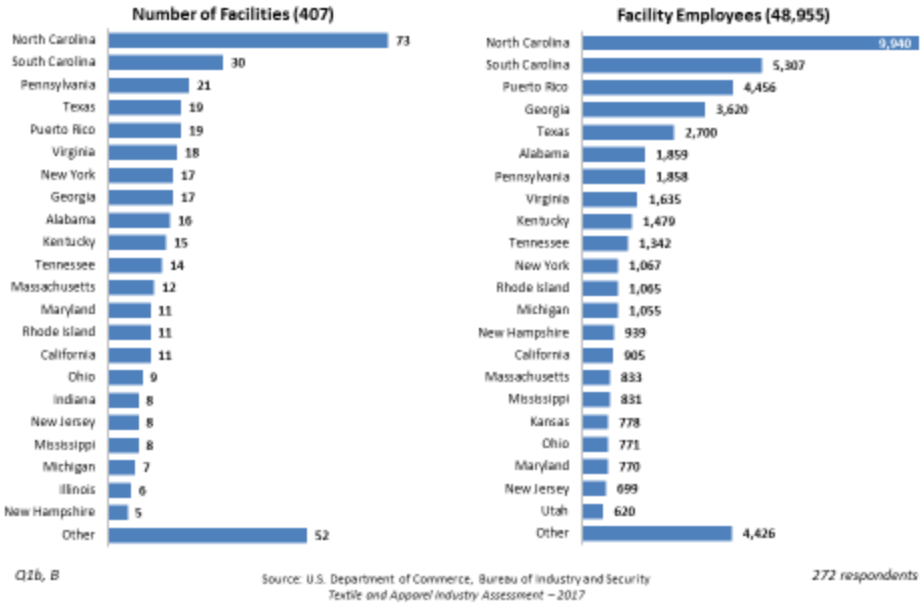
The states with the highest number of production facility employees were North Carolina with 23,648, Georgia with 20,704, and South Carolina with 11,883 (see Figure III-4). Textile mills accounted for 49 percent of the total, textile product mills for 22 percent, and apparel manufacturers for 29 percent.

Figure III-4: U.S. Textile and Apparel Manufacturing Facilities – Employees



Some level of defense-related textile and/or apparel production was reported at 407 of the 879 U.S. manufacturing facilities, spread across 43 states and the U.S. Territory of Puerto Rico. These 407 facilities employed a total of 48,955 employees. North Carolina was the leading state among survey participants in both the number of defense-related facilities with 73 and the number of facility employees with 9,940 (see Figure III-5). Total defense-related sales under the Berry Amendment to the U.S. Department of Defense (DoD) and the Armed Services by respondents were reported to be $2.37 billion in 2016, or 11.5% of all reported U.S.-manufactured textile and apparel sales.

Figure III-5: U.S. Textile and Apparel Defense-Related Manufacturing Facilities and Employees



For the purposes of this assessment, BIS categorized respondent companies as large, medium or small. Organization size was established based on the 2016 sales values reported from textile and/or apparel products manufactured in the U.S. Large U.S. manufacturers were defined as those with reported 2016 sales greater than $50 million, medium between $10 million and $50 million, and small as less than $10 million. Eighty-two, or 14 percent of respondents were categorized as large, 163 as medium (29 percent), and 326 as small (57 percent) (see Figure III-6).

In 2016, large organizations accounted for 77 percent of U.S.-manufactured product sales and 50 percent of reported FTEs. The figures for medium-sized organizations were 18 percent of sales and 40 percent of FTEs. Small companies comprised 5 percent of sales and 10 percent of FTEs.

Figure III-6: Respondent Profile – Organization Size

Size	2016 Annual Sales from U.S.-Manufactured Products	Number of Respondents	Average Number of Employees
Small	**Under $10 million**	**326**	**46**
Textile Mills		91	47
Textile Product Mills		94	36
Apparel Manufacturers		141	52
Medium	**$10 million - $50 million**	**163**	**324**
Textile Mills		87	140
Textile Product Mills		21	144
Apparel Manufacturers		55	679
Large	**Over $50 million**	**82**	**860**
Textile Mills		52	685
Textile Product Mills		13	1,370
Apparel Manufacturers		17	1,005

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Source: U.S. Department of Commerce, Bureau of Industry and Security
Textile and Apparel Industry Assessment – 2017

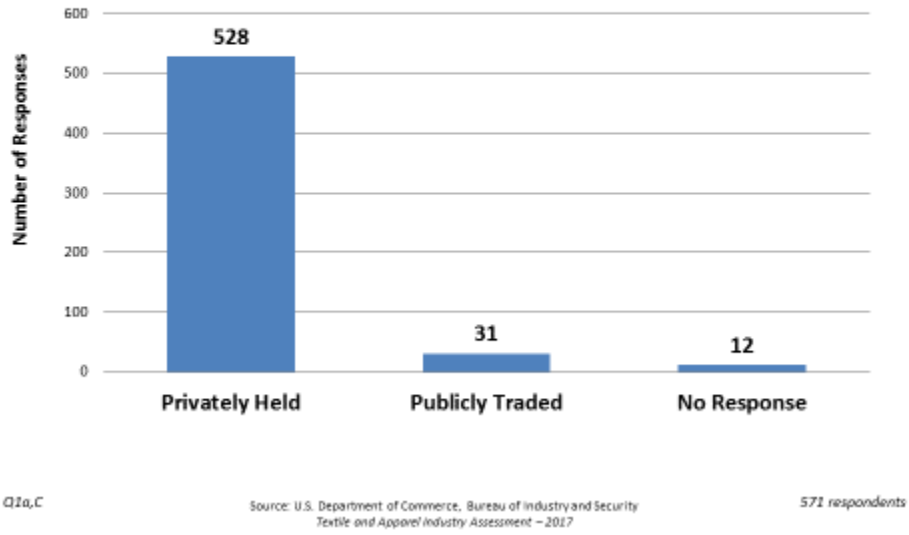
571 respondents

Some U.S. commercial apparel companies are primarily owners of brands and brand names that mainly manufacture or contract production out to manufacturers in non-U.S. locations. They often maintain design and research and development (R&D) operations in the U.S., as well as sales, marketing, and distribution. Some large U.S. apparel companies make only a small portion of their products in the U.S., while some smaller organizations manufacture all of their products domestically. As a result, some larger, multinational companies may be represented in the survey results as medium or small U.S. manufacturers (or not represented at all), since they have a limited or non-existent U.S. manufacturing presence.

A large majority of respondents, 94 percent, stated that they were a privately held company while six percent were publicly traded (see Figure III-7). Almost a quarter of total participants, 135 organizations, reported having a parent company. In 42 of those instances, the parent organization was a non-U.S. entity. Non-U.S. parent companies were spread across 20 countries

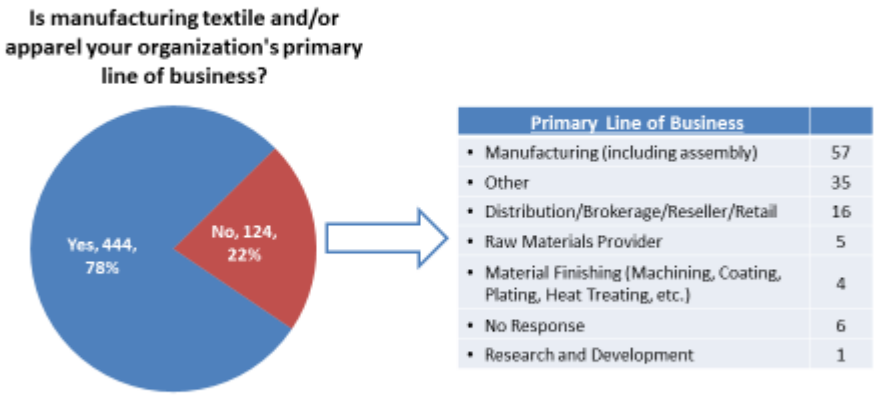
with Canada, the United Kingdom, and France leading with five, three, and three mentions, respectively.

Figure III-7: U.S. Textile and Apparel Organizations — Publicly Traded vs. Privately Held



Over three quarters of respondents, 78 percent, stated that manufacturing textiles and/or apparel was their primary line of business (see Figure III-8). Out of these, 134 (30 percent) also reported other lines of business, predominantly other "Manufacturing (including Assembly)," "Other," and "Distribution/Brokerage/Reseller/Retail." The organizations that indicated other primary business lines were also predominantly engaged with other "Manufacturing (including Assembly)" and "Other."

Figure III-8: U.S. Textile and Apparel Organizations — Primary Line of Business



Primary Line of Business	
• Manufacturing (including assembly)	57
• Other	35
• Distribution/Brokerage/Reseller/Retail	16
• Raw Materials Provider	5
• Material Finishing (Machining, Coating, Plating, Heat Treating, etc.)	4
• No Response	6
• Research and Development	1

Q1a, E

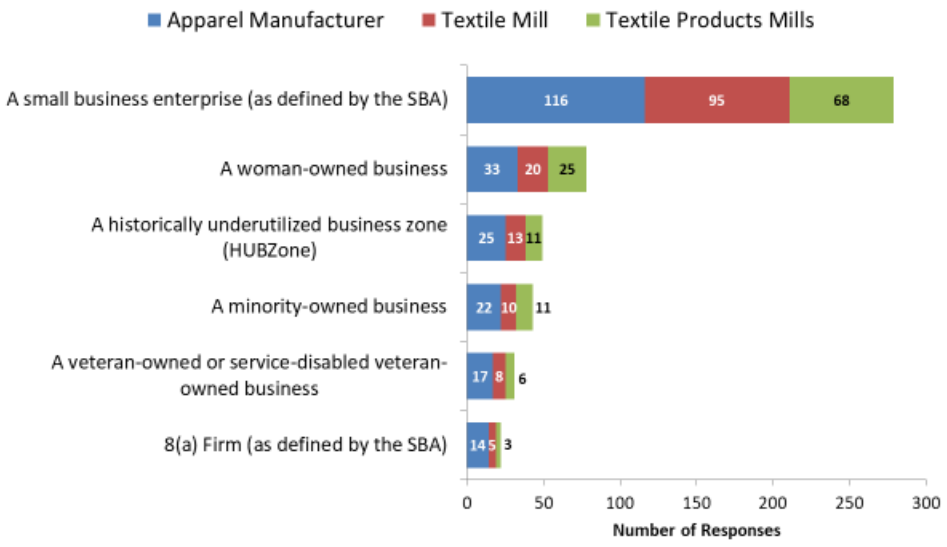
Source: U.S. Department of Commerce, Bureau of Industry and Security
Textile and Apparel Industry Assessment – 2017

568 respondents

Additionally, BIS asked respondents if they qualified as small or disadvantaged business types as listed in the survey. Two hundred and seventy-nine participants (49 percent) qualified as a small business enterprise, as defined by the Small Business Administration (SBA)[12] (see Figure III-9). Seventy-eight companies (14 percent) were woman-owned businesses, 49 were located in Historically Underutilized Business Zones (HUBZone),[13] 43 were minority-owned businesses, 31 were veteran-owned or service-disabled veteran-owned businesses, and 22 qualified as 8(a) Business Development Program Firms.[14]

[12] https://www.sba.gove/sites/default/files/files/Size_Standards_Table.pdf
[13] https://www.sba.gov/contracting/government-contracting-programs/hubzone-program/understanding-hubzone-program
[14] https://www.sba.gov/contracting/government-contracting-programs/8a-business-development-program/eligibility-requirements/8a-requirements-overview

Figure III-9: U.S. Textile and Apparel Organizations – Types of Business



Q1a,D

Source: U.S. Department of Commerce, Bureau of Industry and Security
Textile and Apparel Industry Assessment – 2017

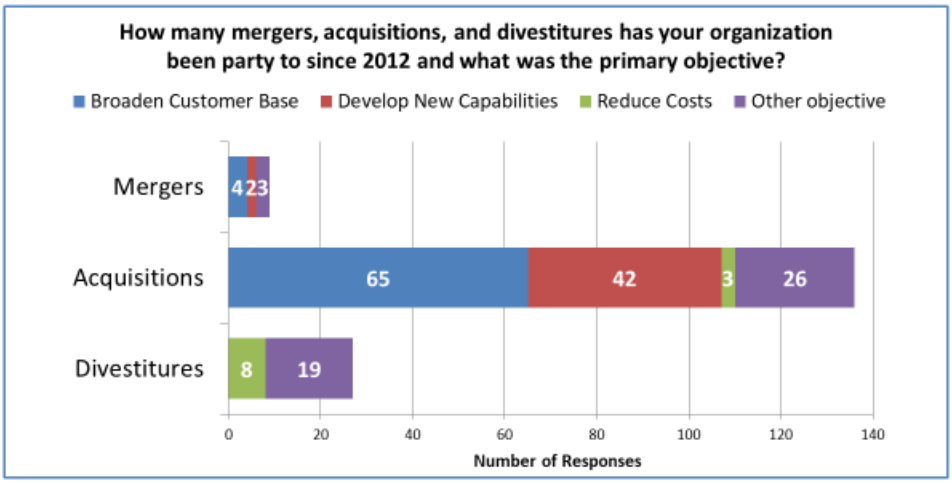
571 respondents

One hundred and four respondents reported a total of 172 mergers, acquisitions and divestitures (M&As) since 2012. The number of reported M&As between 2012 and 2016 increased each year, from 19 in 2012, to 46 in 2016. This represented a 142 percent increase in the number of M&A's reported between 2012 and 2016. Of the 172 reported M&A's, 136 (79 percent) were acquisitions, 28 (16 percent) were divestitures, with the remaining nine (5 percent) being mergers. Eighty percent of all recorded M&As occurred within the U.S., with Canada and Germany as the next two largest countries represented (5 percent and 2 percent, respectively). When asked about the objectives of the M&A activities, a majority of respondents indicated that their primary objective was to "Broaden Customer Base" or to "Develop New Capabilities" (see Figure III-10).

Figure III-10: Mergers, Acquisitions & Divestitures

172 reported mergers, acquisitions and divestitures

- 137 with U.S. companies
- 35 with non-U.S. companies, including Canada, Germany, and China



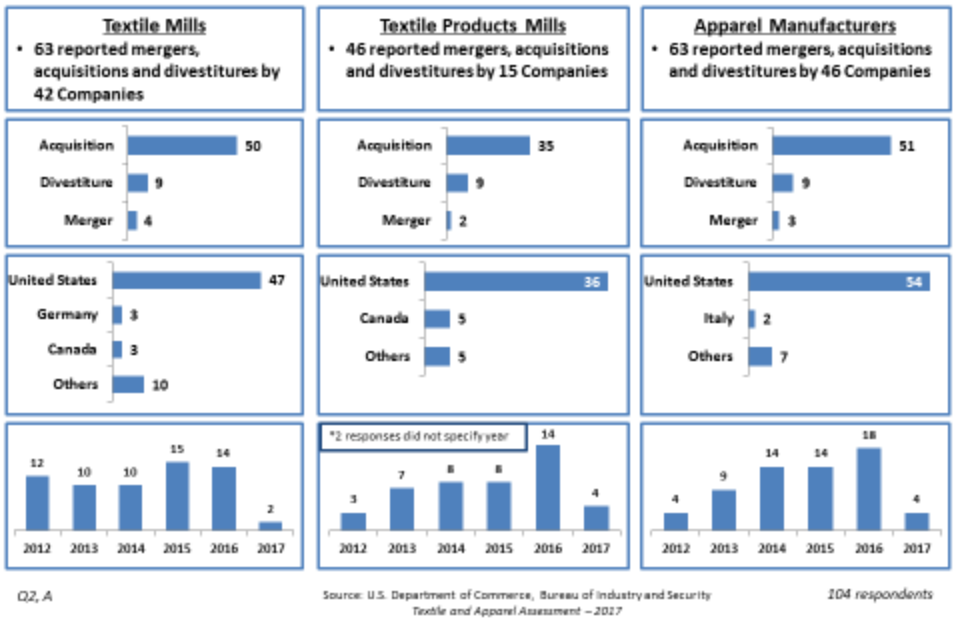
Q2, A

Source: U.S. Department of Commerce, Bureau of Industry and Security
Textile and Apparel Assessment – 2017

104 respondents

Overall, M&A trends were similar among textile mills, textile product mills, and apparel manufacturers. Acquisitions comprised the majority of each groups' M&A activity. Of the 63 M&A responses by textile mills, 79 percent were acquisitions. For textile product mills (46 responses), 76 percent were acquisitions, and for apparel manufactures (63 responses), 81 percent were acquisitions. Survey respondents conducted most of their M&A activities within the U.S. (see Figure III-11).

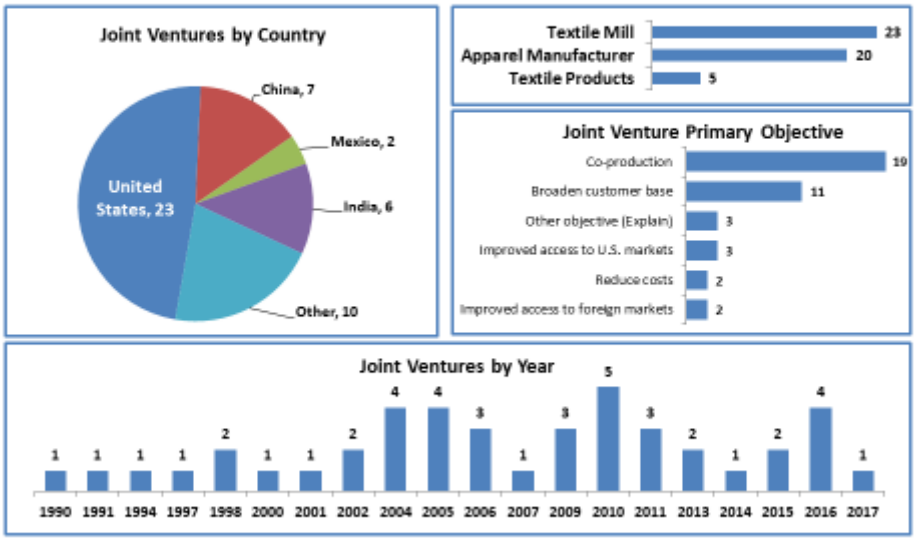
Figure III-11: Mergers, Acquisitions & Divestitures by Business Line



A total of 48 joint ventures (JVs) since 1990 were reported by 45 organizations (see Figure III-12). Forty-eight percent of JVs reported were with U.S. companies, and fifteen percent were with Chinese companies. Other JVs reported included ones with companies from India, Mexico, and Japan. The most frequently selected objective of the joint ventures was “Co-Production” (19 selections), followed by “Broaden Customer Base” (11 selections), and “Other Objective” (three selections). Of the 48 JVs reported, 23 involved textile mills, 20 involved apparel manufacturers, and five involved textile product mills. Large organizations accounted for 29 JVs (60 percent), medium organizations for 13 JVs (27 percent), and small organizations for six (13 percent).

Figure III-12: Joint Ventures

- 48 joint ventures reported by 45 unique companies



Q2, 8

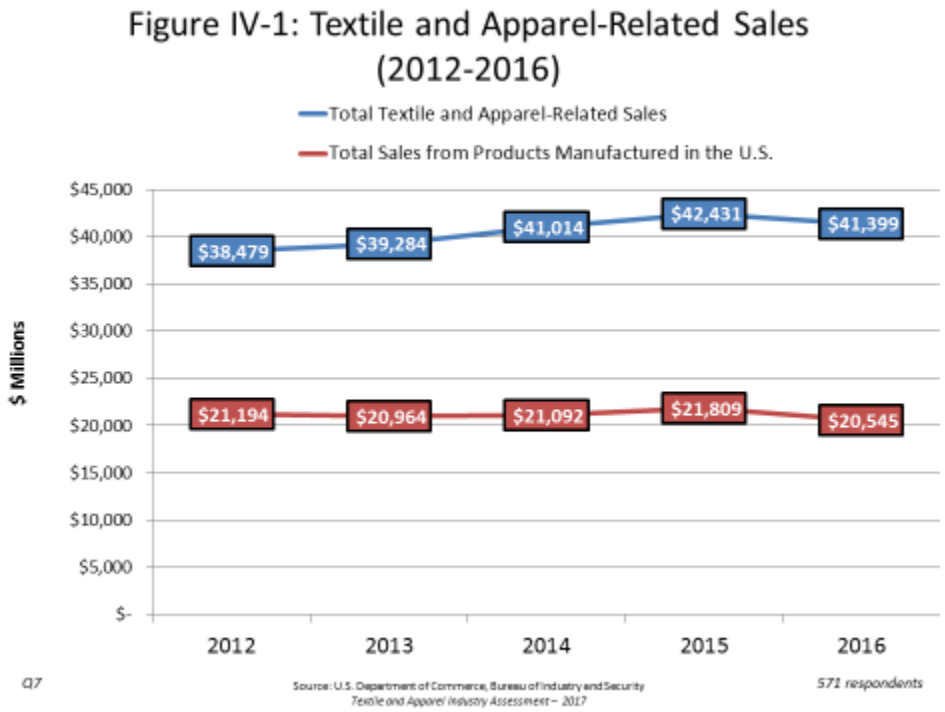
Source: U.S. Department of Commerce, Bureau of Industry and Security
Textile and Apparel Assessment – 2017

45 respondents

IV. Sales and Financials

Sales

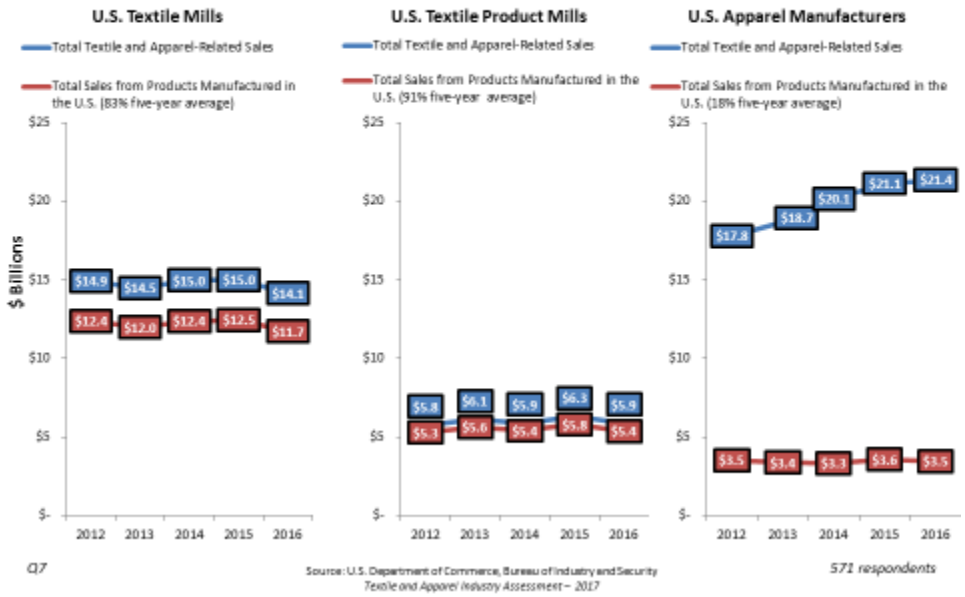
Total reported sales for U.S. textile and apparel manufacturers who completed the BIS survey were $41.4 billion in 2016, an 8 percent increase from 2012. Total sales for products manufactured in the U.S. were $20.5 billion in 2016, representing a 3 percent decrease from 2012. Sales from products manufactured in the U.S. averaged about 50 percent of total textile and apparel-related sales during the 2012 to 2016 period (See Figure IV-1).



When categorized by business line, the sales figures demonstrated some major differences. Textile mills and textile product mills reported much higher percentages of sales from products manufactured in the U.S. than the overall industry average (see Figure IV-2). From 2012 to 2016, an average of 83 percent of sales from textile mills came from products manufactured in the U.S. ($11.7 billion out of $14.1 billion in 2016). Similarly, from 2012 to 2016, an average of

91 percent of textile product mills' sales were derived from products manufactured in the U.S. ($5.4 billion out of $5.9 billion in 2016). Apparel manufacturers reported higher overall total sales, but only an average of 18 percent of their sales came from products manufactured in the U.S. during the same five year period ($3.5 billion out of $21.5 billion in 2016).

Figure IV-2: Textile and Apparel-Related Sales by Business Line (2012-2016)



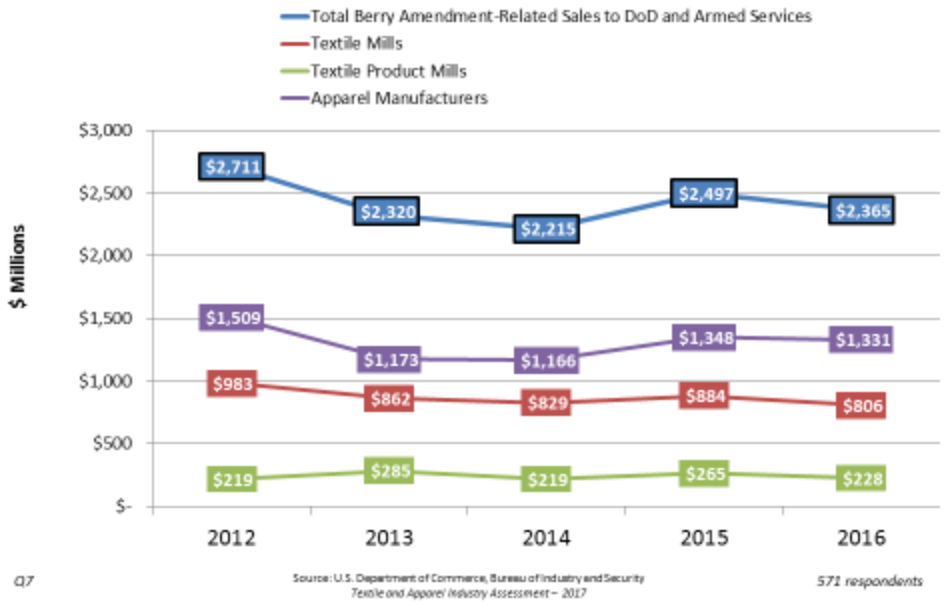
Sales from large organizations made up the majority of the overall textile and apparel sales totals. For example, in 2016 they accounted for 77 percent of total sales of products manufactured in the U.S., even though large organizations accounted for only 14 percent of the total number of respondents. Medium-sized organizations, which made up 28 percent of respondents, represented 18 percent of total sales. Small-sized organizations accounted for less than 5 percent of total sales but were 57 percent of respondents (see Figure IV-3).

Figure IV-3: Textile and Apparel-Related Sales by Organization Size (2012-2016)

Total sales from products manufactured in the U.S. decreased by 3 percent between 2012 and 2016, from $21.2 billion to $20.5 billion. On average, Berry Amendment-related sales accounted for 12 percent of total sales from products manufactured in the U.S. Berry Amendment-related sales dropped 13 percent between 2012 and 2016, from $2.7 billion to $2.4 billion.

Apparel manufacturers accounted for more than half of all Berry Amendment-related sales, followed by textile mills and textile product mills (see Figure IV-4). Textile mills had the steepest decline in Berry Amendment-related sales between 2012 and 2016, from $983 million to $806 million. Apparel manufacturers' Berry-Amendment-related sales declined from $1.5 billion to $1.3 billion during the same period. Textile product mills' Berry Amendment-related sales increased slightly, from $219 million to $228 million.

Figure IV-4: Berry Amendment-Related Sales by Business Line (2012-2016)

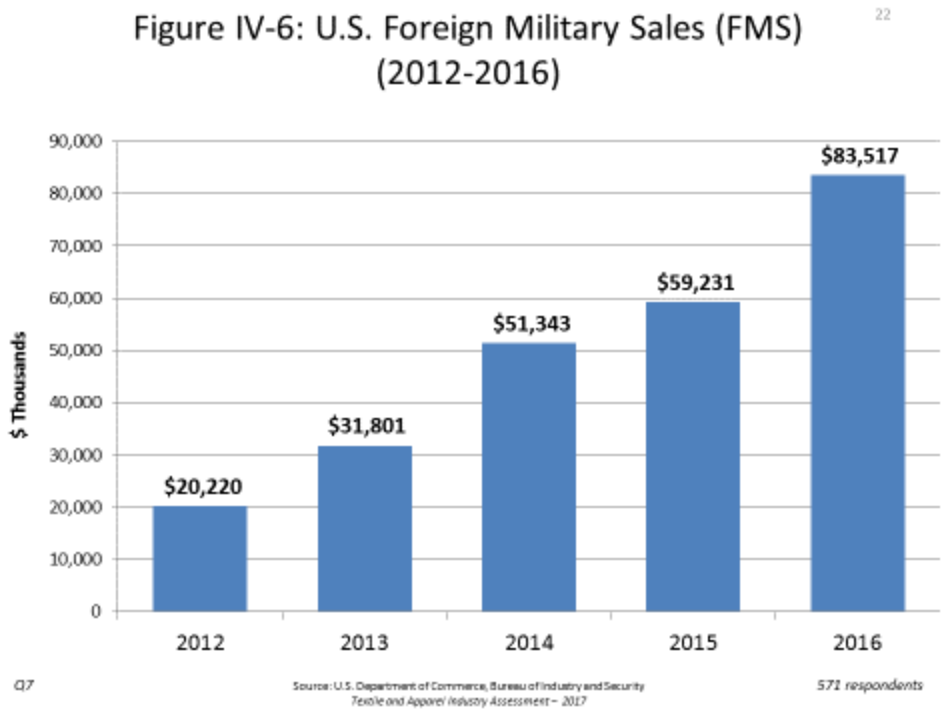


U.S. textile and apparel exports declined 11 percent between 2012 and 2016, from $2.35 billion to $2.09 billion. On average, exports accounted for only 11 percent of total sales from products manufactured in the U.S. Large-sized textile and apparel manufacturers were responsible for the vast majority of export sales, accounting for 91 percent ($1.8 billion) in 2016.

Textile mills accounted for approximately 75 percent ($1.6 billion) of all U.S.-manufactured product exports in 2016. Apparel manufacturers represented 14 percent ($296 million) of exports and textile product mills represented a total of 11 percent ($232 million) (see Figure IV-5).

Figure IV-5: Sales from Exports by Business Line (2012-2016)

Reported U.S. Foreign Military Sales (FMS) more than quadrupled between 2012 and 2016, from $20 million to $84 million (see Figure IV-6). The countries most often listed for FMS textile and apparel products were Canada, Afghanistan, Israel, Australia, and the United Kingdom. FMS as a percentage of total Berry Amendment-related sales grew from 0.7 percent in 2012 to 3.5 percent in 2016.



Financial Risk

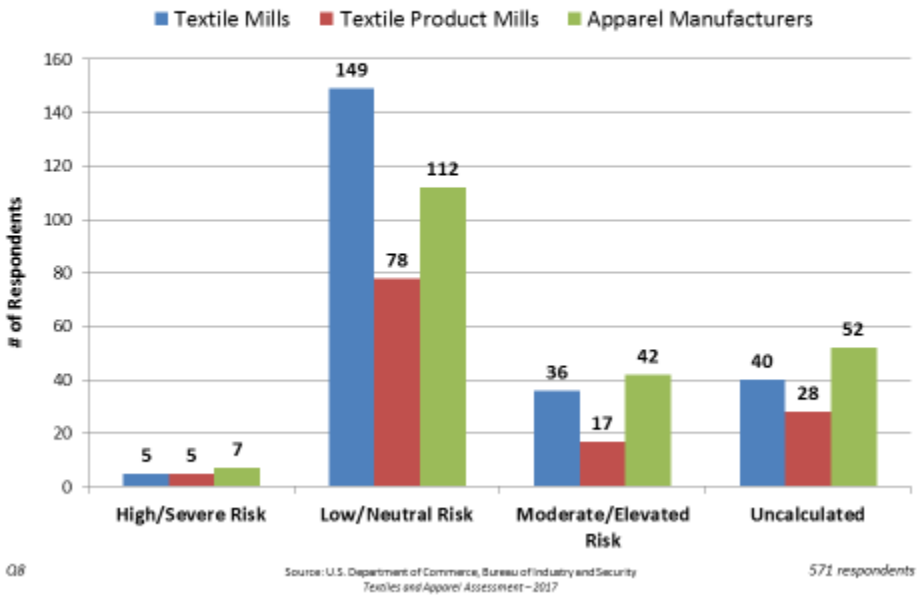
The 571 BIS survey respondents provided data on select financial accounting items, including net and operating income, assets, liabilities, and inventories. BIS used this financial data and developed a customized financial risk metric to better capture the overall financial condition of respondents. The model was based largely on standardized financial ratios covering profitability, liquidity, leverage, and default probability of an organization over time. Additional select qualitative data were taken into account during the financial risk evaluation.

Respondents were assigned both yearly financial risk scores as well as a more comprehensive 2012 to 2016 financial risk score, which incorporated yearly scores and trends in financial health. Based on this scorecard, respondents were categorized as low/neutral risk, moderate/elevated risk, or high/severe risk. Some respondents did not have data for all years or all measures and as

a result could not be assigned a comprehensive financial risk score. These respondents are included in the uncalculated risk category.

For the five-year period of 2012 to 2016, BIS categorized 339 respondents as being at low/neutral financial risk, 95 respondents at moderate/elevated risk, and 17 respondents at high/severe risk. BIS could not calculate overall financial risk scores for 120 organizations. While risk ratings were roughly consistent across business lines, textile mills were more likely to have a low/neutral financial risk score, with 149 respondents in the category (65 percent rate) (see Figure IV-7). Seven apparel manufacturers (3 percent rate), five textile mills (2 percent rate), and five textile product mills (4 percent rate) had an overall high/severe risk score.

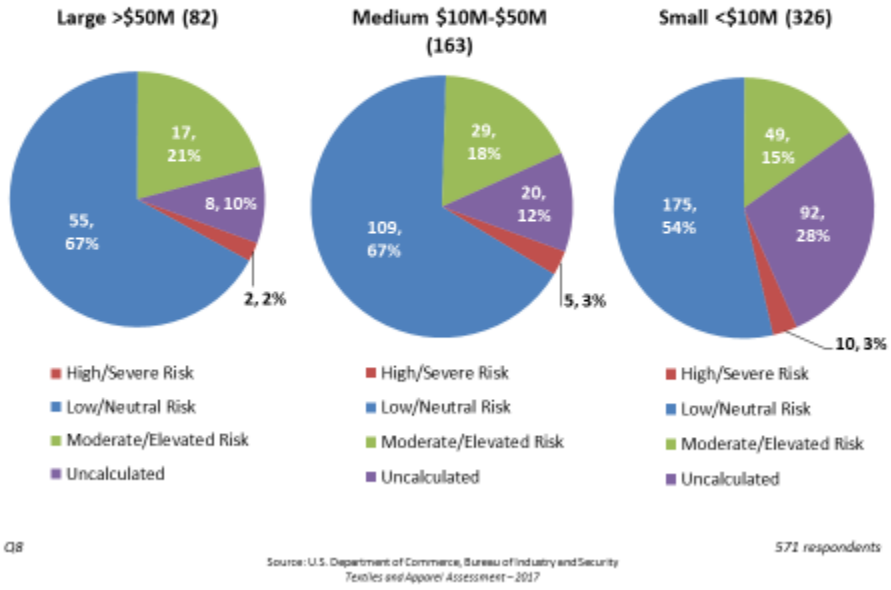
Figure IV-7: Financial Risk Rating by Business Line (2012-2016)



Large and medium-sized organizations were more likely to have low/neutral risk scores, (67 percent each) compared to 54 percent of small organizations. However, a risk score could not be

calculated for a larger percentage of small organizations (28 percent). On average, three percent of all respondents received high/severe financial risk scores (see Figures IV-8 and IV-9).

Figure IV-8: Financial Risk Rating by Organization Size (2012-2016)



Organizations that had manufactured for the U.S. Government (USG) at some point during the 2012-2016 period represented 56 percent of total survey participants. Out of these 319 respondents, 198 received a low/neutral risk score, 48 received a moderate/elevated score, 12 received a high/severe score, and 61 were uncalculated. USG suppliers represented 58 percent of all respondents with low/neutral risk scores, 51 percent with moderate/elevated, 71 percent with high/severe, and 51 percent with uncalculated (see Figure IV-9).

Figure IV-9: Overall Financial Risk Rating (2012-2016)

U.S. Textiles and Apparel - Overall Financial Risk Ratings by Respondent Size

Financial Risk Rating	Small	Medium	Large	Total
Low/Neutral Risk	175	109	55	339
Moderate/Elevated Risk	49	29	17	95
High/Severe Risk	10	5	2	17
Uncalculated	92	20	8	120

U.S. Textiles and Apparel - Overall Financial Risk Ratings by USG Participation

USG Supplier	No	Yes	Total
Low/Neutral Risk	141	198	339
Moderate/Elevated Risk	47	48	95
High/Severe Risk	5	12	17
Uncalculated	59	61	120

Q8

Source: U.S. Department of Commerce, Bureau of Industry and Security
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571 respondents

Overall, respondents' annual financial risk scores trended towards the negative from 2012 to 2016. The number of organizations with low/neutral risk scores decreased from 388 in 2012 to 374 in 2016. Organizations with moderate/elevated risk scores increased during that same time, from 64 to 75. The largest shift was the increase in the number of high/severe risk scores, from 31 to 62 (see Figure IV-10). While there was an increase in high/severe financial risk scores among all respondents, textile product mills and apparel manufacturers increased at a higher rate than textile mills. Between 2012 and 2016, textile product mills with a high/severe score increased from 4 to 15, and apparel manufacturers increased from 13 to 30. Small and medium-sized organizations were more likely to receive a higher risk rating. The number of medium-sized organizations with a high/severe score increased from 6 to 18, while small-sized organizations increased from 16 to 35.

Figure IV-10: Annual Textile and Apparel Organization Financial Risk Ratings (2012-2016)

Financial Risk Rating	2012	2013	2014	2015	2016
Low/Neutral Risk	388	385	368	383	374
Moderate/Elevated Risk	64	67	88	83	75
High/Severe Risk	31	44	50	48	62
Uncalculated	88	75	65	57	60

Q8 *571 respondents*

Source: U.S. Department of Commerce, Bureau of Industry and Security
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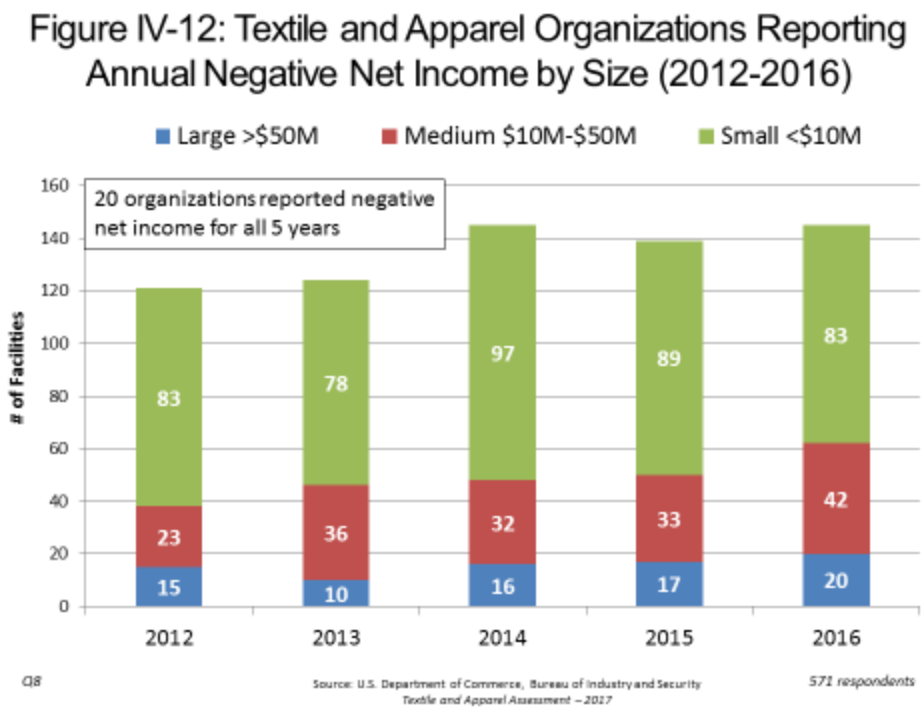
On average, 135 organizations per year reported negative net income during the 2012 to 2016 period. This averaged to 26 percent of apparel manufacturers (56 total), 23 percent of textile mills (54 total), and 20 percent of textile product mills (25 total). Twenty respondents (four percent) reported negative net income for every single year from 2012 to 2016 (see Figure IV-11).

Figure IV-11: Organizations Reporting Annual Negative Net Income by Business Line (2012-2016)

Small organizations were more likely to report negative net income. On average, 86 small organizations per year (26 percent of small organizations) reported negative net income during the period of 2012 to 2016. This compared to 20 percent each for medium (33 total) and large organizations (16 total) (see Figure IV-12).



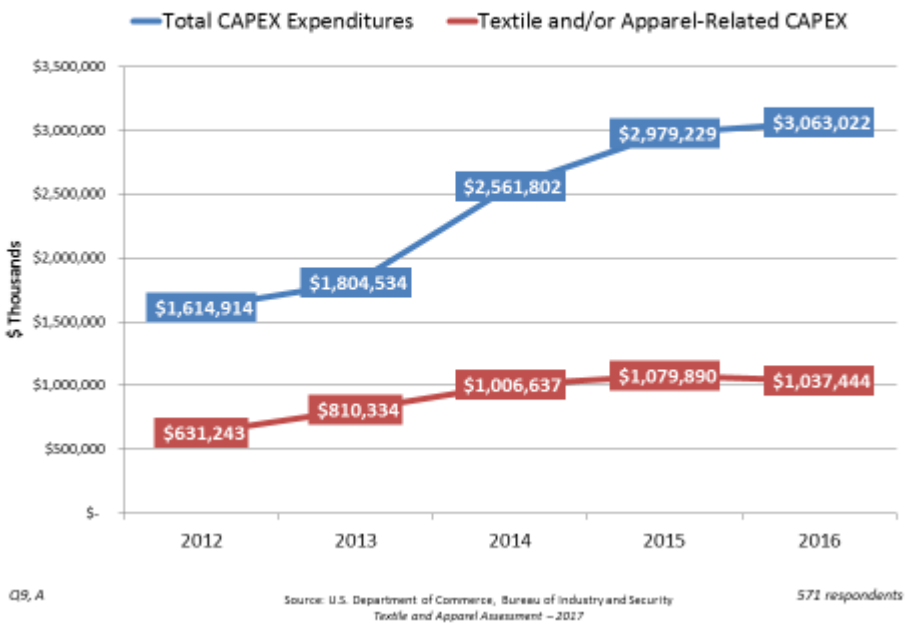
Organizations reporting negative net income were more likely to have an overall worse financial risk score than those that did not. For example, 10 percent of organizations reporting negative net income in 2016 received a high/severe financial risk score, a score accounting for three percent of all respondents. Similarly, 32 percent of organizations reporting negative net income in 2016 received a moderate/elevated financial risk score, compared to only 18 percent of total respondents. Textile and apparel organizations supplying the USG reported negative net income at the same rate as those who were not USG suppliers.

V. Capital Expenditures and Research and Development (R&D)

Capital Expenditures

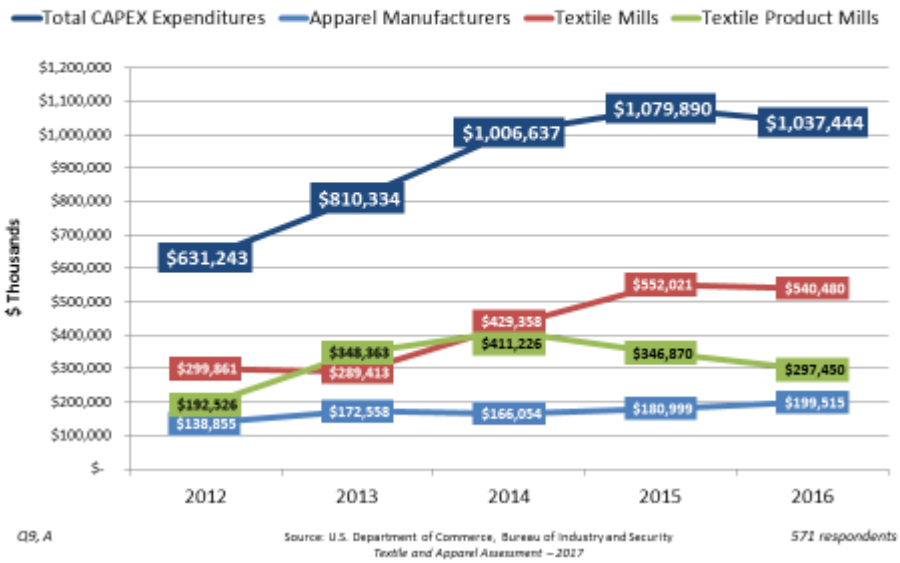
The overall total Capital Expenditures (CAPEX) of the 571 respondents increased 90 percent from 2012 to 2016 – from $1.6 billion to $3.1 billion (see Figure V-1). Textile and/or apparel-related CAPEX constituted just over one-third (36 percent) of the total CAPEX and grew 64 percent between 2012 and 2016 – from $631 million to slightly over $1 billion.

Figure V-1: Capital Expenditures (2012-2016)



Textile mills, textile product mills, and apparel manufacturers varied in their CAPEX activities during the 2012 to 2016 period. Apparel manufacturers' CAPEX grew steadily by 46 percent, from $138 million in 2012 to $200 million in 2016. Textile manufacturers' CAPEX grew by 80 percent during the 2012 to 2016 period, resulting in a 2016 CAPEX figure of $540 million. U.S. textile product manufacturers' CAPEX grew by 54 percent between 2012 and 2016, peaking at $411 million in 2014 (see Figure V-2).

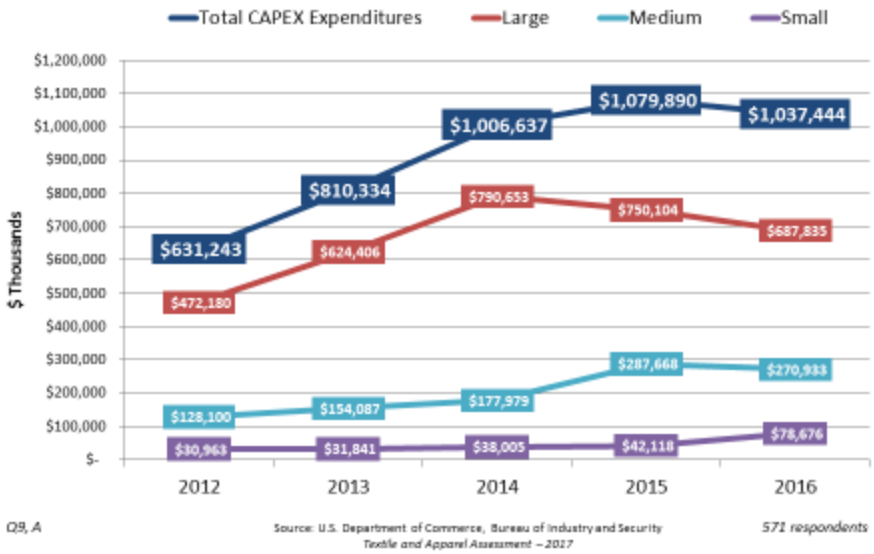
Figure V-2: Textile and/or Apparel-Related CAPEX by Business Line (2012-2016)



The three business lines also varied in their CAPEX spending by category. For example, apparel manufacturers invested more in "Land, Buildings, and Leasehold Improvements." This CAPEX category constituted 23 percent of apparel manufacturers' CAPEX in 2016 compared to 18 percent for textile mills. Textile mills and textile product mills prioritized investment in "Machinery, Equipment, and Vehicles." Textile mills spent 73 percent and textile product mills spent 63 percent of their CAPEX on "Machinery, Equipment, and Vehicles" in 2016. Spending on "IT, Computers and Software" averaged 16 percent of total industry CAPEX in 2016, with textile product mills spending the highest percentage on IT at 19 percent.

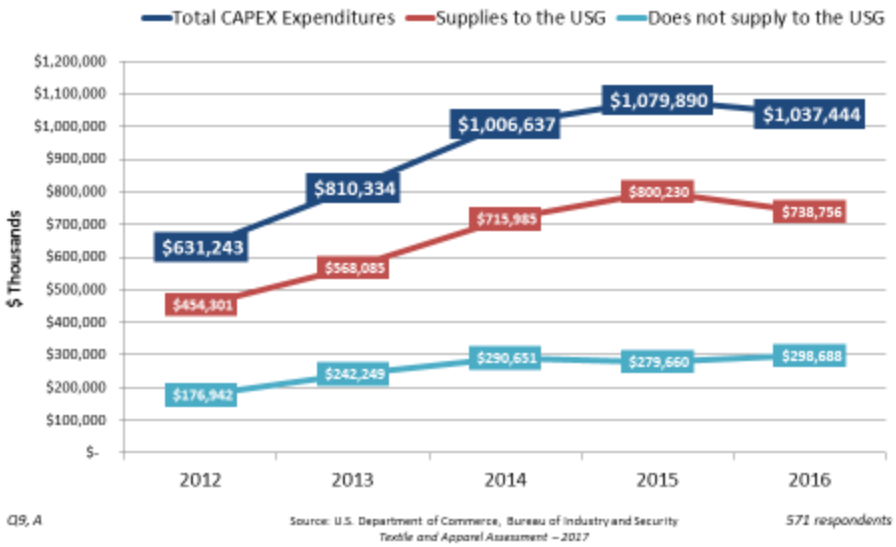
In terms of organization size, medium and large companies constituted 92 percent of the textile and/or apparel-related CAPEX in 2016 (see Figure V-3). Small companies constituted 57 percent of total respondents, but only accounted for 8 percent of the CAPEX total in 2016.

Figure V-3: Textile and/or Apparel-Related Capital Expenditures by Organization Size (2012-2016)



Organizations that produced textiles or apparel for the U.S. Government (USG) reported higher CAPEX than those who did not. Organizations that supplied to the USG were responsible for 71 percent of CAPEX in 2016, at $739 million, while those who did not supply to the USG represented 29 percent, at $299 million (see Figure V-4).

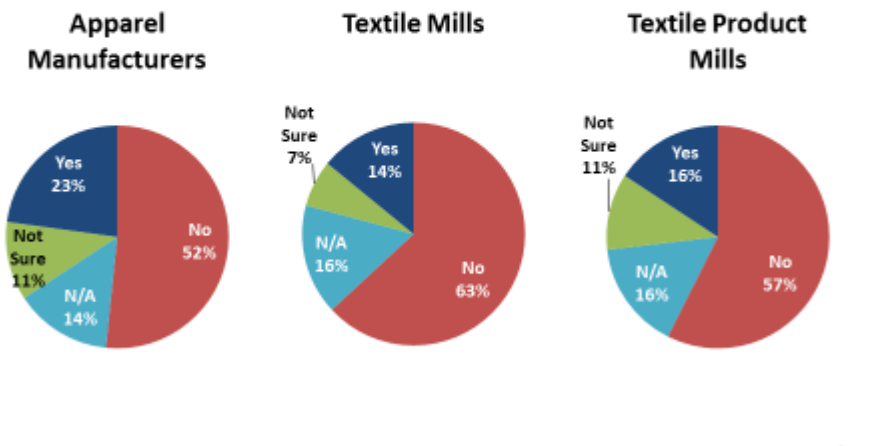
Figure V-4: Textile and/or Apparel-Related Capital Expenditures by USG Support (2012-2016)



BIS asked respondents if their textile or apparel-related CAPEX were adversely impacted by reductions in USG defense spending. Overall, 58 percent (288 respondents) believed that their CAPEX had not been affected by USG defense spending, while eighteen percent (88 respondents) believed that it had been affected. The response rate was similar across business lines, with textile mills' CAPEX least impacted by reduction in USG defense spending (see Figure V-5).

Figure V-5: CAPEX and USG Spending by Business Line

From 2012-2016, were your organization's textile and/or apparel-related capital expenditures adversely impacted by reductions in U.S. Government defense spending?



Q9, 8

500 respondents

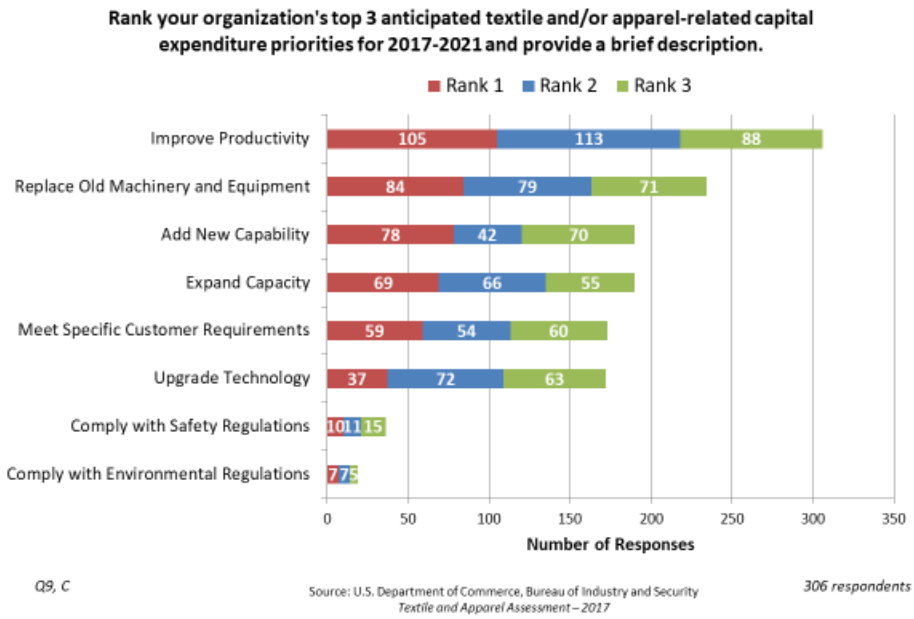
Source: U.S. Department of Commerce, Bureau of Industry and Security
Textile and Apparel Assessment – 2017

Organizations whose CAPEX had been impacted by reductions in USG defense spending provided survey comments such as:

> "Expenditures reduced by 30% from 2012 - reduced by 47% from 2014 to 2016. Reductions due to lack of a major Army contract";
>
> "Decreases in government spending resulted in lower orders from our customers, which eliminated the need for additional capacity"; and
>
> "Significant capital was invested for and during the military's "surge" years just prior to 2012. It was necessary to support factory capacity in fulfilling the substantial increase in military orders. Subsequent to the "surge", orders have not been sufficient to (1) support the existing capital invested from the "surge" years and (2) new capital to create and support innovative new products for the military. In addition the order continuity has disrupted production flow creating extraordinary peaks and valleys in order fulfillment with the valleys outweighing the peaks, creating significant losses."

Finally, respondents were asked to rank their organization's top three anticipated textile or apparel-related CAPEX priorities for the near future (2017-2021). "Improve Productivity" and "Replace Old Machinery and Equipment" were the most often-ranked priorities, with 306 and 234 selections, respectively (see Figure V-6). They were also the top two priorities ranked first most often, followed by "Add New Capability" and "Expand Capacity".

Figure V-6: Capital Expenditures – Future Priorities (2017-2021)



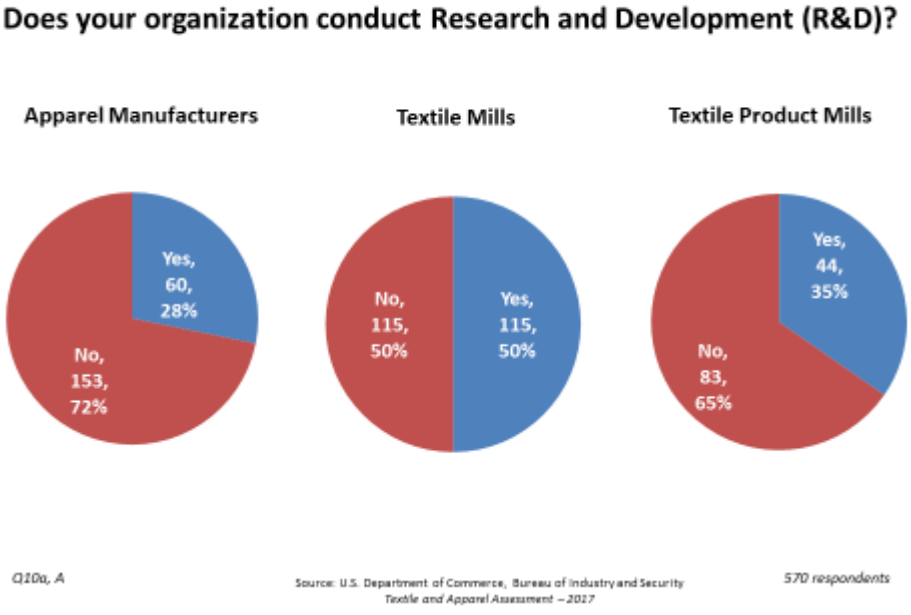
Regarding improving productivity, respondents' plans included, "Automation and other efficiency investments" and "Improved labor productivity, reduction in scrap." One textile manufacturer was planning to replace older machinery with "faster looms with upgraded technology," while an apparel manufacturer mentioned their efforts for "continuous upgrades for cut and sew equipment."

Research and Development (R&D)

BIS asked survey respondents to report their research and development (R&D) expenditures for the period of 2012 to 2016. This included total R&D expenditures by the organization, textile and/or apparel-related expenditures, and defense-related textile and/or apparel expenditures.

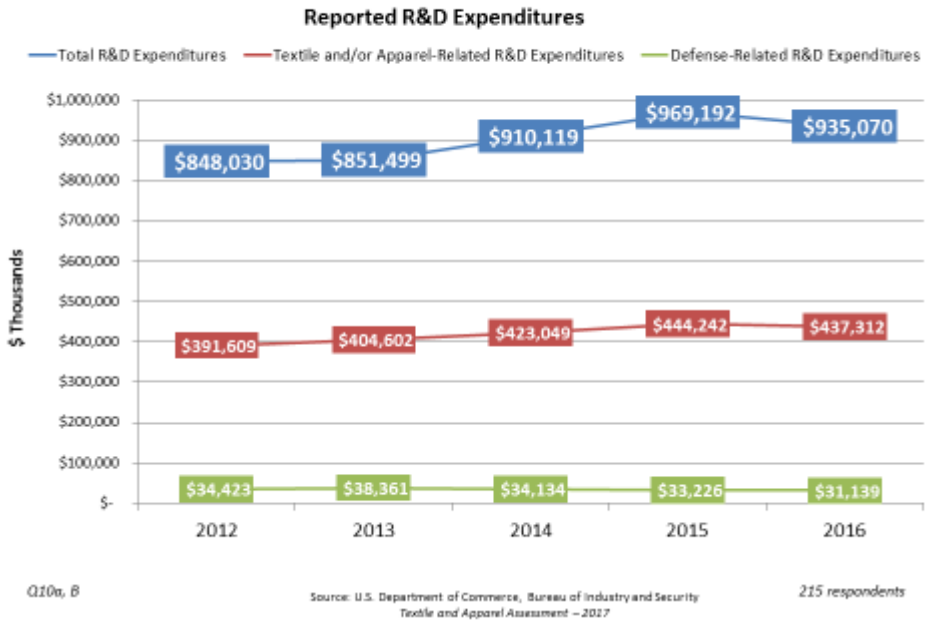
Out of 571 respondents, 38 percent (219) indicated that their organization conducts R&D. Textile mills were most likely to engage in R&D with a 50 percent response rate, followed by textile product mills at 35 percent, and apparel manufacturers at 28 percent (see Figure V-7). When segmented by size, the response rate was 71 percent for large and 48 percent for medium-sized organizations, and only 25 percent for small organizations. The response rate for organizations that manufacture products for the U.S. Government was 42 percent.

Figure V-7: Research and Development (R&D)



Total reported organization R&D expenditures grew by 10 percent from 2012 to 2016, from $848 million to $935 million. R&D expenditures related to textile and/or apparel grew by almost 12 percent during the same period, from $392 million to $437 million (see Figure V-8). Defense-related R&D spending accounted for an average of 8 percent of textile and/or apparel-related R&D expenditures during the same period.

Figure V-8: Research and Development (R&D) (2012-2016)

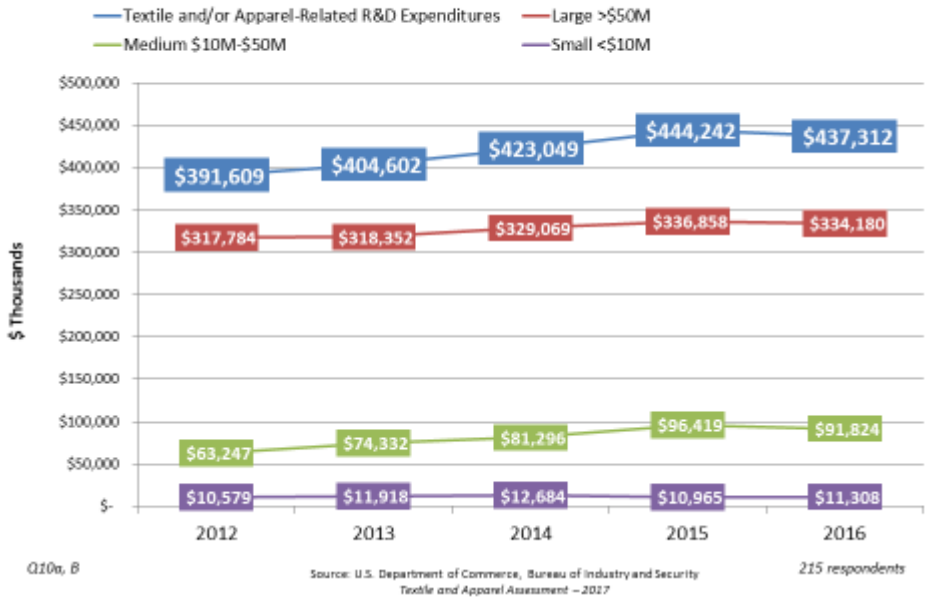


From 2102 to 2016, roughly 60 percent of R&D spending related to textiles and apparel was consistently carried out by textile mills. Apparel manufacturers and textile product mills accounted for 29 percent, and 11 percent, respectively. For defense-related R&D spending, textile mills represented 77 percent of total expenditures, apparel manufacturers 19 percent, and textile product mills 4 percent.

R&D expenditures were highly concentrated among large organizations with more than $50 million in annual sales from textile and/or apparel products manufactured in the U.S. In 2016,

over 76 percent of textile and/or apparel-related R&D spending came from large organizations, while only 21 percent and 3 percent from medium and small-sized organizations, respectively (see Figure V-9). In 2016, five organizations were responsible for 51 percent of textile and/or apparel-related R&D spending, eight organizations accounted for two-thirds, and the top 30 companies represented over 90 percent of R&D expenditures.

Figure V-9: Research and Development (R&D) by Organization Size (2012-2016)

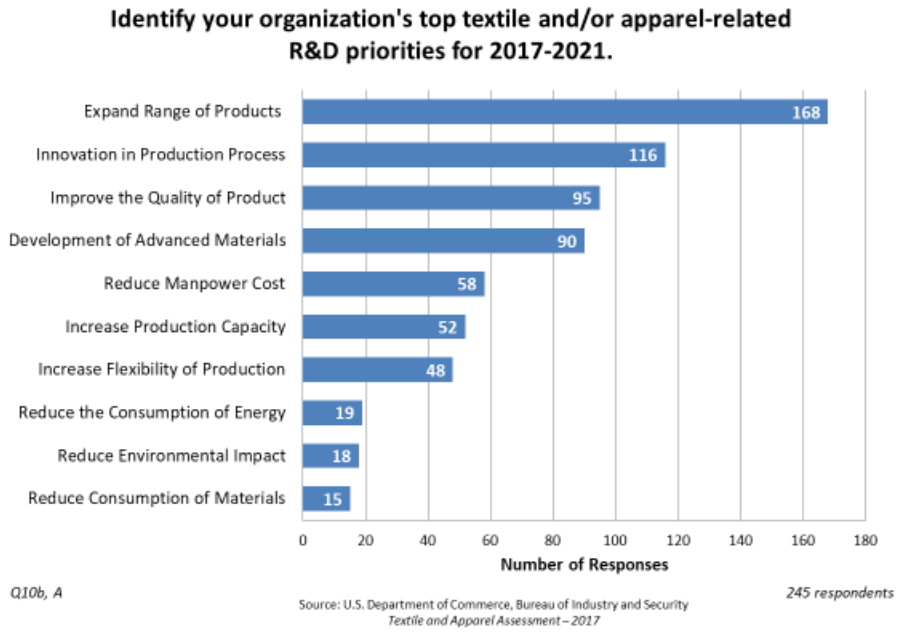


In defense-related textile and/or apparel R&D spending, medium and small-sized organizations held a higher share – 34 percent and 8 percent, respectively. Additionally, textile mills comprised a larger portion of defense-related R&D spending, accounting for 77 percent in 2016.

Respondents were asked to identify their organization's top textile and/or apparel-related R&D priorities for 2017 to 2021. "Expand Range of Products" and "Innovation in Production Process" were the top two R&D objectives, with a total of 168 and 116 responses, correspondingly (see Figure V-10). Textile mills responded at a higher rate as they were more likely to conduct R&D,

but the overall priority list was consistent among respondents. Apparel manufacturers prioritized reducing manpower costs at a slightly higher rate.

Figure V-10: Research and Development (R&D) (2017-2021)



A large number of respondents provided further details regarding their R&D priorities, samples of which include:

> "Diversify portfolio as well as expansion of products to drive sales";
>
> "Improve turn times from fabric to completed product to reduce credit needs";
>
> "Improve margins, provide new generation of products";
>
> "In response to governmental needs would like to enhance products available to generate more revenue"; and
>
> "Modify machinery to produce wider range of products."

The top two key factors driving R&D investment were "New Product Development" and "Customer Requirements," with 216 and 212 responses respectively. "Need for Competitive

Advantage" and "Cost Reduction" were the other major drivers with 194 and 190 responses (see Figure V-11).

Figure V-11: Research and Development (R&D)

Some respondents explained how these factors shape R&D investment:

> "Product improvement is needed to retain trader leadership; we are in a global market with credible competition that continues to add capacity and capabilities";
>
> "Customers' requirements are critical - we meet with the services directly to determine our military's performance enhancement needs and work to develop fabrics to meet those needs";
>
> "Customers are always looking for something new, and this shows them we are on the cutting edge of new products";

> "We have a core development project team working full-time developing new textiles and we have a fully-equipped R&D lab with complete analytical and process equipment"; and
>
> "R&D projects related to cost reduction are essential to remain globally competitive."

Sixty-eight respondents stated that their R&D expenditures had been adversely affected by reductions in USG defense spending, with the response rate consistent across respondent categories. Participants commented, "Opportunities for new product development and/or demand creation were lost due to reductions in defense spending and the decline of government contractors as a customer base"; "Our expenditures would have been higher had we had a more clear vision of government activity"; and "R&D and innovation/design projects were the first area to be stripped back during this time period and the Company has yet to fully reinstate all of the R&D efforts that were being made in 2010/2011."

Finally, BIS asked if respondents pursued any R&D activities related to advanced materials (e.g., fibers, fabrics, and nanotechnologies). Sixty-four percent of textile mills conducted some R&D activity related to advanced materials, compared to only 44 percent of apparel manufacturers and 54 percent of textile product mills. Textile manufacturers identified a number of their various R&D efforts with advanced materials, including antimicrobial fibers, composite yarns and materials, flame retardant yarns and fabrics, impregnated materials for capacitive and/or conductive properties, nanotechnologies, and others.

Comments included, "We are exploring materials which could offer disruptive performance"; "We are developing advanced materials to protect warfighters and civilians from harm"; and "Functional fibers and nano-fibers development for specialty apparels, high temperature filtration, and automotive markets." Apparel manufacturers reported working with material

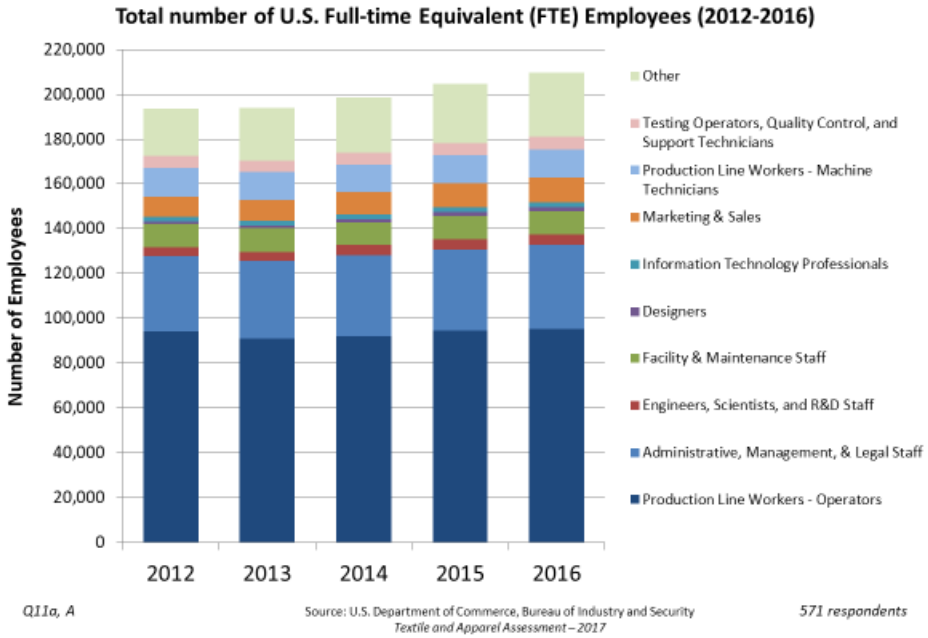
suppliers and customers to develop and create new products with advanced materials and new technologies that customers demand. They provided remarks such as, “We look at how new materials might be incorporated into our existing products, or what new products within our area might be created using the new technologies”; and “Customers have asked to make products from more advanced fabrics and we are working with them.”

Respondents described investment in new and advanced materials as a way to both diversify and expand their product base and increase revenue by responding to market demand. For a number of participants this was a very important part of their innovation efforts as they understood new technologies to be at the core of and a key tool in creating differentiated and sustainable value.

VI. WORKFORCE

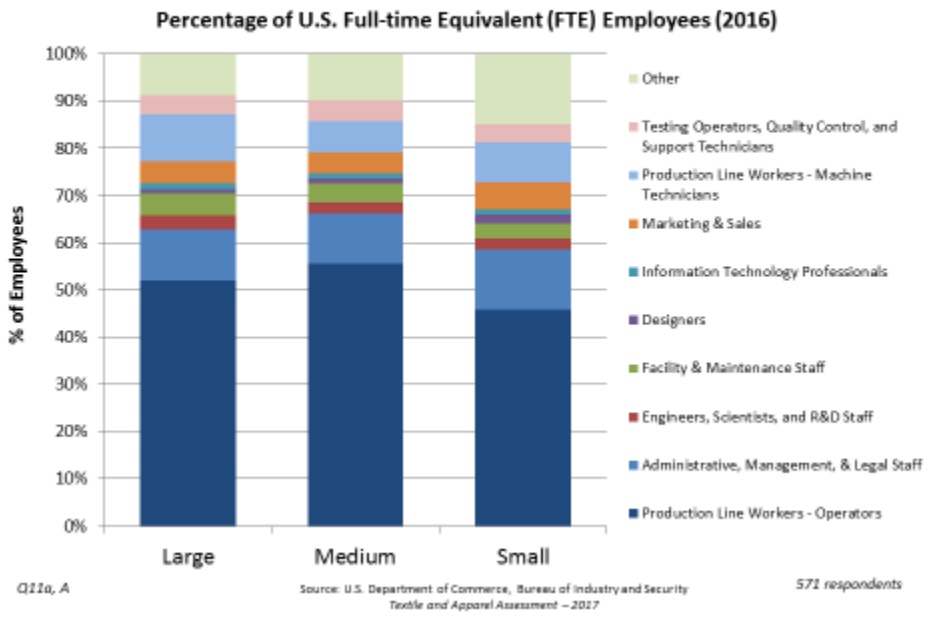
U.S. textile and apparel manufacturing organizations who responded to the BIS survey employed a total of 212,768 full-time equivalent (FTE) employees in 2016, an 8 percent increase from 2012. Employment levels stayed relatively stable across the 2012 to 2016 period. Apparel manufacturers constituted 50 percent of the total 2016 FTEs (107,056), textile mills employed 32 percent (67,182 FTEs), and textile product manufacturers employed 18 percent (38,530 FTEs). "Production Line Workers – Operators" comprised an average of 60 percent of the reported labor force (see Figure VI-1). The workforce percentage of "Production Line Workers – Operators" was slightly higher for apparel manufacturers at an average of 63 percent than for textile mills at 58 percent. The second and third-highest job categories for organizations of all business lines were "Administrative, Management, and Legal Staff," averaging 14 percent, and "Production Line Workers – Machine Technicians," averaging 10 percent.

Figure VI-1: Textile and Apparel Workforce



The job category percentages were roughly similar across business lines and organization size. In 2016, large companies had the lowest average percentage of "Production Line Workers – Operators" (57 percent), while medium-sized companies had the highest average percentage (64 percent). Small organizations had the highest average percentages of their workforce devoted to "Administrative, Management, and Legal Staff" (16 percent) and to "Marketing and Sales" (7 percent) (see Figure VI-2).

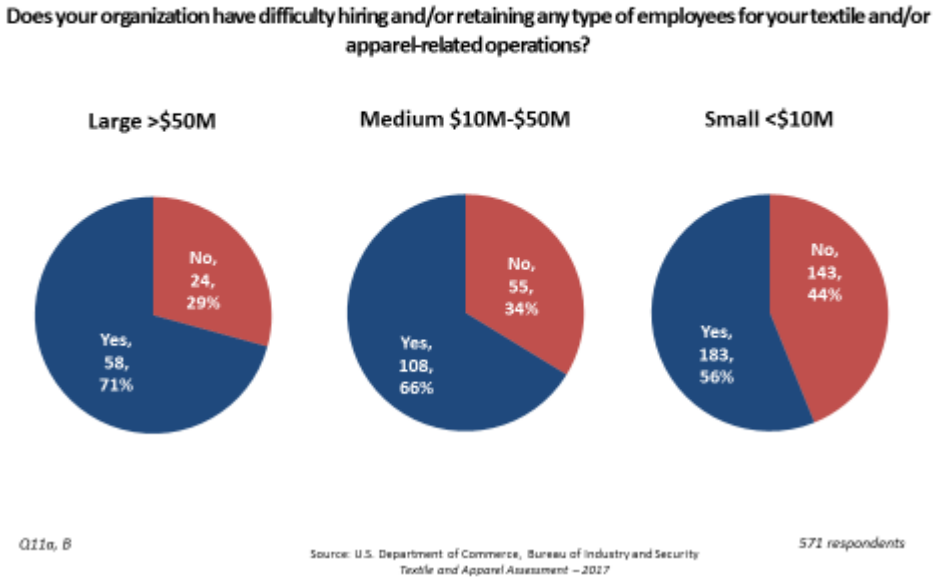
Figure VI-2: Textile and Apparel Workforce Job Categories by Organization Size



BIS asked if organizations had difficulties hiring and/or retaining any type of employees for their textile and apparel operations. Overall, 349 respondents (61 percent) expressed difficulty. This response was similar across business lines, with apparel manufacturers and textile product mills having slightly higher "Yes" response rates than textile mills. Response rates also varied according to organization size. Seventy-one percent of large organizations expressed difficulties hiring and retaining employees, compared to only 56 percent of small organizations (see Figure

VI-3). Sixty-six percent of medium organizations reported difficulty in hiring or retaining employees.

Figure VI-3: Workforce Hiring/Retaining Difficulties by Organization Size



"Production Line Workers" – both "Operators" and "Machine Technicians" – were the job categories with the most reported difficulties with hiring, retaining, or both. Respondents' comments on their challenges in finding production line workers included: "Difficulty in finding trained sewing machine operators. We now train operators but it is still difficult to retain them and get them to maintain satisfactory attendance"; and "Hard to find sewing machine operators and knit machine operators."

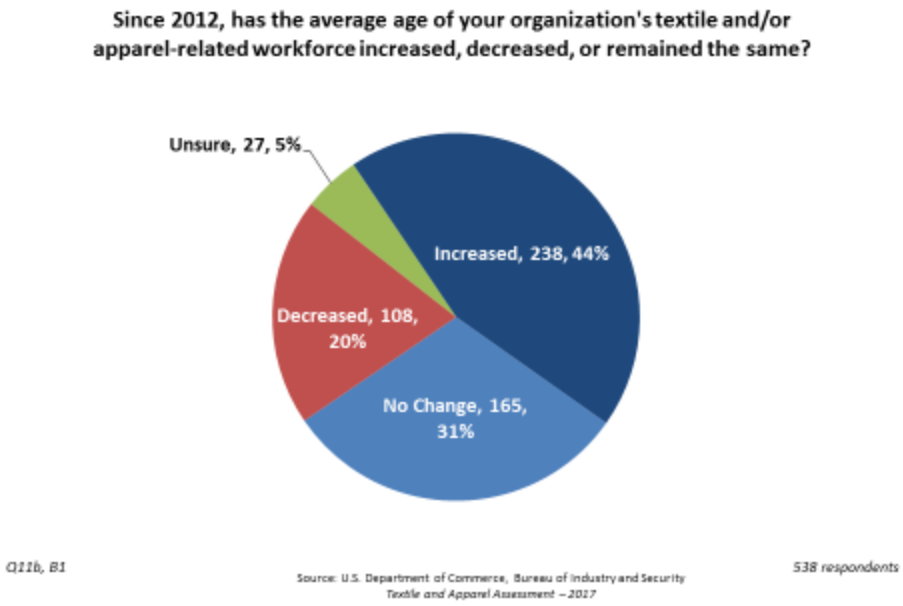
Respondents were asked to estimate the current number of open positions at their organizations. Of the 7,407 open positions reported, 4,250 (57 percent) were for "Production Line – Operator" jobs. "Administrative, Management and Legal," "Marketing and Sales," and "Production Line – Machine Technicians" completed the top four job categories with open positions. One

respondent mentioned that, “I have been looking for a designer for 3 years.” Other respondents discussed the lack of open positions at their organizations. For example, “We are currently at our lowest level of production due to lack of demand for military fabrics. We have lost over 35 positions due to attrition and will not fill them until demand returns.”

The average employee annual turnover rate for textile and apparel manufacturers was 13 percent. A majority of respondents – 281, or 61 percent – reported that their turnover rate was between 0 and 10 percent. One commented that “Employees who are hired enjoy our company culture and do not leave.” Other respondents observed that their employee turnover was “higher among the new ranks or for third-shift workers moving to first or second shift.” Fifty-four percent of respondents (258 respondents) believed that their turnover was highest for a particular category of employees. Of those 258 respondents, 89 percent believed that turnover was highest among “Production Line Workers.”

BIS also asked a series of questions regarding age and age-related issues within the workforce. The largest segment of respondents – 238, or 44 percent – reported that the average age of their organization’s workforce had increased since 2012 (see Figure VI-4). Twenty percent of respondents believed that it had decreased, while 31 percent believed that there had been no change.

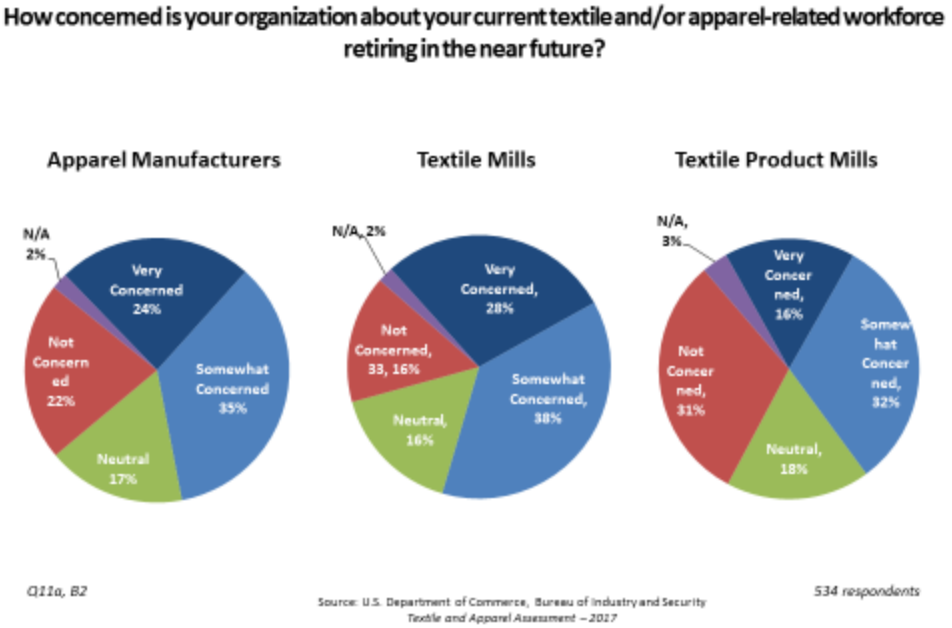
Figure VI-4: Textile and Apparel Workforce Age



Those respondents who reported an increase in the average age of their workforce observed that, "As a whole, the textile industry workforce has begun to age." Others commented, "Increased, due to downsizing with any job losses based on seniority," and that "some workers are holding off on retirement and working beyond normal retirement age." The textile and apparel manufacturers that reported a decrease in the average age of their workforce generally agreed that "original hires are reaching retirement age, and younger workers are backfilling openings."

Textile manufacturers were most concerned about their organization's workforces retiring in the near future. A total of 66 percent of textile manufacturers were either "Very Concerned" or "Somewhat Concerned" (see Figure VI-5). Fifty-nine percent of apparel manufacturers and 48 percent of textile product manufacturers reported being at least somewhat concerned.

Figure VI-5: Workforce Age Concerns by Business Line



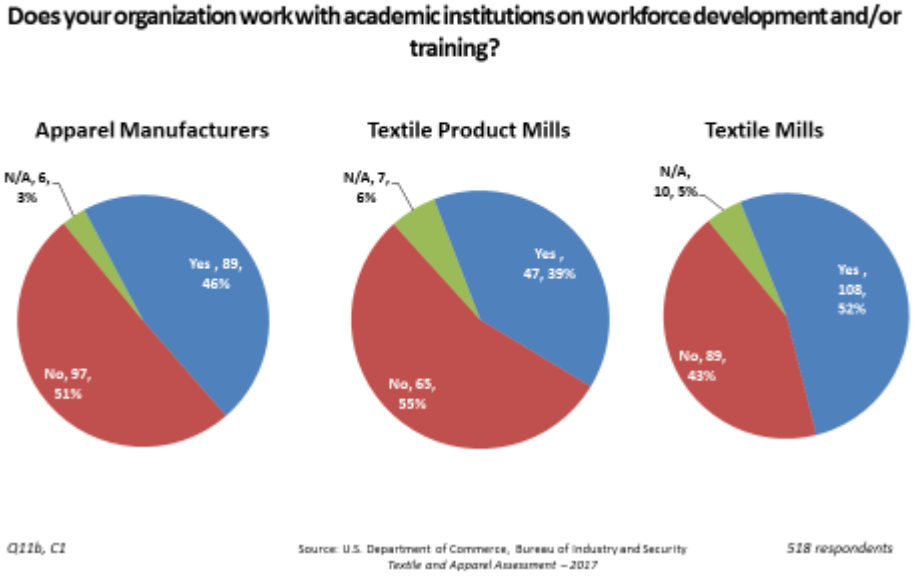
Many respondents expressed concerns regarding the retirement age of their workforce:

> "Big concern. The average age of our workers is high and it is a challenge to attract younger workers into these trades. There are not enough coming through trade schools either who can step into higher paying/skilled maintenance type positions";
>
> "Concerned about both the expertise and high productivity of our older workers";
>
> "It starts from above. The more focus there is on domestic textile manufacturing, the easier it will be to attract future technicians"; and
>
> "Many employees will be reaching retirement age around the same time."

In addition to being concerned about the near future retirement of their workforce, a majority of organizations (58 percent) anticipated difficulties in finding/recruiting younger workers to fill vacancies. Comments included, "We have experienced difficulty in recruiting younger workers to fill positions. We have more success with hiring older workers than younger ones"; and "Younger workers have no desire or incentive to become sewing operators."

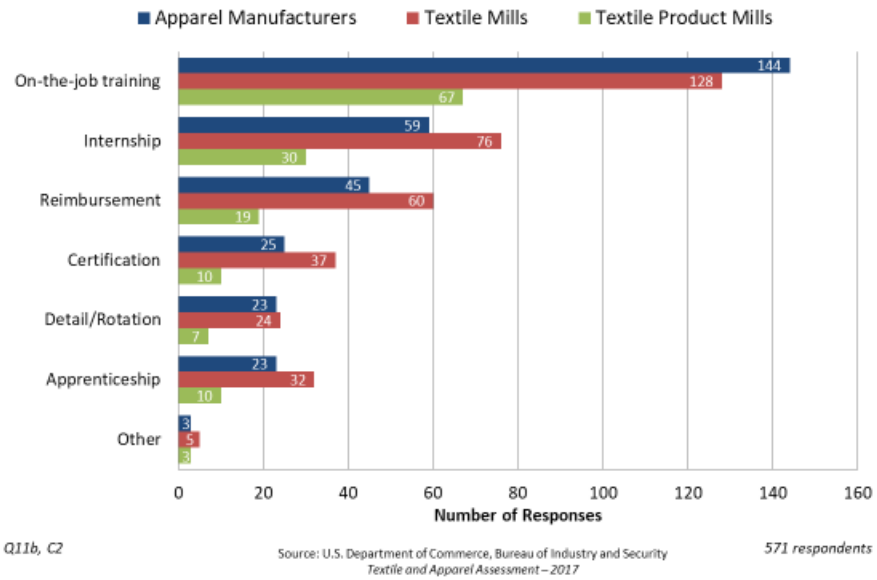
In anticipation of recruiting younger workers to textile and apparel manufacturing positions, BIS asked if organizations worked with academic institutions (e.g., high schools, community colleges, local trade schools, universities, etc.) on workforce development and/or training. As a whole, 47 percent of textile and apparel manufacturers (244 respondents) reported participating in a workforce development and/or training program. Textile manufacturers participated at a slightly higher rate at 52 percent, while textile product manufacturers participated at slightly lower rate at 39 percent (see Figure VI-6).

Figure VI-6: Workforce Academic Institution Partnership by Business Line (2016)



"On-the-Job Training" was the workforce development program most often cited by textile and apparel manufacturers, with 339 responses (59 percent). "Internships" and "Tuition Reimbursement" programs were the second and third most selected programs. Apparel manufacturers favored "On-the-Job Training," while textile and textile product mills utilized a more distributed variety of development programs (see Figure VI-7).

Figure VI-7: Workforce Development Programs by Business Line (2016)



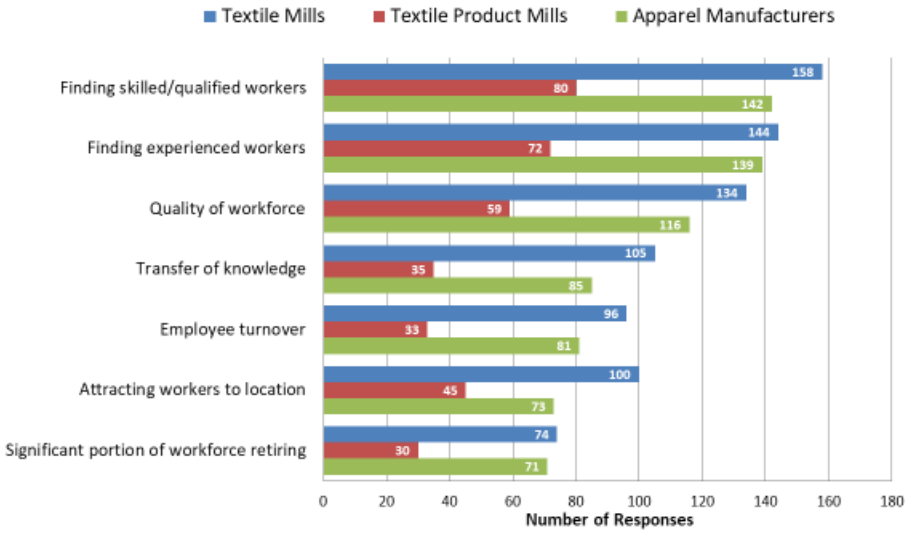
Q11b, C2

Source: U.S. Department of Commerce, Bureau of Industry and Security
Textile and Apparel Assessment – 2017

571 respondents

Finally, respondents were asked to select and explain the key workforce issues they anticipated in the near future, between 2017 and 2021. A large percentage of respondents selected "Finding Skilled/Qualified Workers" and "Finding Experienced Workers," with 380 (67 percent) and 355 (62 percent) responses, respectively. "Quality of Workforce" and "Transfer of Knowledge" were the third and fourth most selected workforce issues. The issues were ranked in the same order by each business line, with apparel manufacturers slightly more concerned with "Finding Skilled/Qualified Workers" and textile manufacturers slightly more concerned with "Finding Experienced Workers" (see Figure VI-8).

Figure VI-8: Key Workforce Issues Anticipated between 2017 and 2021 by Business Line



Source: U.S. Department of Commerce, Bureau of Industry and Security
Textile and Apparel Assessment – 2017

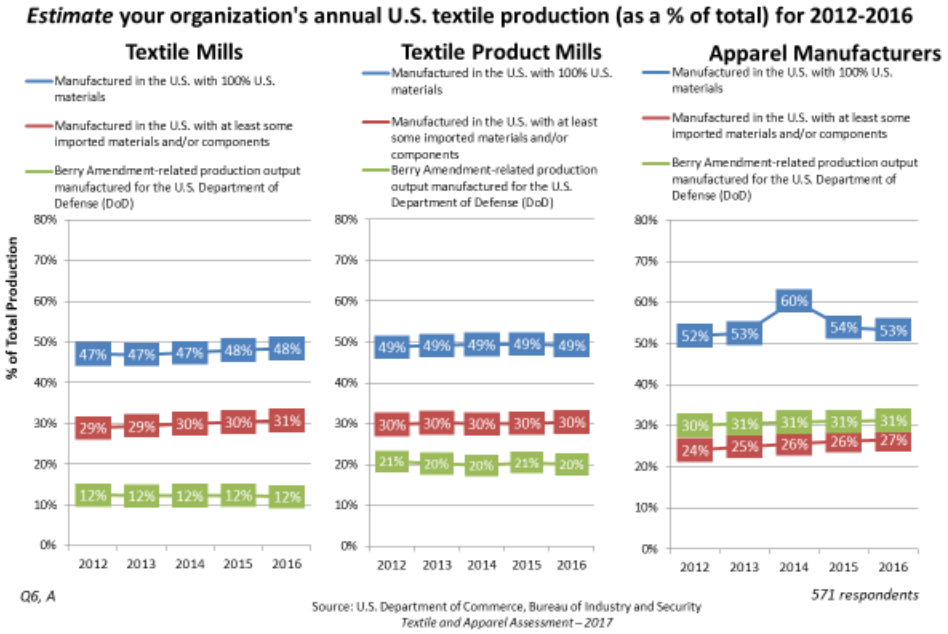
Comments were provided on all of the anticipated workforce issues. Regarding "Finding Experienced Workers," respondents noted that, "Experienced machine operators are limited and few in our areas not taught at the local schools anymore. Young people now have less interest in this field to do it, and it not being a priority"; and "Difficult to find experienced workers with training on particular machines." In addition, regarding the issue of "Attracting Workers to Location," some commented that the "Bulk of experienced textile workers live in the south. Not willing to relocate to the north"; "Facility located in a rural area, not large labor pool to pull from"; and "Due to competitive market, employee movement is a concern. In this geographic area, there are many new companies opening with a limited workforce."

VII. PRODUCTION CAPABILITIES

BIS asked survey respondents to estimate their annual U.S. production in the manufacture of textiles, textile products, and apparel. Respondents were also asked to differentiate between products manufactured in the U.S. with 100 percent U.S. materials and products manufactured in the U.S. with at least some imported materials or components. Additionally, BIS requested estimates for Berry Amendment-related production manufactured for the U.S. Department of Defense (DoD) and the U.S. Armed Forces.

The proportion of product types mentioned above remained consistent each year from 2012 to 2016 among each business line (see Figure VII-1). On average, 48 percent of textile and textile product output consisted of products manufactured with 100 percent U.S. materials, while for apparel output the number was 54 percent. The proportion of Berry Amendment-related production output varied across business lines. For textile mills, on average, 12 percent of U.S. output was Berry Amendment-related and manufactured for DoD. For textile product mills, the average was 21 percent, whereas for apparel production it averaged 26 percent of the total production.

Figure VII-1: Production Capabilities

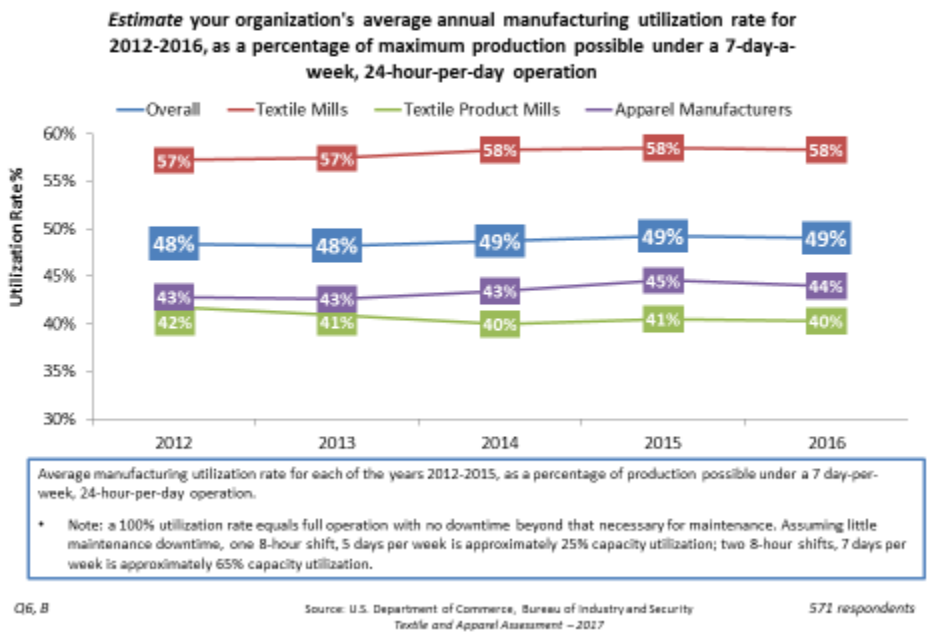


In order to better understand the production capabilities and challenges that U.S. textile and apparel manufacturers face, BIS asked survey respondents to estimate their manufacturing utilization rate for 2012 through 2016. Respondents were also asked questions regarding their ability to raise production levels and to identify limiting factors to increasing production. Manufacturing utilization rate was reported as a percentage of maximum production possible under a 7-day-a-week, three 8-hour shift production schedule, where 100 percent utilization rate equals full operation with no downtime beyond that necessary for maintenance.

The average utilization rate reported for all respondents over the five year period was 49 percent - the equivalent to two 8-hour shifts, 5-day-a-week production schedule. Textile mills reported a higher than average utilization rate at 58 percent. Apparel manufacturers and textile product mills listed lower manufacturing utilization rates at 43 percent and 41 percent, respectively (see Figure VII-2). For large manufacturers, the reported average rate was 68 percent, for medium it

was 53 percent, and for small – 41 percent. Organizations that manufactured products for the U.S. Government reported utilization rates approximately in line with the industry average at 47 percent. Companies with high/severe financial risk rating had rates well below average at 35 percent.

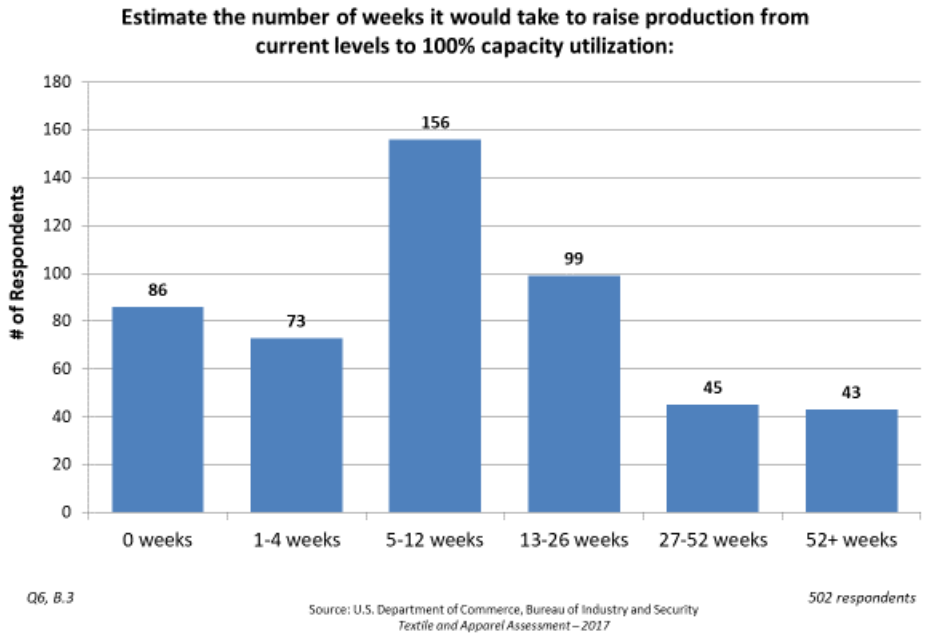
Figure VII-2: Manufacturing Utilization Rate by Business Line (2012-2016)



When asked to estimate how many 8-hour shifts their organization typically operates per day, 48 percent of respondents reported one or less, 20 percent reported between one and two, and 29 percent reported between two and three. Two percent claimed they normally operate more than three 8-hour production shifts per day. When asked to estimate how many such shifts per day their organization could operate, 33 percent answered with less than two with 18 percent reporting one or less. Conversely, two-thirds of respondents estimated they could operate two or more shifts per day, and 50 percent estimated three shifts or more per day.

The most common response for estimating the number of weeks it would take to raise production from current levels to 100 percent capacity utilization was 5-12 weeks, or 1-3 months, with 31 percent of total responses. Eighteen percent of respondents stated that it would take at least six months while nine percent declared that it would take at least one year (see Figure VII-3). Overall, 63 percent estimated that they could raise production within three months. The responses measured similarly across business lines and organizations that are U.S. Government suppliers.

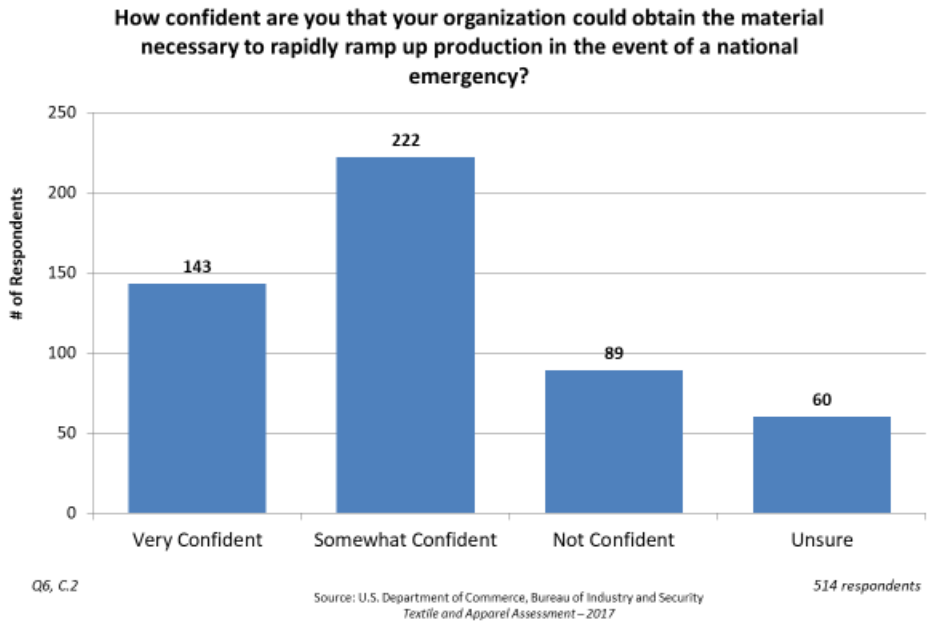
Figure VII-3: Production Capabilities



The majority of respondents, 71 percent, indicated that they are at least "Somewhat Confident" that they could obtain the material necessary to ramp up production in the event of a national emergency (see Figure VII-4). Seventeen percent responded that they were "Not Confident," and twelve percent were "Unsure." Among U.S. Government suppliers, 64 percent were at least "Somewhat Confident," 12 percent were "Not Confident," and 24 percent were "Unsure."

Survey participants who were "Not Confident" that they can obtain material to ramp up production expressed concerns such as, "In the event of an emergency we would be competing for supplier resources along with many other manufacturers" and "Mills and manufacturing of raw materials are decreasing every year." Additionally, some apparel manufacturers reported maintaining limited inventory and operating on a just-in-time basis because orders and materials can vary from one to the other.

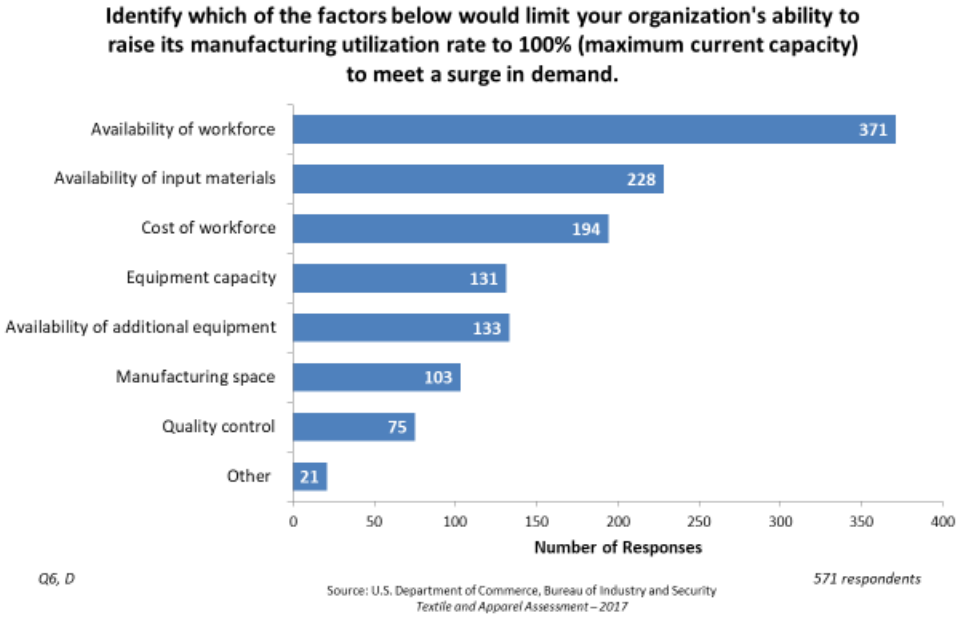
Figure VII-4: Surge Production Capabilities – Textiles and Apparel



BIS asked survey respondents to identify the factors which would limit their ability to ramp up production and increase their manufacturing utilization rate to 100 percent. The predominant response was "Availability of Workforce" by 65 percent of respondents, followed by "Availability of Input Materials," with 40 percent (see Figure VII-5). The issue of workforce availability was a little more acute among apparel manufacturers and textile product mills (70 and 67 percent, respectively) than textile mills (59 percent). This can be explained by the fact

that textile mill operations tend to be more automated and less labor-intensive compared to apparel manufacturers and cut and sew textile product mills. Many producers reported that finding available labor is only the first step of the challenge. Training new hires and developing the necessary skills can take up to several months as indicated by comments such as, “It takes a long time to train our workforce because we are so specialized”; “Production labor is very difficult to hire and retain”; and “We have difficulty finding and training staff to run at higher levels.”

Figure VII-5: Factors Limiting Surge Production – Textiles and Apparel



VIII. Customers and Competitors

Customers

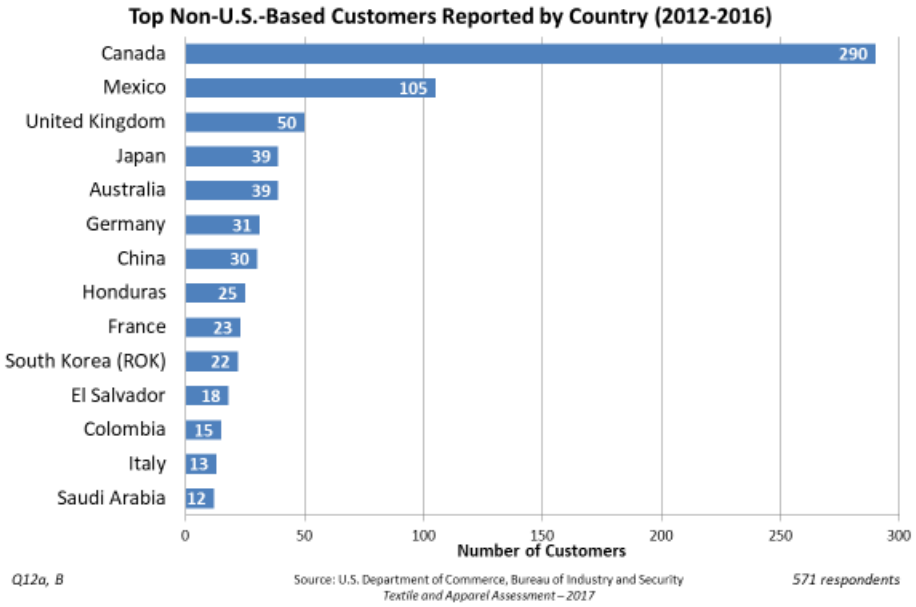
BIS asked survey respondents to identify their top U.S. and non-U.S.-based textile and/or apparel-related customers, their location, and their type. The 571 respondents listed a total of 2,127 U.S. and 970 non-U.S. customers. Of the U.S. customers, 1,550 (73 percent) were commercial, 398 (19 percent) were U.S. Government (defense and non-defense), and 179 (8 percent) were reported as "Other." Among U.S. states, North Carolina was listed most often for top U.S. customers across all business lines with a total of 223 customers. Pennsylvania, California, and New York followed in the rankings (see Figure VIII-1).

Figure VIII-1: Top U.S. Customers by State – Textiles and Apparel

Companies listed a total of 970 non-U.S.-based customers, 85 percent of which were commercial. Non-U.S. customers in Canada were cited most often, with 290 customers of all types listed (30 percent). Customers in Mexico, the United Kingdom, and Japan followed in the

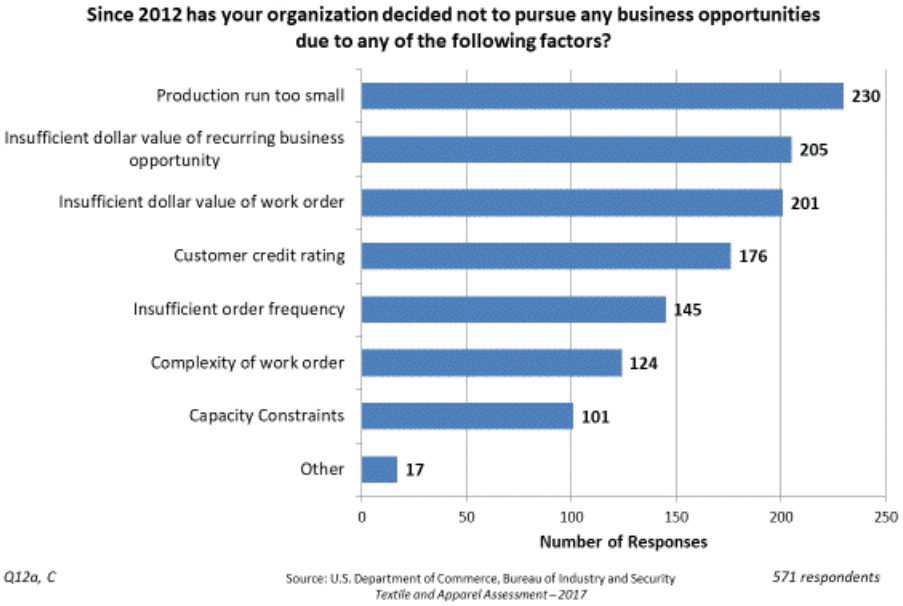
rankings (see Figure VIII-2). Customer country listings were generally consistent across textile mill, textile product mill, and apparel manufacturer respondents.

Figure VIII-2: Top Non-U.S.-Based Customers by Country – Textiles and Apparel



BIS asked respondents if their organizations had decided not to pursue business opportunities due to a number of factors (see Figure VIII-3). BIS received 1,016 replies from 571 respondents. The most common responses were "Production run too small," "Insufficient dollar value of recurring business opportunity," and "Insufficient dollar value of work order," with 230, 205, and 201 responses, respectively. Among the respondent categories, textile product mills were less concerned with "Customer Credit Rating" and more concerned with "Complexity of Work Order." Textile mills were most apprehensive about "Insufficient Dollar Value" and "Capacity Constraints." Apparel manufacturers listed all factors at a higher rate than textile and textile product mills.

Figure VIII-3: Unpursued Business Opportunities – Textiles and Apparel



Regarding not pursuing business opportunities due to the production run being too small, respondents noted, "Minimum order quantity (MOQ) is in place to reduce non profitable customization of products," "Small runs are not economical," and "Setup costs can be high; Need higher volumes to attain labor efficiencies." Insufficient dollar value of recurring work orders and recurring business opportunities elicited remarks such as, "The procurement might be too small for our overhead expenses," and "We are able to handle small orders but usually price competitiveness aligns with volume orders." In considering the credit rating of potential customers, comments included, "Certain business opportunities have required special terms due to customer credit rating" and "Continuously monitor customer credit and make sales decisions based on credit risk."

Textile and apparel organizations who supplied to the USG were more likely to reject business opportunities due to small production runs and insufficient order frequency and dollar value of

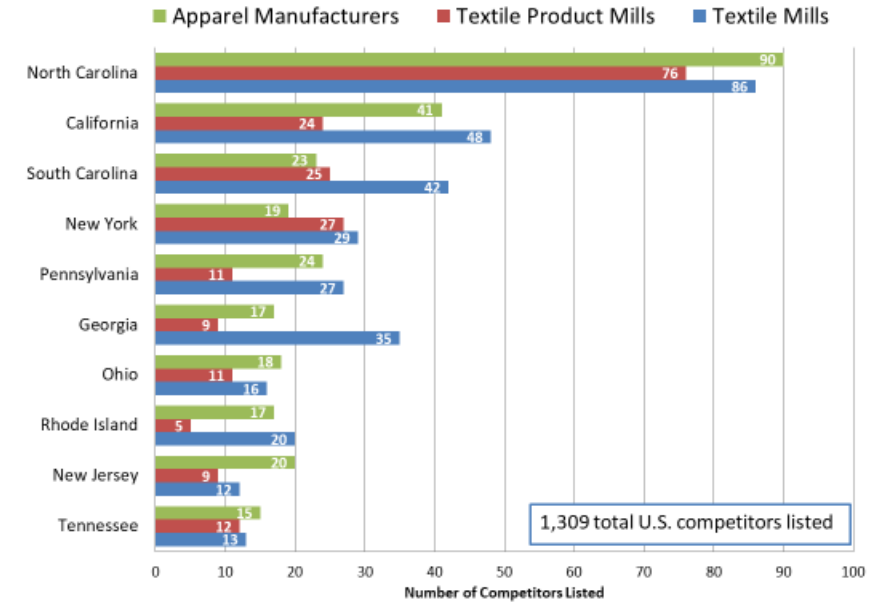
work orders or recurring business. Many comments cited USG work order requests as too small to justify the administrative cost or burden. Other responses included:

> "Yes, any type of OEM has to have a large opportunity or we turn it down as we are focused on our branded sales";
>
> "Government contracts are usually low bid contracts and there is very little room for margins of errors, also most clients pay 50% up front and 50% when you ship, and the Federal government does not pay that way, or it takes too long to pay";
>
> "Multiple occasions of government DoD clients requesting orders of smaller quantities than we could afford to produce based on raw materials minimums"; and
>
> "We have been encountering trouble with supply chain partners increasing minimums which put pressure on us in multiple ways (ties up cash with inventory, causes us to reject some orders, etc."

Competitors

Survey respondents were asked to identify their leading competitors, both U.S. and non-U.S.-based, and to name their primary competitive attribute. The 571 respondents listed a total of 1,309 U.S. competitors. The top three U.S. states where competitors were located were North Carolina with 19 percent of responses, California (nine percent), and South Carolina (seven percent). This U.S. competitor listing was similar across all business lines, with minor variations. Apparel manufacturers' competitors displayed the highest concentration in North Carolina and California. Textile mills' U.S. competitors were located mainly in North Carolina, California, and South Carolina. Textile product mills' U.S. competitors were located most in North Carolina, New York, South Carolina, and California (see Figure VIII-4).

Figure VIII-4: Top U.S. Competitor States by Business Line



Q12b, A

Source: U.S. Department of Commerce, Bureau of Industry and Security
Textile and Apparel Assessment – 2017

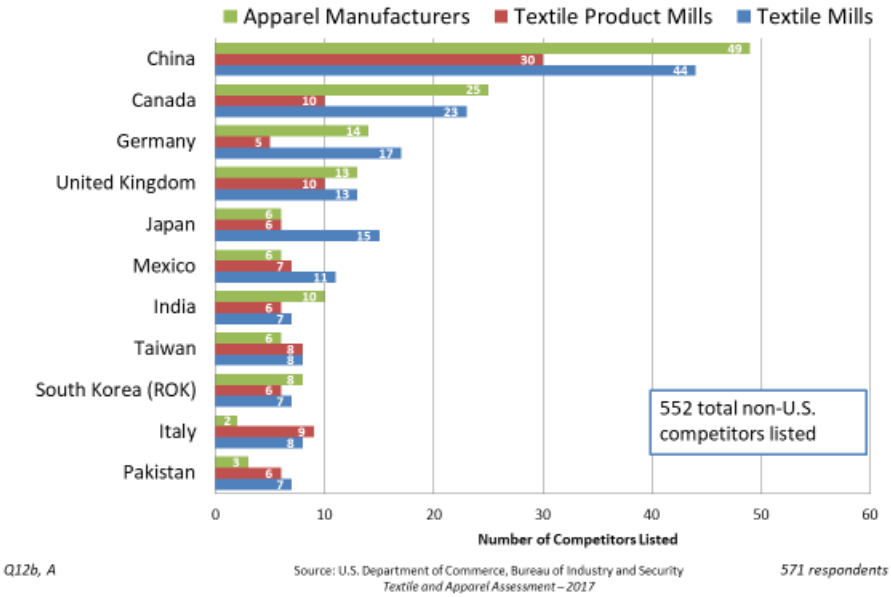
571 respondents

With regard to primary competitive attributes, "Price" (40 percent) and "Range of Capabilities" (26 percent) were the leading responses for U.S. competitors, followed by "Other," "Quality," "Delivery Time," and "Innovation." The ranking order of the competitive attributes was similar across the three respondent categories (see Figure VIII-5).

Figure VIII-5 : Competitive Attributes of U.S. Competitors – Textiles and Apparel

The 571 respondents also listed a total of 552 non-U.S. competitors. Competitors from China were by far the most common, with 123 responses (22 percent). Competitors from Canada (11 percent), the United Kingdom (7 percent), and Germany (7 percent) followed in the rankings. This was similar across the three respondent categories (see Figure VIII-6).

Figure VIII-6: Top Non-U.S. Based Competitor Country Locations by Business Line



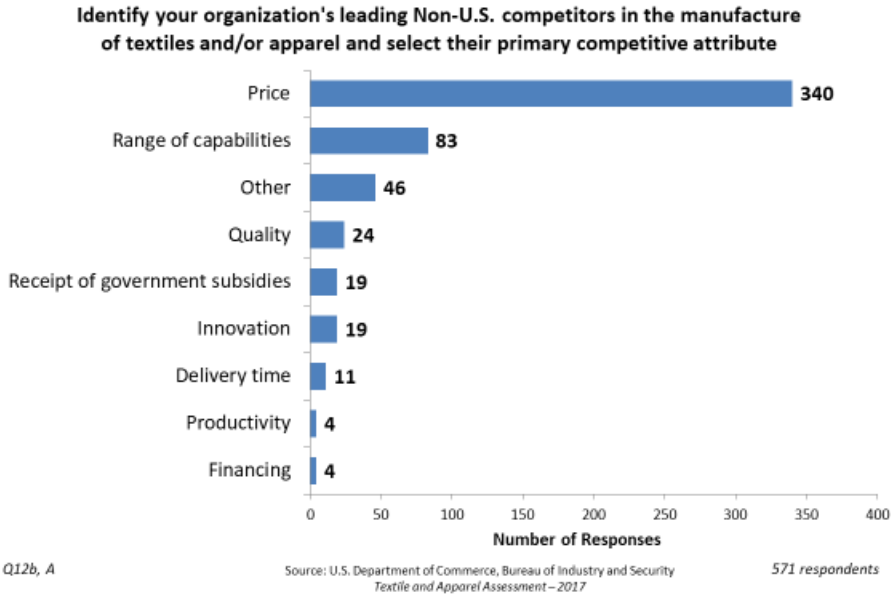
Q12b, A

Source: U.S. Department of Commerce, Bureau of Industry and Security
Textile and Apparel Assessment – 2017

571 respondents

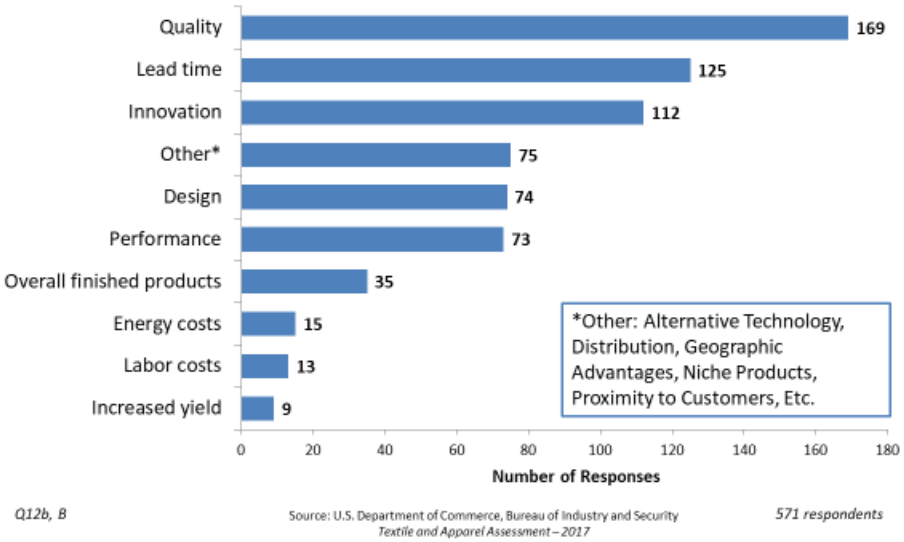
The top primary competitive attributes were the same as for U.S. competitors. However, "Price" held a greater share of responses with 340 (61 percent), while "Range of Capabilities" and "Other" were lower with 83 responses (15 percent) and 46 responses (8 percent), respectively (see Figure VIII-7). Regarding price competition, two respondents commented, "The non-US competitive field is huge and they all have the advantage of price because of the low labor and material prices. The US competitive field is very small and we don't concern ourselves with them since we are marketed to customizations, not volume"; and "Non-US competitors are primary threat to our business with quotes to customers below our internal cost."

Figure VIII-7: Competitive Attributes of Non-U.S. Competitors – Textiles and Apparel



Finally, BIS asked respondents to identify their top competitive advantages and disadvantages as they relate to foreign competition. “Quality” (169 responses), “Lead Time” (125 responses), and “Innovation” (112 responses) were the leading competitive advantages of U.S. textile and apparel manufacturers (see Figure VIII-8).

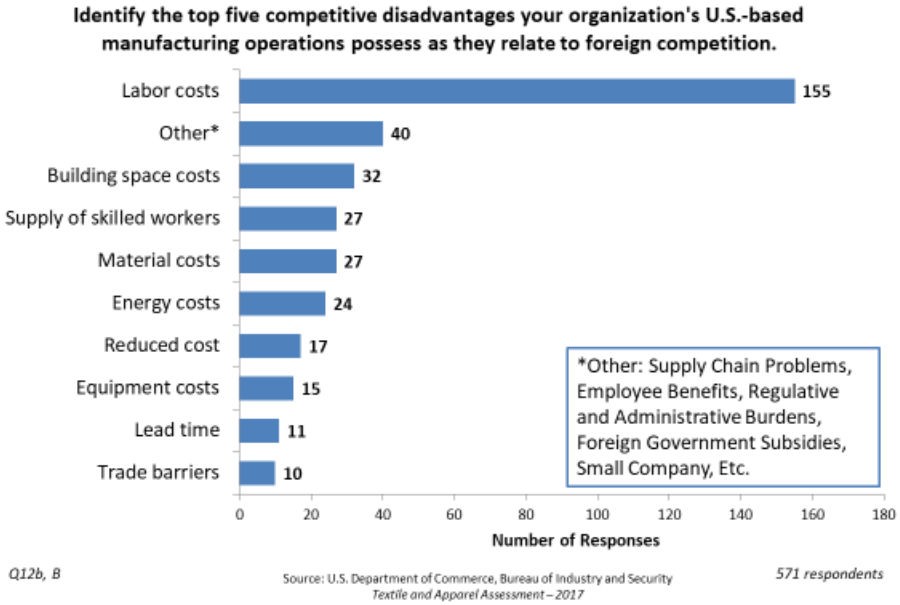
Figure VIII-8: Top Competitive Advantages of U.S.-Based Manufacturing – Textile and Apparel



Respondents offered a number of observations regarding the advantages of U.S. textile and apparel manufacturing. Comments such as "Better quality and custom features" and "Better speed to market" were common. Other comments included, "We are constantly bringing new designs to the markets we service to stay ahead of imports"; "Ability to talk directly to the customers, speed of sampling and design, ability to deal directly with vendors of new material in the USA"; and "Our custom designs have much higher performance than anything else out there."

The top disadvantages of U.S. textile and apparel manufacturers was by far "Labor Costs," with 155 responses, followed by "Other" (40 responses) and "Building Space Costs" (32 responses) (see Figure VIII-9).

Figure VIII-9: Top Competitive Disadvantages of U.S.-Based Manufacturing – Textile and Apparel



Regarding the labor costs of non-U.S. competitors, one respondent commented, "We compete against Pakistan, India, and Bangladesh where there is no minimum wage and wages are less than 20 percent of what we pay our employees." Concerning the higher energy costs in the U.S., another respondent commented, "Business electrical rates in Puerto Rico are nearly $0.35/kWh, roughly 2X-3X the US National Average. That coupled with the lack of consistent power (Power outages/surges 2-3 times per day) force the company to run constantly on generators and to lose thousands of dollars per month in machinery parts (computer programmable machine circuit boards, IT servers, Phone Boxes, etc.)."

IX. Competitive Factors

The BIS U.S. textile and apparel industry survey instrument contained a section called "Competitive Factors," which included a number of topics affecting textile and apparel manufacturers' ability to remain competitive or to improve competitiveness. Topics included: specific actions taken, the trend of reshoring, industry associations and information-sharing groups, and the impact of select governmental regulations on organizations' competiveness.

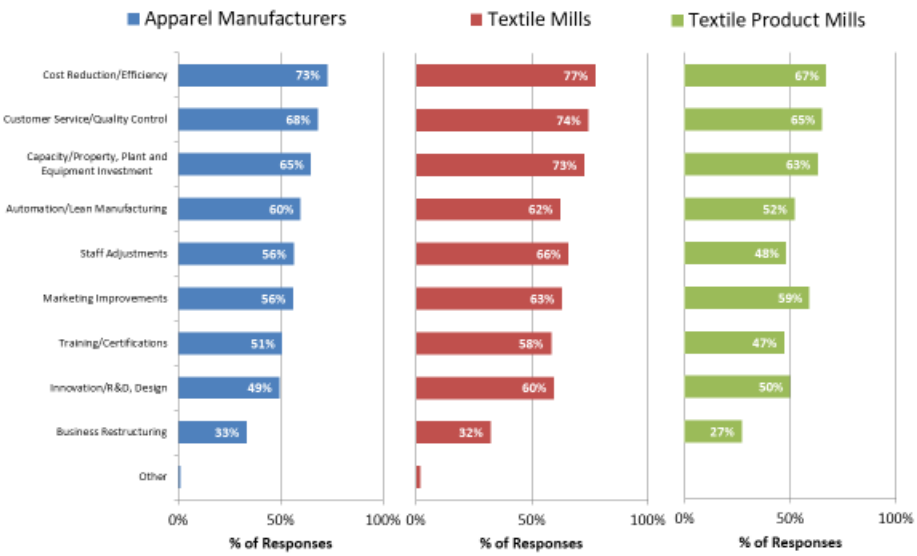
The first section on competitiveness focused on the actions that U.S. textile and apparel manufacturers had taken or were planning to take to be more competitive in their respective industries. BIS provided a list of nine potential actions (including an "Other" category) and asked respondents to identify actions that their organizations had taken between 2012 and 2016 or were planning to take between 2017 and 2021. Comments were also provided.

A large majority of respondents had taken or were planning to take actions to reduce cost and improve efficiency in their textile and apparel manufacturing facilities (see Figure IX-1). Overall, 406 organizations had taken actions to reduce cost and improve efficiency, and 419 were planning to do so between 2017 and 2021. Other top actions included "Customer Service/Quality Control" and "Capacity/Property, Plant, and Equipment Investment."

Figure IX-1: Competitive Factors (Present & Future Improvements) – Textiles and Apparel

U.S. textile, textile product, and apparel manufacturers displayed highly similar priorities for actions to improve their competitiveness (see Figure IX-2). Textile mills were more likely to take action across the board when compared to textile product mills and apparel manufacturers. The biggest disparity was in the "Staff Adjustments" and "Innovation/R&D/Design" categories, where textile mills selected 66 percent and 60 percent of responses, respectively. Textile product mills were generally less likely to report taking or planning to take actions compared to the other two respondent categories. Along similar lines, large organizations were more likely to be conducting "Innovation/R&D and Design" actions and medium organizations were relatively more interested in "Training/Certifications". Small organizations were the most likely to be planning "Staff Adjustments". Organizations displayed highly similar priorities whether or not they produced for the U.S. Government (USG).

Figure IX-2: Future Improvements by Business Line



Q13a, A

Source: U.S. Department of Commerce, Bureau of Industry and Security
Textile and Apparel Assessment – 2017

571 respondents

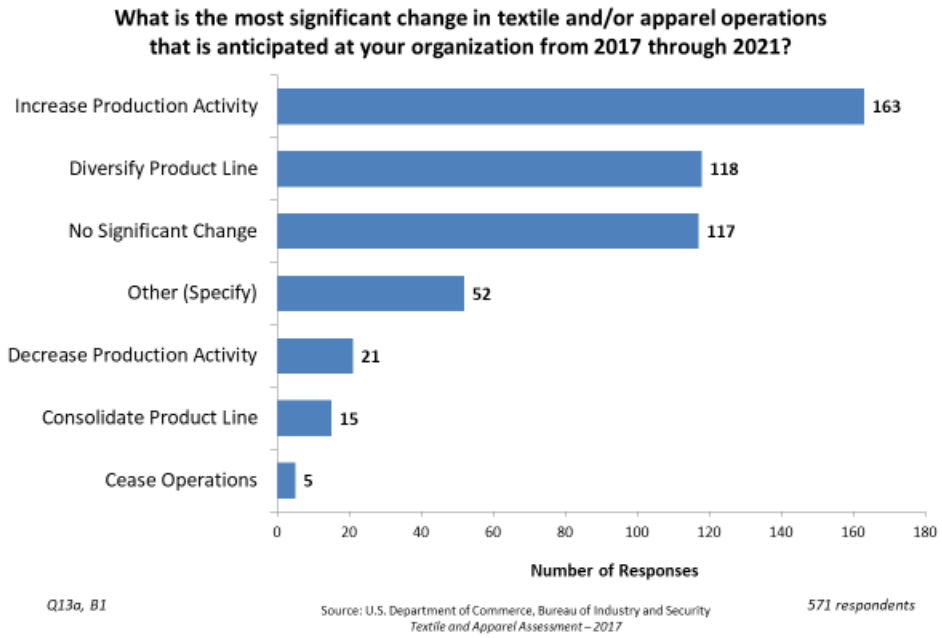
Respondents provided a number of comments on actions taken to improve their competitiveness. Many commented on the interactive nature of "Cost Reduction/Efficiency" and "Automation/Lean Manufacturing". An apparel manufacturer stated, "Automation can reduce the employees that we hire- which is against our mission- but we are putting a heavy emphasis on lean manufacturing to increase efficiencies, reduce costs and increase productivity to make us more competitive and increase opportunities for the company." A textile mill explained that they were "always working on cost reduction and improving efficiencies." Comments from textile product mills included, "We continually seek ways to eliminate costs from our products," and "We embrace lean principles and continuous improvement."

Regarding "Customer Service/Quality Control," many organizations commented that they had added specific personnel to improve this area. For example, textile and apparel manufacturers

had “added QC person in previous years; focus on customer service”; “added quality control lab to the facility”; and were “adding headcount and processes.”

BIS then asked respondents to indicate the most significant change in their textile and apparel-related operations expected between 2017 and 2021. Approximately one-third of respondents (163 respondents, 29 percent) planned to increase production activity in the near future (see Figure IX-3). This production increase plan was shared evenly among organizations of all business lines, sizes, and customer types. Those firms anticipating no significant change in operations tended to be small. Large organizations were slightly more likely to be diversifying their product lines. Two of the five firms that were planning to cease operations were apparel manufacturers that reported producing for the USG.

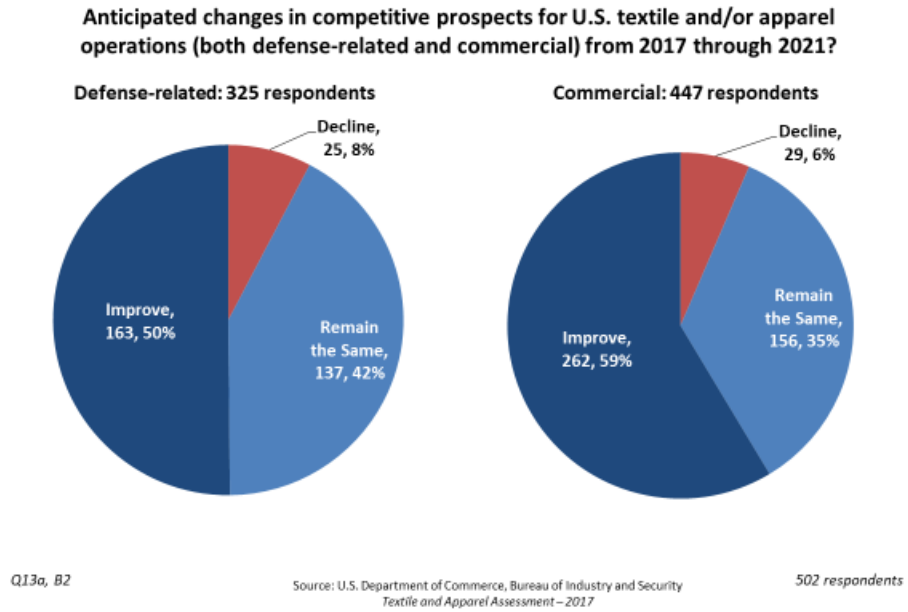
Figure IX-3: Anticipated Changes (2017-2021) – Textiles and Apparel



U.S. manufacturers across respondent categories provided comments regarding "Increased Production Activity." For example, one apparel manufacturer said, "Our 2-year venture into manufacturing was based on the apparel reshoring movement. We plan on 30% growth per year." Others commented, "We believe that our investments in R&D, employee training and new equipment will result in more business thus more production activity"; "We hope to bring manufacturing of certain product lines back to the U.S."; and "We will continue with our domestic business as well as increasing our government procurement opportunities."

Relating to anticipated changes, BIS asked respondents about their competitive prospects in the near future as they related to defense and commercial business lines. For the 325 organizations who provided a response for defense-related business lines, 163 (50 percent) expected their competitive prospects to improve in the near future. One hundred thirty-seven respondents (42 percent) anticipated that they would remain the same, while only 25 organizations (8 percent) expected a decline. For those organizations who provided a response for commercial business lines, 262 respondents (59 percent) anticipated improved business, 156 respondents (35 percent) anticipated that their business would remain the same, and 29 respondents (6 percent) anticipated a decline (see Figure IX-4).

Figure IX-4: Competitive Prospects (Defense-related vs Commercial)



Regarding their competitive prospects, an apparel manufacturer stated:

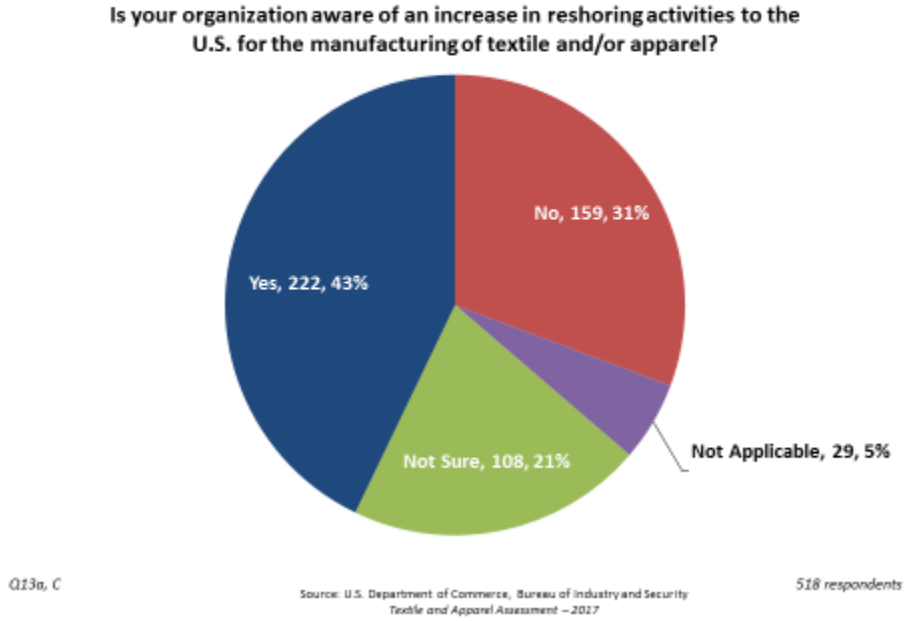
> "Government market is complicated and very resource intensive for a small shop to get a foothold, compete, and acquire more contracts. Along with that, our current DLA contract is over at the end of 2017, and we're not sure if it will be renewed. Commercial customers and contracts are less complicated and resource intensive. So, we believe we have a better chance to compete there."

Two textile mills provided the following observations, "I feel the military needs to grow concerned, major conflicts on the horizon. Commercially, reshoring and trade agreements will swing back to U.S.," and "We are hoping to obtain more defense and non-defense related contracts."

As a correlation to the outlook questions for U.S. textile and apparel manufacturing, BIS asked respondents if they were aware of an increase in reshoring activities to the U.S. For the purposes of this assessment, reshoring is defined as the practice of transferring a business operation that

was moved to a non-U.S. location back to the United States. Two hundred twenty-two respondents (43 percent) believed that reshoring was occurring in textile and apparel manufacturing (see Figure IX-5). This reshoring trend was observed by organizations of all sizes and customers, but textile manufacturers were more likely to be aware of reshoring. One hundred and five textile manufacturers (47 percent) were aware of reshoring activities in the U.S., compared to 80 apparel manufacturers (38 percent) and 37 textile product manufacturers (29 percent).

Figure IX-5: Reshoring – Textiles and Apparel



Many respondents provided comments regarding reshoring activities for textiles and apparel:

> "We have seen onshoring of high volume knitting and weaving programs using the same foreign-sourced textured fiber components that were being used when the goods were manufactured in foreign territories";
>
> "We see increased reshoring activities, but the actual demand for our product has not yet normalized";

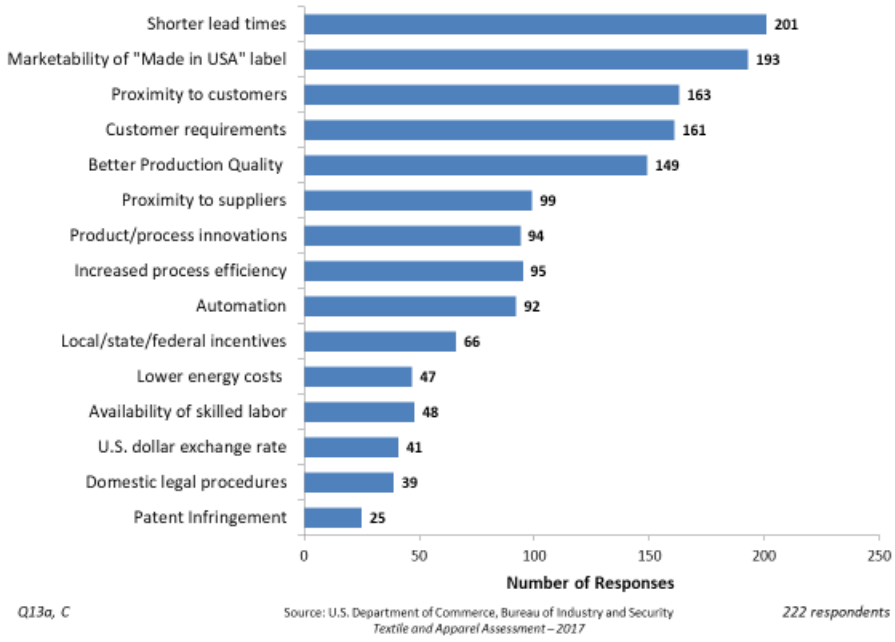
"We welcome the opportunity to bring manufacturing jobs back to the US from overseas. It will not only serve the financial interests of our company but will also strengthen the US economy by balancing the trade deficit. At the same time, it will create good well-paying jobs and foster a more skilled workforce. In the long term, we hope the "reshoring effort" will help to lower our costs, improve our competitive position, and reward us for our product innovations";

"We have been contacted by Brands that are willing to start working on supply chains fully made in the U.S."; and

"We have put our careers on the line for this belief!!!!!"

Almost all of the respondents who were aware of reshoring believed that "Shorter Lead Times" and the "Marketability of the 'Made in USA' label" were the factors driving the trend, with 201 and 193 responses (91 and 87 percent, respectively). The third most-selected factor contributing to reshoring was "Proximity to Customers," with 163 responses (11 percent) (see Figure IX-6).

Figure IX-6: Factors Contributing to Reshoring – Textiles and Apparel



Additionally, BIS asked those respondents who were aware of reshoring to discuss their organization's actions undertaken to benefit from the trend. Responses included:

> "Increased investment in infrastructure to enable brands to build here and STAY LOCAL successfully. Roadmaps for brands, partnerships with retailers, online marketing and e-commerce, influencer marketing, automated machines, etc."
>
> "Increased spend on marketing and brand building initiatives." and
>
> "Involvement with organizations such as: AFFOA, SEAMS, AAFA, WPRC. We are expanding our investment and marketing programs to promote our premium value yarns to help our customers enhance their brands."

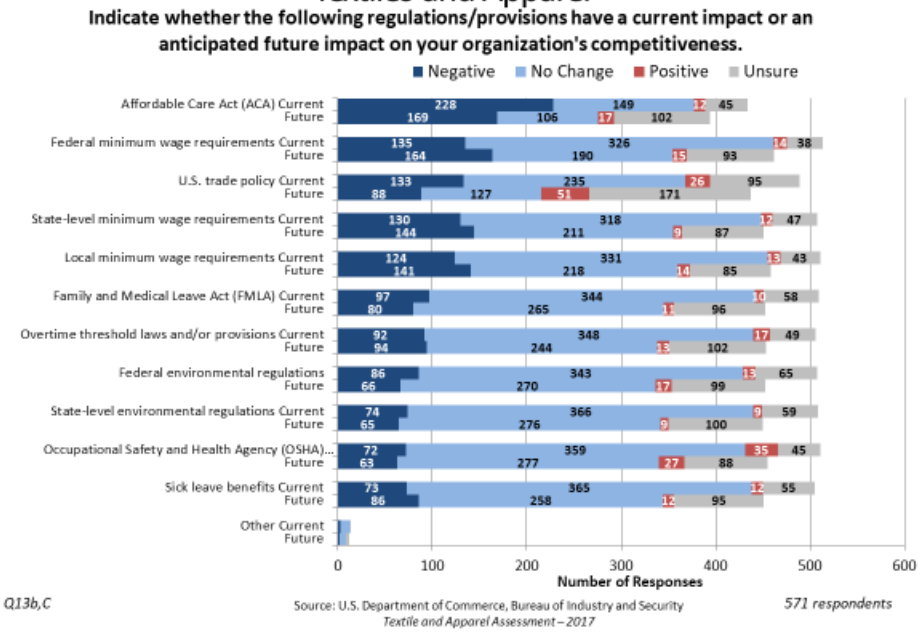
BIS also asked respondents if they participated in any formal or informal government or industry textile and/or apparel-related information sharing or related groups. Two hundred forty-five respondents (46 percent) answered that they belonged to at least one information sharing group, while 266 respondents (50 percent) did not. Of the 424 groups listed, 89 percent were industry associations. The National Association for the Sewn Products Industry (SEAMS), the Industrial Fabrics Association International (IFAI), the National Council of Textile Organizations (NCTO), and the American Apparel and Footwear Association (AAFA) were the organizations most often listed. Only 26 organizations (5 percent) responded that they participated in the Advanced Functional Fabrics of America (AFFOA) consortium.

Finally, BIS asked a series of questions to assess the current and future impacts of select regulations and provisions in an effort to better understand their effect on the competitiveness of U.S. textile and apparel manufacturers. Respondents rated the impact of each regulation/provision as either "Positive," "Negative," "No Effect," or "Unsure." "The Affordable

Care Act (ACA)" and "Federal Minimum Wage" regulations ranked the highest in current negative impacts on competitiveness, with 228 and 135 respondents (40 and 24 percent) rating those regulations negatively (see Figure IX-7). Summarizing the sentiment on the ACA, one respondent commented, "The ACA has resulted in a significant increase in benefit cost which has made us more uncompetitive in the global market." Another respondent stated, "Anticipate reduced benefits/increased costs even if ACA repealed/replaced under current proposals, so see healthcare [itself] the issue not specifically ACA as the question poses."

Organizations of all sizes and business lines believed that the ACA negatively affected their competitiveness, but apparel manufacturers were more concerned with current and future "Federal Minimum Wage" regulations than were textile mills or textile product mills. "U.S. Trade Policy" and "Occupational Safety and Health Agency (OSHA)" regulations received the most "Positive" responses. Textile mills were slightly more positive about "U.S. Trade Policy." Overall, a majority of respondents believed that the select governmental regulations had no impact on their organization's competitiveness. However, the number of respondents who believed they had a negative impact greatly outnumbered those who believed they impacted their organization in a positive way.

Figure IX-7: Impact of Regulations/Provisions on Competitiveness – Textiles and Apparel



The outlook on U.S. trade policies was more mixed, as evidenced in some of the provided comments:

> "Free trade policies have moved our supply base out of the USA. Policies currently under review in D.C. appear to support bringing manufacturers back to the U.S.A."
>
> "If additional duty is put on imports it will increase all of our raw material costs and increase our costs considerably. This will be a huge problem." and
>
> "We are advocates of NAFTA, CAFTA and the TPP for purposes of keeping our export business strong."

X. Challenges and U.S. Government Outreach

Challenges

In an effort to better understand the overall issues affecting the U.S. textile and apparel industry, BIS asked respondents to identify and rank the challenges that most adversely affected their organizations. A list of 30 issues was provided, along with comment boxes to allow for additional organizational input, if desired (see Figure X-1).

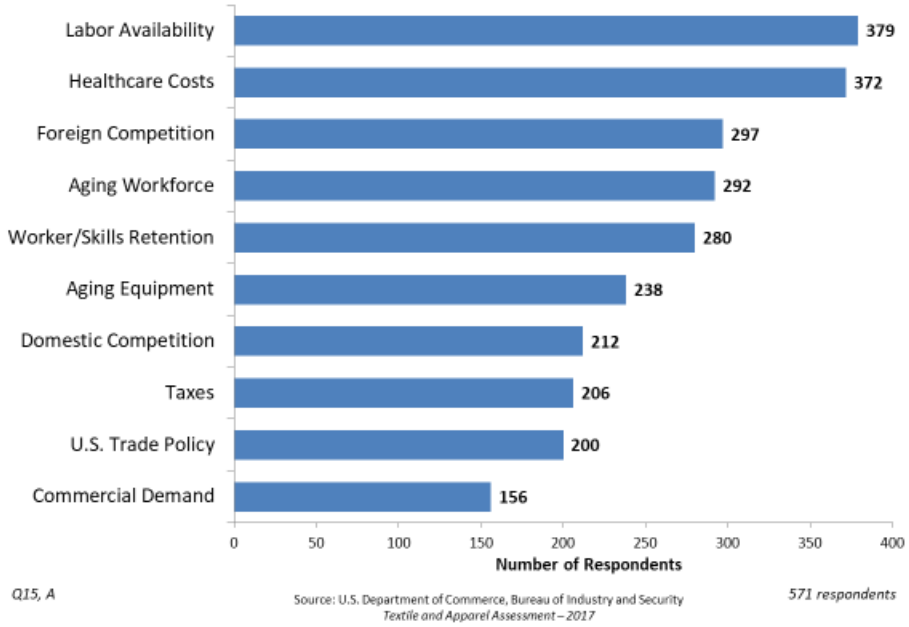
Figure X-1: Challenges – Complete List

Aging equipment, facilities, or infrastructure	Environmental regulations/remediation - foreign	Labor availability/costs	Qualifications/ certifications
Aging workforce	Export controls/ITAR & EAR	Material input availability	Quality of material inputs
Access to capital	Government acquisition process	Obsolescence	R&D costs
Competition – domestic	Government purchasing volatility	Pension costs	Reduction in commercial demand
Competition – foreign	Government regulatory burden	Proximity to customers	Reduction in USG demand
Counterfeit parts	Healthcare costs	Proximity to suppliers	Taxes
Cybersecurity	Health and safety regulations	U.S. trade policy	Worker/skills retention
Environmental regulations/remediation - domestic	Intellectual property/patent infringement		

Source: U.S. Department of Commerce, Bureau of Industry and Security
Textile and Apparel Assessment – 2017

For the 571 respondents, four of the top five identified challenges were workforce-related. "Labor Availability" and "Healthcare Costs" were the top two issues selected, with 379 and 372 responses, respectively (see Figure X-2). "Foreign Competition" was the third-most selected challenge, with 297 responses. "Aging Workforce" (292 responses) and "Worker/Skills Retention" (280 responses) were fourth and fifth.

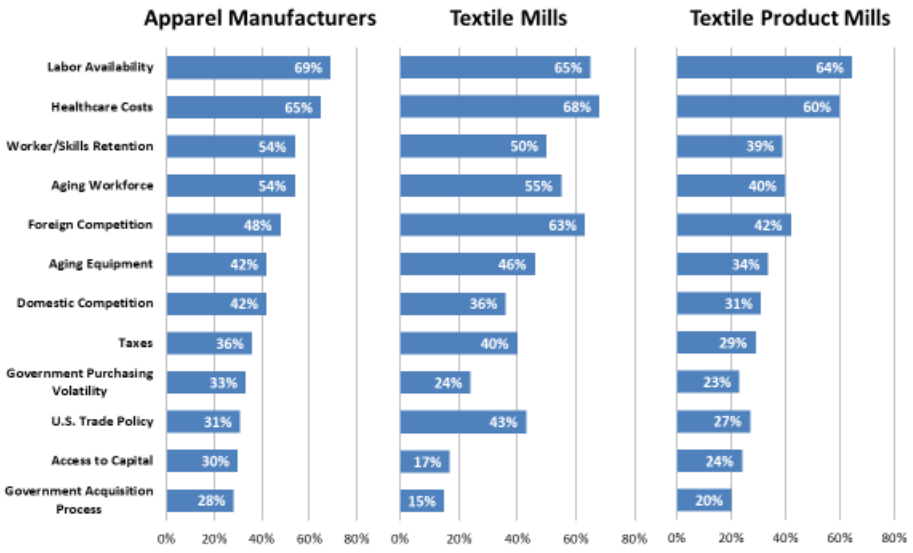
Figure X-2: Top 10 Organizational Challenges – Textile and Apparel



Overall, the top five challenges were generally consistent across respondents of all sizes, business lines, and customers. However, some issues became more prominent when further analysis was conducted on the respondents' demographics. For example, textile manufacturers were relatively more concerned with "Foreign Competition" and "U.S. Trade Policy" than were apparel manufacturers and textile product mills. Sixty-three percent of textile manufacturers cited "Foreign Competition" as a challenge, compared to 48 percent of apparel manufacturers and 42 percent of textile product manufacturers. Apparel manufacturers listed the challenges of "Domestic Competition," "Government Purchasing Volatility," and "Access to Capital" at a higher rate (see Figure X-3).

Figure X-3: Top Challenges by Business Line – Textiles and Apparel

Percentage of Respondents Affected



Q15, A

Source: U.S. Department of Commerce, Bureau of Industry and Security
Textile and Apparel Assessment – 2017

571 respondents

When segmented by size, large organizations were more likely to select "Foreign Competition" and a "Reduction in Commercial Demand" compared to medium and small-sized ones. Medium-sized companies listed "Worker/Skills Retention," "Labor Availability," and "Taxes" at a higher rate. Small-sized organizations were more concerned with "Aging Equipment" (see Figure X-4). Those organizations which supplied to the U.S. Government (USG) were much more concerned with "USG Purchasing Volatility", "USG Demand," and the "USG Acquisition Process" than those which did not.

Respondents provided a substantial number of comments on the various challenges affecting their organizations. Regarding healthcare costs, one apparel manufacturer observed:

> "We continue to see double digit healthcare costs in an increasingly competitive environment. Passing these costs through to the customer is often not possible, so we are left to try to either absorb it through lost profits or passing through to the employees."

A textile manufacturer added, "Rising health care costs impact our ability to compete globally and thus export our product." Organizations supplying to the USG also provided a large number of comments regarding "USG Purchasing Volatility" and the "USG Acquisition Process" such as:

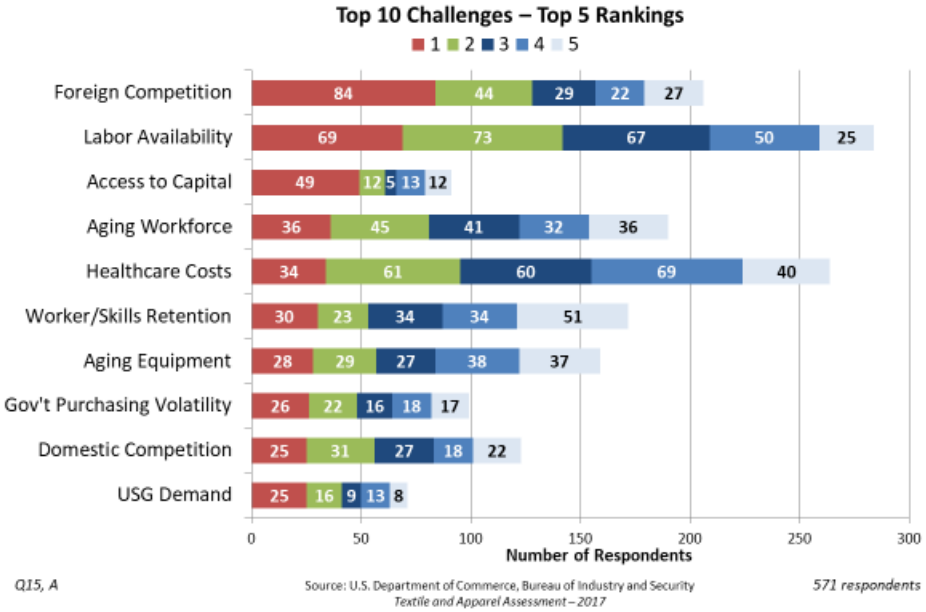
> "Government purchasing volatility can adversely affect our company both ways. If purchasing goes down, we are forced to lay people off or transfer them to another job where they have to be retrained. If it goes up too drastically, we may not have the equipment, production space or trained personnel to meet the increased demand"; and

> "The proposal and negotiation process is now extremely time consuming, costly, and invasive for independent contractors and their suppliers which has led many of them to flee the government markets into more lucrative commercial and international ones or has forced to accept marginalized pricing that almost certainly starts their downward spiral into insolvency. The process is no longer about determining what is a fair and reasonable price for the government. It is about the government reporting how much money they are saving each fiscal process with cut-throat tactics that continues to cripple and shrink their supporting supply base."

In addition to identifying any challenges that adversely affect their organizations, respondents were also asked to rank their top five challenges one through five. While "Labor Availability" was the most common challenge identified overall, "Foreign Competition" was the issue ranked first most often, with 84 responses (see Figure X-5). Generally, issues identified most often were also regularly ranked in the top five. An exception to this ranking similarity was "Access to Capital." While it was only the fourteenth most identified challenge overall, it was ranked as the number one challenge by 49 respondents – third highest overall. "Access to Capital" was a predominant challenge for small organizations, especially those involved in apparel manufacturing.

Figure X-5: Top 5 Ranked Challenges – Textiles and Apparel

Issues that Adversely Affect Respondents



Many respondents provided additional comments regarding their ranked challenges. Regarding "Access to Capital", some of the remarks on the topic included:

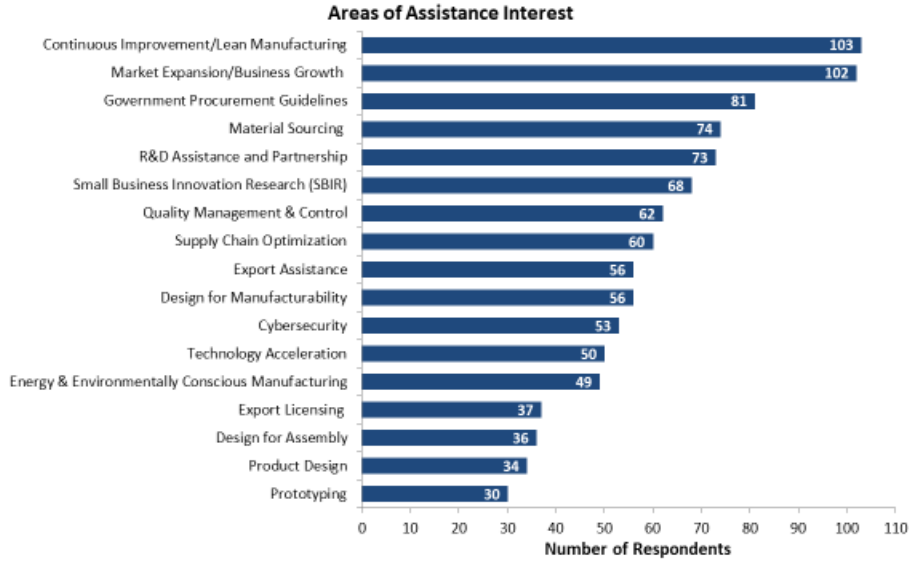
> "As a manufacturer we always need to buy raw materials months in advance of getting paid by our prime contract or the government. Banks generally don't want to do purchase order financing any longer in order to give us the float money we need to finance the raw materials and labor expenses. Receivables financing is readily available, but that doesn't help us with our bigger challenge of funding larger orders to get to the stage that we have a finished product and ready to ship";
>
> "Low profit margins reduce our available capital. We cannot afford the expense of loan payments. Without capital, we are unable to afford newer, more efficient machinery and automation solutions"; and
>
> "It is very difficult to attain financing in this industry."

U.S. Government Outreach

In addition to asking respondents to identify challenges that adversely affected their organizations, BIS provided them with an opportunity to request information on federal and state services aimed at helping companies better compete in the global marketplace. Respondents were provided with a list of 17 areas of interest and could select as many as they wished. Overall, textile and apparel manufacturers most often requested information on "Continuous Improvement/Lean Manufacturing" and "Market Expansion/Business Growth," with 103 and 102 responses, respectively (see Figure X-6). Other top areas of interest included: "USG Procurement Guidelines," "Material Sourcing," "R&D Assistance and Partnership," and "Small Business Innovation Research (SBIR)."

Figure X-6: Government Outreach Request – Textiles and Apparel

Areas of interest in information on USG assistance programs

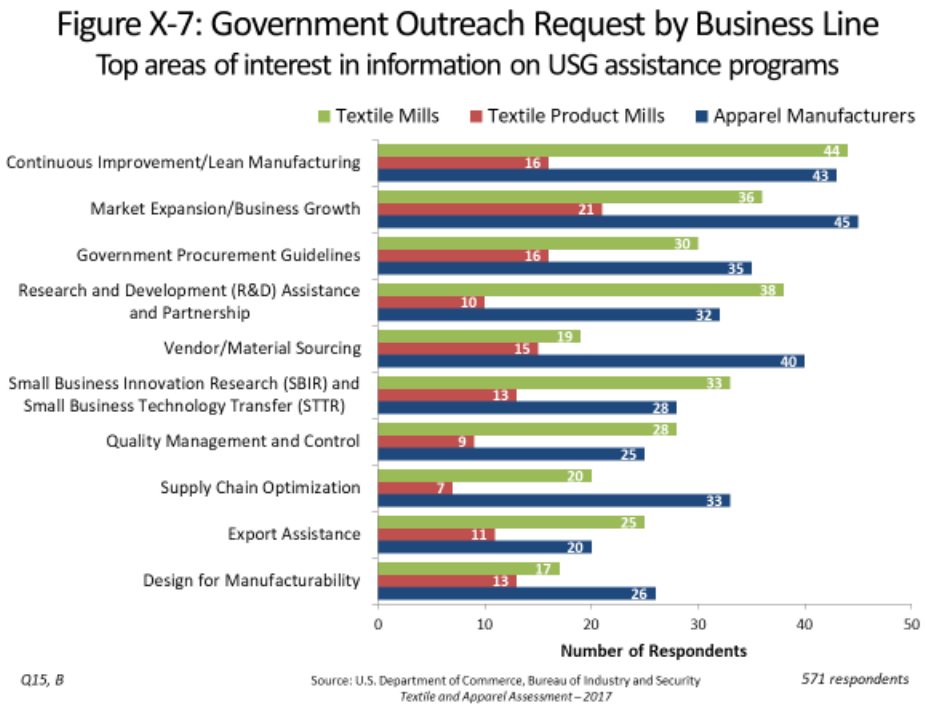


Q15, B

Source: U.S. Department of Commerce, Bureau of Industry and Security
Textile and Apparel Assessment – 2017

571 respondents

When broken out by business line, respondents varied in their areas of interest outside of the top two. Textile mills were relatively more interested in "R&D Assistance and Partnership" while apparel manufacturers were relatively more interested in "Vendor/Material Sourcing" and "Supply Chain Optimization." The top area of interest among textile product mills was "Market Expansion/Business Growth" (see Figure X-7).



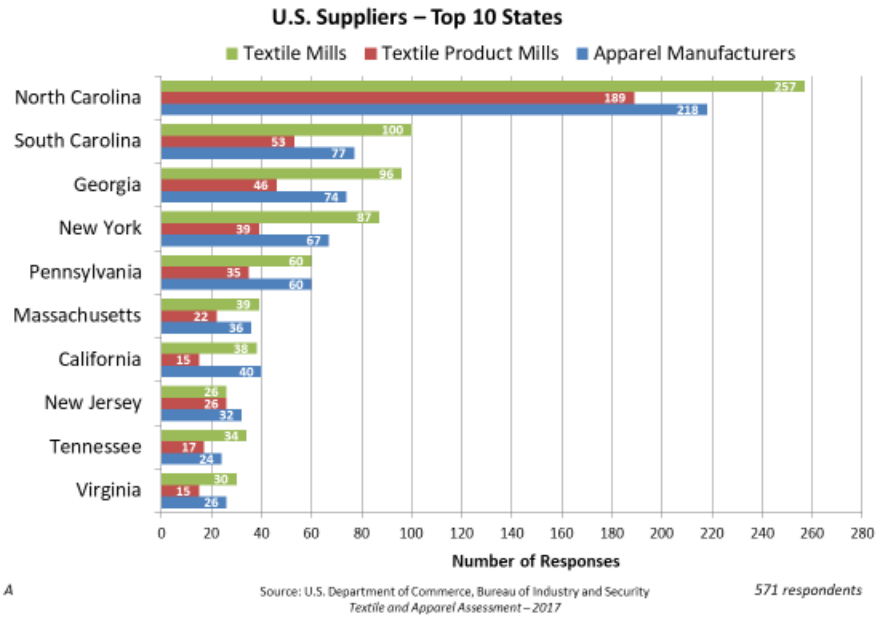
XI. Supply Chain Network

Key Product, Material, and Service Suppliers

BIS asked survey respondents to list their organization's key product, material, and/or service suppliers for their manufacturing operations. Respondents were also asked to identify the type of product, material and/or service, the location of the supplier, and if the supplier was a single or sole source supplier.

The 571 respondents identified 2,891 suppliers from 46 U.S. States (plus the U.S. Territory of Puerto Rico) and 45 countries. Key supply types listed included yarn, thread, fabric, zippers, and others. North Carolina was the largest supplier state for each business line, listed by apparel manufacturers 218 times, by textile mills 257 times, and by textile product mills 189 times (see Figure XI-1). The other top supplier states were South Carolina, Georgia, and New York.

Figure XI-1: Supplier States by Business Line – Textiles and Apparel



Q5, A

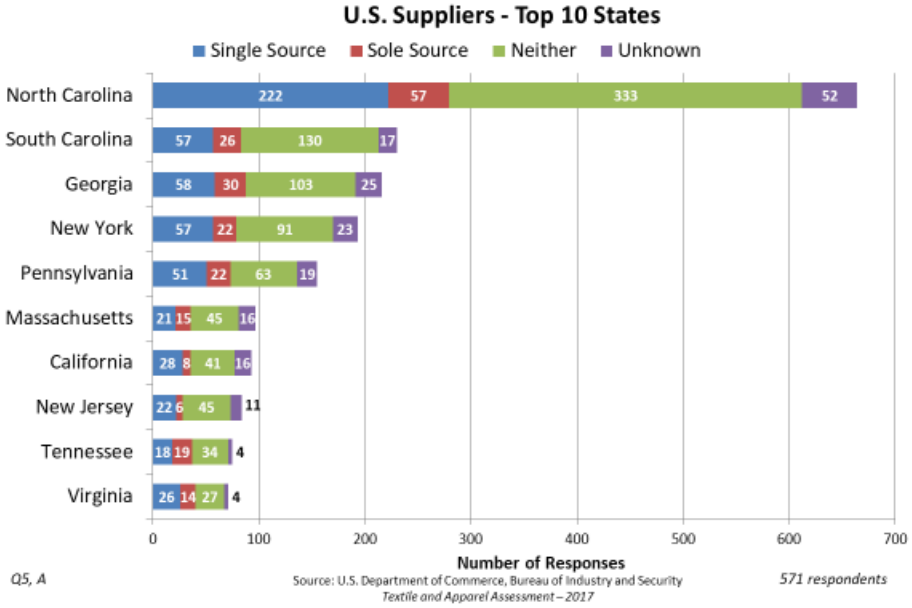
Source: U.S. Department of Commerce, Bureau of Industry and Security
Textile and Apparel Assessment – 2017

571 respondents

Among all responses, the United States was identified as the country of the supplier company's location 91 percent of the time. Other top supplier countries included China, Canada, Mexico, South Korea, and Italy.

Respondents were also asked to indicate whether listed suppliers were sole source (defined as the only known supplier in existence) or single source (defined as their only accepted/qualified source even though others with equivalent know-how and production capability may exist) suppliers. Sole and single source suppliers were listed in each of the top supplier U.S. states. For the most part, single source suppliers were named at a higher rate than sole source suppliers. For example, 222 single source suppliers were listed in North Carolina compared to 57 sole source suppliers (see Figure XI-2).

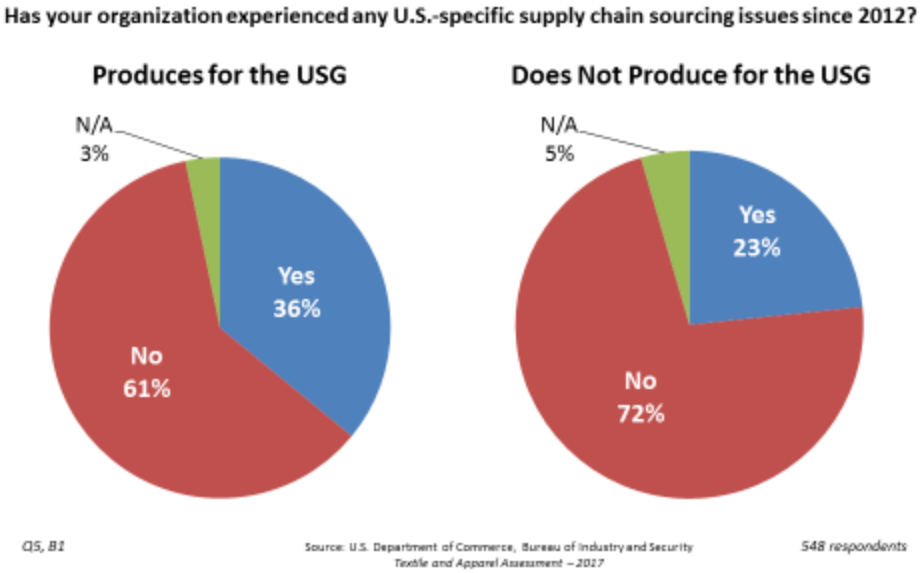
Figure XI-2: Single and Sole Source Suppliers by U.S. State – Textiles and Apparel



Regarding single source suppliers in the United States, comments included: "Single Source option for companies above was chosen because they are the only U.S. suppliers available for our customers who require U.S. origin. There are acceptable foreign suppliers"; and "Note that while some suppliers have a U.S. address in the above table, not all manufacture their products in the U.S."

BIS asked respondents if their organization had experienced any U.S.-specific supply chain sourcing issues since 2012. Overall, 168 respondents (31 percent) reported that they had, while 359 respondents (65 percent) reported that they had not experienced supply chain sourcing issues. The percentage of organizations with sourcing issues was slightly higher among apparel manufacturers, with 34 percent citing issues, and slightly lower among textile mills, with 28 percent citing issues. A larger variance in the response rate was seen between those organizations who manufactured for the U.S. Government (USG) and those who did not. Thirty-six percent of respondents who manufactured for the USG listed supply chain sourcing issues compared to only 23 percent of those who did not manufacture for the USG (see Figure XI-3). This is because respondents who did not manufacture for the USG were able to source from non-U.S. suppliers to meet their needs.

Figure XI-3: U.S. Supply Chain Sourcing Issues by USG Participation – Textiles and Apparel



Respondents listed a number of U.S.-specific supply chain sourcing issues. Among the 179 responses were:

> "Berry Amendment-compliant zipper, hook and loop";
>
> "Delays in being able to get U.S. made Cotton Duck Cloth";
>
> "Difficult to procure American-made nylon filament yarn"; and
>
> "Domestic source for wool yarn is extremely limited to comply with Berry Amendment."

One respondent summarized the domestic supply chain with the comment, "Domestic/Berry compliant supply chain is extremely narrow, and limited options are available."

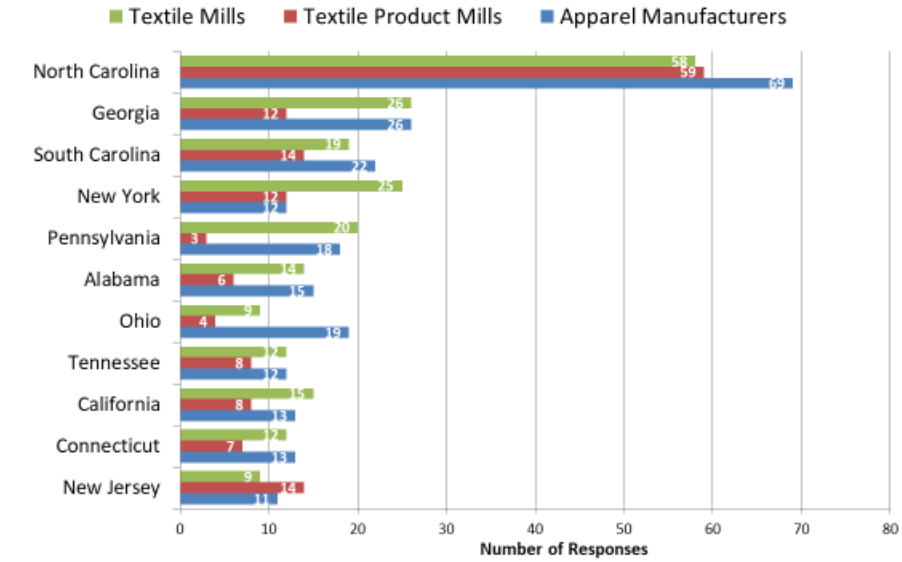
While only 54 respondents (10 percent) claimed that they had experienced non-U.S. supply chain issues, 33 percent of textile and apparel manufacturers (181 respondents) considered themselves to be dependent on foreign sources for supplies. This supply chain foreign dependence was

highest among textile mills - 41 percent claimed foreign dependence, compared to 32 percent of textile product mills and 26 percent of apparel manufacturers. Some organizations who considered themselves foreign supply dependent stated: "We purchase from U.S. companies, however, we have been told most of the yarn manufacturing is done overseas and imported now"; and "Yes, non-U.S. products often provide 15-20% price advantage point because of higher domestic costs levels."

Machinery and Equipment

In addition to material suppliers, the 571 respondents listed a total of 1,185 machinery and equipment suppliers from 38 U.S. States (including Puerto Rico) and from 27 countries. The top supplier types listed included sewing machines, loom parts, knitting machines and parts, and other sewing equipment. While North Carolina was listed as the top supplier state for all machinery and equipment, all business lines sourced their machinery and equipment from a variety of states. Georgia, South Carolina, New York, and Pennsylvania were other top states listed (see Figure XI-4).

Figure XI-4: Top 10 Machinery and Equipment Supplier States by Business Line



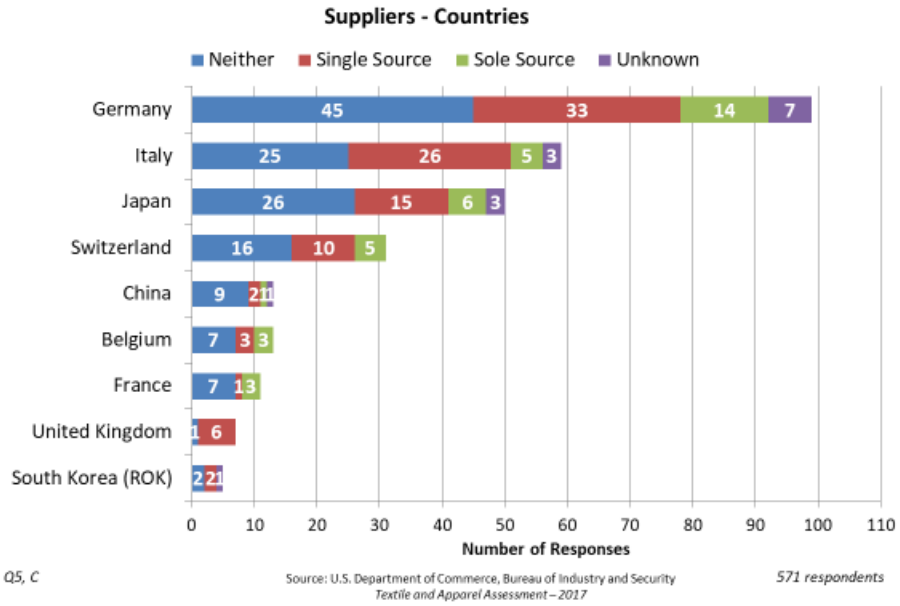
Q5, C

Source: U.S. Department of Commerce, Bureau of Industry and Security
Textile and Apparel Assessment – 2017

571 respondents

While U.S. and U.S.-based machinery and equipment suppliers were by far the most listed, respondents also cited Germany, Italy, Japan, and Switzerland as key source countries (see Figure XI-5). This listing was similar across all business lines. Several respondents provided further detail on this supply chain, "Most of our production equipment is purchased through U.S. distributors for foreign manufacturers - very few domestic equipment suppliers left." Conversely, one respondent commented, "Majority of our primary process machinery & equipment is custom designed and/or internally fabricated."

Figure XI-5: Top Machinery and Equipment Non-U.S. Suppliers – Textiles and Apparel



Fifty-five respondents (10 percent) reported machinery or equipment sourcing issues since 2012. One hundred ninety-one respondents (37 percent) reported that they considered themselves to be dependent on non-U.S. sourcing for their machinery or equipment. Respondents listed a variety of machine types that were scarce or no longer available in the United States. Comments included, "Few sewing machines are manufactured in the U.S.," "There are no filament spinning system manufacturers in U.S.," and "There are no Narrow Fabric looms and Knitting machines manufactured in USA."

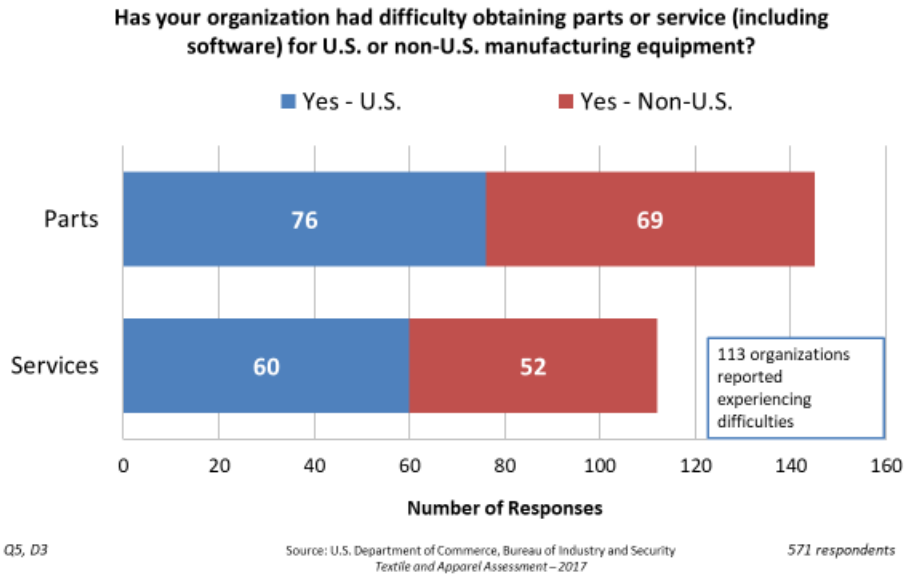
One hundred and thirteen organizations (20 percent) reported specific trouble obtaining parts or services (including software) for U.S. and non-U.S. manufacturing equipment (see Figure XI-6). BIS received 145 responses reporting difficulties obtaining parts from U.S. and non-U.S. sources and 112 responses reporting difficulties obtaining services for machines or equipment. Comments included:

"Long lead times from both, prices higher than custom machined parts. We often have to make parts in house";

"Software for Clothing & Textile operations is extremely limited and challenging to find, in particular an ERP system that can capture all production aspects of the sewing manufacturers"; and

"There are a huge number of support issues of all equipment due to it being made outside the U.S. and the related servicing of them. There is only one primary company in the U.S. that can do service on Hosiery knitting machines and two on sock machines."

Figure XI-6: Difficulty With Sourcing Machinery & Equipment Parts and Services – Textiles and Apparel



Overall, 362 respondents reported that their organization had no major issues regarding textile or apparel machinery and equipment, compared to 44 respondents who replied that they did. One respondent cited good working relationships with non-U.S. vendors in Italy. Other respondents commented that the greater challenge was finding "the Mechanics and technicians needed to adjust, service and properly maintain the equipment. Many with these skills are overseas or in

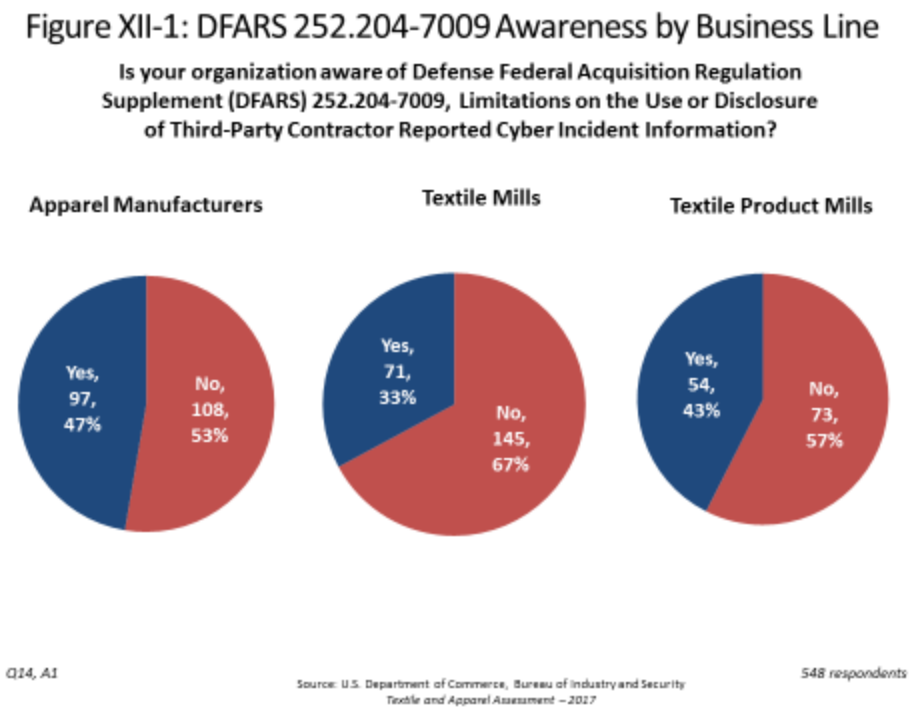
areas with a stronger industrial base for sewing." Another respondent summarized U.S. supply chain issues as, "Our supply base is small but critical and the low demand for the items does not make the market large enough or worth it for other potential suppliers to enter the market. Over the last few years as demand has dropped off significantly, several suppliers have chosen to exit the market or go out of business altogether on both the supplier and prime contractor sides."

XII. CYBERSECURITY

BIS asked the 571 survey respondents a sequence of questions about their cybersecurity-related practices in order to understand how cybersecurity issues are affecting the U.S. textile and apparel industry.

Overall, 41 percent of respondents (222) reported being aware of the Defense Federal Acquisition Regulation Supplement (DFARS) 252.204-7009, Limitation on the Use or Disclosure of Third-Party Contractor Reported Cyber Incident Information.[15] This DFARS provision was added to protect information submitted to the U.S. Department of Defense (DoD) in response to a cyber incident. The requirement mandates that DoD contractors incorporate the clause into any subcontracts with subcontractors who are involved with covered defense information. Apparel manufacturers reported the most awareness of the DFARS regulation, while textile mills were the least aware (see Figure XII-1). The awareness rate for organizations that produced for the U.S. Government was 52 percent, compared to 23 percent for those who did not.

[15] https://www.acq.osd.mil/dpap/dars/dfars/html/current/252204.htm#252.204-7009



With regard to Commercially Sensitive Information (CSI)[16], 81 percent of organizations stated that their computer or computer network that hosts CSI is connected to the Internet, either directly or via an intermediary network or server. Internal IT departments and external U.S. service providers were responsible for administering the internal computer network(s) of organizations in 90 percent of responses, with "Internal IT Department" at 52 percent and "Only External U.S. Service Providers" and "Both" at 18 and 20 percent, respectively.

For external computer network(s) administration, internal IT departments and external U.S. service providers were responsible in 69 percent of responses, with a higher rate (27 percent) of "Not Applicable" responses. Large and medium-sized organizations responded to the internal

[16] Privileged or proprietary information which, if compromised through alternation, corruption, loss, misuse, or unauthorized disclosure, could cause serious harm to the organization owning it. This includes customer/client information, financial information and records, human resources information, intellectual property information, internal communications, manufacturing and production line information, patent and trademark information, research and development information, regulatory/compliance information, and supplier/supply chain information.

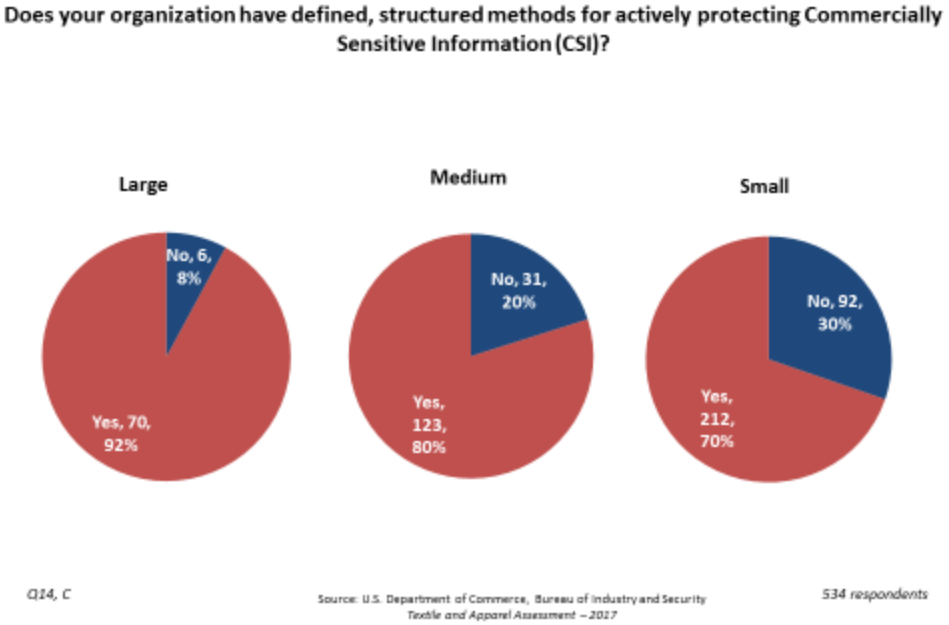
and external network administration questions at a higher rate; small organizations represented 82 percent of the "Not Applicable" responses.

Two hundred sixty-nine respondents (51 percent) reported that cyber incidents had caused their organization to increase its information security budget. Comments included:

> "Budget has increased significantly";
>
> "Not significantly yet, but probably will be done in 2017 to add an extra layer of protection"; and
>
> "As threats increase and become more complex; our corporate infrastructure must adapt to ensure our data is protected. This requires us from time to time to invest in additional hardware, software or third party services to ensure our network is hardened and protected."

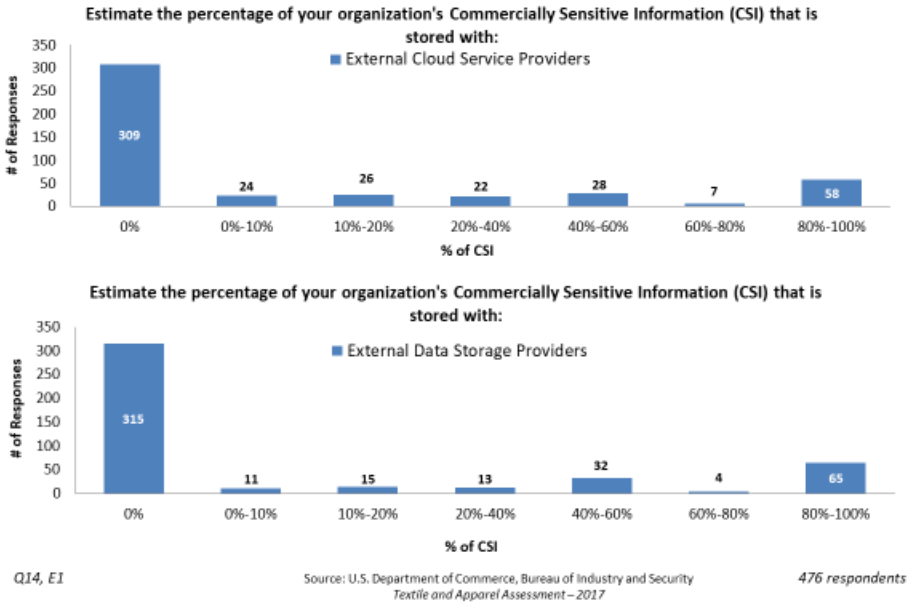
Over three quarters (76 percent) of survey participants stated that they had defined, structured methods for actively protecting CSI. For USG suppliers, the response rate was 81 percent. While responses were consistent among textile mills, textile product mills, and apparel manufacturers, there was variance according to organization size. Ninety-two percent of large organizations reported having defined, structured methods for actively protecting CSI, compared to 80 percent of medium, and 70 percent of small (see Figure XII-2).

Figure XII-2: CSI Protection by Organization Size – Textiles and Apparel



The majority of textile and apparel organizations surveyed reported not storing any CSI with either external cloud service providers or external data storage providers (65 percent and 69 percent, respectively). In contrast, 12 percent stated that they store 80 to 100 percent of their CSI with an external cloud service provider, and 15 percent of respondents stored 80 to 100 percent of their CSI with an external data storage provider (see Figure XII-3).

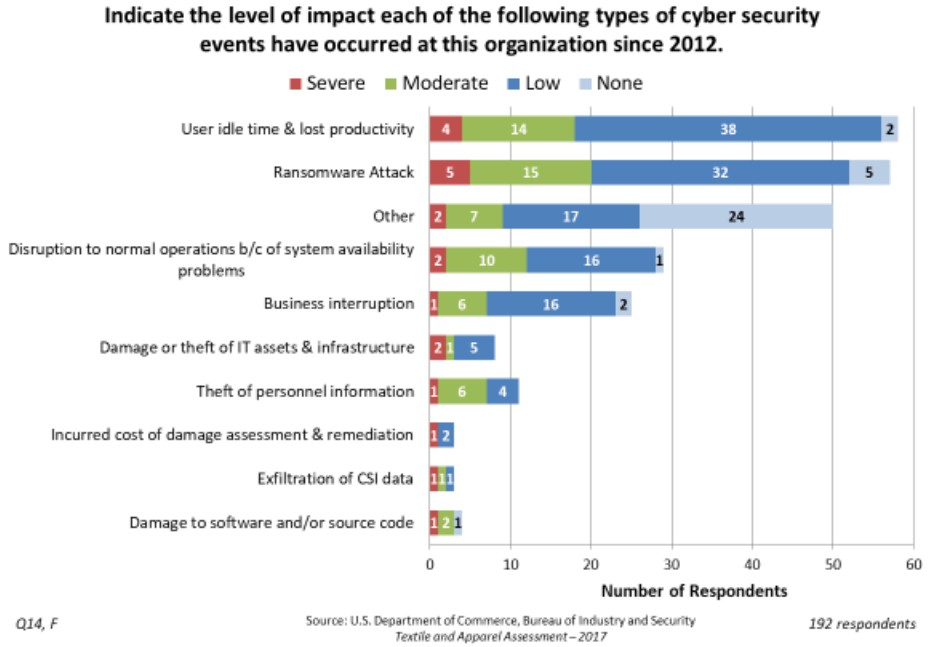
Figure XII-3: Cybersecurity CSI Storage – Textiles and Apparel



Thirty-eight percent of respondents either restrict or prohibit their external cloud service provider(s) from storing CSI outside the U.S., while 39 percent restrict or prohibit their external data storage providers from storing CSI outside the U.S.

BIS asked respondents whether any cybersecurity incidents had occurred at their organization since 2012 and to rank the impact level as "Severe," "Moderate," "Low," or "None." Thirty-five percent of respondents reported at least one cybersecurity incident. Two hundred and forty-eight events were reported in total by 192 respondents (see Figure XII-4). The leading incident categories were "User idle time and lost productivity" and "Ransomware Attack," both cited by 30 percent of respondents. Only 7 percent of reported events were ranked as having a "Severe" impact level, while 25 percent had "Moderate" impact. The remaining 68 percent of reported incidents were either ranked as "Low" or "None" in terms of impact.

Figure XII-4: Cybersecurity Incidents Since 2012 – Textiles and Apparel



Q14, F

Source: U.S. Department of Commerce, Bureau of Industry and Security
Textile and Apparel Assessment – 2017

192 respondents

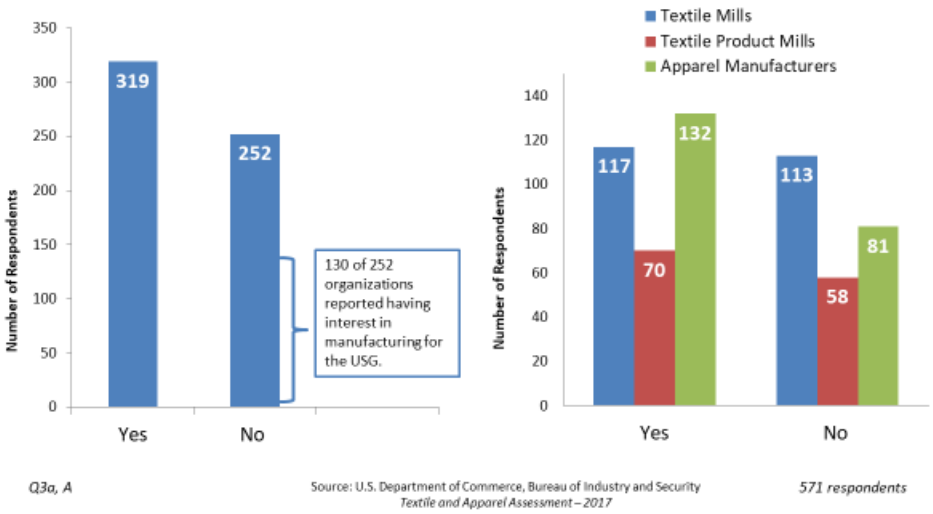
When asked to provide comments on their cybersecurity incidents, a large majority of respondents emphasized the minimal impact that their organizations had felt: "Multiple single instances, easily recovered from backup," and "A few computers were infected with ransomware as one-off events, causing a wipe of the computer to restore local computer operations with no significant impact." One respondent commented, "We have had some hacking incidents which caused us to add hardware and software to increase our cybersecurity."

XIII. U.S. Government Participation and the Berry and Kissell Amendments

U.S. Government Participation

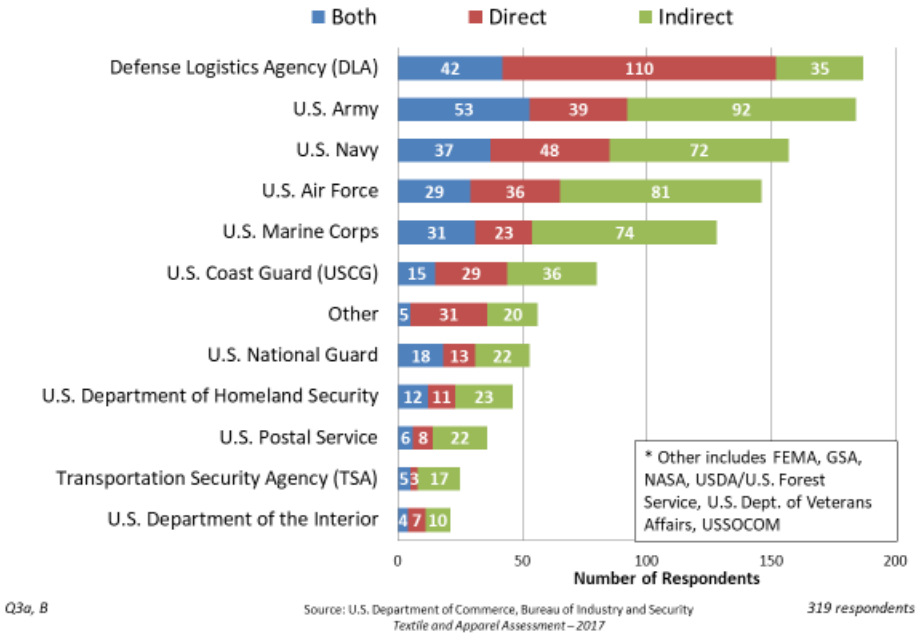
Of the 571 total respondents, 319 (56 percent) reported that they had manufactured textiles and/or apparel for the U.S. Government (USG) between 2012 and 2016 (132 apparel manufacturers, 117 textile mills, and 70 textile product mills). Of the remaining 252 organizations (44 percent) that had not manufactured for the USG in the five-year period, 130 stated that they would however be interested in doing so (see Figure XIII-1). USG producers were evenly distributed across organization size. Just over half of large, medium, and small respondents (57, 58, and 55 percent, respectively) reported manufacturing for the USG corresponding to 47 large, 93 medium, and 178 small organizations.

Figure XIII-1: Participation in U.S. Government Programs – Textiles and Apparel (2012-2016)



The top six USG customers supported by U.S. textile and apparel manufacturers were all defense-related: the Defense Logistics Agency (DLA) and the U.S. Armed Forces Service Branches (U.S. Army, U.S. Navy, U.S. Air Force, U.S. Marine Corps, and U.S. Coast Guard). DLA and the U.S. Army were the largest customers reported, with 187 and 184 (respectively) manufacturers supporting them directly, indirectly, or both. Other listed USG customers included the U.S. National Guard, the U.S. Department of Homeland Security, and the U.S. Postal Service (see Figure XIII-2).

Figure XIII-2: Type of Support for USG Agencies – Textiles and Apparel



Q3a, B

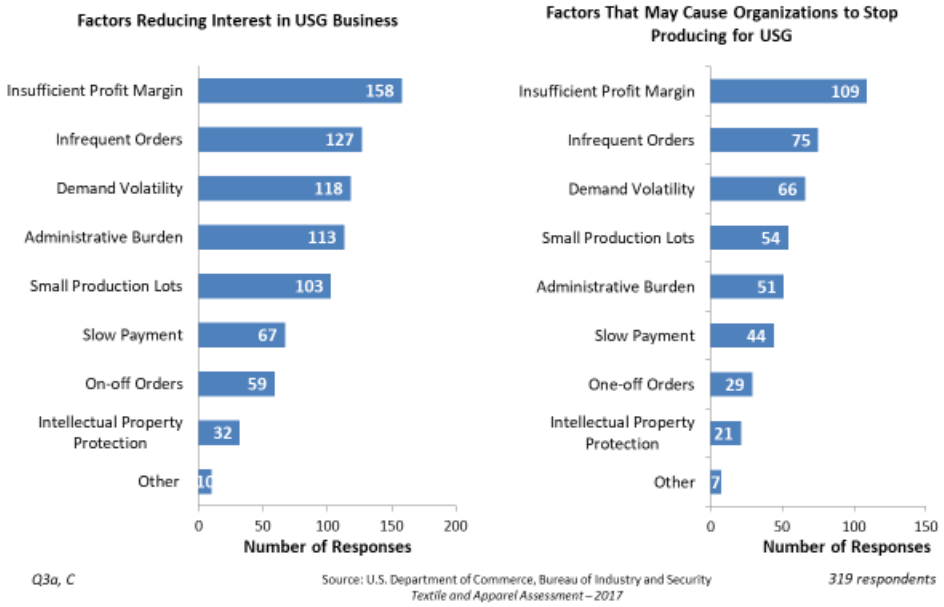
Source: U.S. Department of Commerce, Bureau of Industry and Security
Textile and Apparel Assessment – 2017

319 respondents

Organizations manufacturing for the USG were asked to identify factors that may reduce their interest in USG business and that may cause them to stop producing for the USG. The top three factors in both scenarios were "Insufficient Profit Margin," "Infrequent Orders," and "Demand Volatility" (see Figure XIII-3). Half of all organizations producing for the USG (50 percent) believed that insufficient profit margins reduced their interest in USG business, while 34 percent

believed that it may cause them to stop producing for the USG in the future. Other highly ranked factors included "Administrative Burden," "Small Production Lots," and "Slow Payment."

Figure XIII-3: Factors Affecting Interest in USG Business – Textiles and Apparel



Comments related to "Insufficient Profit Margin" included:

> "If lower margin, we have no incentive to allocate capacity to produce in case demand is strong at other markets";
>
> "This can be a serious problem, but we have strong interest in USG business despite this challenge and will produce for USG as long as possible"; and
>
> "Tools the USG has used in the past (i.e. Reverse auctions), are huge detractors for vendors. It pushes potential vendors into scenarios where they may lose money on a job and be forced out of business. There needs to be some profit involved for companies to buffer for difficulties that may arise in performing a job, and to continue to grow and reinvest in our businesses."

Regarding "Demand Volatility," an apparel manufacturer commented:

> "If the business demand becomes highly volatile, it becomes impossible to financially sustain the business through long periods of lack of volume, thereby jeopardizing the supply of fabric used to produce clothing and individual equipment items for our service men and women. Further, without some level of constancy, it is very hard if not impossible for businesses to continue to invest financially in research and development to create even more highly technical fabrics."

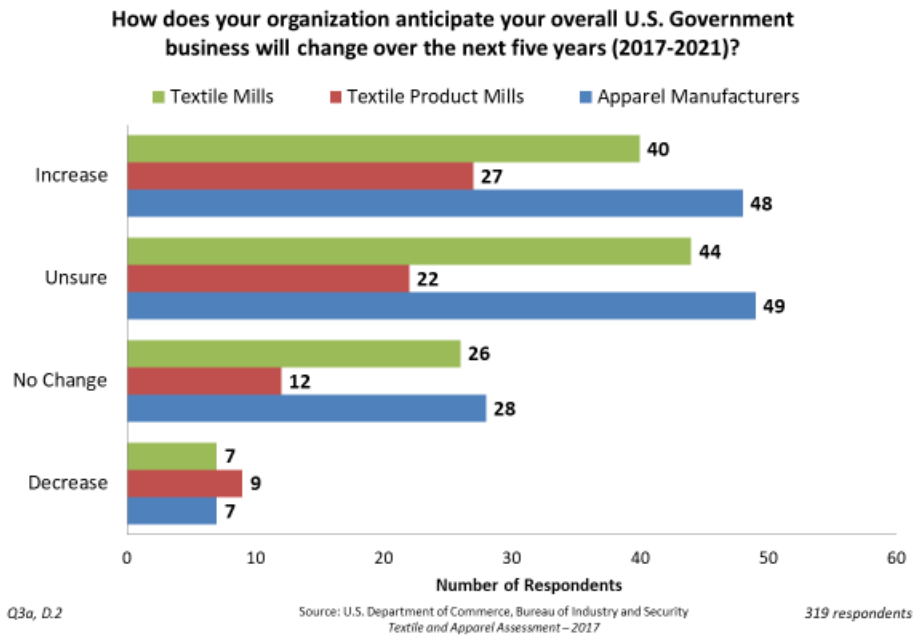
BIS asked USG textile and apparel suppliers whether they consider themselves dependent on USG programs for their continued viability, with a total of 123 respondents (39 percent) replying that they do. Of those 123 organizations, 74 were apparel manufacturers, 30 were textile mills, and 19 were textile product mills. Based on reported 2016 sales, 166 organizations derived at least 25 percent of their sales from the USG; 92 organizations reported that 90 percent or more of their sales came from the USG.

Of the 176 USG producers who responded that they did not consider themselves dependent on the USG (20 either did not respond or selected "Not Applicable"), textile mills (82 organizations, 47 percent) were the largest segment. Textile mills were more likely to have little to no USG business: "We operate in strategic niche business, U.S. Policy can impact demand and supply, but Government programs do not impact our viability"; and "We are a commercial company. Most of our business is commercial business with commercial companies." Apparel manufacturers were clear in explaining their participation in USG programs: "100% of work with USG. Commercial Cut and Sew in U.S. is non-existent"; "Government contracts are the primary source of our operational business plan"; and "Yes, the Berry Amendment helps keep our doors open."

Those organizations producing for the USG were asked how they anticipated their overall USG business changing in the near future (2017-2021). Thirty-six percent of respondents generally

believed that their USG business would increase in the near future, with a total of 115 responses. A majority (57 percent) either were unsure or anticipated no change. A total of 23 respondents (7 percent) believed that their USG business would decrease in the near future (see Figure XIII-4).

Figure XIII-4: USG Business Outlook – Textiles and Apparel



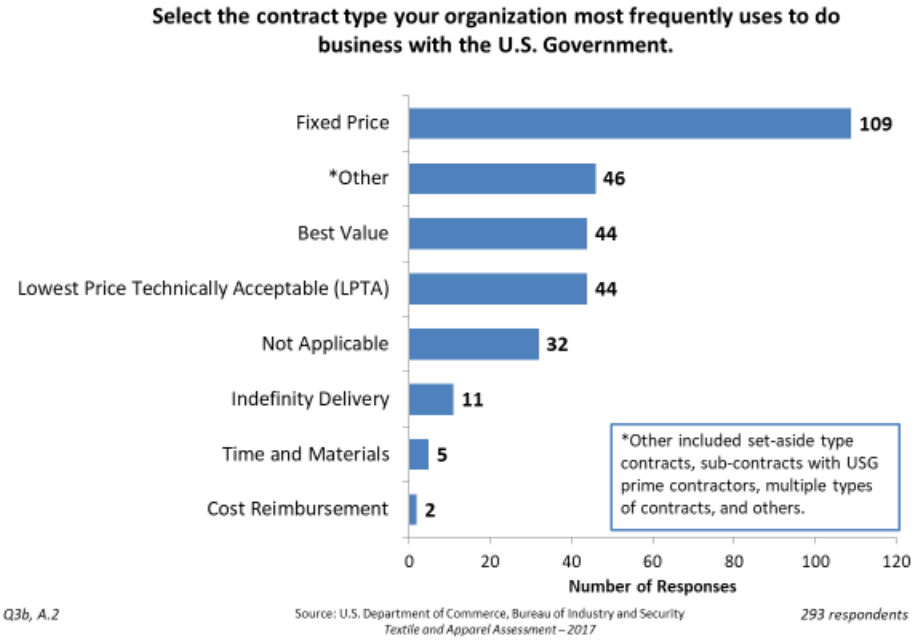
Regarding increased USG business, one textile manufacturer commented, "Given the administration's current policy proposals, we expect to potentially enjoy some of the effect of additional defense spending." On the uncertain nature of future USG spending, an apparel manufacturer added that USG work was "dependent on the new Administration and their emphasis on the Defense Department and DLA buying. Also contingent on number of troops and deployments that may drive or initiate an increase in business."

BIS asked USG suppliers a series of questions related to contracts with the USG and the overall acquisition process. Respondents were asked how their organization learned about textile and/or apparel-related contract opportunities with the USG. One hundred and five respondents (33

percent) selected "Federal Websites," with FedBizOpps (https://www.fbo.gov/) being the most frequently mentioned website. U.S. Department of Defense (DoD) queries and industry associations were also regarded as helpful for learning about opportunities. A similar number (91 respondents, 29 percent) listed "Other" sources for learning about USG contract opportunities. Those included prime contractors and set-aside organizations such as SourceAmerica and the Ability One program.

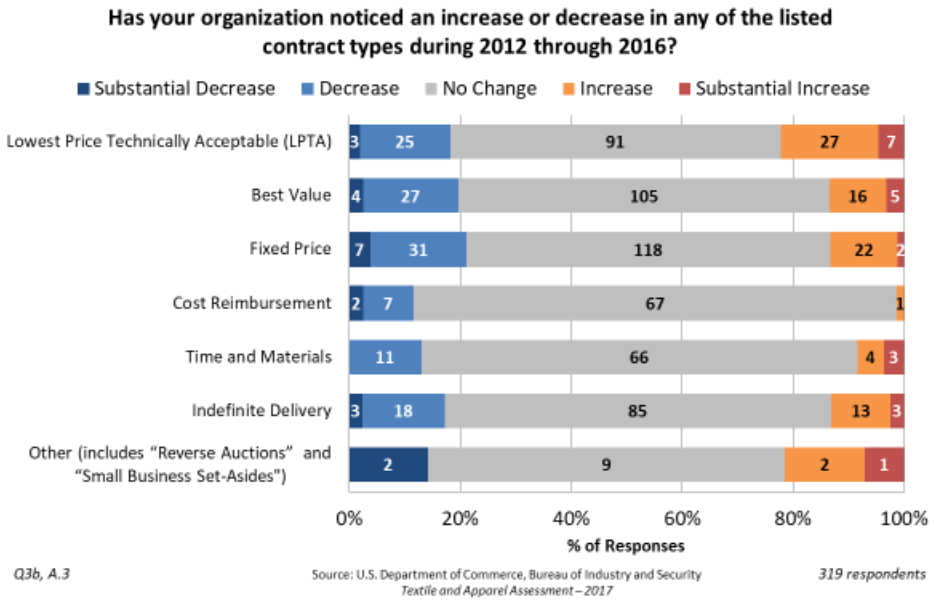
BIS asked for further details about the type of contract (*e.g.*, "Fixed Price" or "Time and Materials") and source selection approach (*e.g.*, "Best Value" and "Lowest Price Technically Acceptable" (LPTA)) most frequently encountered in USG textile and apparel procurement. Overwhelmingly, respondents reported utilizing "Fixed Price" contracts, many of which were "Indefinite Delivery". An equal number of textile and apparel manufacturers reported the usage of "Best Value" and "LPTA" approaches, with 44 responses each (see Figure XIII-5).

Figure XIII-5: U.S. Government Contracting – Textiles and Apparel



When asked if they had noticed any changes to the use of any contract types or source selection approaches, more respondents had observed decreases in the use of "Fixed Price" and "Best Value" approaches compared to those who had observed increases (see Figure XIII-6). A notable observation was the increase of "Other" contract types, which included "Reverse Auctions"[17] and "Small Business Set-Asides."

Figure XIII-6: Changes in U.S. Government Contracting – Textiles and Apparel



One respondent commented, "Concern: In an effort to make contracting awards easy, the government specs reduce best value in an effort to get to lowest price. However they are getting inferior products and the subcontractors are making out like bandits."

[17] Reverse auctions are one tool used by federal agencies to increase competition and reduce the cost of certain items. Reverse auctions differ from traditional auctions in that sellers compete against one another to provide the lowest price or highest-value offer to a buyer.

Ninety-six total respondents provided recommendations to improve the overall USG acquisition process for textiles and apparel. Among the varied responses, some noticeable themes emerged.

The first was the fixed price assumption for raw materials across a multi-year contract. Textile manufacturers were concerned that raw material price volatility affected the price of their product but not the price of the contract. For example, "Due to volatility of raw materials and of government purchasing, a guess is all that a contractor can do. This results in higher prices to the government and volatile profitability to the contractor, so that neither party truly receives the best value." Many respondents were also concerned with the timing of contract milestones (*e.g.*, solicitation turnaround, award dates, and delivery times). Finally, respondents recommended updating a number of older product specifications. One apparel manufacturer suggested, "Deviations for product improvements should be allowed; obsolete specifications need to be updated."

Another prominent issue for USG procurement in textiles and apparel is the use of mandatory sources. According to the U.S. Federal Acquisition Regulation (FAR) 8.002, Priorities for Use of Government Supply Sources, "agencies shall satisfy requirements for supplies and services from or through the sources and publications listed below in descending order of priority…" (see footnote below).[18] Around half of respondents producing for the USG (46 percent) were aware of

[18] Supplies priority list of FAR 8.002 (See, https://www.acquisition.gov/sites/default/files/current/far/html/Subpart%208_1.html):
(i) Agency inventories;
(ii) Excess from other agencies (see Subpart 8.1);
(iii) Federal Prison Industries, Inc. (see Subpart 8.6);
(iv) Supplies which are on the Procurement List maintained by the Committee for Purchase From People Who Are Blind or Severely Disabled (see Subpart 8.7);
(v) Wholesale supply sources, such as stock programs of the General Services Administration (GSA) (see 41 CFR 101-26.3), the Defense Logistics Agency (see 41 CFR 101-26.6), the Department of Veterans Affairs (see 41 CFR 101-26.704), and military inventory control points;
(vi) Mandatory Federal Supply Schedules (see Subpart 8.4);
(vii) Optional use Federal Supply Schedules (see Subpart 8.4); and

mandatory sourcing policies, as described in FAR 8 and DFARS Part 208. Thirty-six percent of survey participants reporting awareness (54 respondents) were textile and apparel manufacturers who were mandatory source organizations themselves. For example, "Under FAR 8, we are a mandatory source under 8.002 (a) (1)(iv) as a supplier of procurement list items"; and "We provide products or services on the Procurement List maintained by the Committee for Purchase from People Who Are Blind or Severely Disabled."

Fifty-four respondents provided suggestions on changes to the mandatory source regulations and contracting practices. A majority of those (36 respondents, 67 percent) were apparel manufacturers. Suggestions varied from re-ordering the mandatory source priority list (*e.g.*, "SourceAmerica, then NIB, and then FPI") to reducing or eliminating all mandatory sourcing practices.

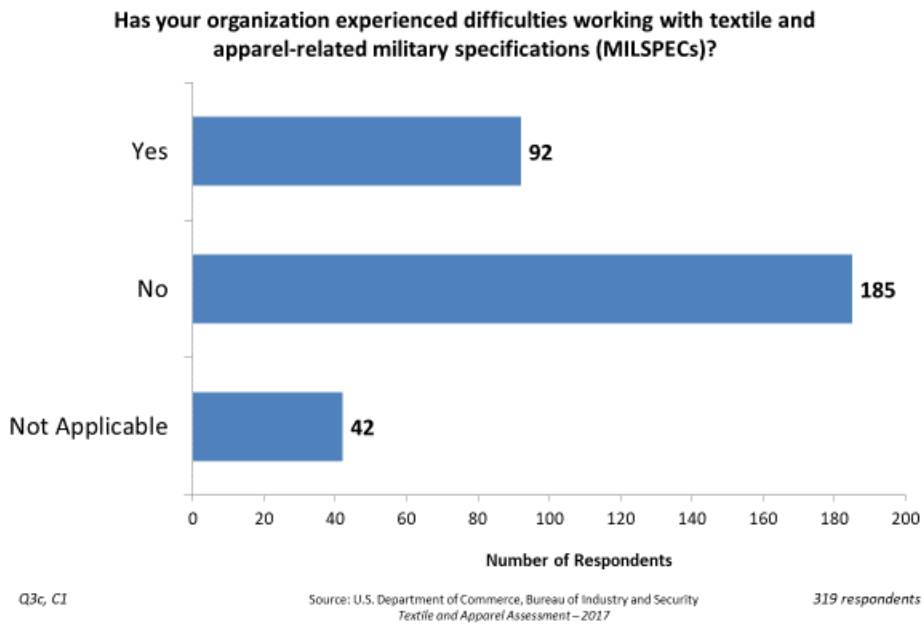
Another mandatory sourcing-related issue in the textile and apparel industry is the practice of allowing the Federal Prison Industries (FPI), operating under the name UNICOR, to bid on small business set-asides. Comments received included:

> "Eliminate FPI from offering on any type of Small Business Set-Aside"; and
>
> "…giving Mandatory Sources specific items/contracts that are continuously re-awarded, as opposed to allowing them into unfettered open competition against the private sector. An additional example is the [redacted], a [redacted] system, which was designed and developed by the private sector, only to be taken away and moved to a mandatory set-aside. Industry will not innovate and strive for producing a better product, if their R&D is going to be lost to Mandatory Sources."

(viii) Commercial sources (including educational and nonprofit institutions).

BIS also asked a series of questions on Military Specifications (MILSPECs). For the purposes of this assessment, MILSPEC is defined as a DoD specification that provides design requirements, such as materials to be used, how a requirement is to be achieved, or how an item is to be fabricated or constructed. Production Descriptions (PDs) were included in the MILSPEC topic. When asked if their organization had experienced difficulties working with textile and/or apparel-related MILSPECs, 92 respondents (29 percent) of USG suppliers reported that they had (see Figure XIII-7).

Figure XIII-7: Military Specifications (MILSPECs) – Textiles and Apparel



Comments regarding difficulties in working with MILSPECs included:

> "Many specifications are extremely outdated and non-applicable to current products";
>
> "Fabric manufacturers have a difficult time meeting the shade and physical spec on some product lines";
>
> "Inconsistencies and errors noted in Purchase Description (PD's)"; and

> "It is sometimes difficult to source materials, costs are high due to military procurement of textiles we need for other applications."

Thirty-four percent of respondents who produced for the USG (110 respondents) had worked with DoD agencies on textile and/or apparel-related MILSPECs. Participants had worked directly with the DoD Service Branches and with the Natick Soldier Center on modifications to current MILSPECs and to "help define specs on new items." Thirty-four percent (108) had recommended specific modifications to textile or apparel-related MILSPECs. While many of the reported recommendations had been accepted, a few respondents reported frustration with the process, remarking, "We have tried on several occasions to improve and request changes but they are unwilling to even consider."

When asked, about half of the USG suppliers (45 percent, 143 respondents) stated they were interested in participating in a USG-industry working group to address and collaborate on textile or apparel-related procurement requirements.

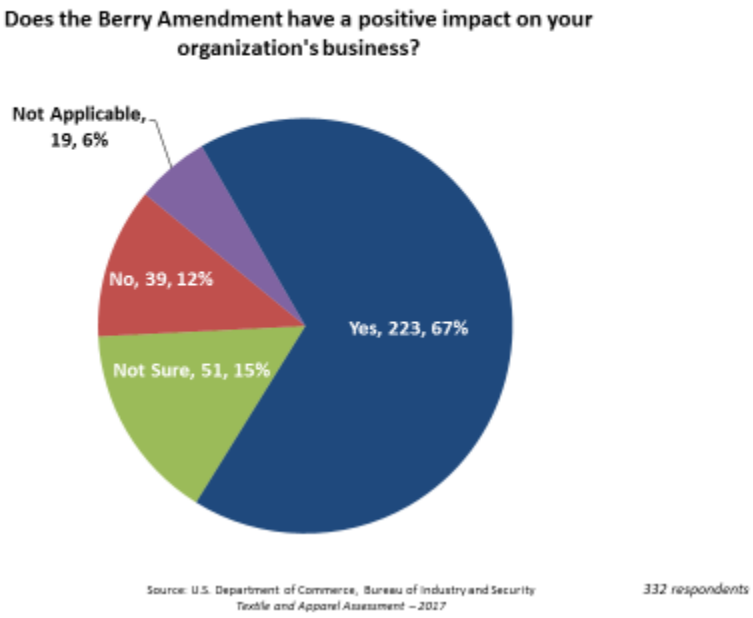
The Berry Amendment

The Berry Amendment (10 USC 2533a), enacted in 1941, requires the U.S. Department of Defense (DoD) to procure textile, clothing, and footwear products that are wholly manufactured in the United States and made from 100 percent U.S.-origin materials.

A total of 286 U.S. textile and apparel manufacturers (90 percent) producing for the USG had also produced Berry Amendment compliant, defense-related products between 2012 and 2016. The rate was slightly higher for textile mills and apparel manufacturers (91 and 93 percent, respectively) and slightly lower for textile product mills (81 percent). Sixty-seven percent of

respondents believed that the Berry Amendment had a positive impact on their organizations' business (see Figure XIII-8).

Figure XIII-8: Berry Amendment – Textiles and Apparel



BIS received feedback such as:

> "Berry Amendment requirements for fiber and yarn keep our supply chain warm and boost research and development that finds its way into our commercial chains";
>
> "The Berry Amendment has been a bulwark against further erosion of manufacturing jobs within the US. The trickle-down effect that the Berry Amendment has is extensive"; and
>
> "The Berry Amendment is very important to [redacted]. We have purchased new machinery, modernized capabilities, and developed unique yarns specifically for the military under the auspices of the Berry Amendment."

For those 39 respondents who did not believe that the Berry Amendment had a positive impact on their businesses, several cited "sourcing issues." Comments included: "Nearly impossible to source specialized Berry components as few manufacturers exist. Usually leads to having a sole

source situation where supplier has all the power"; and "With the low number of American manufacturers it is becoming increasing difficult to secure American made goods."

Similar to wider USG participation, most organizations learned about opportunities to produce Berry Amendment compliant goods for the DoD through federal websites (107 respondents, 34 percent). Other suppliers worked through prime contractors or through set-aside organizations such as Ability One, Source America, or the National Industries for the Blind (NIB).

USG textile and apparel manufacturers were also asked if they considered Berry Amendment noncompliance to be a problem within the industry or the DoD procurement system. Approximately one-third (32 percent) of respondents believed that Berry Amendment noncompliance was an issue within the textile and apparel industry, while one-quarter (24 percent) believed that it was an issue within the DoD procurement system (see Figure XIII-9). Around 40 percent did not believe it was an issue for either.

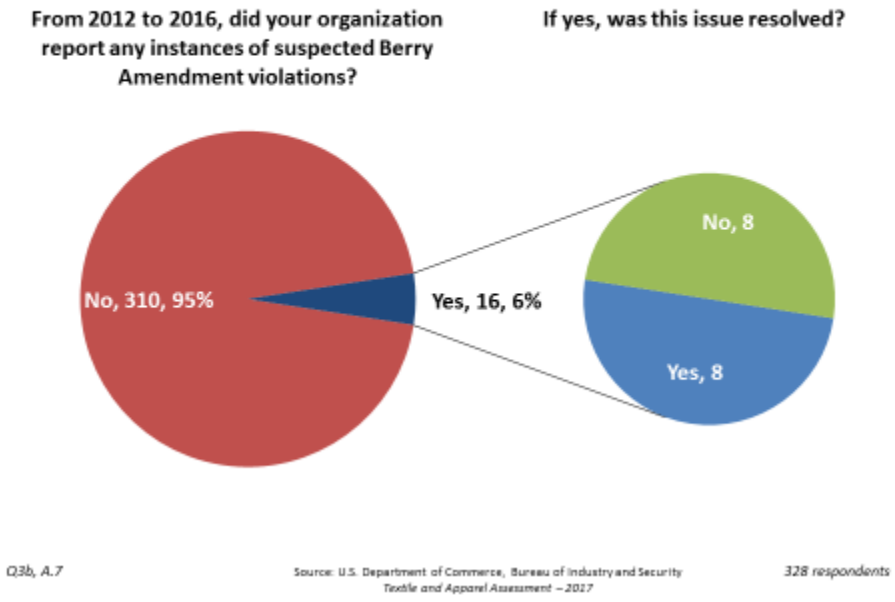
Figure XIII-9: Berry Amendment Noncompliance – Textiles and Apparel

Q3c, A.4,5 Source: U.S. Department of Commerce, Bureau of Industry and Security *Textile and Apparel Assessment – 2017* *326 respondents*

When asked who they would contact within the USG for any Berry Amendment-related issues, a large majority of USG suppliers (204 respondents, 64 percent) identified DLA. Other USG contacts listed included the DoD Service Branches, the U.S. Congress, and the U.S. Government Accountability Office (GAO).

Between 2012 and 2016, only 5 percent of respondents (16) had reported instances of suspected Berry Amendment violations. Of those 16 reported instances, eight were resolved and eight were not (see Figure XIII-10). Comments included, "Have tried protesting in the past with contracting officers, but with no success" and "Reported Army blankets coming in from India. Nothing was done."

Figure XIII-10: Suspected Berry Amendment Violations – Textiles and Apparel



Twenty-two USG suppliers (seven percent) who participated in the BIS survey had been the subject of a Berry Amendment compliance audit, investigation, or verification since 2012. DLA

and the Defense Contract Management Agency (DCMA) were the most frequently cited organizations conducting the investigation.

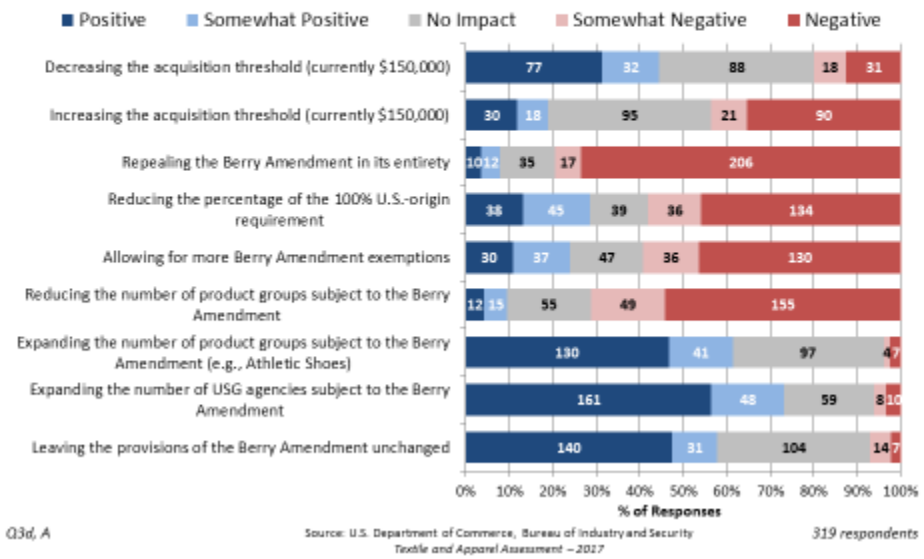
Only four percent of USG suppliers (12) had been offered or taken part in Berry Amendment compliance training conducted by the USG. Of the 307 respondents who were not offered or had not taken part in compliance training, 142 (46 percent) replied that they would be interested in doing so.

In order to better understand the impacts of the Berry Amendment on the U.S. textile and apparel industry, BIS asked survey participants to respond to a series of hypothetical changes to the Berry Amendment and to comment on how the changes might impact their organization. Hypothetical changes related to the Berry Amendment included: changing the number of product groups, expanding the number of agencies, changing the acquisition threshold, reducing the 100 percent U.S.-origin requirement, allowing for more exemptions, repealing the Berry Amendment, or leaving its provisions unchanged.

The hypothetical action that would have the most positive impact was "Expanding the number of USG agencies subject to the Berry Amendment," with 209 respondents (72 percent) selecting "Positive" or "Somewhat Positive" (see Figure XIII-11). Respondents were also in favor of "Expanding the number of product groups subject to the Berry Amendment" and "Leaving the provisions unchanged." Likewise, the hypothetical scenarios receiving the most negative responses were "Repealing the Berry Amendment in its entirety" and "Reducing the number of product groups subject to the Berry Amendment." Responses to changing the acquisition threshold subject to the Berry Amendment (currently $150,000) were more varied, although a

majority of respondents favored reducing it. “Too difficult to determine” accounted for around 13 percent of total responses.

Figure XIII-11: Hypothetical Berry Amendment Changes – Textiles and Apparel



Numerous comments regarding the Berry Amendment were provided, among those were:

> “A strong Berry Amendment means a strong American Textile Industry”;
>
> “Berry requirements open more opportunities for US manufacturers”;
>
> “Berry should be protected and expanded, but must be accompanied by innovation and improvements within the industrial base so there is additional incentive for manufacturers and vendors to voluntarily move production to the U.S. This will require capital; there have already been instances where foreign capital has filled the void”;
>
> “The presence of the Berry Amendment allows U.S. manufacturers to exist. Any reduction in the extent of the Berry Amendment would be catastrophic to the Industry and to our business”; and

> "I believe the Berry Amendment should be applied to all purchases above the micro threshold of $3,000. Lots of contracts for our types of fabrics are issued for less than $150,000. So on those contracts, imports may be sold through U.S. suppliers who might claim their products meet Buy American requirements of over 50% U.S. content."

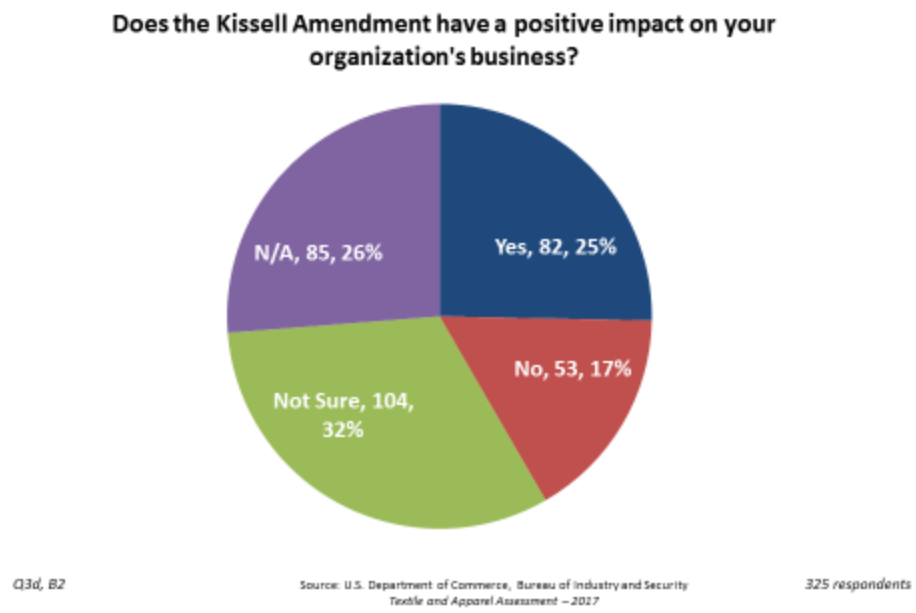
The Kissell Amendment

The Kissell Amendment (6 USC 453b), enacted in 2009, expanded the provisions of the Berry Amendment to U.S. Department of Homeland Security (DHS) procurement of textiles, clothing, and footwear products for the U.S. Coast Guard (USCG) and other DHS agencies, such as U.S. Customs and Border Protection (CBP), U.S. Immigration and Customs Enforcement (ICE), National Protection and Programs Directorate (NPPD), the Transportation Security Administration (TSA) and the U.S. Secret Service. However, unlike the Berry Amendment, the Kissell Amendment contains a number of exceptions to its Buy-American provisions, which allow for a large percentage of DHS textile and apparel purchases to be foreign-sourced.[19] An exception to the practice is USCG uniforms and textiles, which are mostly procured through the Defense Logistics Agency (DLA) and are Berry Amendment compliant.

Forty-six respondents (14 percent of USG manufacturers) reported manufacturing under the provisions of the Kissell Amendment between 2012 and 2016. However, 82 respondents (25 percent) believed that the Kissell Amendment has a positive impact on their businesses (see Figure XIII-12).

[19] *See, for example,* https://www.gao.gov/assets/690/688512.pdf

Figure XIII-12: Kissell Amendment – Textiles and Apparel



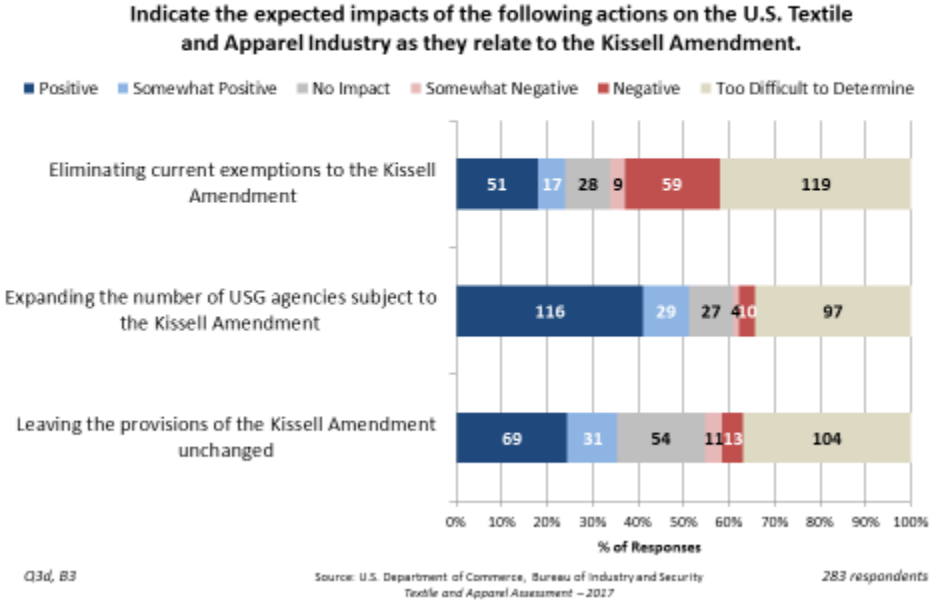
One of the organizations that indicated the Kissell Amendment did not have a positive impact on their business stated:

> "TSA, for instance, does not feel like it is bound by the Kissell Amendment, and therefore there is no compliance. If compliance were required for the TSA and expanded to all of Homeland Security, such as Border Patrol, then this increased business would allow companies like ours to continue to be viable and able to expand our capabilities to achieve innovation through product development."

Similar to the hypothetical scenarios posited in the section on the Berry Amendment, BIS asked respondents about a series of hypothetical changes to the Kissell Amendment and to comment on how the changes might impact their organization and the overall U.S. textile and apparel industry. Over half of the respondents (145, 52 percent) believed that "Expanding the number of USG agencies subject to the Kissell Amendment" would have a positive impact on the textile and apparel industry (see Figure XIII-13). The response to "Eliminating the current exemptions

to the Kissell Amendment" was mixed - roughly equal numbers were positive and negative about this proposed action. For each scenario, over 30 percent of respondents were unable to determine an answer.

Figure XIII-13: Hypothetical Kissell Amendment Changes – Textiles and Apparel



Comments regarding the provisions of the Kissell Amendment varied, mostly depending on whether an organization also had non-U.S.-based manufacturing operations:

> "DHS should be required to source 100% from U.S. manufacturer's with no exception";
>
> "Eliminating Kissell would allow agencies to obtain the products they desire to perform their mission and better pricing and service for supply";
>
> "Increasing demand for US-sourced products will enhance availability of raw materials, etc. and allow both USG and commercial production opportunity to recover foothold in U.S. Also, this will drive innovation in U.S."; and
>
> "TSA, National Park Service, Border Patrol, ICE, US Forest Service, and any federal agency uniform fabrics could help smooth out variations in military fabric orders."

XIV. FINDINGS

Respondent Profile

- BIS received 571 survey responses from organizations that manufacture textiles, textile products, or apparel in the United States. The 571 respondents represented 1,122 manufacturing facilities, of which 879 (78 percent) were located in the United States and 243 (22 percent) were located outside the U.S.

- The 571 organizations reported 212,768 total full time equivalent (FTE) employees in 2016; 135,374 of those FTE employees were directly related to textile and/or apparel manufacturing.

- Some level of defense-related production was reported at 407 of the 879 U.S. facilities, in 43 states and the U.S. Territory of Puerto Rico. Total defense-related sales under the Berry Amendment to the U.S. Department of Defense (DoD) and the Armed Services was $2.37 billion in 2016.

- Organization size was established based on the value of sales reported from textile and/or apparel products manufactured in the United States. Large U.S. manufacturers were defined as those with sales greater than $50 million, medium as having sales between $10 million and $50 million, and small as less than $10 million in sales. Eighty-two respondents were categorized as large, 163 as medium, and 326 as small.

- Based on the primary product line categories, the 571 respondent organizations represented 230 textile mills, 128 textile product mills, and 213 apparel manufacturers.

- One hundred and four respondents reported a total of 172 mergers, acquisitions and divestitures (M&As). Eighty percent of all recorded M&As occurred within the United States, with Canada and Germany as the next two largest countries.

- A total of 48 joint ventures (JVs) were reported by 45 organizations since 1990. Forty-eight percent of joint ventures were reported with companies in the United States, and fifteen percent were with Chinese companies.

Sales and Financials

- Total reported sales for the 571 textile and apparel respondents were $41.4 billion in 2016, an 8 percent increase from 2012. Total sales from products manufactured in the United States were $20.5 billion in 2016, a 3 percent decrease over the same five-year period.

- A large segment of sales from textile mills and textile product mills – 91 and 83 percent, respectively – was derived from products manufactured in the U.S., whereas apparel manufacturers reported only 18 percent of total sales from U.S.-made products. Sales from large organizations (14 percent of respondents), accounted for 77 percent of the total sales of products manufactured in the U.S.

- On average, Berry Amendment-related sales accounted for 12 percent of sales from products manufactured in the U.S. Berry Amendment-related sales decreased from $2.7 billion in 2012 to $2.4 billion in 2016. Foreign Military Sales (FMS) more than quadrupled between 2012 and 2016, from $20 million to $84 million.

- U.S. textile and apparel exports decreased by 10 percent between 2012 and 2016, from $2.2 billion to $1.98 billion. On average, exports accounted for only 12 percent of total sales.

- The 571 respondents provided data on select financial accounting items, including net and operating income, assets, liabilities, and inventories. BIS used this financial data and developed a customized financial risk metric to better capture the overall financial condition of respondents. For the five-year period, BIS categorized 339 respondents as being at low/neutral financial risk, 88 respondents at moderate/elevated risk, and 17 respondents at high/severe risk. BIS could not calculate overall financial risk scores for 120 respondents.

Capital Expenditure and R&D

- The overall total Capital Expenditures (CAPEX) of the 571 respondents increased by 90 percent from 2012 to 2016 - from $1.6 billion to $3.1 billion. Textile and/or apparel-related CAPEX constituted just over one-third (36 percent) of the total. Textile and/or apparel-related CAPEX grew 64 percent between 2012 and 2016 – from $631 million to $1 billion.

- Fifty-eight percent of respondents (288) believed that their CAPEX had not been affected by reductions in USG spending. Eighteen percent (88 respondents) believed that it had.

- The top CAPEX priorities cited by respondents for 2017-2021 were improving productivity (by increasing automation and efficiencies) and replacing old machinery and equipment.

- Thirty-eight percent of organizations conducted research and development (R&D) between 2012 and 2016. Textile mills were most likely to engage in R&D with 50 percent response

rate, followed by textile product mills at 35 percent, and apparel manufacturers at 28 percent. Seventy-one percent of large organizations conducted R&D, compared to only 25 percent of small organizations.

- Total R&D expenditures reported grew by 10 percent from 2012 to 2016, from $848 million to $935 million. Textile and/or apparel-related R&D expenditures increased by 12 percent, from $392 million to $437 million during the same period, with large companies constituting 76 percent of 2016 expenditures. Reported defense-related textile and/or apparel R&D accounted for 8 percent of expenditures during this five-year period.

- "Expand Range of Products" and "Innovation in Production Process" were the top two R&D priorities for 2017-2021. The key factors cited for driving investment were new product development, customer requirements, need for competitive advantage, and cost reduction. A majority of respondents specified pursuing R&D activities related to advanced materials with examples including antimicrobial fibers, composite yarns, flame retardant yarns and fabrics, impregnated materials for capacitive and/or conductive properties, and nano technologies.

- Sixty-eight respondents stated that their R&D expenditures had been adversely affected by reductions in USG defense spending.

- *Industry Recommendation*: Encourage investment in the development of next-generation, high value added materials and products in order to spur innovation, increase industry competitiveness, and create new markets. This may be accomplished through increasing public/private partnerships, research grants, and the use of R&D tax credits.

Workforce

- The U.S. textile and apparel industry employed a total of 212,768 full-time equivalent (FTE) employees in 2016, an 8 percent increase from 2012. Apparel manufacturers constituted 50 percent of the total 2016 FTEs, textile mills employed 32 percent, and textile product mills employed 18 percent.

- Production Line Workers – Operators comprised an average of 60 percent of the labor force, the highest portion of the listed job categories.

- Overall, 349 respondents (61 percent) reported that they had difficulties hiring and/or retaining employees for their textile and apparel operations, specifically production line workers such as operators and machine technicians. The skill gaps in the labor market for those positions were by far the biggest ones identified for the industry.

- Two hundred thirty-eight respondents (44 percent) believed that the average age of their organization's workforce had increased since 2012. Three hundred and seventeen respondents (59 percent) were at least somewhat concerned about their current workforce retiring in the near future. Fifty-eight percent anticipated difficulties in finding and recruiting younger workers to fill vacancies.

- Forty-seven percent of textile and apparel manufacturers (244 respondents) worked with academic institutions (e.g., high schools, community colleges, local trade schools, universities, etc.) on workforce development and/or training. On-the-job training was by far the number one most cited workforce development program.

- "Finding Skilled/Qualified Workers" and "Finding Experienced Workers" were the key workforce issues identified for the near future (2017-2021).

- *Industry Recommendation*: Help address the skill gaps in the industry's labor market by working with academic institutions to develop and grow workforce development programs such as internships, apprenticeships, tuition reimbursements, etc. The industry must also do a better job of attracting younger workers by focusing on improved wages, adding higher-value STEM jobs with increased automation and emphasizing advanced fibers, fabrics, and products.

Production Capabilities

- On average, 48 percent of textile and textile product output consisted of products manufactured with 100 percent U.S. materials, whereas for apparel output it was 54 percent.

- The proportion of Berry Amendment-related production output varied across business lines. For textile mills, an average of 12 percent of U.S. output was Berry Amendment-related; for textile product mills the average was 21 percent, and for apparel production it averaged 26 percent.

- The average utilization rate reported for all respondents over the five year period was 49 percent – about the equivalent to two 8-hour shifts, 5-day-a-week schedule. Textile mills, as more capital and less labor intensive operations, reported a higher than average utilization rate.

- When estimating the number of weeks it would take to raise production from current levels to 100 percent capacity utilization, the most common response was 5-12 weeks, or 1-3 months, with 31 percent of total responses.

- The majority of respondents (71 percent) indicated that they were at least somewhat confident that they could obtain the material necessary to ramp up production in the event of a national emergency. Eighty-two percent estimated that they would be able to raise production from current levels to 100 percent capacity within six months, 63 percent within three months, and 32 percent within a month. The response rates were similar across textile and apparel manufacturers, company size, and USG and DoD suppliers.

- "Availability of Workforce" and "Availability of Input Materials" were the leading factors identified as limiting an organization's ability to ramp up production and increase their manufacturing utilization rate to 100 percent.

Customers and Competitors

- The 571 respondents listed a total of 2,127 U.S. and 970 non-U.S.-based customers. Of the U.S.-based customers, 1,550 (73 percent) were "Commercial", 390 (19 percent) were "U.S. Government" (defense and non-defense), and 179 (8 percent) were "Other."

- Of the 970 non-U.S.-based customers, 85 percent were "Commercial". Non-U.S.-based customers in Canada were listed most often, followed by Mexico and the United Kingdom.

- Respondents listed a total of 1,309 U.S. competitors and 552 non-U.S. competitors. Chinese companies were cited as the number one source of foreign competition.

- While price was the number one listed competitive attribute of both U.S. and non-U.S. competitors, it was much more profound among foreign competition. U.S.-based competitors offered a mix of "Price", "Range of Capabilities", and "Other" characteristics. Respondents believed that the top U.S. competitive advantages in textile and apparel manufacturing were "Quality," "Lead Time," and "Innovation".

- "Quality," "Lead Time," and "Innovation" were the top three competitive advantages of U.S. textile and apparel manufacturers as they related to foreign competition. The top disadvantage of U.S. textile and apparel manufacturers was by far "Labor Costs."

Competitive Factors

- A large majority of respondents were currently taking or planning to take actions to reduce costs and improve efficiency in their textile and apparel manufacturing facilities in order to improve their competitive prospects.

- Approximately one-third of respondents (163 respondents, 29 percent) planned to increase production activity in the near future. This production increase sentiment was similar among organizations of all business lines, sizes, and customer types.

- For the 319 respondents who produced for the U.S. Department of Defense, 51 percent expected their competitive prospects to improve in the near future. For those organizations serving commercial customers, 262 respondents (52 percent) anticipated improved business.

- Two hundred twenty-two respondents (43 percent) believed that reshoring was occurring in textile and apparel manufacturing. Almost all of these respondents believed that "Shorter

Lead Times" and the "Marketability of the 'Made in USA' Label" were the factors driving the trend.

- The Affordable Care Act (ACA), Minimum Wage regulations (Federal, State, and Local), and U.S. Trade Policy were the top governmental regulations and provisions cited as negatively impacting the competitiveness of U.S. textile and apparel manufacturers.

Challenges and Outreach

- "Labor Availability," "Healthcare Costs," and "Foreign Competition" were the top three organizational challenges identified by all respondents. Textile manufacturers were relatively more concerned with "Foreign Competition" and "U.S. Trade Policy" than were apparel manufacturers and textile product mills. Apparel manufacturers listed the challenges of "Domestic Competition" and "Access to Capital" at a higher rate.

- Respondents were also asked to rank their top five challenges. While "Labor Availability" was the most common challenge identified overall, "Foreign Competition" was the issue ranked as the number one challenge most often.

- Three of the top five organizational challenges listed were workforce related, with "Labor Availability," "Aging Workforce," and "Worker/Skills Retention" being identified first, fourth and fifth-most often.

- Respondents also had an opportunity to request information on federal and state services aimed at helping companies better compete in the global marketplace. Overall, textile and

apparel manufacturers most often requested information on “Continuous Improvement/ Lean Manufacturing” and “Market Expansion/Business Growth.”

Supply Chain Network

- The 571 respondents identified 2,891 suppliers from 46 U.S. states (plus Puerto Rico) and from 45 countries. Key supply items listed included yarn, thread, fabric, and zippers. Among all responses, the United States was identified as the country of the supplier company 91 percent of the time. Other top supplier countries included China, Canada, Japan, and Mexico.
- Thirty-six percent of respondents who manufactured for the USG indicated supply chain sourcing issues, compared to 23 percent of those who did not manufacture for the USG.
- Thirty-three percent of textile and apparel manufacturers (181 respondents) considered themselves to be dependent on foreign sources for supplies, which was highest among textile mills.
- Ninety-three percent of sole source suppliers identified were U.S.-based.
- Survey responses highlighted the fragility of the U.S. supply chain and its contraction over the last two decades. Several Berry Amendment producers stated that they are down to only one or two suppliers for certain Berry Amendment-compliant inputs and materials. Increased demand for commercial products made in the U.S. could create an incentive for more U.S. suppliers to enter the market.

- Respondents also listed a total 1,185 machinery and equipment suppliers from 38 U.S. states, Puerto Rico, and from 27 foreign countries.

- Just over 10 percent of respondents reported machinery or equipment sourcing issues since 2012.

- One hundred ninety-one respondents (37 percent) reported that they considered themselves to be dependent on non-U.S. sourcing for their machinery or equipment. Respondents listed a variety of machine types that were scarce or no longer available in the United States.

Cybersecurity

- Forty-one percent of respondents (222) reported being aware of the Defense Federal Acquisition Regulation Supplement (DFARS) 252.204-7009, Limitation on the Use or Disclosure of Third-Party Contractor Reported Cyber Incident Information. Among USG suppliers the positive response rate was 54 percent.

- Over three quarters (76 percent) of respondents stated that they had defined, structured methods for actively protecting Commercially Sensitive Information (CSI). For USG producers, the response rate was 81 percent.

- About half of respondents (51 percent) conveyed that since 2012 cyber incidents across the marketplace have caused their organization to increase their information security budget.

- Two hundred and forty-eight cybersecurity incidents were reported by 192 respondents. The leading categories were “User idle time and lost productivity” and “Ransomware Attack.”

Seven percent of reported incidents were ranked as having a "Severe" impact level, while 25 percent had "Moderate" impact. The remaining 68 percent of reported incidents were either ranked as "Low" or "None."

- *Industry Recommendation*: Increase awareness of DFARS 252.204-7009, especially among USG suppliers. Improve outreach efforts and develop targeted assistance programs for companies, specifically smaller businesses, to define and develop structured methods for protecting CSI.

USG Participation and the Berry and Kissell Amendments

- Of the 571 total respondents, 319 (56 percent) reported that they had manufactured textiles and/or apparel for the USG between 2012 and 2016 (132 apparel manufacturers, 117 textile mills, and 70 textile product mills).

- The top six USG customers supported by U.S. textile and apparel manufacturers were all defense-related and included the Defense Logistics Agency and the U.S. Armed Forces Service Branches.

- A total of 123 respondents considered themselves dependent on USG programs for continued viability, while 165 organizations were calculated to have more than 25 percent of the 2016 sales devoted to the USG.

- A total of 293 U.S. textile and apparel manufacturers (87 percent) producing for the USG had also produced Berry Amendment compliant, defense-related products between 2012

and 2016. Most organizations learned about opportunities to produce Berry Amendment compliant goods for the DoD through federal websites.

- Sixty-seven percent of respondents believed that the Berry Amendment had a positive impact on their organization's business.

- While one-third of respondents believed that Berry Amendment noncompliance was a problem within the textile and apparel industry, only 6 percent had reported instances of suspected violations between 2012 and 2016. Only 5 percent of respondents had been offered or had taken part in Berry Amendment compliance training. Of those organizations who had not undertaken compliance training, 70 percent claimed they were interested in doing so.

- A majority of respondents favored "Expanding the number of USG agencies subject to the Berry Amendment," "Expanding the number of product groups subject to the Berry Amendment," and/or "Leaving the provisions unchanged."

- Forty-six respondents (14 percent of USG manufacturers) had produced under the provisions of the Kissell Amendment between 2012 and 2016. However, 82 respondents (25 percent) believed that the Kissell Amendment had a positive impact on their business.

- Over half of respondents (145, 52 percent) believed that "Expanding the number of USG agencies subject to the Kissell Amendment" would have a positive impact on the textile and apparel industry and can help smooth out variations in USG textile and apparel orders.

- *Industry Recommendations:*
    - Increase Berry Amendment compliance training opportunities for USG contracting officers as well as industry suppliers.
    - The acquisition threshold of $150,000 for Berry Amendment-related procurement should be examined for USG purchasing efficiency, noncompliance opportunities, and for capturing economies of scale within the textile and apparel industry.
    - The exemptions to producing under the Kissell Amendment – including the acquisition threshold and trade provisions – should be examined. Reshoring textile and apparel production under the Kissell Amendment could increase sales volumes and stabilize USG purchasing volatility. Secondary effects could include stabilized employment numbers and a more robust U.S. textile and apparel supply chain.

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OMB Control Number: 0694-0119
Expiration Date: 09/30/2017

DEFENSE INDUSTRIAL BASE ASSESSMENT OF THE U.S. FOOTWEAR INDUSTRY

SCOPE OF ASSESSMENT

The U.S. Department of Commerce, Bureau of Industry and Security (BIS), Office of Technology Evaluation (OTE), is conducting a survey and assessment of the health and competitiveness of the U.S. textile, apparel, and footwear industry. The assessment, requested by the U.S. Congress, updates a similar BIS/OTE assessment conducted for Congress in 2003. This survey will cover topics including employment, production, competitors and customers, supply chain, financial information, research and development, effectiveness of the Berry Amendment, and future industrial challenges. The resulting aggregate data and subsequent analysis will allow textile, apparel, and footwear industry representatives and government policy officials to monitor trends, benchmark industry performance, and raise awareness of potential issues of concern.

RESPONSE TO THIS SURVEY IS REQUIRED BY LAW

A response to this survey is required by law (50 U.S.C. App. Sec. 2155). Failure to respond can result in a maximum fine of $10,000, imprisonment of up to one year, or both. Information furnished herewith is deemed confidential and will not be published or disclosed except in accordance with Section 705 of the Defense Production Act of 1950, as amended (50 U.S.C App. Sec. 2155). Section 705 prohibits the publication or disclosure of this information unless the President determines that its withholding is contrary to the national defense. Information will not be shared with any non-government entity, other than in aggregate form. The information will be protected pursuant to the appropriate exemptions from disclosure under the Freedom of Information Act (FOIA), should it be the subject of a FOIA request.

Notwithstanding any other provision of law, no person is required to respond to nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB Control Number.

BURDEN ESTIMATE AND REQUEST FOR COMMENT

Public reporting burden for this collection of information is estimated to average 12 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information to BIS Information Collection Officer, Room 6883, Bureau of Industry and Security, U.S. Department of Commerce, Washington, D.C. 20230, and to the Office of Management and Budget, Paperwork Reduction Project (OMB Control No. 0694-0119), Washington, D.C. 20503.

BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act

Table of Contents

Section I: General Instructions

A.	Your organization is required to complete this survey of the U.S. footwear industry using an Excel template, which can be downloaded from the BIS website: http://bis.doc.gov/footwearstudy If you are not able to download the survey document, at your request BIS, staff will e-mail the Excel survey template directly to you. For your convenience, a PDF version of the survey and required drop-down content is available on the BIS website to aid internal data collection. DO NOT SUBMIT the PDF version of the survey as your response to BIS. Should this occur, your organization will be required to resubmit the survey in the requested Excel format.
B.	Respond to every question. Surveys that are not fully completed will be returned for completion. Use the comment boxes to provide any information to supplement responses provided in the survey form. Make sure to record a complete answer in the cell provided, even if the cell does not appear to expand to fit all the information. DO NOT CUT AND PASTE RESPONSES WITHIN THIS SURVEY. Survey inputs should be completed by typing in responses or by use of a drop-down menu. The use of cut and paste can corrupt the survey template. If your survey response is corrupted as a result of cut and paste responses, a new survey will be sent to your organization for immediate completion.
C.	**Do not disclose any classified information in this survey form.**
D.	Estimates are sometimes acceptable (and in select sections encouraged), but in sections that do not explicitly allow estimates you must contact BIS survey support staff before including estimates.
E.	Upon completion of the survey, final review, and certification on the last tab, **transmit the survey via e-mail to**: footwearstudy@bis.doc.gov
F.	Questions related to the survey should be directed to BIS survey support staff at footwearstudy@bis.doc.gov (E-mail is the preferred method of contact). You may also speak with a member of the BIS survey support staff by calling (202) 482-6339
G.	For questions related to the overall scope of this Industrial Base assessment, contact: Brad Botwin, Director, Industrial Studies Office of Technology Evaluation, Room 1093 U.S. Department of Commerce 1401 Constitution Avenue, NW Washington, DC 20230 DO NOT submit completed surveys to Mr. Botwin's postal or e-mail address; all surveys must be submitted electronically to footwearstudy@bis.doc.gov

Section II: Definitions

Term	Definitions
Applied Research	Systematic study to gain knowledge or understanding necessary to determine the means by which a recognized and specific need may be met. This activity includes work leading to the production of useful materials, devices and systems or methods, including design development and improvement of prototypes and new processes.
Basic Research	Systematic, scientific study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and of observable facts.
Berry Amendment	The Berry Amendment (10 USC 2533a) requires the U.S. Department of Defense (DoD) to buy textile, clothing and footwear products made with 100% U.S. fibers, yarns, and fabrics that are cut, sewn, and assembled in the United States. It also applies to DoD procurement of food, hand tools and measuring tools. The Berry Amendment ensures that critical U.S. military needs are not dependent on goods provided by foreign countries, thus mitigating a potentially serious national security issue. http://web.ita.doc.gov/tacgi/eamain.nsf/BerryAmendment/Berry%20Amendment
CAGE Code	The Commercial and Government Entity Code, or CAGE Code, is a unique identifier assigned to suppliers of parts, materials, and/or services to U.S. civilian or defense agencies. https://cage.dla.mil/Search
Cloud Storage	A service model in which data is maintained, managed, and backed up remotely and made available to users over a network.
Commercially Sensitive Information (CSI)	Privileged or proprietary information which, if compromised through alternation, corruption, loss, misuse, or unauthorized disclosure, could cause serious harm to the organization owning it. This includes customer/client information, financial information and records, human resources information, intellectual property information, internal communications, manufacturing and production line information, patent and trademark information, research and development information, regulatory/compliance information, and supplier/supply chain information.
Customer	An entity to which an organization directly delivers the product or service that it produces. A customer may be another organization or another facility owned by the same parent organization. The customer may be the end user for the item but often will be an intermediate link in the supply chain, adding additional value before transferring the item to yet another customer.
Design	Realization of a concept or idea into a configuration, drawing, model, mold, pattern, plan or specification (on which the actual or commercial production of an item is based) and which helps achieve the item's designated objective(s).
External Storage	External storage is all addressable data storage that is not currently in your company's networks main storage or memory.
Footwear	Footwear refers to garments worn on the feet, which typically serves the purpose of protection against adversities of the environment, usually regarding ground textures and temperature.
Full Time Equivalent (FTE) Employees	Employees who work for 40 hours in a normal work week. Convert part-time employees into "full time equivalents" by taking their work hours as a fraction of 40 hours.
Government Furnished Equipment (GFE)	Government Furnished Equipment (GFE) (FAR Part 45) is equipment that is owned by the government and delivered to, or made available to a contractor. http://www.acqnotes.com/acqnote/careerfields/government-furnished-equipment-gfe
Kissell Amendment	The Kissell Amendment (6 USC 453b) expands the provisions of the Berry Amendment to U.S. Department of Homeland Security procurement for textiles, clothing, and footwear for the Coast Guard and the Transportation Security Administration (TSA). For supporting documents, refer to: https://www.dhs.gov/publication/homeland-security-acquisition-regulation-deviations
Mandatory Source	According to FAR 8.002 Priorities for Use of Government Supply Sources, agencies shall satisfy requirements for supplies and services from or through the sources and publications listed below in descending order of priority, 1) Supplies. (i) Agency inventories; (ii) Excess from other agencies (see Subpart 8.1); (iii) Federal Prison Industries, Inc. (see Subpart 8.6); (iv) Supplies which are on the Procurement List maintained by the Committee for Purchase From People Who Are Blind or Severely Disabled (see Subpart 8.7); (v) Wholesale supply sources, such as stock programs of the General Services Administration (GSA) (see 41 CFR 101-26.3), the Defense Logistics Agency (see 41 CFR 101-26.6), the Department of Veterans Affairs (see 41 CFR 101-26.704), and military inventory control points; (vi) Mandatory Federal Supply Schedules (see Subpart 8.4); (vii) Optional use Federal Supply Schedules (see Subpart 8.4); and (viii) Commercial sources (including educational and nonprofit institutions). https://www.acquisition.gov/sites/default/files/current/far/html/FARTOCP08.html
Military Specification (MILSPEC)	A United States defense standard, often called a military standard, "MIL-STD", "MIL-SPEC", or (informally) "MilSpecs", that is used to help achieve standardization objectives by the U.S. Department of Defense. A MilSpec is a specification that states design requirements, such as materials to be used, how a requirement is to be achieved, or how an item is to be fabricated or constructed. http://dtic.mil/whs/directives/corres/pdf/412024m.pdf
Manufacturing	The process of converting raw materials, components, or parts into finished goods that meet a customer's expectations or specifications. For the purposes of this survey, manufacturing also includes assembly.
North American Industry Classification System (NAICS) Code	North American Industry Classification System (NAICS) codes identify the category of product(s) or service(s) provided by your organization. Find NAICS codes at http://www.census.gov/epcd/www/naics.html
Product/Process Development	Conceptualization and development of a product prior to the manufacture of the product for customers.
Reshoring	The practice of transferring a business operation that was moved to a non-U.S. location back to the U.S.
Single Source	An organization that is designated as the only accepted/qualified source for the supply of parts, components, materials, or services even though other sources with equivalent technical know-how and production capability may exist.
Small Business Administration (SBA)	For more information on the Small Business Administration's size standards by NAICS code, refer to: https://www.sba.gov/sites/default/files/files/Size_Standards_Table.pdf
Sole Source	An organization that is the only source for the supply of parts, components, materials, or services where no alternative U.S. or non-U.S. based suppliers exist other than the current supplier.
Supplier	An entity from which your organization obtains inputs. A supplier may be another company with which you have a contractual relationship, or it may be another facility owned by the same parent organization. The inputs may be goods or services.
Turnover Rate	The rate at which employees leave jobs in a company and are replaced by new hires. For the purposes of this survey, the turnover rate is calculated annually.
United States	The "United States" or "U.S." includes the 50 states, Puerto Rico, the District of Columbia, the island of Guam, the Trust Territories, and the U.S. Virgin Islands.
U.S. Armed Forces	The United States Armed Forces are the federal armed forces of the United States. They consist of the U.S. Army, U.S. Marine Corps, U.S. Navy, U.S. Air Force, and Coast Guard.
Utilization Rate	The fraction of an organization's potential output that is actually being used in current production, where potential output is based on a 7-day-a-week, 3x8-hour shift production schedule.

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Section III: Respondent Profile

		Select your organization's footwear-related capabilities, both in and outside the U.S.:		
		Does your organization:	In the U.S.	Outside of the U.S.
A.	1	Manufacture footwear?		
	2	Design footwear?		
	3	Conduct research and development (R&D) for footwear?		

EXEMPTION FROM SURVEY

If you selected "No" to the manufacture of footwear in the U.S. in Section A, your organization may be exempt from completing this U.S. Department of Commerce survey. If you think your organization may be exempt, contact BIS survey staff at (202) 482-6339 or footwearstudy@bis.doc.gov

BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act

Section 1a: Organization Information

A.	Provide the following information for your organization:	
	Organization Name	
	Street Address	
	City	
	State	
	Zip Code	
	Website	
	Phone Number	

B.	Does your organization have a parent company?		If yes, provide the following information on your parent organization(s):	
		Parent Organization 1		Parent Organization 2
	Organization Name			
	Street Address			
	City			
	State/Province			
	Country			
	Postal Code/Zip Code			

C.	Is your organization publicly traded or privately held?		If your organization is publicly traded, identify its stock ticker symbol.	

D.	Does your organization qualify as any of the following types of business?		If yes, indicate which types:
	1	A small business enterprise (as defined by the Small Business Administration)	
	2	8(a) Firm (as defined by the Small Business Administration)	
	3	A historically underutilized business zone (HUBZone)	
	4	A minority-owned business	
	5	A woman-owned business	
	6	A veteran-owned or service-disabled veteran-owned business	

E.	Is manufacturing footwear your organization's primary line of business?			
	If not, what is your primary line of business?			
	Does your organization participate in additional lines of business? If yes, indicate the business lines below and provide a short description of each.			
		Business Line(s)		Description of Business Line(s)
	1			
	2			
	3			
	4			
	5	Other:	(Specify)	
		Comments:		

F.	Point of Contact regarding this survey:				
	Name	Title	Phone Number	E-mail Address	State

Comments:	

BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act

Section 1b: Organization Information (continued)

Facilities

A.	1	How many total footwear manufacturing facilities does your organization currently operate?	
	2	How many are footwear manufacturing facilities located in the U.S.?	
	3	How many are footwear manufacturing facilities located outside the U.S.?	

B. Identify the locations of each of your footwear manufacturing facilities currently operating **in the U.S.,** the number of full time equivalent (FTE) employees, the primary footwear line for each facility, and whether the products are manufactured for the U.S. Armed Forces (see definitions).

	U.S. Facility Name	Street Address	City	State	Number of FTEs	Primary Footwear Line	Defense-related
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Comments:

C. Identify the locations of your organization's top five **Non-U.S.** footwear manufacturing facilities (based on production volume) and the primary footwear line for each facility.

	Non-U.S. Facility Name	Street Address	City	Country	Primary Footwear Line
1					
2					
3					
4					
5					

Comments:

D. Provide the following identification codes (see definitions), as applicable, to your organization's footwear manufacturing facilities.

CAGE Code(s) (if applicable): https://cage.dla.mil/Search		NAICS (6-digit) Code(s) Find NAICS codes at: http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2012	

Comments:

BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act

Section 2: Mergers, Acquisitions, Divestitures, and Joint Ventures

A. Mergers, Acquisitions, Divestitures

How many mergers, acquisitions, and divestitures has your organization been party to since 2012? [ ] If none, a "0" must be placed in the box.

Identify your organization's ten most recent mergers, acquisitions, and divestitures, if applicable. Select the primary objective of each item listed and provide a description.

	Organization Name	Type of Activity	Country	Year	Primary Objective	Description
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

B. Joint Ventures

How many joint ventures does your organization currently participate in? [ ] If none, a "0" must be placed in the box.

Identify your organization's current joint venture relationships, including public/private R&D partnerships. Select the primary objective of the joint venture and provide a description.

	Organization/Entity Name	Country	Year Initiated	Primary Objective	Description
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Comments:

Section 3a: Participation in U.S. Government Programs

A.	1	Has your organization manufactured footwear for the U.S. Government (defense and/or non-defense) during 2012 through 2016?		
	2	If no:	Does your organization have an interest in manufacturing footwear for the U.S. Government?	
			Describe the types of footwear product(s) that your organization would be interested in supplying to the U.S. Government, if applicable.	

If you selected 'yes' for question A1, continue.

If you selected 'no' for question A1 (your organization has not manufactured footwear for the U.S. Government during 2012 through 2016), proceed to Section 4a.

B. Identify all U.S. Government departments and agencies your organization has supported, directly or indirectly, during 2012 through 2016. Estimate the percentage of your total footwear-related sales that supported each agency.

Note: Percentages will only total 100% if all of your organization's sales are to U.S. Government departments and agencies.

Agency Name		Type of Support	Estimated Percent of Your Organization's Footwear-Related Sales Attributable to USG Agency
U.S. Air Force			
U.S. Army			
U.S. Marine Corps			
U.S. Navy			
U.S. Coast Guard (USCG)			
Defense Logistics Agency (DLA)			
U.S. National Guard			
Transportation Security Administration (TSA)			
U.S. Department of Homeland Security (DHS) - *other than TSA and USCG*			
U.S. Department of Interior			
U.S. Postal Service (USPS)			
Other Department/Agency	(Specify here)		
Other Department/Agency	(Specify here)		
Other Department/Agency	(Specify here)		

C. Identify whether the following factors affect your organization's interest in U.S. Government business.

Factor	Reduce Interest in USG Business	May Cause Organization to Stop Producing for USG	Explain
Administrative Burden			
Demand Volatility			
Infrequent Orders			
Insufficient Profit Margin			
Intellectual Property Protection			
One-off Orders			
Slow Payment			
Small Production Lots			
Other (Specify)			
Comments:			

D.	1	Does your organization consider itself dependent on U.S. Government programs for its continued viability?	
		Explain:	
	2	How does your organization anticipate your overall U.S. Government business will change over the next five years (2017-2021)?	
		Explain:	
E.	1	How does your organization learn about footwear-related contract opportunities with the U.S. Government?	
		Explain:	
	2	Select the contract type your organization most frequently uses to do business with the U.S. Government. Note: For more information on types of contracts, refer to: https://www.acquisition.gov/far/current/html/FARTOCP16.html	
		Explain:	

3. Has your organization noticed an increase or decrease in any of the listed contract types during 2012 through 2016?

Contract Type	Type of Change	Additional Comments
Lowest Price Technically Acceptable (LPTA)		
Best Value		
Fixed Price		
Incentive		
Cost Reimbursement		
Time and Materials		
Indefinite Delivery		
Other (Specify)		

E.	4	Does your organization have any recommendations to improve the overall U.S. Government acquisition process for footwear?	
		Explain:	
F.	1	Has your organization experienced difficulties working with footwear-related military specifications (MILSPECs)?	
		Explain:	
	2	Does your organization work with any U.S. Department of Defense (DoD) agencies on modifications to footwear-related MILSPECs?	
		Explain:	
	3 a.	Has your organization ever recommended modifications to footwear-related MILSPECs?	
	3 b.	If YES: Describe proposed modifications:	
		If YES: Describe the outcome of those recommendations:	
Comments:			

Section 3b: Berry and Kissell Amendments

The Berry Amendment (10 USC 2533a) requires the U.S. Department of Defense (DoD) to procure textile, clothing, and footwear products that are wholly manufactured in the United States and made from 100% U.S.-origin materials.

The Kissell Amendment (6 USC 453b) expands the provisions of the Berry Amendment to the U.S. Department of Homeland Security (DHS) procurement for textiles, clothing, and footwear products for the U.S. Coast Guard (USCG) and the Transportation Security Administration (TSA).

A.	1		Does your organization currently produce defense-related footwear items that are Berry Amendment compliant?			
	2		Does the Berry Amendment have a positive impact on your organization's business?			
			Explain:			
	3		How does your organization learn about opportunities to produce Berry Amendment compliant goods for the U.S. Department of Defense?			
			Explain:			
	4		Does your organization consider Berry Amendment noncompliance to be a problem within the U.S. footwear industry?			
			Explain:			
	5		Does your organization consider Berry Amendment noncompliance to be a problem within the U.S. Department of Defense procurement system?			
			Explain:			
	6		Indicate the entity your organization would contact within the U.S. Government for Berry Amendment-related issues. Mark all that apply.			
			Defense Logistics Agency (DLA)		U.S. Armed Services	
			U.S. Congress		Other	(specify)
			U.S. Government Accountability Office (GAO)		Other	(specify)
			Explain:			
	7	a.	From 2012 to 2016, did your organization report any instances of suspected Berry Amendment violations?			
		b.	If yes, was this issue resolved?			
			Explain:			
	8	a.	From 2012 to 2016, has your organization been the subject of a Berry Amendment compliance audit, investigation, or verification?			
		b.	If yes, specify which U.S. Government agency conducted the audit, investigation, or verification, and comment on the outcome.			
			Specify Agency:			
			Comments:			
	9	a.	Has your organization been offered or taken part in any Berry Amendment compliance training conducted by the U.S. Department of Defense or another U.S. Government agency?			
		b.	If yes, which agency(ies) conducted the training?			(Write In)
		c.	If no, would your organization be interested in taking part in Berry Amendment compliance training?			
			Explain:			
	10		Has your organization been offered and/or accepted any Government Furnished Equipment (GFE) in support of its Berry Amendment compliant production?			
			Explain:			

Comments:	

Section 3c: Berry and Kissell Amendments (continued)

The Berry Amendment (10 USC 2533a) requires the U.S. Department of Defense (DoD) to procure textile, clothing, and footwear products that are wholly manufactured in the United States and made from 100% U.S.-origin materials.

The Kissell Amendment (6 USC 453b) expands the provisions of the Berry Amendment to the U.S. Department of Homeland Security (DHS) procurement for textiles, clothing, and footwear products for the U.S. Coast Guard (USCG) and the Transportation Security Administration (TSA).

A. For the following actions, indicate the impacts both on your organization and on the U.S. footwear industry as they relate to the Berry Amendment.

	Action	Impact on your Organization	Impact on the U.S. Footwear Industry
1	Leaving the provisions of the Berry Amendment unchanged		
2	Expanding the number of USG agencies subject to the Berry Amendment		
3	Expanding the number of product groups subject to the Berry Amendment (e.g., Athletic Shoes)		
4	Reducing the number of product groups subject to the Berry Amendment		
5	Allowing for more Berry Amendment exemptions		
6	Reducing the percentage of the 100% U.S.-origin requirement		
7	Repealing the Berry Amendment in its entirety		
8	Increasing the acquisition threshold (currently $150,000)		
9	Decreasing the acquisition threshold (currently $150,000)		
	Explain:		

B.

1	Has your organization ever used or worked under the provisions of the Kissell Amendment?	
	Explain:	
2	Does the Kissell Amendment have a positive impact on your organization's business?	
	Explain:	

3. Indicate the expected impacts of the following actions as they relate to the Kissell Amendment.

Action	Impact on your Organization	Impact on the U.S. Footwear Industry
Leaving the provisions of the Kissell Amendment unchanged		
Expanding the number of USG agencies subject to the Kissell Amendment		
Eliminating current exemptions to the Kissell Amendment		
Explain:		

Comments:	

Section 4a: Products and Services

A. Indicate which general footwear category is your primary business line. For the purpose of this survey, footwear products and services have been divided into five general categories, as detailed below.

Select the footwear product and service category corresponding to your organization's primary business line for footwear manufacturing.	

B. For each footwear category, indicate if your organization has manufacturing and/or design capabilities in the U.S.

	Footwear Product and Service Category	Manufacture	Design
A	Rubber and Plastic Footwear		
B	House Slipper		
C	Men's Footwear (except Athletic)		
D	Women's Footwear (except Athletic)		
E	Other Footwear (including Athletic Shoes)		

Comments:	

Section 4b: Product and Service List

Identify all of the footwear products your organization manufactures and/or designs in the U.S. For each product type manufactured/designed by your organization, indicate whether your organization provide any products that are Berry Amendment compliant (100% U.S. origin materials). For each product/service area selected, write a brief description of the specific items your organization manufactures and/or designs.

Note: The Berry Amendment (10 USC 2533a) requires the U.S. Department of Defense (DoD) to buy textile, clothing, and footwear products wholly manufactured in the United States and made from 100% U.S.-origin materials.

A: Rubber and Plastics Footwear

		Manufacture	Design	Any 100% U.S. Origin Products	Product/Service Description
A1 - Arctics, plastics/rubber or plastics/rubber soled fabric upper					
A2 - Boots, plastics/rubber or plastics/rubber soled fabric upper					
A3 - Canvas shoes, plastics/rubber or plastics/rubber soled fabric upper					
A4 - Footholds, plastics/rubber or plastics/rubber soled fabric upper					
A5 - Footwear, plastics/rubber or plastics/rubber soled fabric upper					
A6 - Gaiters, plastics/rubber or plastics/rubber soled fabric upper					
A7 - Galoshes, plastics, rubber or plastics/rubber soled fabric upper					
A8 - Overshoes, plastics/rubber or plastics/rubber soled fabric upper					
A9 - Pacs, plastics/rubber or plastics/rubber soled fabric upper					
A10 - Sandals, plastics/rubber or plastics/rubber soled fabric upper					
A11 - Shoes, plastics soles molded to fabric uppers					
A12 - Shoes, rubber or rubber soled fabric uppers					
A13 - Shower sandals or slippers, rubber					
A14 - Other	(Specify)				
A15 - Other	(Specify)				

B: House Slipper

		Manufacture	Design	Any 100% U.S. Origin Products	Product/Service Description
B1 - House Slippers					
B2 - Slipper Socks					
B3 - Other	(Specify)				
B4 - Other	(Specify)				

C: Men's Footwear (except Athletic)

		Manufacture	Design	Any 100% U.S. Origin Products	Product/Service Description
C1 - Boots, dress and casual: men's					
C2 - Casual shoes, men's except athletic and rubber footwear					
C3 - Dress shoes, men's					
C4 - Footwear, men's (except house slippers, athletic, and vulcanized)					
C5 - Footwear, men's leather or vinyl with molded or vulcanized soles					
C6 - Leather footwear, men's (except athletic, slippers)					
C7 - Orthopedic shoes, men's (except extension shoes)					
C8 - Shoes, men's (except house slippers, athletic, rubber, and extension)					
C9 - Work shoes, men's					
C10 - Other	(Specify)				
C11 - Other	(Specify)				
C12 - Other	(Specify)				

D: Women's Footwear (except Athletic)

		Manufacture	Design	Any 100% U.S. Origin Products	Product/Service Description
D1 - Boots, dress and casual (except plastics, rubber)					
D2 - Casual shoes (except athletic, rubber, plastics)					
D3 - Dress shoes					
D4 - Footwear, women's (except house slippers, athletic, orthopedic extension, plastics, rubber)					
D5 - Footwear, women's leather or vinyl upper with rubber or plastics soles					
D6 - Leather footwear (except athletic, slippers)					
D7 - Orthopedic shoes (except extension shoes)					
D8 - Pumps					
D9 - Sandals (except rubber, plastics)					
D10 - Shoes, women's (except house slippers, athletic, orthopedic extension, plastic, rubber)					
D11 - Other	(Specify)				
D12 - Other	(Specify)				

E: Other Footwear

		Manufacture	Design	Any 100% U.S. Origin Products	Product/Service Description
E1 - Athletic shoes, except rubber					
E2 - Ballet Slippers					
E3 - Children's Footwear					
E4 - Moccasins					
E5 - Orthopedic shoes, children's					
E6 - Sandals, children's (except rubber)					
E7 - Other	(Specify)				
E8 - Other	(Specify)				
E9 - Other	(Specify)				
E10 - Other	(Specify)				

Comments:	

Section 5: Supply Chain Network

Suppliers

Identify your organization's key product, material, and/or service suppliers for footwear manufacturing operations. For each supplier listed, indicate the product, material, and/or service, the location of the supplier, and whether the supplier is single or sole source (see definitions).

Note: A single source is an organization designated as the only accepted source for the supply of parts, components, materials, or services even though other sources with equivalent technical know-how and production capability may exist. A sole source is an organization that is the only source for the supply of parts, components, materials, or services, where no alternative U.S. or non-U.S. based suppliers exist other than the current supplier.

Note: Include internal/same organization suppliers.

A.

	Supplier Name	Product/Material/Service	City	State (if applicable)	Country	Single or Sole Source?
Ex.	*Sara's Leather Tannery*	*Leather*	*Huntsville*	*Alabama*	*United States*	*Sole Source*
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Comments:

B.

1	Has your organization experienced any U.S.-specific supply chain sourcing issues since 2012?	
	Explain:	
2	Has your organization experienced any non-U.S.-specific supply chain sourcing issues since 2012?	
	Explain:	
3	Is your organization dependent on foreign sources for any products, services, or materials?	
	Explain:	

Machinery and Equipment

Identify your organization's key machinery and equipment suppliers for footwear manufacturing operations. For each supplier name, indicate the type of machinery and/or equipment supplied, location of the supplier, and whether the supplier is single or sole source (see definitions).

Note: Include internal/same organization machinery/equipment suppliers.

C.

	Supplier Name	Machinery/Equipment	City	State (if applicable)	Country	Single or Sole Source?
1						
2						
3						
4						
5						

Comments:

D.

1	Has your organization experienced any machinery and/or equipment sourcing issues (U.S. and non-U.S.) since 2012?			
	Explain:			
2	Is your organization dependent on non-U.S. sourcing for your machinery and/or equipment?			
	Explain:			
3	Has your organization had trouble obtaining parts or service (including software) for U.S. or non-U.S. manufacturing equipment?		U.S.	Non-U.S.
		Parts		
		Services		
	Explain:			
4	Do you have any other problematic issues in terms of footwear manufacturing machinery and/or equipment?			
	Explain:			

Comments:

Section 6: Production Capabilities

A. Estimate your organization's annual U.S. footwear production (in finished pairs) for 2012-2016. Provide full-year estimates for 2016.

		2012	2013	2014	2015	2016
1	Units: Total Finished Pairs Manufactured					
2	Pairs manufactured in the U.S. with 100% U.S. materials (as a % of A1)					
3	Pairs manufactured or assembled in the U.S. with at least some imported materials and/or components (as a % of A1)					
	Total of 2 and 3 (must equal 100%)	0%	0%	0%	0%	0%
4	Berry Amendment-related pairs manufactured for the U.S. Department of Defense (DoD), including the U.S. Armed Forces (as a % of A1)					

Comments:

B. Estimate your organization's average annual footwear manufacturing utilization rate for 2012-2016, as a percentage of maximum production possible under a 7-day-a-week, 24-hour-per-day operation.

Note: a 100% utilization rate equals full operation with no downtime beyond that necessary for maintenance

Examples: Assuming little maintenance downtime, one 8-hour shift, 5 days per week is approximately 25% capacity utilization; two 8-hour shifts, 7-days-a-week is approximately 65% capacity utilization.	2012	2013	2014	2015	2016

1	Estimate how many 8-hour production shifts per day your organization typically operates? Record shifts shorter or longer than 8 hours as a fraction of an 8-hour shift. (ex: 12-hour shift = 1.5)	
2	Estimate how many 8-hour production shifts per day could your organization operate? Record shifts shorter or longer than 8 hours as a fraction of an 8-hour shift. (ex: 12-hour shift = 1.5)	
3	Estimate the number of weeks it would take to raise production from current levels to 100% capacity utilization: If you already operate at 100% capacity utilization, respond with a "0".	

Comments:

C.

1	If your organization were no longer able to purchase products, materials, or services from your suppliers, given current inventory levels, for how many weeks could you maintain normal operations?	
2	How confident are you that your organization could obtain the material necessary to rapidly ramp up production in the event of a national emergency?	

Comments:

D. Identify which of the factors below would limit your organization's ability to raise its footwear manufacturing utilization rate to 100% (maximum current capacity) to meet a surge in demand.

	Factor		-Yes/No-	Explain
1	Availability of additional equipment			
2	Availability of input materials			
3	Availability of workforce			
4	Cost of workforce			
5	Equipment capacity			
6	Manufacturing space			
7	Quality control			
8	Other	(Specify)		

Comments:

Comments:

Section 7: Sales

Record your organization's annual footwear-related U.S. and non-U.S. sales information for 2012-2016. Provide full-year estimates for 2016.

Note: "U.S." means U.S. domestic sales; "Non-U.S." means sales to any non-U.S. customers.
Note: Government sales include both direct and indirect sales to government customers. All sales with government end uses should be reported as government sales.

In Part A, indicate your organization's total footwear-related sales in U.S. dollars (in $ 000's).
In Part B, estimate your organization's total sales from finished pairs manufactured in the U.S. (as a % of A).
In Part C, estimate your organization's total sales from finished pairs manufactured outside the U.S. (as a % of A).
In Part D, estimate your organization's total sales from imported finished pairs (as a % of A). Imported finished pairs refers to footwear manufactured outside the U.S. by an entity other than your organization.
In Part E, estimate your organization's total government sales to all U.S. Federal (including defense-related sales), State, and Local Governments. Also include sales to non-U.S. Governments (as a % of A).
In Part F, estimate your organization's Berry Amendment-related total defense sales (as a % of A).

In Part G, indicate your organization's total footwear-related Foreign Military Sales (FMS), including Direct Commercial Sales (DCS) to foreign militaries.
In Part H, identify your organization's top 5 FMS receipient countries, by sales.

Source of Sales Data:	
Reporting Schedule:	

Record in $ Thousands, e.g. $12,000.00 = survey input $12

		2012		2013		2014		2015		2016	
		U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.
A.	Total Footwear-Related Sales, all Customers (in $ 000's)										
	Lines B-F need not sum to 100%. Estimates are acceptable.										
B.	Total Sales from Finished Pairs Manufactured in the U.S. (as a % of A)										
C.	Total Sales from Finished Pairs Manufactured Outside the U.S. (as a % of A)										
D.	Total Sales from "Imported Finished Pairs" (as a % of A)										
E.	Footwear-Related Government Sales (as a % of A)										
F.	Total Berry Amendment-Related Sales to the U.S. Department of Defense (DoD), including the U.S. Armed Forces (as a % of A)										

Record in $ Thousands, e.g. $12,000.00 = survey input $12

		2012	2013	2014	2015	2016
G.	Total footwear-related Foreign Military Sales (FMS) (in $ 000's)					

H. Indentify your organization's top five FMS recipient countries, by sales, for years 2012-2016.

1	
2	
3	
4	
5	

Comments:

Section 8: Financials

Record your organization's annual Income Statement and Balance Sheet financial line items for 2012-2016.
Provide full-year estimates for 2016.

Source of Income Statement Items:						
Reporting Schedule:						
Income Statement (Select Line Items)		Record $ in Thousands, e.g. $12,000.00 = survey input of $12				
		2012	2013	2014	2015	2016
A.	Net Sales (and other revenue)					
B.	Cost of Goods Sold					
C.	Total Operating Income (Loss)					
D.	Earnings Before Interest and Taxes					
E.	Net Income					
Source of Balance Sheet Items:						
Reporting Schedule:						
Balance Sheet (Select Line Items)		Record $ in Thousands, e.g. $12,000.00 = survey input of $12				
		2012	2013	2014	2015	2016
A.	Cash					
B.	Inventories					
C.	Current Assets					
D.	Total Assets					
E.	Current Liabilities					
F.	Total Liabilities					
G.	Retained Earnings					
H.	Total Owner's Equity					

Comments:	

Disclosure of financial information is required for both public and private companies. All financial data is treated as Business Proprietary and exempt from Freedom of Information Act (FOIA) requests. Providing BIS with financial information will not result in the public release of your organization's financial data. The Department of Commerce's statutory authority under Section 705 of the Defense Production Act of 1950, as amended (50 U.S.C App. Sec. 2155) prohibits the publication or disclosure of this information unless the President determines that its withholding is contrary to the national defense.

Section 9: Capital Expenditures

Record your organization's total capital expenditures and footwear-related capital expenditures for years 2012-2016. Provide full-year estimates for 2016.

Source of Capital Expenditure Data:							
Capital Expenditure Reporting Schedule:							
Capital Expenditure Category			Record $ in Thousands, e.g. $12,000.00 = survey input of $12				
			2012	2013	2014	2015	2016
A.	Total Capital Expenditures (in $ 000s)						
	1	Machinery, Equipment, and Vehicles [as a % of A]					
	2	IT, Computers, Software [as a % of A]					
	3	Land, Buildings, and Leasehold Improvements [as a % of A]					
	4	Other (specify)					
	5	Other (specify)					
	Lines 1 through 5 must total 100%		0%	0%	0%	0%	0%
	6	Footwear-related Capital Expenditures [as a % of A]					

B.	From 2012-2016, were your organization's footwear-related capital expenditures adversely impacted by reductions in U.S. Government defense spending?	
	If yes, explain:	

C. Rank your organization's top 3 anticipated footwear-related capital expenditure priorities for 2017-2021 and provide a brief description.

	Priority		Rank	Description
1	Add new capability			
2	Comply with environmental regulations			
3	Comply with safety regulations			
4	Expand capacity			
5	Improve productivity			
6	Meet specific customer requirements			
7	Replace old machinery and equipment			
8	Upgrade technology			
9	Other	(Specify)		

Comments:	

Section 10a: Research & Development

A.	Does your organization conduct research and development (R&D)?		If No, proceed to Section 11.

In Section B, record your organization's total dollar R&D expenditures, footwear-related R&D expenditures and type of R&D expenditures for 2012 to 2016. Provide full-year estimates for 2016.

In Section C, record your organization's R&D funding sources by percent of total R&D dollars sourced for years 2012-2016. Provide full-year estimates for 2016.

Note: Defense-related footwear R&D expenditures refer to R&D spending by your organization on products or applications intended for use by the U.S. Department of Defense (DoD), including the U.S. Armed Forces.

B.

		Source of R&D Data:				
		Reporting Schedule:				
		Record $ in Thousands, e.g. $12,000.00 = survey input of $12				
		2012	2013	2014	2015	2016
1	Total R&D Expenditures (in $ 000s)					
2	Basic Research (as a % of B1)					
3	Applied Research (as a % of B1)					
4	Product/Process Development (as a % of B1)					
	Total of 2, 3, and 4 (must equal 100%)	0%	0%	0%	0%	0%
5	Footwear-related R&D Expenditures (as a % of B1)					
6	Defense-related footwear R&D Expenditures (as a % of B1)					

C.

		Record $ in Thousands, e.g. $12,000.00 = survey input of $12				
		2012	2013	2014	2015	2016
1	Total R&D Funding Sources (in $ 000s)					
2	Internal/Self-Funded/IRAD (as a % of C1)					
3	Total U.S. Department of Defense (DoD) (as a % of C1)					
4	Other Federal Government (as a % of C1)					
5	Total State and Local Government (as a % of C1)					
6	Universities - Public and Private (as a % of C1)					
7	U.S. Industry, Venture Capital, Non-Profit (as a % of C1)					
8	Non-U.S. Investors (as a % of C1)					
9	Other (specify here)					
	Lines 2 through 9 must total 100%	0%	0%	0%	0%	0%

Comments:	

BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act

Section 10b: Research & Development (continued)

A. Identify your organization's top footwear-related R&D priorities for 2017-2021 and provide a brief explanation for each priority.

	Priority		Explain
1			
2			
3			
4			
5	Other	(Specify)	

B. Identify the key factors driving your organization's investment in footwear-related R&D and explain how these factors shape R&D projects.

Factor		-Yes/No-	Explain
Cost reduction			
Customer requirements			
Industry roadmap			
Need for competitive advantage			
New product development			
Regulatory compliance			
Other	(Specify)		
Other	(Specify)		

C. From 2012-2016, were your organization's footwear-related R&D expenditures adversely impacted by reductions in U.S. Government defense spending?

Explain:

Comments:

Section 11a: Workforce

Record the total number of full-time equivalent (FTE) and footwear-related employees for all your U.S.-based operations in 2012-2016. Then estimate the percentage of your footwear-related FTE employees that perform the occupations indicated in part A, lines a-j. Provide full-year estimates for 2016.

Note: FTE employees are employees who work for 40 hours in a normal work week. Convert part-time employees into "full-time equivalents" by taking their work hours as a fraction of 40 hours.

Source of Workforce Data:	
Reporting Schedule:	

A.

			2012	2013	2014	2015	2016
1	Total Full Time Equivalent (FTE) Employees						
2	Footwear-related Full Time Equivalent (FTE) Employees						
a.	Administrative, Management, and Legal Staff [as a % of A2]						
b.	Designers [as a % of A2]						
c.	Engineers, Scientists, and R&D Staff [as a % of A2]						
d.	Facility and Maintenance Staff [as a % of A2]						
e.	Information Technology Professionals [as a % of A2]						
f.	Marketing and Sales [as a % of A2]						
g.	Production Line Workers [as a % of A2]						
h.	Testing Operators, Quality Control, and Support Technicians [as a % of A2]						
i.	Other	(specify here)					
j.	Other	(specify here)					
Lines a through j must total 100%			**0%**	**0%**	**0%**	**0%**	**0%**

B.

Does your organization have difficulty hiring and/or retaining any type of employees for your footwear-related operations?
If yes, identify which occupation, type of difficulty, and briefly explain.

Occupations		Difficulty	Explain
Administrative, Management, and Legal Staff			
Designers			
Engineers, Scientists, and R&D Staff			
Facility and Maintenance Staff			
Information Technology Professionals			
Marketing and Sales			
Production Line Workers			
Testing Operators, Quality Control, and Support Technicians			
Other	(specify here)		
Other	(specify here)		
Other	(specify here)		
Other	(specify here)		

C.

Identify the most significant skills gaps in the labor market for your organization's footwear-related operations. Then describe the specific skill sets for each selected category.

	Explain:	
	Explain:	
	Explain:	

Comments:

BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act

Section 11b: Workforce (continued)

A.

1. Estimate the number of open positions your organization currently has for your footwear-related operations.

	Category	Number
a.	Administrative, Management, and Legal Staff	
b.	Designers	
c.	Engineers, Scientists, and R&D Staff	
d.	Facility and Maintenance Staff	
e.	Information and Technology Professionals	
f.	Marketing and Sales	
g.	Production Line Workers	
h.	Testing Operators, Quality Control, and Support Technicians	
i.	Other (Specify)	

Comments:

2. Estimate how many weeks (on average) the positions have been open.

Comments:

3. Estimate your employee annual turnover rate for footwear operations.

Comments:

4. a. Is the turnover higher in any particular category of employees?

b. If yes, which category?

Comments:

B.

1. Since 2012, has the average age of your organization's footwear-related workforce increased, decreased, or remained the same?

Comments:

2. How concerned is your organization about your current footwear-related workforce retiring in the near future?

Comments:

3. Estimate the percentage of your organization's footwear-related workforce this is expecting to retire in the next five years (2017-2022).

Comments:

4. Does your organization anticipate difficulties in finding/recruiting younger workers to fill these vacancies?

If yes, explain:

C.

1. Does your organization work with academic institutions (e.g., high schools, community colleges, local trade schools, universities, etc.) on workforce development and/or training?

Comments:

2. Indicate if your organization participates in/sponsors any of the identified workforce development programs.

Program	-Yes/No-	Explain
Apprenticeship		
Certification		
Detail/Rotation		
Internship		
On-the-job training		
Reimbursement		
Other (specify)		

Comments:

D.

Select and explain the key workforce issues you anticipate between 2017-2021.

Issue	-Yes/No-	Explain
Attracting workers to location		
Employee turnover		
Finding experienced workers		
Finding skilled/qualified workers		
Quality of workforce		
Significant portion of workforce retiring		
Transfer of knowledge		
Other (specify)		
Other (specify)		

Comments:

Section 12a: Customers

Identify your organization's top 5 U.S. and top 5 non-U.S. footwear-related direct customers based on sales between 2012-2016. A direct customer is the immediate entity to which you sell your products/services. Customers can include other business units/divisions within your parent organization. Indicate the type of customer and their location.

A. Top U.S.-Based Customers

Estimated total number of U.S.-based footwear-related customers between 2012-2016: [ ]

	Customer Name	Type of Customer	Customer City	Customer State
1				
2				
3				
4				
5				

B. Top Non-U.S.-Based Customers

Estimated total number of non-U.S.-based footwear-related customers between 2012-2016: [ ]

	Customer Name	Type of Customer	Customer City	Customer Country
1				
2				
3				
4				
5				

C. Factors

Since 2012 has your organization decided not to pursue any footwear-related business opportunities due to any of the following factors?

Factors	-Yes/No-	Explain
Capacity contraints		
Complexity of work order		
Customer credit rating		
Insufficient dollar value of recurring business opportunity		
Insufficient dollar value of work order		
Insufficient order frequency		
Production run too small		
Other (specify here)		

Comments:	

Section 12b: Competitors

A. Identify your organization's leading U.S. and non-U.S. competitors in the manufacture of footwear and select their primary competitive attribute. If "Other", specify.

Top U.S. Competitors

	U.S. Competitor Name	State	Primary Competitive Attribute	Explain
1				
2				
3				
4				
5				

Top Non-U.S. Competitors

	Non-U.S. Competitor Name	Country	Primary Competitive Attribute	Explain
1				
2				
3				
4				
5				

Comments:

B. **Your Organization's Top Competitive Advantages and Disadvantages**

Identify the top five competitive advantages and disadvantages your organization's U.S.-based footwear manufacturing operations possess as they relate to foreign competition. If "Other", specify.

	Advantages	Explain
1		
2		
3		
4		
5		

	Disadvantages	Explain
1		
2		
3		
4		
5		

Comments:

C. **Non-U.S. Competitive Advantages and Disadvantages**

Identify the top five competitive advantages and disadvantages non-U.S.-based footwear manufacturers possess as they relate to U.S. footwear manufacturers (industry-wide). If "Other", specify.

	Advantages	Explain
1		
2		
3		
4		
5		

	Disadvantages	
1		
2		
3		
4		
5		

Comments:

Section 13a: Competitive Factors

A. Select the actions your organization has taken between 2012-2016 and will take between 2017-2021 to improve its competitiveness. If "Other", specify.

	Action		2012-2016	2017-2021	Explain:
1	Automation/Lean Manufacturing				
2	Business Restructuring				
3	Capacity/Property, Plant and Equipment Investment				
4	Cost Reduction/Efficiency				
5	Customer Service/Quality Control				
6	Innovation/R&D, Design				
7	Marketing Improvements				
8	Staff Adjustments				
9	Training/Certifications				
10	Other	(specify)			
11	Other	(specify)			
12	Other	(specify)			
	Comments:				

B.

1	Indicate the most significant change in footwear-related operations that is expected at your organization between 2017-2021. If "Other", specify.		
	Explain:		
2	Do you expect the competitive prospects of your organization's U.S. footwear-related operations (both defense-related and commercial) to improve or decline between 2017-2021?	**Defense-Related**	**Commercial**
	Explain:		

C.

1	Is your organization aware of an increase in reshoring activities to the U.S. for the manufacturing of footwear?						
	Explain:						
2	If yes, what does your organization determine to be factors? (Select all that apply.)						
	Automation		Availability of skilled labor		Better production quality		
	Customer requirements		Domestic legal procedures		Increased process efficiency		
	Local/state/federal incentives		Lower energy costs		Marketability of "Made in USA" label		
	Patent infringement		Product/process innovations		Other:	(specify)	
	Proximity to customers		Proximity to suppliers		Other:	(specify)	
	Shorter lead times		U.S. dollar exchange rate		Other:	(specify)	
3	If yes, what actions has your organization already undertaken to benefit from this reshoring trend?						
	Explain:						
4	If yes, what actions would your organization like to take in the future to benefit from this reshoring trend?						
	Explain:						

Comments:

Section 13b: Competitive Factors (continued)

A. Does your organization belong to any formal or informal government or industry footwear-related information sharing or related groups?

If yes, list the name and type of group(s) your organization participates in and provide a brief description of activities.

	Group Name	Type of Group	Description of Activities
1			
2			
3			
4			

Comments:

B. Indicate whether the following regulations/provisions have impacted or may impact your organization's competitiveness.

	Regulation/Provision		Current Impact	Anticipated Future Impact	Explain:
1	Affordable Care Act (ACA)				
2	Environmental regulations - Federal				
3	Environmental regulations - State				
4	Family and Medical Leave Act (FMLA) provisions				
5	Minimum wage requirements - Federal				
6	Minimum wage requirements - State				
7	Minimum wage requirements - Local				
8	Occupational Safety and Health Agency (OSHA) regulations				
9	Overtime threshold laws and/or provisions				
10	Sick leave benefits				
11	Other	(specify)			
12	Other	(specify)			

Comments:

Section 14: Cybersecurity

A.	1	Is your organization aware of Defense Federal Acquisition Regulation Supplement (DFARS) 252.204-7009, Limitations on the Use or Disclosure of Third-Party Contractor Reported Cyber Incident Information? See: http://www.acq.osd.mil/dpap/dars/dfars/html/current/252204.htm	
	2	Is the computer or computer network that houses your organization's Commercially Sensitive Information (CSI)* connected to the Internet, either directly or via an intermediary network or server? *This includes customer/client information, financial information and records, human resources information, intellectual property information, internal communications, manufacturing and production line information, patent and trademark information, research and development information, regulatory/compliance information, and supplier/supply chain information.	
		Comments:	

B.	1	Who is responsible for administering your organization's internal computer network(s)?	
	2	Who is responsible for administering your organization's external computer network(s)?	
		Comments:	

C.	Does your organization have defined, structured methods for actively protecting Commercially Sensitive Information (CSI)?	
	Explain:	

D.	Since 2012, have cyber incidents across the marketplace caused your organization to increase its information security budget?	
	Explain:	

E.	1	Estimate the percentage of your organization's Commercially Sensitive Information (CSI) that is stored with:	External Cloud Service Providers	
			External Data Storage Providers	
	2	Does your organization either restrict or prohibit your external cloud service or external data storage provider(s) from storing Commercially Sensitive Information (CSI) outside of the U.S.?	External Cloud Service Providers	
			External Data Storage Providers	
		Comments:		

F. Using the drop-down lists and free-text entries below, indicate the type(s) and severity of any cybersecurity events that have occurred at this organization since 2012.

Event		Impact Level	Explain
(Choose from Drop-Down)			
(Choose from Drop-Down)			
(Choose from Drop-Down)			
(Choose from Drop-Down)			
(Choose from Drop-Down)			
Other Cybersecurity Event	(Specify)		
Other Cybersecurity Event	(Specify)		
Other Cybersecurity Event	(Specify)		

Note: The FBI encourages recipients to report information concerning suspicious or criminal activity to their local FBI field office or the FBI's 24/7 Cyber Watch (CyWatch). Field office contacts can be identified at http://www.fbi.gov/contact-us/field. CyWatch can be contacted by phone at 855-292-3937 or e-mail at CyWatch@ic.fbi.gov. When available, each report submitted should include the date, time, location, type of activity, number of people, and type of equipment used for the activity, the name of the submitting company or organization, and a designated point of contact.

Comments:	

Section 15: Challenges and Outreach

A. Challenges

For the issues below:

In column A, select only the issues that adversely affect your organization.
In column B, rank your organization's top five issues (one being the most important) by selecting numbers one through five, using each rank exactly once.
In column C, provide an explanation for the selected issues.

Type of Issue	A Adversely Affect	B Rank Top 5	C Explain
Aging equipment, facilities, or infrastructure			
Aging workforce			
Competition - domestic			
Competition - foreign			
Counterfeit parts			
Cybersecurity			
Environmental regulations/remediation - domestic			
Environmental regulations/remediation - foreign			
Export controls/ITAR & EAR			
Government acquisition process			
Government purchasing volatility			
Government regulatory burden			
Healthcare costs			
Health and safety regulations			
Intellectual property/patent infringement			
Labor availability/costs			
Material input availability			
Obsolescence			
Pension costs			
Proximity to customers			
Proximity to suppliers			
Qualifications/certifications			
Quality of material inputs			
R&D costs			
Reduction in commercial demand			
Reduction in USG demand			
Taxes			
Worker/skills retention			
Other (specify here)			
Other (specify here)			
Other (specify here)			

B. Outreach

There are many federal and state government programs and services available to assist your organization to better compete in the global marketplace. If your organization would like information regarding these government programs, select the specific areas of interest below. The U.S. Department of Commerce will follow-up with your organization regarding your selections.

Continuous Improvement/ Lean Manufacturing		Prototyping		
Cybersecurity		Quality Management and Control		
Design for Assembly		Research and Development (R&D) Assistance and Partnership		
Design for Manufacturability		Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) contracts		
Energy and Environmentally Conscious Manufacturing		Supply Chain Optimization		
Export Assistance		Technology Acceleration		
Export Licensing (ITAR/EAR)		Vendor/Material Sourcing		
Government Procurement Guidelines		Other	(specify here)	
Market Expansion/Business Growth		Other	(specify here)	
Product Design		Other	(specify here)	

Comments:

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Section 16: Certification

The undersigned certifies that the information herein supplied in response to this questionnaire is complete and correct to the best of his/her knowledge. It is a criminal offense to willfully make a false statement or representation to any department or agency of the United States Government as to any matter within its jurisdiction (18 U.S.C.A. 1001 (1984 & SUPP. 1197)).

Once this survey is complete, submit it via e-mail to: footwearstudy@bis.doc.gov. Be sure to retain a copy for your records and to facilitate any necessary edits or clarifications.

Organization Name	
Organization's Internet Address	
Name of Authorizing Official	
Title of Authorizing Official	
E-mail Address	
Phone Number and Extension	
Date Certified	

In the box below, provide any additional comments or any other information your organization wishes to include regarding this survey.

How many hours did it take to complete this survey?	

OFFICE OF TECHNOLOGY EVALUATION (OTE)
Publication List
August 2018

The U.S. Department of Commerce's Office of Technology Evaluation is the focal point within the Department for conducting assessments of defense-related industries and technologies. The assessments are based on detailed industry-specific surveys used to collect information from U.S. companies and are conducted on behalf of the U.S. Congress, the Military Services, other U.S. Government agencies, industry associations, or other interested parties.

Ongoing Assessments	Date
The Effect of Imports of Uranium on the National Security	2019
U.S. Integrated Circuit Design and Manufacturing Industry Assessment	2018
U.S. Air Force C-17 Aircraft Supply Chain Impact Assessment	2018
U.S. Rocket Propulsion Industrial Base Assessment	2018

Recent Assessments	Date
The Effect of Imports of Steel on the National Security	Jan. 2018
The Effect of Imports of Aluminum on the National Security	Jan. 2018
U.S. Footwear Industrial Base Assessment	Summer 2017
U.S. Textile and Apparel Industrial Base Assessment	Summer 2017
U.S. Bare Printed Circuit Board Supply Chain Assessment	2017
U.S. Strategic Material Supply Chain Assessment: Select Rare Earth Elements	2016
U.S. Strategic Material Supply Chain Assessment: Titanium	Spring 2016
U.S. Strategic Material Supply Chain Assessment: Carbon Fiber Composites	Fall 2015
Defense Industrial Base Assessment of the U.S. Underwater Acoustics Transducer Industry	Spring 2015
Cost-Metric Assessment of Diminishing Manufacturing Sources and Material Shortages (Update)	Feb. 2015
U.S. Space Industrial Base "Deep Dive" Assessment: Small Businesses	Dec. 2014
U.S. Space Industrial Base "Deep Dive" Assessment: Workforce Issues	Sept. 2014
U.S. Space Industrial Base "Deep Dive" Assessment: Export Controls	Feb. 2014
Industrial Base Assessment of Consumers of U.S. Electro-Optical (EO) Satellite Imagery	Aug. 2013
National Security Assessment of the Cartridge and Propellant Actuated Device Industry: 4th Review	July 2013
Critical Technology Assessment: Night Vision Focal Plane Arrays, Sensors, and Cameras	Oct. 2012
National Aeronautics and Space Administration (NASA) Industrial Base – Post-Space Shuttle	June 2012
Defense Industrial Base Assessment of the Telecommunications Industry Infrastructure	Apr. 2012
Reliance on Foreign Sourcing in the Healthcare and Public Health (HPH) Sector	Dec. 2011
Cost-Metric Assessment of Diminishing Manufacturing Sources and Material Shortages	Aug. 2010
Critical Technology Assessment: Impact of U.S. Export Controls on Green Technology Items	Aug. 2010
Technology Assessment of Fine Grain, High-Density Graphite	Apr. 2010
Defense Industrial Base Assessment of Counterfeit Electronics	Jan. 2010
Technology Assessment of 5-Axis Machine Tools	July 2009
Defense Industrial Base Assessment of U.S. Integrated Circuit Design and Fabrication Capability	Mar. 2009

For further information about OTE's programs or for copies of assessments please visit http://www.bis.doc.gov/dib
Please visit www.bis.doc.gov/232 for Section 232 Investigations and www.bis.doc.gov/criticaltech for Technology Assessments.

Archived Assessments	Date
Defense Industrial Base Assessment of the U.S. Space Industry	Aug. 2007
Technology Assessment of Certain Aromatic Polyimides	July 2007
Defense Industrial Base Assessment of U.S. Imaging and Sensors Industry	Oct. 2006
National Security Assessment of the Cartridge and Propellant Actuated Device Industry: Third Review	Aug. 2006
Economic Impact Assessment of the Air Force C-17 Program	Dec. 2005
National Security Assessment of the Munitions Power Sources Industry	Dec. 2005
National Security Assessment of the Air Delivery (Parachute) Industry	May 2004
Industry Attitudes on Collaborating with DoD in R&D – Air Force	Jan. 2004
Industrial Base/Economic Impact Assessment of Army Theater Support Vessel Procurement	Dec. 2003
A Survey of the Use of Biotechnology in U.S. Industry	Oct. 2003
Industrial Base Assessment of U.S. Textile and Apparel Industries	Sept. 2003
Technology Assessment of U.S. Assistive Technology Industry	Feb. 2003
Heavy Manufacturing Industries: Economic Impact and Productivity of Welding – Navy	June 2002
The Effect of Imports of Iron Ore and Semi-Finished Steel on the National Security	Oct. 2001
National Security Assessment of the U.S. High-Performance Explosives & Components Sector	June 2001
Statistical Handbook of the Ball and Roller Bearing Industry (Update)	June 2001
National Security Assessment of the U.S. Shipbuilding and Repair Industry	May 2001
National Security Assessment of the Cartridge and Propellant Actuated Device Industry: Update	Dec. 2000
The Effect on the National Security of Imports of Crude Oil and Refined Petroleum Products	Nov. 1999
U.S. Commercial Technology Transfers to The People's Republic of China	Jan. 1999
Critical Technology Assessment of Optoelectronics	Oct. 1998
National Security Assessment of the Emergency Aircraft Ejection Seat Sector	Nov. 1997
Critical Technology Assessment of the U.S. Semiconductor Materials Industry	Apr. 1997
National Security Assessment of the Cartridge and Propellant Actuated Device Industry	Oct. 1995

Archived Assessments	Date
International Market for Computer Software with Encryption – NSA	1995
The Effect of Imports of Crude Oil and Petroleum Products on the National Security	Dec. 1994
Critical Technology Assessment of U.S. Artificial Intelligence	Aug. 1994
Critical Technology Assessment of U.S. Superconductivity	Apr. 1994
Critical Technology Assessment of U.S. Optoelectronics	Feb. 1994
Critical Technology Assessment of U.S. Advanced Ceramics	Dec. 1993
Critical Technology Assessment of U.S. Advanced Composites	Dec. 1993
The Effect of Imports of Ceramic Semiconductor Packages on the National Security	Aug. 1993
National Security Assessment of the U.S. Beryllium Industry	July 1993
National Security Assessment of the Antifriction Bearings Industry	Feb. 1993
National Security Assessment of the U.S. Forging Industry	Dec. 1992
The Effect of Imports of Gears & Gearing Products on the National Security	July 1992
National Security Assessment of the Domestic and Foreign Subcontractor Base - 3 U.S. Navy Systems	Mar. 1992
National Security Assessment of the U.S. Semiconductor Wafer Processing Equipment Industry	Apr. 1991
National Security Assessment of the U.S. Robotics Industry	Mar. 1991
National Security Assessment of the U.S. Gear Industry	Jan. 1991
The Effect of Imports of Uranium on the National Security	Sept. 1989
The Effect of Imports of Crude Oil and Refined Petroleum on the National Security	Jan. 1989
The Effect of Imports of Plastic Injection Molding Machines on the National Security	Jan. 1989
The Effect of Imports of Anti-Friction Bearings on the National Security	July 1988
Investment Castings: A National Security Assessment	Dec. 1987
Joint Logistics Commanders/DOC Precision Optics Study	June 1987
An Economic Assessment of the U.S. Industrial Fastener Industry	Mar. 1987
Joint Logistics Commanders/DOC Bearing Study	June 1986

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