Capital Expenditures Evaluation of the Plastics and Rubber Products Manufacturing Subsector (NAICS 326) in Alabama and Georgia

Figure 1: Typical products of the Plastics and Rubber Products Manufacturing subsector (ChatGPT).

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1 Introduction

Northumberland Plastics Machinery (NPM)[1] is an OEM producer, installer, and maintainer of injection molding, extrusion, and blow-molding machinery. The equipment is used to produce plastic products. Add-on sales consist of integrated feed, transport, and storage systems which move the plastic pellets from storage (silos, trailers, or rail cars) to individual machines on the plant floor.

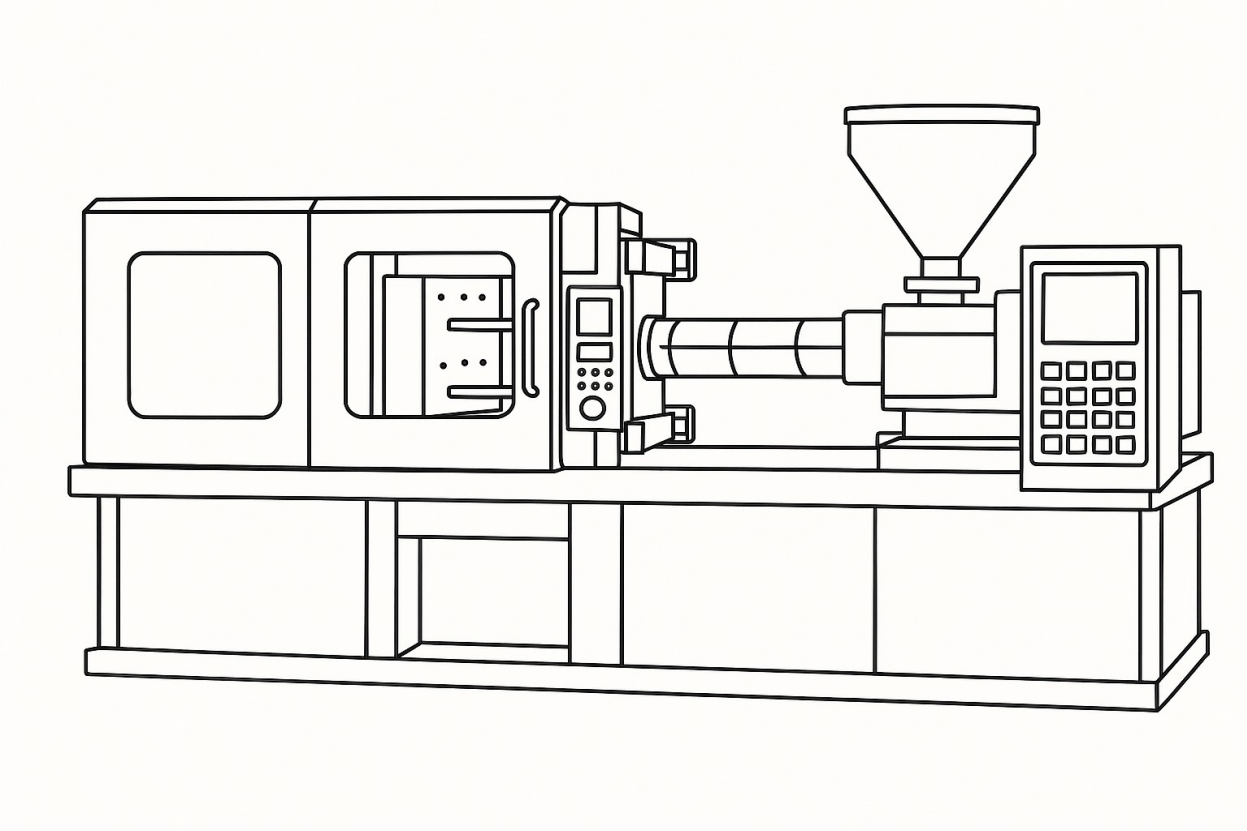


Figure 2: A typical injection molding machine (ChatGPT)

NPM builds the machinery in a range of production capacities, mold and extruder diameters; thus dictating parts sizes and production rates.

Northumberland Plastics Machinery has had some sales with a few customers in Alabama and Georgia. Management feels their business can be expanded, but does not have enough information to commit putting a dedicated Sales Engineer into the territory.

Northumberland Plastics Machinery is also exploring a product line expansion which adds material handling equipment (robotics systems and conveyor lines) to their portfolio. These systems move products from the molding and extruding machinery to other parts of Customers' plants for secondary finishing and packaging operations.

1 Northumberland Plastics Machinery is a fictional company named after Northumberland, NY

2 Report Formatting Notes

2.1 Economic Census naming conventions

This report retains the exact column headings and descriptions used in the Economic Census of 2022.

2.2 Graphs and Plots

- Since this analyses pertains to only one economic subsector and two States, some plots appear trivial; having only one or two data points.
- For easier navigation, plots are identified with their own header.
- Plots are made as large as practicable; nominally 6.5×6.5 inches in this report.

2.3 Tables

- For easier navigation, tables always start at a new page break with their own section header.

2.3.1 Table column headings

- Economic Census column names are **CAPITALIZED**
- Calculated data column names are in **CamelCase**

3 Objectives

Evaluate capital expenditures of the **Plastics and Rubber Products Manufacturing** subsector (326) in the states of Alabama and Georgia using data from the Economic Census of 2022.

Northumberland Plastics Machinery (NPM) will use the information to develop a sales and marketing strategy for the territory.

3.1 Subsector description

The definition of the Plastics and Rubber Products Manufacturing subsector as used herein, is that of the United States Census Bureau 2022 NAICS for subsector 326, as quoted below:

3.1.1 326 Plastics and Rubber Products Manufacturing

> Industries in the Plastics and Rubber Products Manufacturing subsector make goods by processing plastics materials and raw rubber. The core technology employed by establishments in this subsector is that of plastics or rubber product production. Plastics and rubber are combined in the same subsector because plastics are increasingly being used as a substitute for rubber; however, the subsector is generally restricted to the production of products made of just one material, either solely plastics or rubber.
>
> Many manufacturing activities use plastics or rubber, for example the manufacture of footwear or furniture. Typically, the production process of these products involves more than one material. In these cases, technologies that allow disparate materials to be formed and combined are of central importance in describing the manufacturing activity. In NAICS, such activities (footwear and furniture manufacturing) are not classified in the Plastics and Rubber Products Manufacturing subsector because the core technologies for these activities are diverse and involve multiple materials.
>
> Within the Plastics and Rubber Products Manufacturing subsector, a distinction is made between plastics and rubber products at the industry group level, although it is not a rigid distinction, as can be seen from the definition of Industry 32622, Rubber and Plastics Hoses and Belting Manufacturing. In the case of hoses and belting, plastics are used as a substitute for rubber, and the distinction in materials is not useful as a basis for establishment classification.
>
> In keeping with the core technology focus of plastics, lamination of plastics film to plastics film as well as the production of bags from plastics only is classified in this subsector. Lamination and bag production involving plastics and materials other than plastics are classified in Subsector 322, Paper Manufacturing.

3.1.2 Subsector Definition Comments

There are two points in this definition important to this study and Northumberland Plastics Machinery (NPM):

1. "...the subsector is generally restricted to the production of products ***made of just one material, either solely plastics or rubber***."
    1. This implies that most, if not all, machinery purchased by a manufacturer in this subsector will be plastics or rubber production machinery. The kind of equipment NPM sells.
2. In referring to other subsectors that produce products using plastics or rubber in combination with other materials:

    "In NAICS, such activities (footwear and furniture manufacturing) ***are not classified in the Plastics and Rubber Products Manufacturing subsector*** *[emphasis added]* because the core technologies for these activities are diverse and involve multiple materials."

    1. For NPM, this means there are additional prospective customers who purchase plastics machinery, who are not included in the 326 subsector.
    2. In consequence, the actual Total Available Market (TAM), for this new territory will be larger than what is described herein.

4 Scope

4.1 Firms and Establishments

The number of firms and establishments active in the **Plastics and Rubber Products Manufacturing** economic subsector 326 in the states of **Alabama** and **Georgia** are reported.

Additional Census subdivisions of the states are then tabulated:

- County
- Combined Statistical Area (CSA)
- Metropolitan Statistical Area (MSA)
- Other defined areas

4.2 Capital Expenditures

Total capital expenditures are first tabulated. Then narrowed down by eliminating capital expenditures for:

1. Buildings
2. Vehicles for highway use.
3. Computers and data processing equipment

The result is capital expenditures for “Other” machinery and equipment which, for this particular economic subsector only, offers a good estimate of purchases of plastics products production machinery. (See, Subsector Definition Comments)

4.3 Data Source Description and Limitations

This analysis uses the Economic Census of 2022 (EC2022) as its data source, and is more fully described in the next section. EC2022 addresses the entire United States economy, and provides valuable and comprehensive economic data not readily available from other sources.

4.3.1 Description

The vast majority of companies in the United States are privately owned. They have relatively minor reporting requirements compared to publicly owned corporations: Usually limited to tax reporting and credit applications. Private companies are not obligated nor generally willing to publicly release their financial data.

Fortunately, the US Census Bureau conducts the Economic Census (EC) which exposes useful, but otherwise unattainable, data on an aggregated basis. The EC is conducted every five years. The 2022 Economic Census (EC2022) is the current release.

The EC reflects data based on:

4.3.1.1 Economic sectors

- **Sector**: In EC2022, the Manufacturing sector is extensive; needing three (31, 32, and 33) two-digit codes to fully describe.
- **Subsector:** The objective, focus, and limit of this study, is subsector 326, Plastics and Rubber Products Manufacturing.[2]
- **Industry groups:** Subsector 326 is further subdivided into two industry groups:
  - 3261: Plastics Product Manufacturing
  - 3262: Rubber Product Manufacturing
- **Industries:** Individual industries are identified by classes of end products or services. For example:
  - 326111: Plastics Bag and Pouch Manufacturing
  - 326220: Rubber and Plastics Hoses and Belting Manufacturing

Ref: North American Industry Classification System – NAICS

4.3.1.2 Geographic areas:

- **National**
- **State**
- **Local**
  - Counties
  - Consolidated Statistical Areas (CSAs)
  - Metropolitan/Micropolitan Statistical Areas (MSAs)
  - Other defined areas.

4.3.2 Limitations

The following sections discuss limitations users should be aware of when utilizing EC data to guide business decisions.

4.3.2.1 Firm privacy protection

The EC data is free and available for public use. *The trade-off is individual Firm's data is never exposed.* The data gets suppressed as the geographic areas (National > State > Local) get smaller

2 How deep an analytical dive into the NAICS structure an analysis takes depends on the data available, the objectives of the study, and the research budget. In this case, NPM's potential market covers the entire subsector.

and the economic filtering (Sector > Subsector > Group > Industry) gets tighter. This is to protect the privacy of individual Firms.

> As an example, consider two US states each of which has numerous firms belonging to the same individual Industry.
>
> 1. In the first state, all firms happen to be in the same city.
>   - In the first state, the aggregated (not individual company) data may well be available right down to the county or city level.
> 2. But, in the second state, each firm is located in a different county.
>   - In the second state, it would be very easy to identify individual companies once the counties they are located in are known. The data will be suppressed at the local levels, although aggregated data will be available at the state level.
>
> To extend this example. Assume in the first state, one company decided to move to another city or county. That company's information would then be suppressed, at the local level. That's because it is the same situation as in the second state; it's easy to identify an individual company isolated in an individual county or city.

Protecting EC Firms' identities is high priority: If the Census Bureau determines that including the information would allow identification, the data will be suppressed.

Importantly, when data gets suppressed, it is suppressed. The missing information is missing: It's not corrected, adjusted, estimated, or compensated for. *Thus, data totals of individual cities, counties, CSAs and MSAs will generally not add up to the state-wide totals.*

Ref: Data Protection and Privacy Policy

4.3.2.2 Economic classification limitations

As pointed out in the subsector definition (326 Plastics and Rubber Products Manufacturing), "Many manufacturing activities use plastics or rubber, for example the manufacture of footwear or furniture."

Manufacturers of these other products commonly have their own internal plastics production machinery. But, those companies will be classified in other economic subsectors specific to the products they produce..

As examples, consider the widespread use of plastics in:

- Automobiles
- Health and hygiene products
- Consumer appliances

This means the potential market for plastics machinery will be larger than that of only the Plastics and Rubber Products Manufacturing subsector.

5 Geographic Locations

This chapter tabulates Firms and Establishments on a geographic basis.

Since some companies have multiple locations, the Economic Census distinguishes between both companies (Firms) and company locations (Establishments):

- **Firm:** An individual company.
- **Establishment:** A company location. Every Firm has at least one Establishment (location). Some Firms (companies) have multiple locations.
    - The Establishments count does not include multiple buildings at the same address.

5.1 Firms and Establishments by State

5.1.1 Plot: Firms by State

Georgia has more than double the number of firms in this subsector than Alabama.

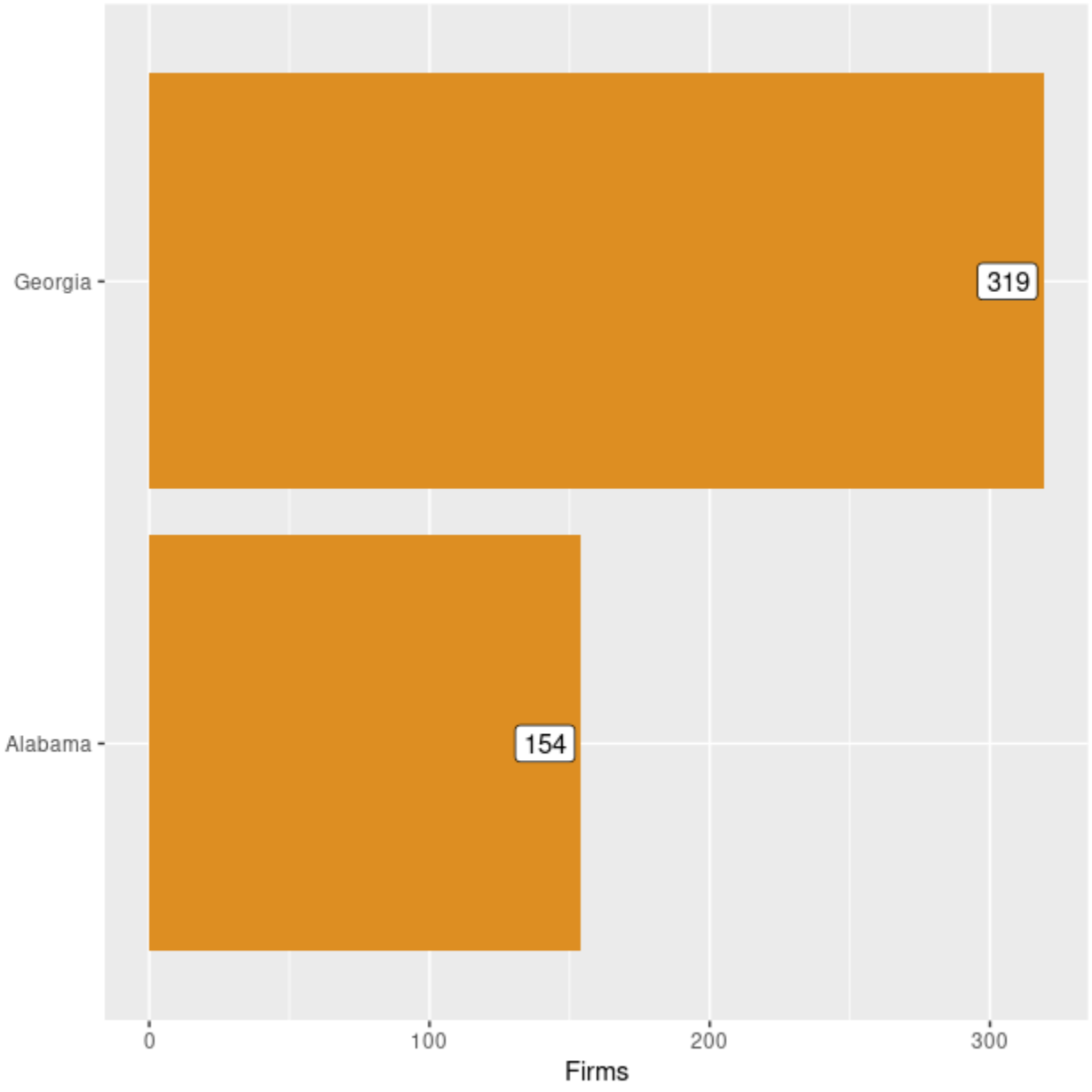


Figure 3: Firms by State

5.1.2 Table: Firms and Establishments by State

GEO_TTL Geographic Area Name
FIRM Number of firms
ESTAB Number of establishments
EstPerFirm Ratio of establishments per firm

GEO_TTL	FIRM	ESTAB	EstPerFirm
Alabama	154	168	1.091
Georgia	319	376	1.179
Totals & Averages	**473**	**544**	**1.150**

5.2 Firms and Establishments by County

5.2.1 Plot: Top Establishment Count by County

The top two counties are in Georgia, then a tie between Jefferson County, Alabama and DeKalb County, Georgia.

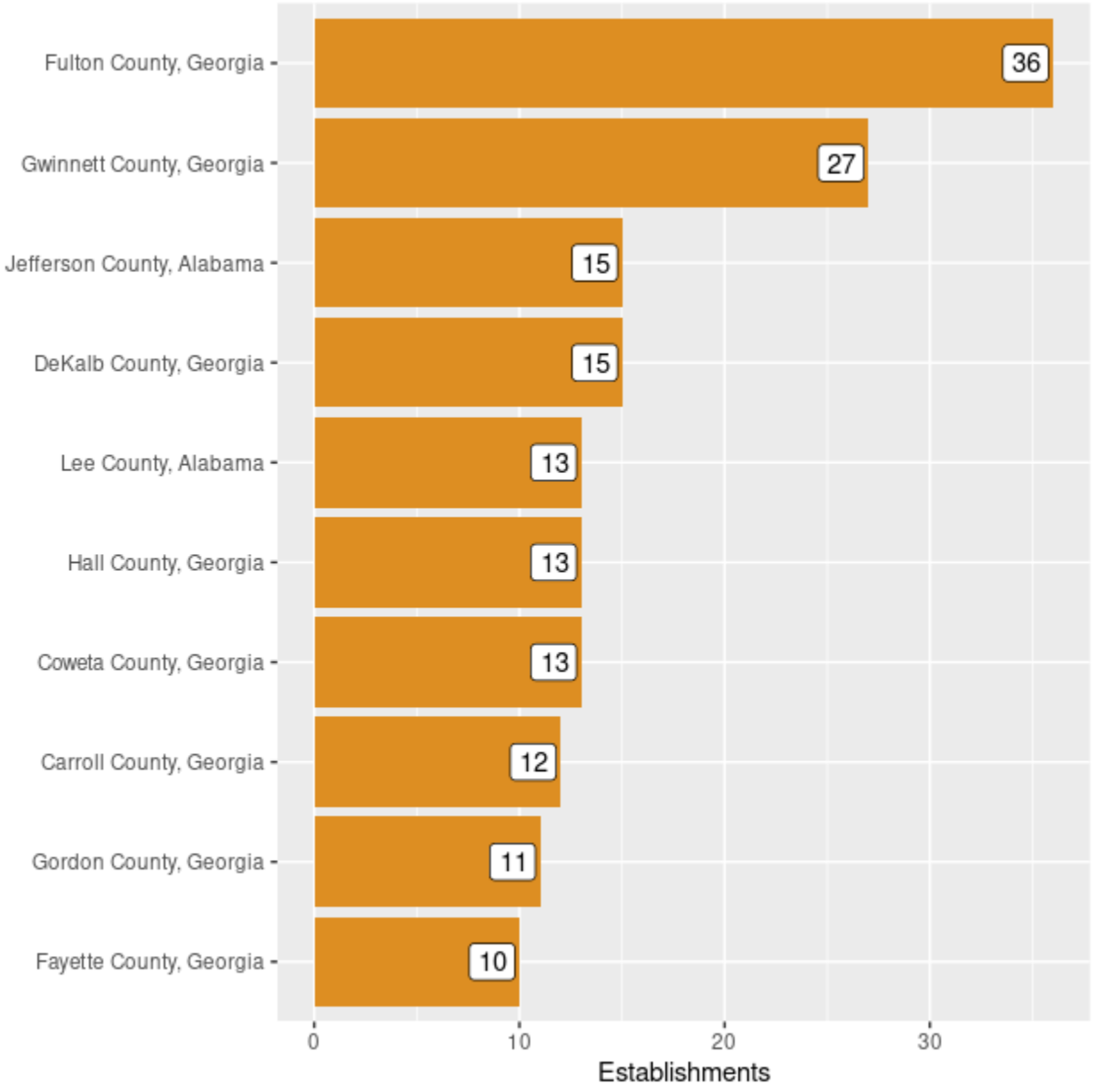


Figure 4: Top Establishments by County

5.2.2 Table: Firms and Establishments by State and County

GEO_TTL	Geographic Area Name
FIRM	Number of firms
ESTAB	Number of establishments
EstPerFirm	Ratio of establishments per firm

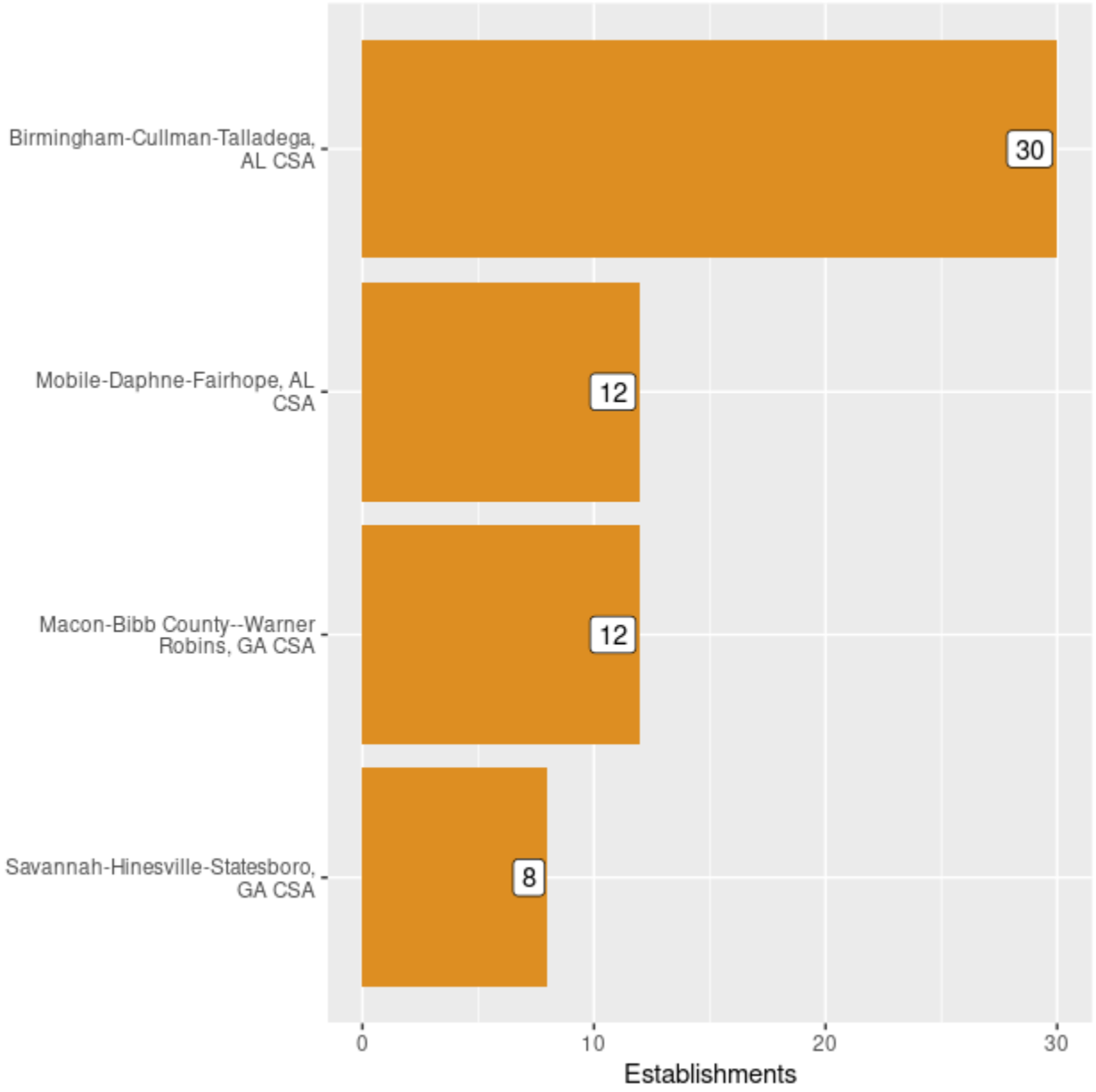
GEO_TTL	FIRM	ESTAB	EstPerFirm
Baldwin County, Alabama	3	3	1.000
Calhoun County, Alabama	6	6	1.000
Coffee County, Alabama	3	3	1.000
Colbert County, Alabama	8	8	1.000
Covington County, Alabama	4	4	1.000
Cullman County, Alabama	4	4	1.000
DeKalb County, Alabama	5	5	1.000
Etowah County, Alabama	3	3	1.000
Jackson County, Alabama	5	5	1.000
Jefferson County, Alabama	15	15	1.000
Lauderdale County, Alabama	5	5	1.000
Lee County, Alabama	12	13	1.083
Marion County, Alabama	3	3	1.000
Marshall County, Alabama	9	9	1.000
Mobile County, Alabama	9	9	1.000
Montgomery County, Alabama	4	5	1.250
Morgan County, Alabama	4	4	1.000
Randolph County, Alabama	4	4	1.000
Talladega County, Alabama	4	4	1.000
Walker County, Alabama	3	3	1.000
Barrow County, Georgia	3	3	1.000
Bartow County, Georgia	9	9	1.000
Bibb County, Georgia	7	7	1.000
Carroll County, Georgia	8	12	1.500
Cherokee County, Georgia	8	8	1.000
Clarke County, Georgia	5	5	1.000
Clayton County, Georgia	7	7	1.000
Cobb County, Georgia	8	8	1.000
Coweta County, Georgia	13	13	1.000

GEO_TTL	FIRM	ESTAB	EstPerFirm
DeKalb County, Georgia	15	15	1.000
Douglas County, Georgia	7	7	1.000
Fayette County, Georgia	9	10	1.111
Floyd County, Georgia	6	7	1.167
Forsyth County, Georgia	7	7	1.000
Fulton County, Georgia	28	36	1.286
Gordon County, Georgia	10	11	1.100
Gwinnett County, Georgia	26	27	1.038
Hall County, Georgia	13	13	1.000
Haralson County, Georgia	4	4	1
Hart County, Georgia	3	3	1.000
Henry County, Georgia	5	6	1.200
Jackson County, Georgia	7	8	1.143
Lowndes County, Georgia	5	5	1.000
Morgan County, Georgia	3	3	1.000
Newton County, Georgia	9	9	1.000
Paulding County, Georgia	3	3	1.000
Pickens County, Georgia	3	3	1.000
Richmond County, Georgia	3	3	1.000
Rockdale County, Georgia	8	9	1.125
Spalding County, Georgia	9	9	1.000
Sumter County, Georgia	3	3	1.000
Totals & Averages	**367**	**388**	**1.06**

5.3 Establishments by Combined Statistical Area (CSA)

5.3.1 Plot: Top Establishments by Combined Statistical Area (CSA)

Despite the higher overall total in Georgia, the top two CSA establishment counts are in Alabama.



5.3.2 Table: Firms and Establishments by Combined Statistical Area (CSA)

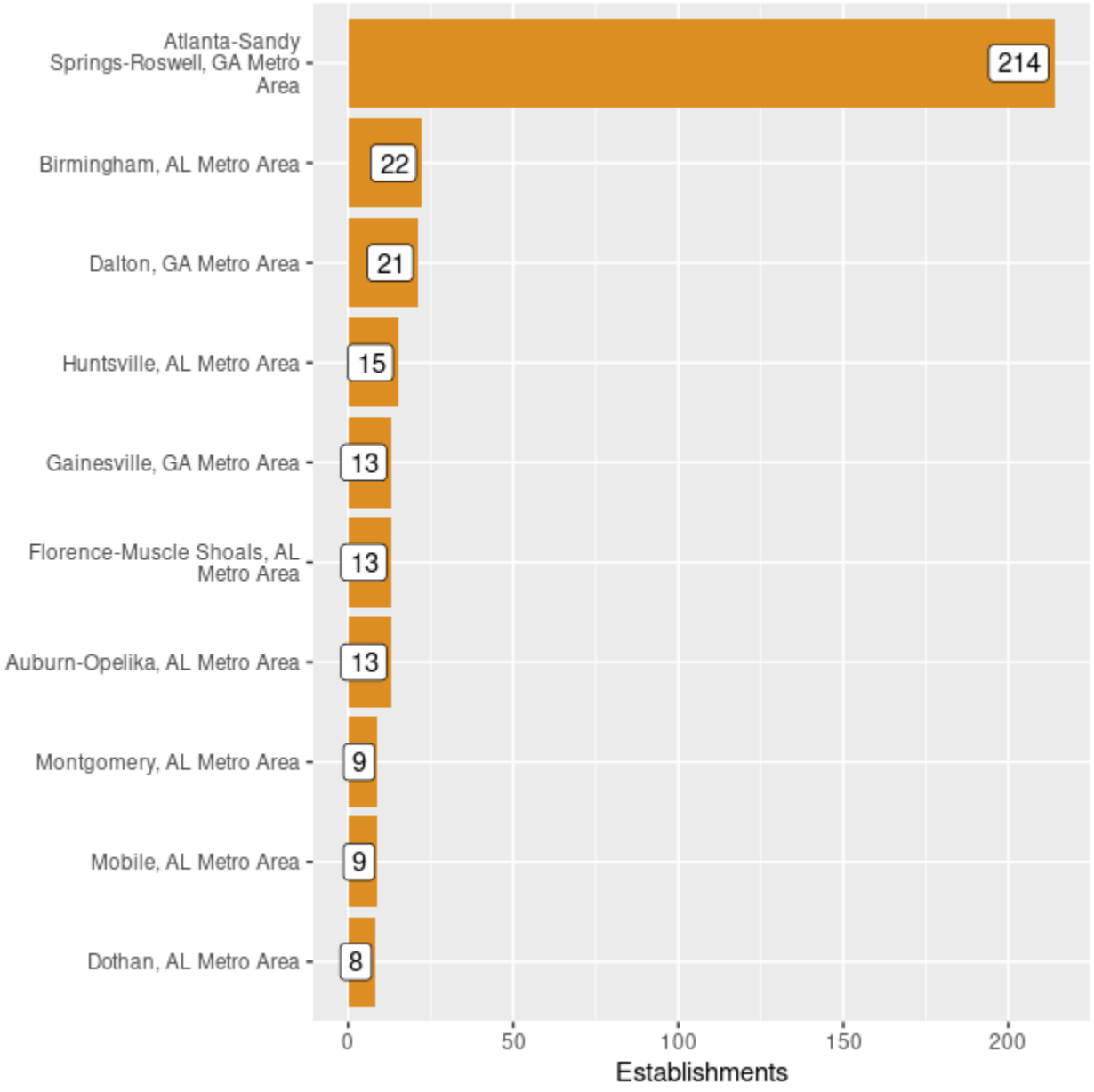
GEO_TTL	FIRM	ESTAB	EstPerFirm
Birmingham-Cullman-Talladega, AL CSA	30	30	1
Macon-Bibb County–Warner Robins, GA CSA	12	12	1
Mobile-Daphne-Fairhope, AL CSA	12	12	1
Savannah-Hinesville-Statesboro, GA CSA	8	8	1
Totals & Averages	**62**	**62**	**1**

GEO_TTL Geographic Area Name
FIRM Number of firms
ESTAB Number of establishments
EstPerFirm Ratio of establishments per firm

5.4 Establishments by Metropolitan Statistical Area (MSA)

Sales and Marketing planners generally look at the large metropolitan centers first. Between the two states, the Atlanta area clearly dominates the establishment counts.

5.4.1 Plot: Top MSA establishment counts



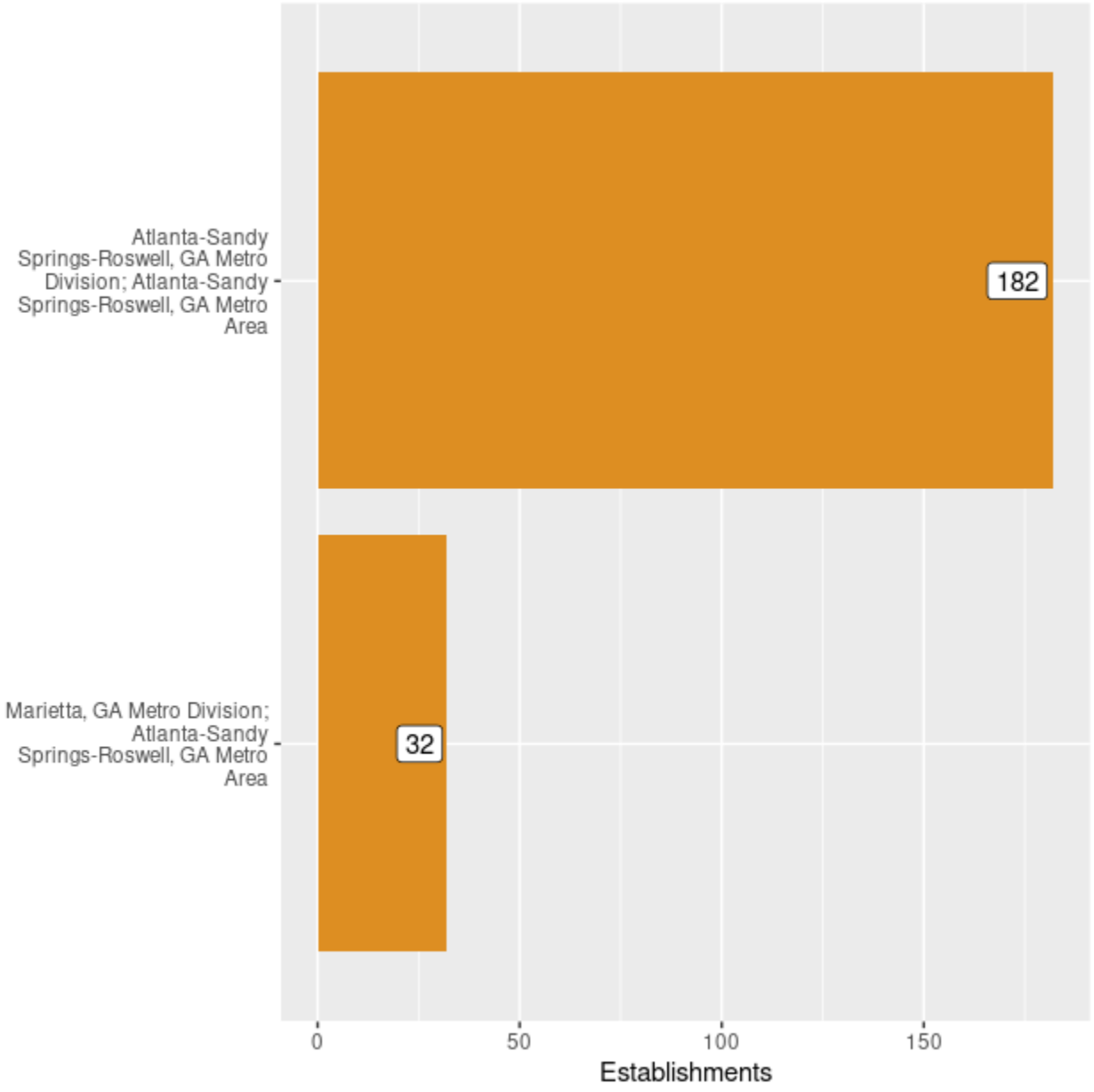
5.4.2 Table: Firms and Establishments by Metropolitan Statistical Area (MSA)

GEO_TTL	Geographic Area Name
FIRM	Number of firms
ESTAB	Number of establishments
EstPerFirm	Ratio of establishments per firm

GEO_TTL	FIRM	ESTAB	EstPerFirm
Anniston-Oxford, AL Metro Area	6	6	1.000
Athens-Clarke County, GA Metro Area	5	5	1.000
Atlanta-Sandy Springs-Roswell, GA Metro Area	187	214	1.144
Auburn-Opelika, AL Metro Area	12	13	1.083
Birmingham, AL Metro Area	22	22	1.000
Dalton, GA Metro Area	20	21	1.050
Daphne-Fairhope-Foley, AL Metro Area	3	3	1.000
Decatur, AL Metro Area	4	4	1.000
Dothan, AL Metro Area	7	8	1.143
Florence-Muscle Shoals, AL Metro Area	13	13	1.000
Gadsden, AL Metro Area	3	3	1.000
Gainesville, GA Metro Area	13	13	1.000
Huntsville, AL Metro Area	15	15	1.000
Macon-Bibb County, GA Metro Area	7	7	1.000
Mobile, AL Metro Area	9	9	1.000
Montgomery, AL Metro Area	8	9	1.125
Rome, GA Metro Area	6	7	1.167
Savannah, GA Metro Area	5	5	1.000
Tuscaloosa, AL Metro Area	6	6	1.000
Valdosta, GA Metro Area	5	5	1.000
Warner Robins, GA Metro Area	5	5	1.000
Totals & Averages	361	393	1.089

5.5 Firms and Establishments by other defined areas

5.5.1 Plot: Establishments by other defined areas



5.5.2 Table: Firms and Establishments by Other Defined Areas

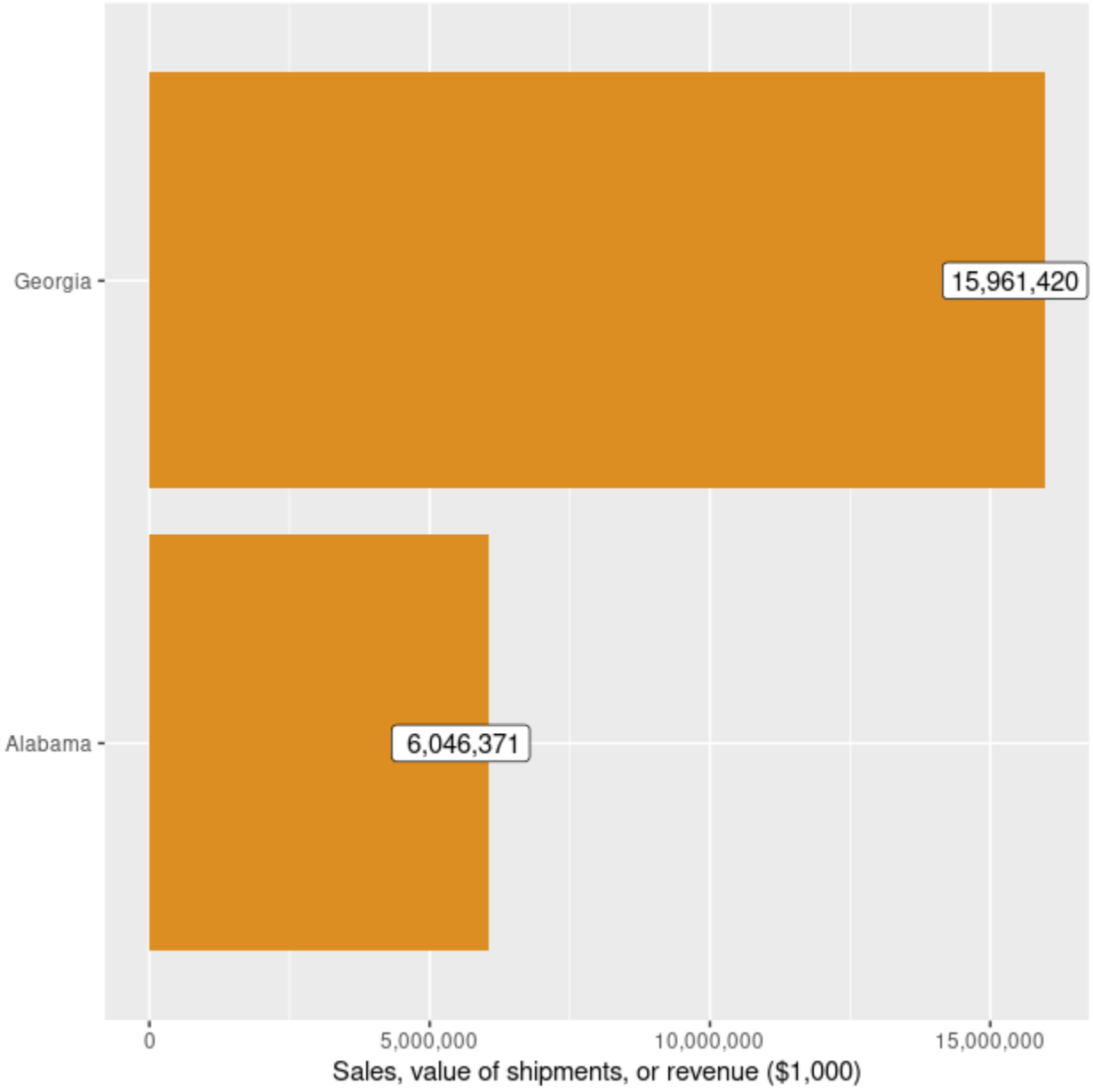
GEO_TTL	FIRM	ESTAB	EstPerFirm
Atlanta-Sandy Springs-Roswell, GA Metro Division; Atlanta-Sandy Springs-Roswell, GA Metro Area	156	182	1.167
Marietta, GA Metro Division; Atlanta-Sandy Springs-Roswell, GA Metro Area	32	32	1.000
Totals & Averages	**188**	**214**	**1.138**

GEO_TTL	Geographic Area Name
FIRM	Number of firms
ESTAB	Number of establishments
EstPerFirm	Ratio of establishments per firm

6 Sales, value of shipments, or revenue ($1,000)

Revenue produced by the Plastics and Rubber Products Manufacturing subsector is almost $16 Billion in Georgia. Over 2.6 times the revenue of the corresponding subsector in Alabama.

6.1 Plot: Sales, value of shipments, or revenue ($1,000)



6.1.1 Table: Sales, value of shipments, or revenue ($1,000)

GEO_TTL	RCPTOT	FIRM	RcpPerFirm
Alabama	6,046,371	154	39,262.1
Georgia	15,961,420	319	50,035.8
Totals & Averages	**22,007,791**	**473**	**46,528.1**

GEO_TTL	Geographic Area Name
RCPTOT	Sales, value of shipments, or revenue ($1,000)
FIRM	Number of firms
RcpPerFirm	Average revenue per firm ($1,000)

7 Capital expenditures

This section explores capital expenditures. The Economic Census does not include a category specific to manufacturing machinery.

But, it is possible to progressively eliminate capital expenditures that do NOT include acquisitions of production equipment. These are tabulated in section 7.3, Capital expenditures for all other machinery and equipment ($1,000), page 32.

7.1 Total capital expenditures for buildings, structures, machinery, and equipment (new and used) ($1,000)

Data in this section is provided for firms in Georgia but has been suppressed for firms in Alabama: Therefore, the plots and tables only contain a single data point for Georgia.

Probably more companies in Alabama rent, rather than own, their buildings. If so, and if there are only a few companies who own their buildings in each geographic area, it's easily possible to identify those companies from public property records.

This is supported by the fact that data for Alabama does reappear in the following sections which exclude capital expenditures for buildings and structures:

- 7.2: Capital expenditures for machinery and equipment ($1,000)
- 7.3: Capital expenditures for all other machinery and equipment ($1,000)

7.1.1 Implications

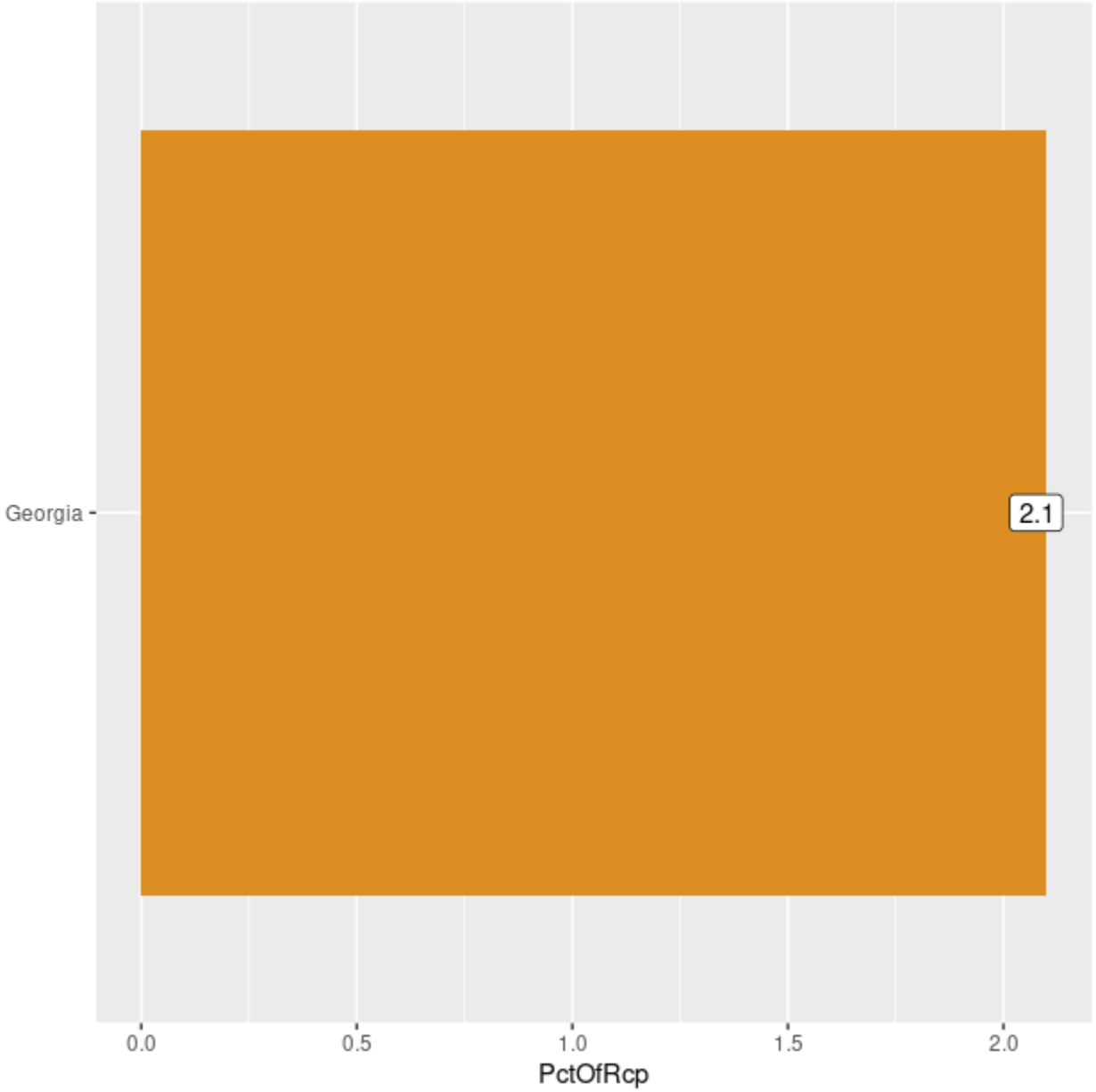
This finding does have implications for Northumberland Plastics Machinery.

Installation of heavy, complex equipment sometimes requires building modifications: Power, lighting, frame supports, floor anchors, etc. Lease restrictions generally limit such changes.

Also, prospective customers who rent their buildings are often less inclined to invest in leasehold improvements. That's because leasehold improvements frequently have to be abandoned when rental agreements expire. Companies may well delay upgrading machinery until they can move to a purchased location.

7.1.2 Plot: Total capital expenditures for buildings, structures, machinery, and equipment (new and used) as percent of receipts.

Only data for Georgia is plotted. Data for Alabama has been suppressed in the Economic Census.



7.1.3 Table: Total capital expenditures for buildings, structures, machinery, and equipment (new and used) ($1,000)

Only data for Georgia is tabulated. Data for Alabama has been suppressed in the Economic Census.

GEO_TTL	CEXTOT	PctOfRcp
Georgia	335,856	2.1
Totals and averages:	**335,856**	**2.1**

GEO_TTL	Geographic Area Name
CEXTOT	Total capital expenditures for buildings, structures, machinery, and equipment (new and used) ($1,000)
PctOfRcp	Percent of Receipts

7.2 Capital expenditures for machinery and equipment ($1,000)

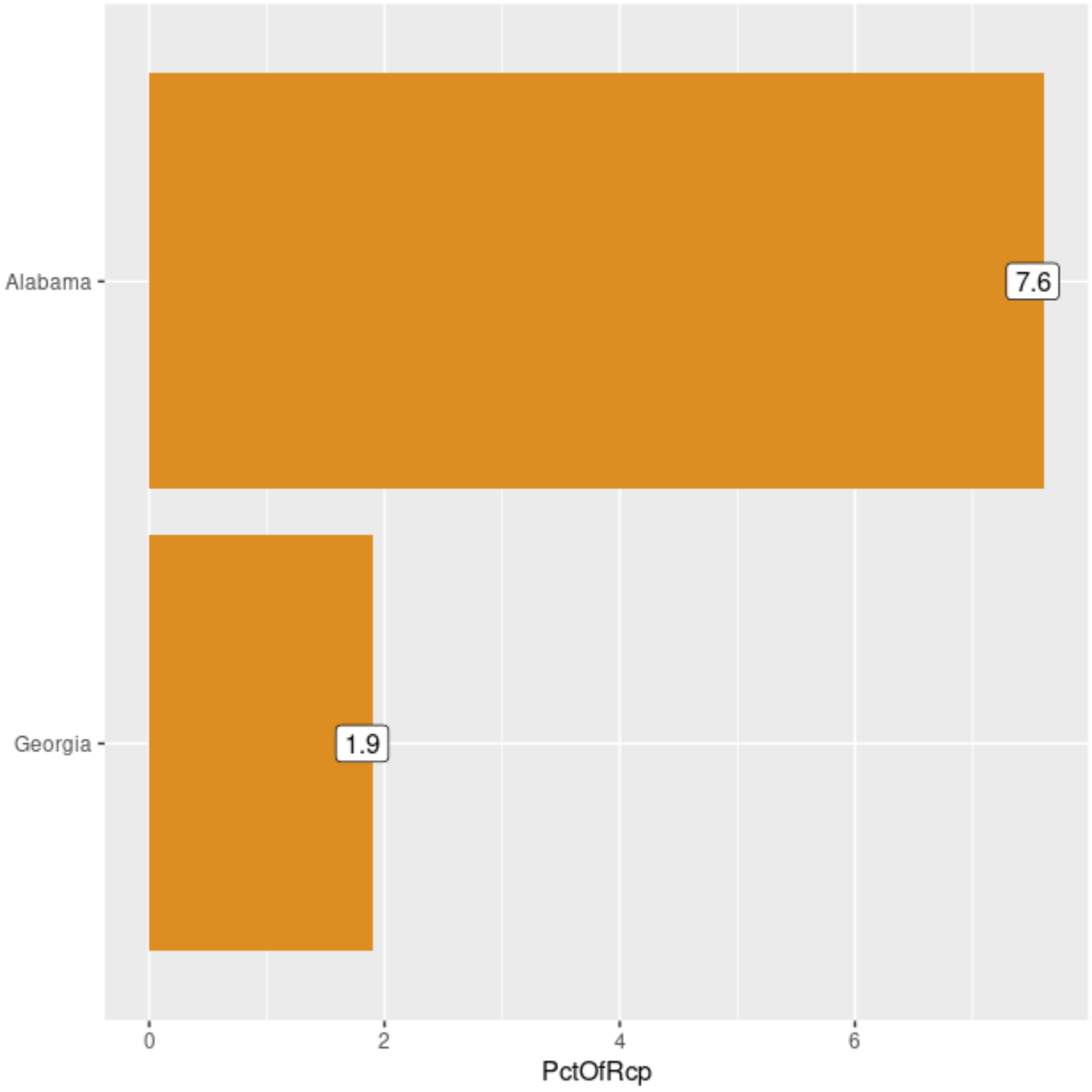
This section drops capital expenditures for buildings and structures as shown in 7.1: Total capital expenditures for buildings, structures, machinery, and equipment (new and used) ($1,000).

It includes all expenditures for machinery and equipment including expenditures for…

- Automobiles, trucks and other equipment for highway use
- Computers and peripheral equipment

7.2.1 Plot: Capital expenditures for all machinery and equipment ($1,000) as percent of receipts.

Note that firms in Alabama commit four times the percentage amount of their sales revenue to the purchase of machinery and equipment as do the firms in Georgia.



7.2.2 Table: Capital expenditures for all machinery and equipment ($1,000)

GEO_TTL	CEXMCH	PctOfRcp
Alabama	458,481	7.6
Georgia	306,908	1.9
Totals & Averages	**765,389**	**3.5**

GEO_TTL	Geographic Area Name
CEXMCH	Capital expenditures for machinery and equipment ($1,000)
PctOfRcp	Percent of Receipts

There is an unexpected result in this tabulation.

Georgia has far more firms in this subsector than does Alabama. Yet capital expenditures for machinery and equipment are 49.4% higher in Alabama ($458.5M) than those in Georgia ($306.9M).

7.3 Capital expenditures for all other machinery and equipment ($1,000)

All other machinery and equipment excludes…

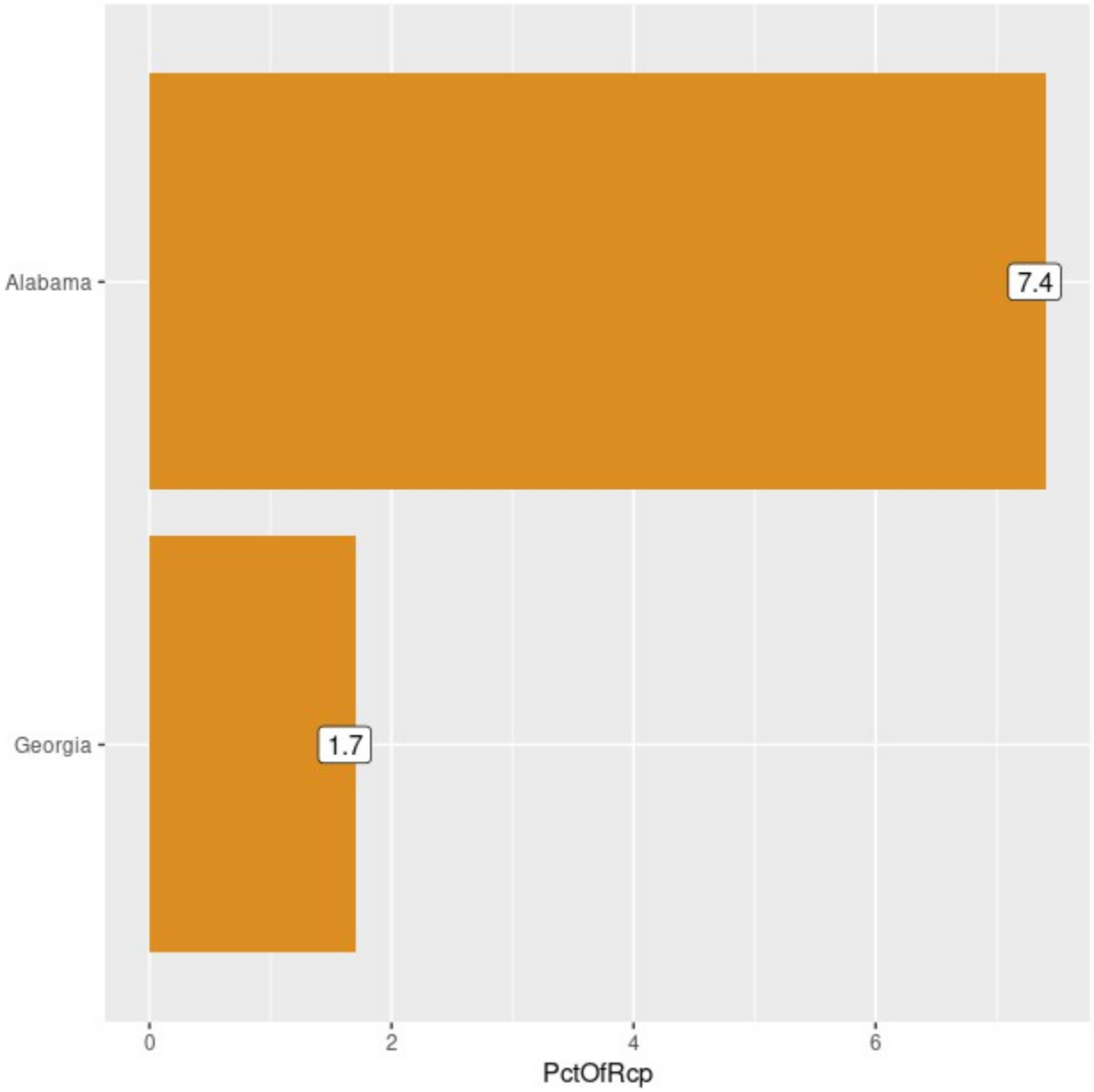
- Automobiles, trucks and other equipment for highway use
- Computers and peripheral equipment

Thus, this section more nearly identifies expenditures for capital production machinery.

Since firms in this economic subsector only make products that are all rubber or all plastic, it should be expected that most, probably all, of this equipment is rubber or plastics products processing machinery; typically performing molding, extruding, loading, unloading, or control functions.

To review, the subsector description is at 3.1, Subsector description.

7.3.1 Plot: Capital expenditures for all other machinery and equipment ($1,000) as percent of receipts



This plot is hardly changed from that of 7.2.1, Plot: Capital expenditures for all machinery and equipment ($1,000) as percent of receipts.

This means most capital equipment purchases are for production machinery and little money is spent on vehicles or data processing equipment in this subsector.

7.3.2 Table: Capital expenditures for all other machinery and equipment ($1,000)

The Total Available Market (TAM), in this subsector, as of the 2022 Economic Census, for rubber and plastics production machinery across both States is $722.3M.

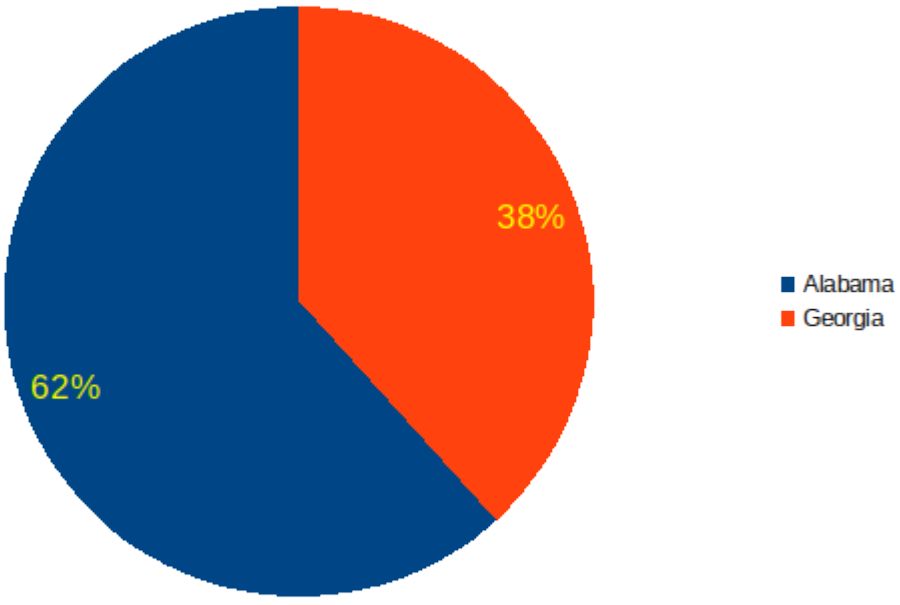
The real TAM will be higher because other sectors make products with additional materials; not just rubber and plastics. See, 3.1.2, Subsector Definition Comments.

GEO_TTL	CEXMCHO	PctOfRcp
Alabama	445,878	7.4
Georgia	276,378	1.7
Totals & Averages	**722,256**	**3.3**

GEO_TTL	Geographic Area Name
CEXMCHO	Capital expenditures for all other machinery and equipment ($1,000)
PctOfRcp	Percent of Receipts

Continuing the comparison with that of section 7.2, Capital expenditures for machinery and equipment ($1,000), capital expenditures for production equipment are 61.3% higher in Alabama ($445.9M) than those in Georgia ($276.4M) a difference of $169.5M.

In this subsector, Alabama represent 62% of the machinery market and Georgia 38%.



8 Conclusions

8.1 State geographies

The Economic Census tabulates both Firms and Establishments.

- Consider **Firms** to be companies, customers, or prospective customers.
- **Establishments** are individual locations. Sales calls may therefore have to be made at multiple locations to properly engage a specific customer.

8.1.1 Firms

In the States of Alabama and Georgia, there are a total of 473 Firms (companies) comprising the Plastics and Rubber Products Manufacturing subsector.

Georgia	319
Alabama	154
Total:	**473**

8.1.2 Establishments

Some Firms have multiple distinct locations. Locations are tabulated as Establishments in the Economic Census (EC).

There are 544 Establishments in total:

Georgia	376
Alabama	168
Total:	**544**

The EC does not differentiate as to their function. So, locations can be Administrative, Manufacturing, Warehousing, etc.

8.2 Local geographies

Below the state level, the Economic Census organizes data by local areas: County, CSA, and MSA.

The local geographic establishment counts are valuable sales planning data. The Economic Census suppresses data in local geographies having only a few firms or establishments. This is to avoid identifying individual companies.

Sales planners should not assume that just because a specific county, city, CSA, or MSA is not listed, that there are no prospective customers in that area.

When planning initial sales calls into new sales regions, it's more efficient to use the CSA, MSA, and other-defined-area tabulations because more prospective customers are located within these smaller geographic areas.

8.2.1 Counties

Four counties have 15 or more establishments.

Fulton County, GA	36
Gwinnett County, GA	27
Jefferson County, AL	15
DeKalb County, GA	15
Total:	**93**

8.2.2 Combined Statistical Areas (CSAs)

The two-state area has 62 establishments within four CSAs:

Birmingham-Cullman-Talladega, AL CSA	30
Macon-Bibb County–Warner Robins, GA CSA	12
Mobile-Daphne-Fairhope, AL CSA	12
Savannah-Hinesville-Statesboro, GA CSA	8
Total:	**62**

Note that two of the CSAs are located in Alabama despite the larger state-wide counts in Georgia. See Establishments by Combined Statistical Area (CSA)

8.2.3 Establishments by Metropolitan Statistical Areas (MSAs)

There are numerous MSAs within the two-state region. By far, the most concentrated is the…

- Atlanta-Sandy Springs-Roswell, GA Metro Area with 214 establishments.

This MSA has 187 firms (companies). It also has the highest establishments-to-firms ratio at 1.14. meaning the greatest number of multiple-location companies.

The next highest MSA is the Birmingham, AL Metro Area with 22 establishments.

See Establishments by Metropolitan Statistical Area (MSA)

8.2.4 Firms and Establishments by other defined area(s)

The Census Bureau defines two other areas in Georgia which subdivide the Atlanta-Sandy Springs-Roswell, GA Metro Area as listed in section 8.2.3 above.

Atlanta-Sandy Springs-Roswell, GA Metro Division; Atlanta-Sandy Springs-Roswell, GA Metro Area	182
Marietta, GA Metro Division; Atlanta-Sandy Springs-Roswell, GA Metro Area	32
Total:	**214**

8.3 Markets

The economic subsector description points out that…

> Many manufacturing activities use plastics or rubber, for example the manufacture of footwear or furniture. Typically, the production process of these products involves more than one material. In these cases, technologies that allow disparate materials to be formed and combined are of central importance in describing the manufacturing activity. In NAICS, such activities (footwear and furniture manufacturing) are not classified in the Plastics and Rubber Products Manufacturing subsector because the core technologies for these activities are diverse and involve multiple materials.

This study reviews findings for the 326 Plastics and Rubber Products Manufacturing subsector.

Outside the scope of this study are other subsectors and industries which include potential customers purchasing plastics manufacturing equipment.

8.3.1 Plastics and Rubber Products Manufacturing subsector 326

The total two-state market is $722.3M as of the 2022 Economic Census

This study arrives at a surprising result: The smaller plastics manufacturing subsector in Alabama outspent the much larger subsector in Georgia for production equipment by 61.3%:

Alabama	$445.9
Georgia	$276.4
Total	**$722.3**

Production equipment ($M)

Additionally, the commitment as a percentage of revenue, is 4.35 times higher by Alabama manufacturers as those in Georgia:

Alabama	7.40%
Georgia	1.70%

This state-wide information is tabulated in section 7.3, Capital expenditures for all other machinery and equipment ($1,000). In the Economic Census, this is somewhat of a catchall classification after eliminating expenditures for buildings, vehicles, and data processing equipment.

But, the classification works for this subsector since products are made only from rubber or plastics, and not any other materials. It is a reasonable assumption that dedicated plastics products manufacturers, within the 326 subsector, purchase capital equipment used for plastics products production. This same assumption cannot be made for other subsectors.

8.3.2 Secondary Subsectors

Outside the scope of this analysis are other manufacturing economic subsectors using plastics, as parts, components, or coatings. These include:

- 313 Textile Mills
- 314 Textile Products Mills
- 315 Apparel Manufacturing
- 316 Leather and Allied Product Manufacturing
- 322 Paper Manufacturing (coatings)
- 332 Fabricated Metal Product Manufacturing
- 337 Furniture and Related Product Manufacturing
- 339 Miscellaneous Manufacturing includes:
  - Medical Equipment and Supplies Manufacturing
  - Sporting and Athletic Goods Manufacturing
  - Doll, Toy, and Game Manufacturing
  - Office Supplies (except Paper) Manufacturing
  - Sign Manufacturing
  - Gasket, Packing, and Sealing Device Manufacturing

8.3.3 Third-party influencers: Construction, System Integration, Engineering, Distribution, and Repair

Products having this large a market will partner with specialized firms that provide support and services. These third-parties have purchasing influence. Expect prospective customers to be working with some or all of them:

- 236210 Industrial Building Construction
- 423830 Industrial Machinery and Equipment Merchant Wholesalers
- 541330 Engineering Services
  - Construction engineering services
  - Mechanical engineering services
  - Engineers' offices
  - Robotics automation engineering services
- 811310 Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance

9 Recommendations

9.1 Analyze existing customer sales and CRM records

The highest priority should be protecting and expanding upon existing sales and customer relationships:

1. Determine active and prospective customers belonging to the 326 subsector. These should receive the highest sales-calls priority.
2. Determine active and prospective customers in subsector other than 326.
    1. Products manufactured at these accounts can have high plastics content. If so potential equipment sales can be significant.
    2. Many of these accounts will buy parts from independent contract plastics molders. If so, the objective should identifying those suppliers.
3. Determine establishment addresses: This will influence where the Sales Engineer should be located.

9.2 Initial territory approach

Before committing to hiring and installing a permanent Sales Engineer in the territory, call on, share your territory development plans with several key existing or prospective customers. This should be by and with upper management levels: President to President, VP to VP, etc.

There are several goals for these meetings:

1. To develop a warm, fuzzy feeling that NPM really will be accepted as a potential new supplier.
2. It demonstrates first-hand that NPM is committed to the territory.
3. Determining their needs, requirements, and acquisition schedule for new plastics machinery.
4. Asking for recommendations regarding Sales Engineer candidates.
5. Asking for references regarding System Integrators, industrial engineers, and industrial

installation contractors. These are third-party influencers that can help NPM win future business.

6. Breaking the ice and paving the way for Project proposals.

9.3 Key Accounts and Territory (KAT) plan

This should include:[3]

1. **Current customers**: Those who have purchased in the last year.
2. **Prospective customers:** Those who have received proposals or quotation, but have not purchased.
3. **Forecast:** A realistic, conservative Sales forecast. This should be by Month, or at least Quarter with the understanding that these are long-term projects; they always take longer than expected.
    1. For NPM this affect the compensation plan for the Sales Engineer
4. **Open Projects:** Identifying the prospective customer, systems, or individual machinery types.
5. **Project Influencers:** at each Customer, Prospect, or third-party:[4]
    1. **Economic Buyer:** This is the one person who can say “Yes” when everybody else says “No”.
        1. For projects and equipment at this price point, this will frequently be the company Owner, President, or CEO. But, may be the VP of Operations, Production, or Manufacturing. Or, at least a senior Manager.
            1. Projects involving large, expensive machinery always get reviewed, and more importantly, approved at these upper management levels.
    2. **User(s):** This will include senior members, managers, or supervisors of the Engineering department and at least some parts of Production and Operations. Basically, anybody who can strongly dictate how the equipment is used and set performance requirements.
    3. **Technical:** People in this group can negatively affect a project, but do not have the authority to actually initiate a project.
        1. May include Engineering staff members, Purchasing, Contractors, and Installers.
    4. **Coach(es):** A person(s) who *wants* you to succeed.
        1. Ideally, these will be people at the Customer.

3 This Analyst first encountered KAT planning while employed with Texas Instruments (TXN) Semiconductor Division. A good text about this type of strategic territory planning is Be Your Own Sales Manager, Alessandra, et al. Another text, addressing sales strategies including hiring practices is Sales Management, Calvin.

4 This is a continuous updating process requiring multiple sales calls. See, Strategic Selling, Miller & Heiman.

2. The strongest situation is an Economic Buyer who is also a Coach.

9.4 Sales Engineer

From NPM's point-of-view, the AL-GA territory is brand new. The local Sales Engineer will need to commit to missionary work, travel time, and persistance to win long lead-time projects.

Plastics product manufacturing involves expensive machinery and complex systems. It is not commodity selling, and it is not realistic to expect a sales representative to just make a few phone calls or buy a few lunches that immediately redirects toward a new-to-the-territory systems supplier.

9.4.1 Qualifications

1. Local knowledge of the AL-GA plastics subsector should be given high importance. Ideally, a candidate should be able to demonstrate knowledge of the customer base and key contacts.
    1. A candidate showing up with a comprehensive written territory plan should be given high consideration.
2. Demonstrate time and planning abilities with commitment to long sales cycle projects.
3. Knowledge of NPM or similar products and systems.

9.4.2 Location

1. Much will depend on locations and types of existing and prospective customers. Before making a final decision, it is imperative to complete the Key Accounts and Territory (KAT) plan in section 9.3
2. If no clear customer pattern emerges, the preferred location is likely to be along the I-20 corridor which connects…
    1. Atlanta-Sandy Springs-Roswell, GA Metro Area
    2. Birmingham-Cullman-Talladega, AL CSA