INDUSTRY CLUSTER ANALYSIS FOR ALABAMA

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MAPPING THE INDUSTRY CLUSTERS OF ALABAMA
A Strategic Approach to Economic Growth

Executive Summary

There are really only four broad approaches to job growth and economic development:

Recruitment of new companies;

Growth and expansion of existing companies;

Development of start-ups and spin-offs; and

Commercial development of university intellectual property and discoveries.

Although this appears simple in concept, tackling these strategies requires a number of difficult questions to be answered, such as: What industries should be targeted for recruitment? What data needs to be presented to companies being recruited? Which existing industries should be focused on for growth? Which start-ups are more likely to succeed? What patents or discoveries have the greatest chance for success? Many questions like this must be addressed in formulating specific economic development strategies. The concept of industry clusters can play a powerful role in answering these questions and in developing specific strategies for successful economic development.

The concept of industry clusters has been developed by the Institute for Strategy and Competitiveness at the Harvard Business School. A *Cluster* refers to a group of interrelated companies and institutions in a specific discipline which are located within the same economic region or geographic area. As an example, the California wine cluster is composed not only of vineyards, growers, wineries and processing facilities, but also includes irrigation technology, harvesting equipment, fertilizer, pesticides, herbicides, winemaking equipment, bottles, labels, UC Davis, and the Wine Institute. Importantly, the wine cluster overlaps with the tourism and food clusters offering opportunities for joint growth and development.

Clusters typically include end product or service companies, suppliers of specialized inputs, components, machinery, specialized services, financial institutions, and firms in related industries. Many clusters also include universities and other institutions providing specialized training, education, and research as well as trade associations. It is important to reemphasize that clusters cut across traditional industry classifications. This type of business environment encourages innovation and increases productivity. Clusters increase the level of competitiveness and cooperativeness between firms. Firms located within an economic region form synergies in order to benefit from both similarities and complementarities of its neighboring firms. These synergies can be formed within a cluster or between clusters. A cluster allows firms within an economic region to develop relationships in order to share valuable resources with relative ease. These factors allow a regional economy to flourish and achieve a high level of prosperity.

Economic development can arise from the birth of a new cluster or the growth of an existing cluster. The automotive cluster is a new cluster in Alabama that has emerged from the initial anchor firm, Mercedes Benz. With the arrival of Mercedes, first, second, and third tier suppliers began to locate and grow in Alabama. Subsequently, Honda opened a vehicle assembly plant and additional suppliers moved to Alabama. The Hyundai plant was another addition, causing the growth of the automotive cluster to continue. Clusters can also develop and grow from overlapping, related clusters. This growth arises at an intersection or an overlap between clusters. A cluster overlap occurs when a particular cluster is complimented by another cluster outside of its industry. For example, the aerospace cluster in Huntsville has contributed to the growth and development of the communications equipment cluster and the information technology cluster. These overlaps show that the skills, assets, and knowledge base from one cluster may be used to support another cluster in some manner. This type of relationship allows for coordination between different industries and fosters economic development.

This report presents cluster employment, job creation, job loss and cluster overlap for the economy of Alabama. The employment data is shown for both clusters and subclusters. The subcluster employments shown are from the major cluster areas of the regions. This report begins with the state as a whole and presents the state’s cluster employment for the year 2001, job creation and loss for the years 1990-2001, cluster overlap for the year 2001, and subcluster employment. Following the presentation of state data, the report becomes more detailed and presents the aforementioned indicators for the economic areas in the state, which include, the Huntsville economic area, the Birmingham economic area, the Montgomery economic area, the Mobile economic area, and the Dothan economic area. Finally, the data is shown in even finer detail, through the state’s metropolitan areas (MSA’s). The MSA’s include, Huntsville, Birmingham, Montgomery, Mobile, Dothan, Anniston, Decatur, Florence, Tuscaloosa, Auburn-Opelika, and Gadsden.

The clusters referred to in this report are traded clusters. The Harvard Business School defines a traded cluster as “traded industries that sell products and services across economic areas, so they are concentrated in the specific regions where they choose to locate production, due to the competitive advantages afforded by these locations. Employment levels in traded industries thus vary greatly by region, and have no clear link to regional population levels.”

Employment

In 2001, Alabama's total employment was 1,620,592, which was 1.41% of National Employment. Alabama's average wages in 2001 were $27,861 -vs- $34,669 for the US, or 19.64% below the national average. Average wage growth per year in Alabama was 3.82% -vs- 4.41% for the US. As shown in Table 1, Alabama's 3 largest clusters were business services, followed by, heavy construction services, and financial services. As shown in Table 2 Alabama's 3 largest subclusters were metal steel mills and foundries, accommodations and related services, and final construction.

Job Creation/Loss

Alabama's employment growth from 1990-2001 was 1.90%, while the U.S. average was 2.10%. The clusters which experienced the largest growth over this time were the business services cluster gaining about 21,000 jobs, the education and knowledge creation cluster, gaining about 8,000 jobs, and the hospitality and tourism cluster, gaining about 7,000 jobs. Alabama's largest job loss from 1990-2001 occurred in the apparel cluster with a loss of about 31,000 and textiles clusters with an estimated job loss of about 10,000**.** Current employment in these industries is vulnerable to continued losses.

Cluster Overlap and Potential for Growth

Alabama has areas of overlap between its major clusters. The first grouping includes, financial services and education and knowledge creation. Another grouping includes the transportation and logistics and hospitality and tourism clusters. A third grouping occurs between the metal manufacturing and automotive clusters. These overlaps indicate those industries that are good candidates for growth and development for the state. True economic development strategies however must be based on more local areas than statewide. Table 3 presents the top five clusters for each of the eleven Alabama metropolitan statistical areas (MSA's). The report presents in great detail the major subclusters for each MSA and discusses the potential for growth based upon these existing industry assets.

Table 1
State of Alabama
Total Employment by Cluster, 2001

Cluster	Employment
Business Services	51,811
Heavy Construction Services	32,863
Financial Services	27,742
Metal Manufacturing	26,884
Textiles	25,010

Table 2
State of Alabama
Total Employment by Subcluster, 2001

Cluster	Subcluster	Employment
Business Services	Computer Programming	13,965
Hospitality & Tourism	Accommodations & Related Services	13,671
Construction Services	Final Construction	13,120
Business Services	Management Consulting	11,906
Financial Services	Insurance Products	11,384
Metal Manufacturing	Metal Steel Mills & Foundries	11,357
Education & Knowledge Creation	Educational Institutions	10,283
Automotive	Automotive Parts	10,007
Financial Services	Depository Institutions	8,214

Table 3

Top 5 Clusters by Metropolitan Area 2001

	Decatur	Florence	Huntsville
1	Prefabricated Enclosures	Apparel	Business Services
2	Forest Products	Prefabricated Enclosures	Automotive
3	Motor Driven Products	Metal Manufacturing	Information Technology
4	Textiles	Automotive	Education and Knowledge Creation
5	Metal Manufacturing	Business Services	Analytical Instruments

	Anniston	Gadsden	Tuscaloosa	Birmingham
1	Metal Manufacturing	Motor Driven Products	Heavy Construction Services	Business Services
2	Heavy Construction	Business Services	Motor Driven Products	Financial Services
3	Textiles	Metal Manufacturing	Automotive	Metal Manufacturing
4	Prefabricated Enclosures	Heavy Construction Services	Plastics	Heavy Construction Services
5	Furniture	Publishing and Printing	Business Services	Hospitality and Tourism

	Auburn-Opelika	Dothan	Mobile	Montgomery
1	Motor Driven Products	Transportation and Logsitics	Business Services	Business Services
2	Automotive	Hospitality and Tourism	Transportation and Logistics	Finanical Services
3	Business Services	Business Services	Heavy Construction Services	Heavy Construction Services
4	Heavy Construction Services	Motor Driven Products	Chemical Products	Motor Driven Products
5	Textiles	Heavy Construction Services	Hospitality and Tourism	Plastics

Introduction

Successful economic development strategies are often based upon the following fundamental premise of building upon the existing assets and strengths of a region. The concept of industry clusters, developed by the Institute for Strategy and Competitiveness at the Harvard Business School, offers a sensible approach to implementing this process for developing economic strategy. A *Cluster* refers to a group of interrelated companies and institutions in a specific discipline which are located within the same economic region or geographic area. As an example, the California wine cluster is composed not only of vineyards, growers, wineries and processing facilities, but also includes irrigation technology, harvesting equipment, fertilizer, pesticides, herbicides, winemaking equipment, bottles, labels, UC Davis, and the Wine Institute. This cluster is illustrated in Figure 1. In addition, as noted in the figure, the wine cluster overlaps with the tourism and food clusters offering opportunities for joint growth and development.

Clusters typically include end product or service companies, suppliers of specialized inputs, components, machinery, specialized services, financial institutions, and firms in related industries. Many clusters also include universities and other institutions providing specialized training, education, and research as well as trade associations. It is important to reemphasize that clusters cut across traditional industry classifications. This type of business environment encourages innovation and increases productivity. Clusters increase the level of competitiveness and cooperativeness between firms. Firms located within an economic region form synergies in order to benefit from both similarities and complementarities of its neighboring firms. These synergies can be formed within a cluster or between clusters. A cluster allows firms within an economic region to develop relationships in order to share valuable resources with relative ease. These factors allow a regional economy to flourish and achieve a high level of prosperity.

Economic development can arise from the birth of a new cluster or the growth of an existing cluster. The automotive cluster is a new cluster in Alabama that has emerged from the initial anchor firm, Mercedes Benz. With the arrival of Mercedes, first, second, and third tier suppliers began to locate and grow in Alabama. Subsequently, Honda opened a vehicle assembly plant and additional suppliers moved to Alabama. The Hyundai plant was another addition, causing the growth of the automotive cluster to continue. Clusters can also develop and grow from overlapping, related clusters. This growth arises at an intersection or an overlap between clusters. A cluster overlap occurs when a particular cluster is complimented by another cluster outside of its industry. For example, the aerospace cluster in Huntsville has contributed to the growth and development of the communications equipment cluster and the information technology cluster. These overlaps show that the skills, assets, and knowledge base from one cluster may be used to support another cluster in some manner. This type of relationship allows for coordination between different industries and fosters economic development. Figure 2 presents an overview of the major industry clusters and illustrates the overlapping nature of clusters into somewhat natural groupings of clusters.

Several implications are readily apparent from Figure 2. First, traditional industry clusters for Alabama including textiles, apparel, forest products, and agricultural products have no or very little overlap with other clusters. Thus, if these clusters decline, as they have over the past decade, the impact is significant because the skills, knowledge base, and other resources are essentially single use. There is little, to no, cluster overlapping. The assets in these clusters, be they human, equipment, or knowledge, are not easily used in other areas. On the other hand, emerging clusters in Alabama such as automotive, information technology, and production technology have significant overlap and potential for growth and innovation.

Figure 1

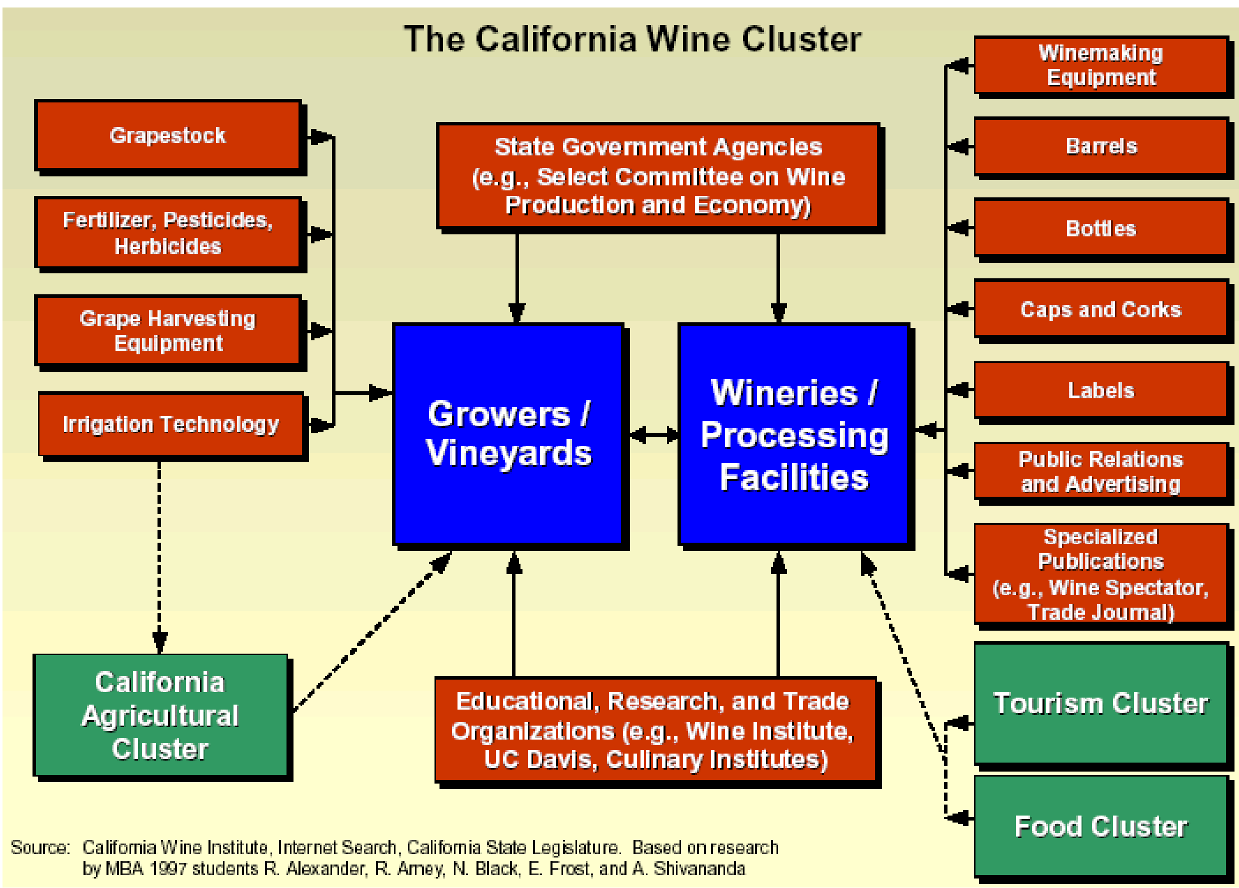
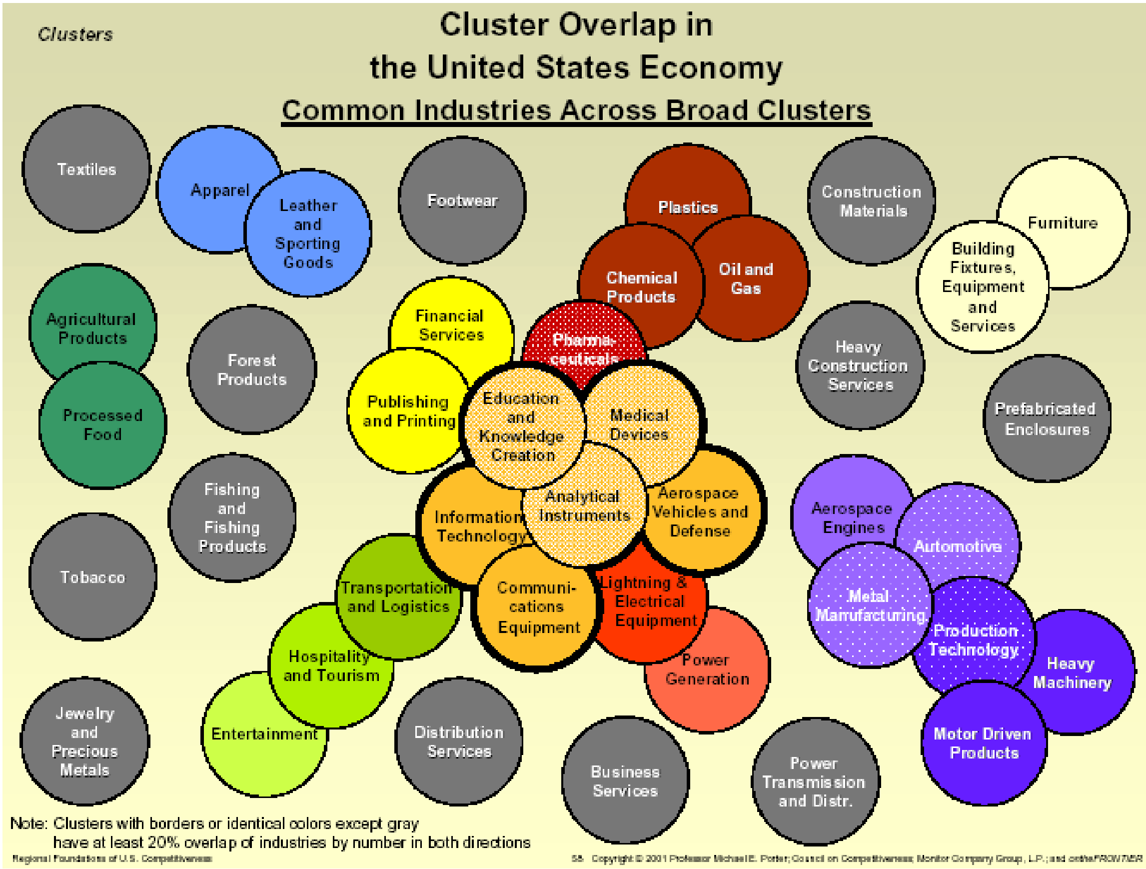


Figure 2


Clusters
Cluster Overlap in
the United States Economy
Common Industries Across Broad Clusters
Textiles
Apparel
Leather and Sporting Goods
Footwear
Plastics
Construction Materials
Furniture
Chemical Products
Oil and Gas
Building Fixtures, Equipment and Services
Agricultural Products
Forest Products
Financial Services
Pharma-ceuticals
Heavy Construction Services
Processed Food
Publishing and Printing
Education and Knowledge Creation
Medical Devices
Prefabricated Enclosures
Fishing and Fishing Products
Information Technology
Analytical Instruments
Aerospace Vehicles and Defense
Aerospace Engines
Automotive
Tobacco
Transportation and Logistics
Communi-cations Equipment
Lightning & Electrical Equipment
Metal Manufacturing
Production Technology
Heavy Machinery
Hospitality and Tourism
Power Generation
Jewelry and Precious Metals
Entertainment
Distribution Services
Business Services
Power Transmission and Distr.
Motor Driven Products
Note: Clusters with borders or identical colors except gray
have at least 20% overlap of industries by number in both directions
Regional Foundations of U.S. Competitiveness
58 Copyright © 2001 Professor Michael E. Porter; Council on Competitiveness; Monitor Company Group, L.P.; and ontheFRONTIER

This report presents cluster employment, job creation, job loss and cluster overlap for the economy of Alabama. The employment data is shown for both clusters and subclusters. The subcluster employments shown are from the major cluster areas of the regions. This report begins with the state as a whole, by showing the state's cluster employment for the year 2001, job creation and loss for the years 1990-2001, cluster overlap for the year 2001, and subcluster employment. After the state, the data becomes more detailed, by showing the aforementioned indicators for the economic areas in the state, which include, the Huntsville economic area, the Birmingham economic area, the Montgomery economic area, the Mobile economic area, and the Dothan Economic area. Finally, the data is shown in even finer detail, through the state's metropolitan areas (MSA's). The MSA's include, Huntsville, Birmingham, Montgomery, Mobile, Dothan, Anniston, Decatur, Florence, Tuscaloosa, Auburn-Opelika, and Gadsden.

Chapter 1

State of Alabama

The clusters referred to in this report are traded clusters. The Harvard Business School defines a traded cluster as "traded industries that sell products and services across economic areas, so they are concentrated in the specific regions where they choose to locate production, due to the competitive advantages afforded by these locations. Employment levels in traded industries thus vary greatly by region, and have no clear link to regional population levels."

Employment

In 2001, Alabama's total employment was 1,620,592, which was 1.41% of National Employment. Alabama's average wages in 2001 were $27,861 -vs- $34,669 for the US, or 19.64% below the national average. Average wage growth per year in Alabama was 3.82% -vs- 4.41% for the US. As shown in Table 1-1 and Figure 1-1, Alabama's 3 largest clusters were business services, followed by, heavy construction services, and financial services. As shown in Table 1-2 Alabama's 3 largest sublcusters were metal steel mills and foundries, accommodations and related services, and final construction.

Job Creation/Loss

Alabama's employment growth from 1990-2001 was 1.90%, while the U.S. average was 2.10%. As Figure 1-2 shows, the clusters which experienced the largest growth over this time were the business services cluster gaining about 21,000 jobs, the education and knowledge creation cluster, gaining about 8,000 jobs, and the hospitality and tourism cluster, gaining about 7,000 jobs. Figure 1-2 also shows that Alabama's largest job loss from 1990-2001 occurred in the apparel cluster with a loss of about 31,000 and textiles clusters with an estimated job loss of about 10,000**.** Current employment in these industries is vulnerable.

Cluster Overlap and Potential for Growth

Figure 1-3 shows the largest 15 clusters for the state of Alabama. As Figure 2-3 shows Alabama has areas of overlap between its major clusters. The first grouping includes, financial services and education and knowledge creation. Another grouping includes the transportation and logistics and hospitality and tourism clusters. A third grouping occurs between the metal manufacturing and automotive clusters. These overlaps show the industries that would be good candidates for growth and development for the state. These industries are good candidates for growth because some of the necessary support base is already in place to support the growth of industries already existing in the state or industries that do not already exist in the state that are related to the overlapping clusters.

Table 1-1
State of Alabama
Total Employment by Cluster, 2001

Cluster	Employment
Business Services	51,811
Heavy Construction Services	32,863
Financial Services	27,742
Metal Manufacturing	26,884
Textiles	25,010

Table 1-2
State of Alabama
Total Employment by Subcluster, 2001

Cluster	Subcluster	Employment
Business Services	Computer Programming	13,965
Hospitality & Tourism	Accommodations & Related Services	13,671
Construction Services	Final Construction	13,120
Business Services	Management Consulting	11,906
Financial Services	Insurance Products	11,384
Metal Manufacturing	Metal Steel Mills & Foundries	11,357
Education & Knowledge Creation	Educational Institutions	10,283
Automotive	Automotive Parts	10,007
Financial Services	Depository Institutions	8,214

Figure 1-1
State of Alabama
Total Employment by Traded Cluster, 2001

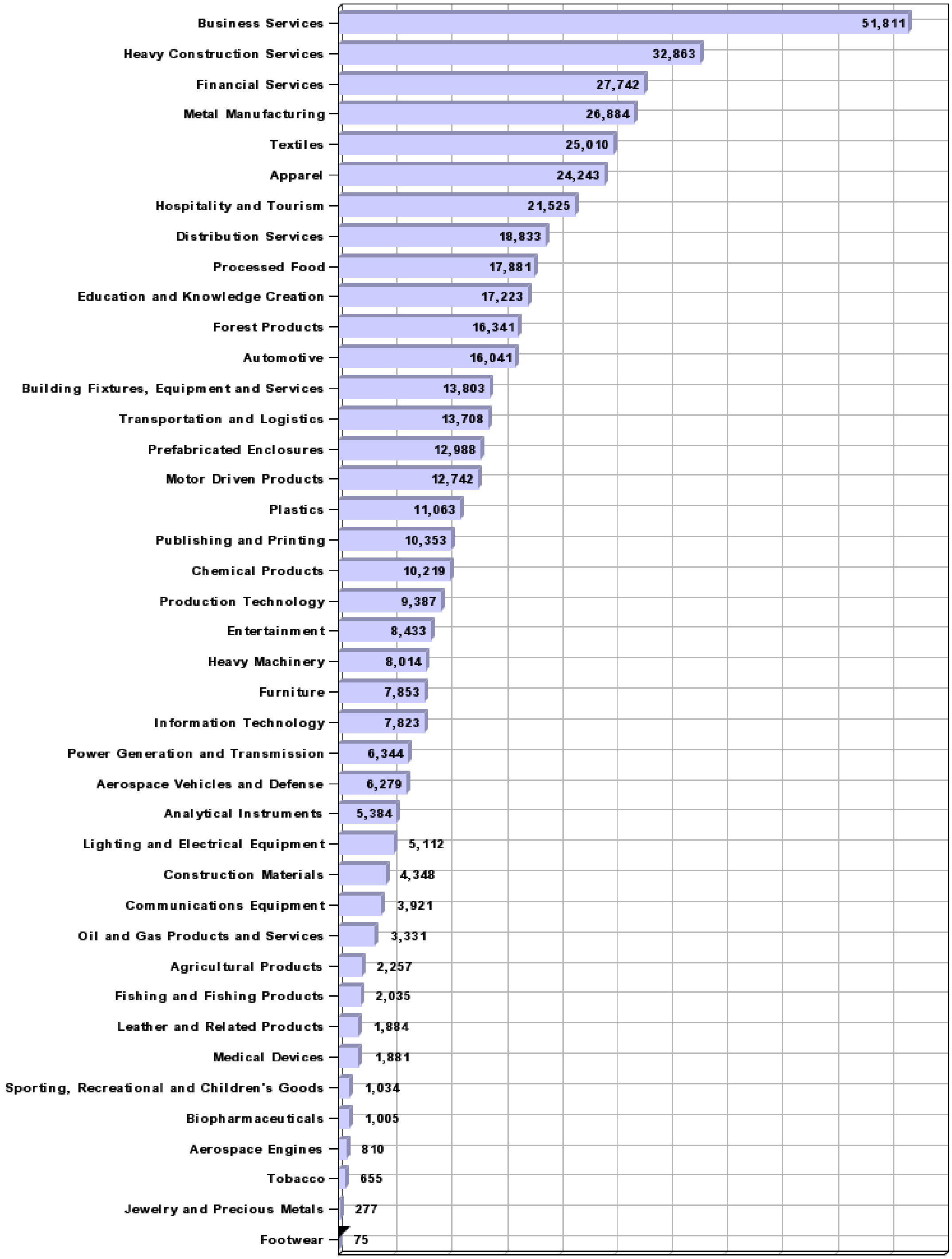


Figure 1-2
State of Alabama
Job Creation by Traded Cluster, 1990-2001

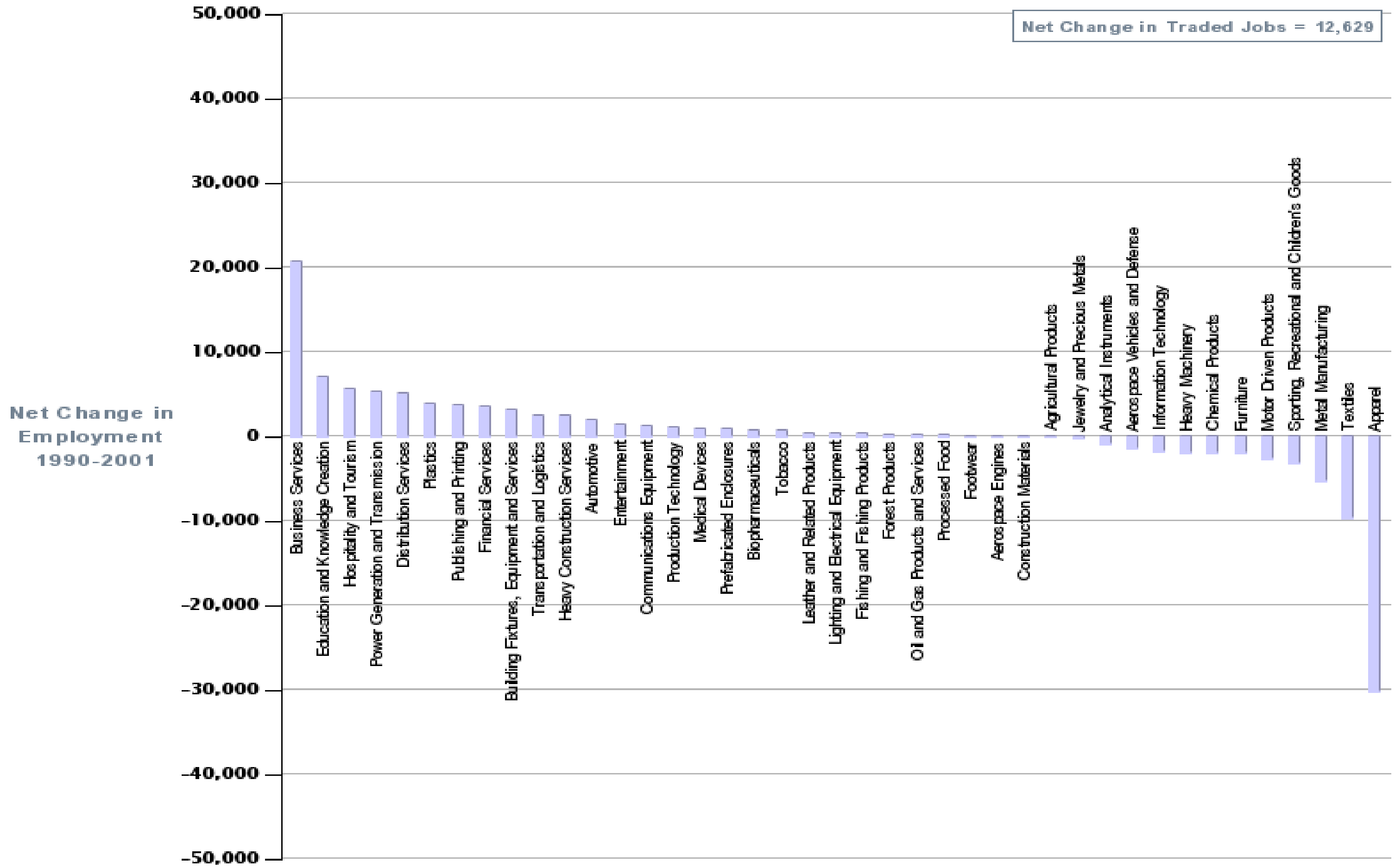
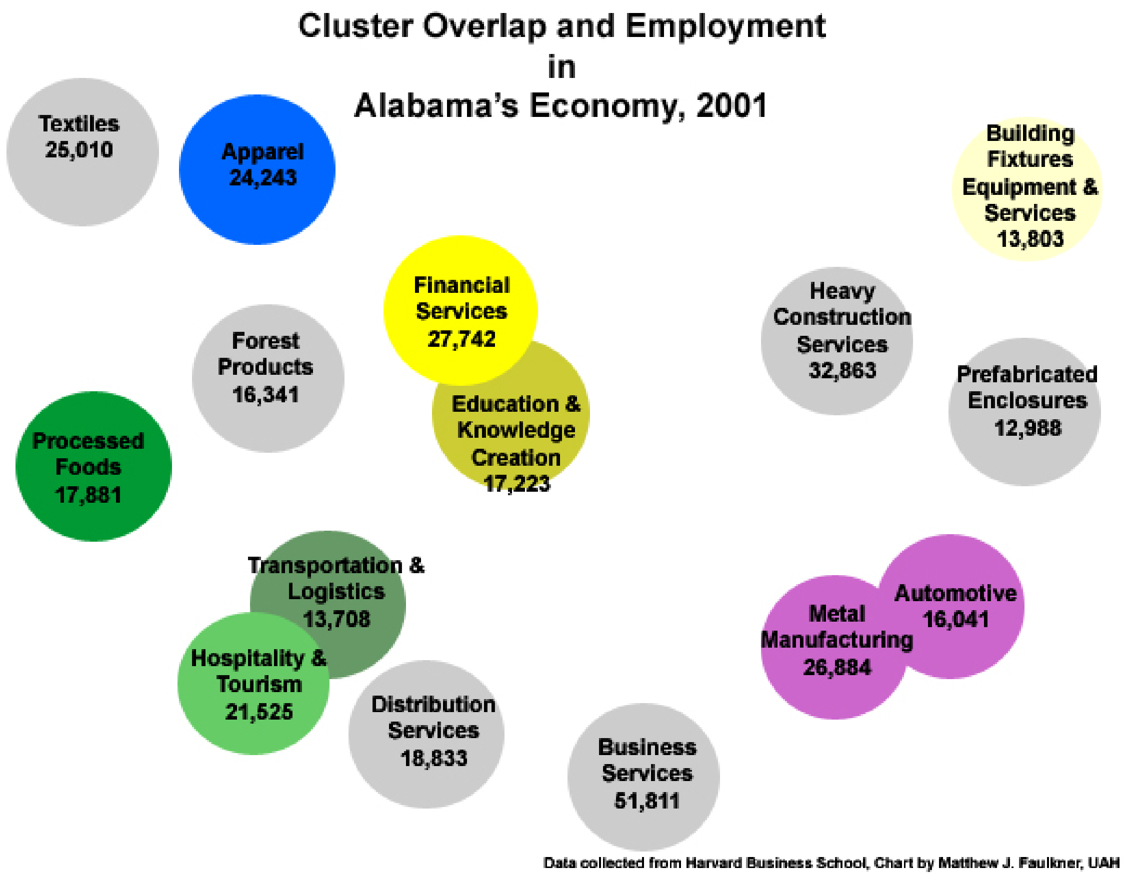


Figure 1-3


Cluster Overlap and Employment
in
Alabama's Economy, 2001
Textiles
25,010
Apparel
24,243
Building
Fixtures
Equipment &
Services
13,803
Financial
Services
27,742
Forest
Products
16,341
Education &
Knowledge
Creation
17,223
Heavy
Construction
Services
32,863
Prefabricated
Enclosures
12,988
Processed
Foods
17,881
Transportation &
Logistics
13,708
Hospitality &
Tourism
21,525
Distribution
Services
18,833
Business
Services
51,811
Metal
Manufacturing
26,884
Automotive
16,041
Data collected from Harvard Business School, Chart by Matthew J. Faulkner, UAH

The following chapters contain data for the economic and metropolitan areas in Alabama. Economic areas encompass all Alabama counties, rural and urban; therefore, they cover a larger area than the metropolitan areas. Metropolitan areas (MSA's) encompass primarily urban counties. Table 1-3 shows the counties included within the economic areas, while Table 1-4 shows the counties included within the MSA's. Figure 1-4 shows the economic areas for Alabama and other southeastern states.

Figure 1-4
Economic Areas

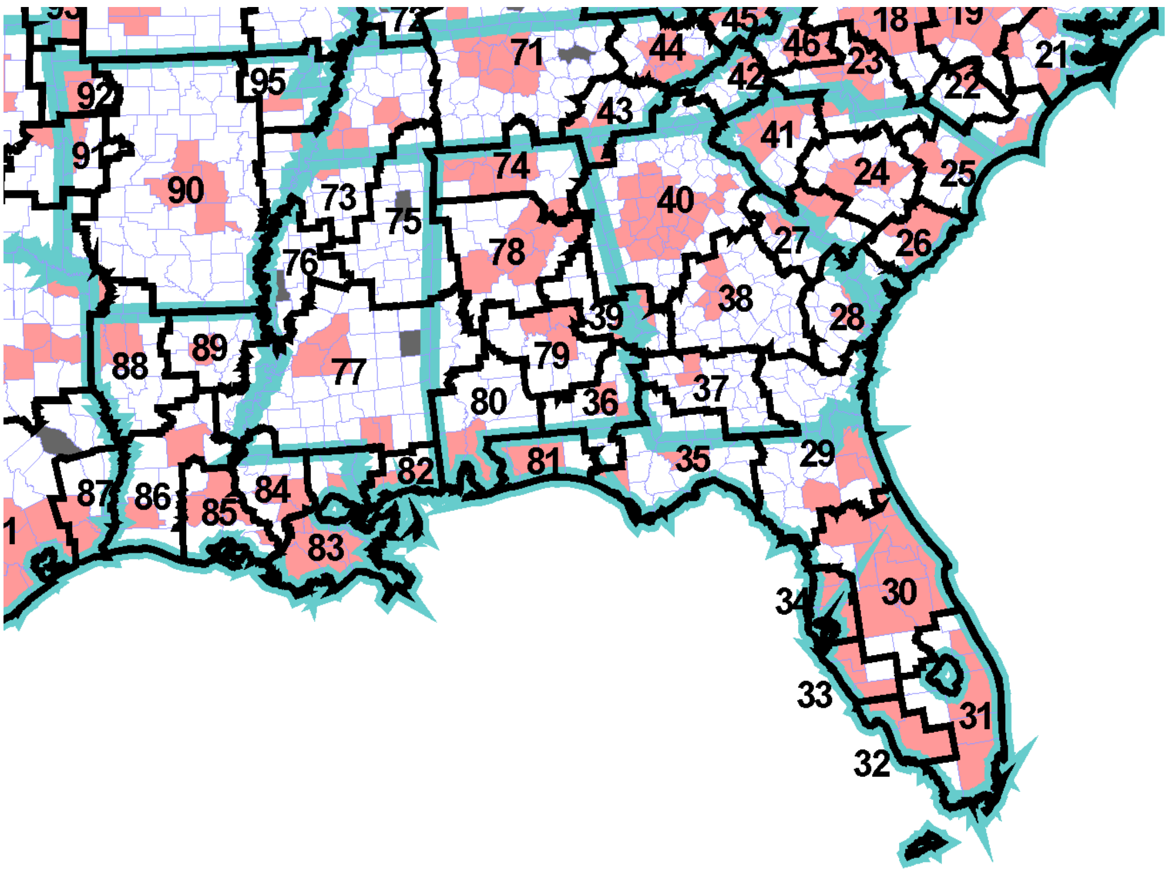


Table 1-3
Counties Located in Alabama Economic Areas

Economic Area	Counties
Birmingham, AL	Bibb, Blount, Calhoun, Chilton, Cullman, Fayette, Hale, Jefferson, Marion, St. Clair, Shelby, Talladega, Tuscaloosa, Walker, Winston
Dothan, AL-FL-GA	Barbour, Coffee, Covington, Dale, Geneva, Henry, Houston, Holmes (FL), Washington (FL), Quitman (GA)
Huntsville, AL-TN	Colbert, Dekalb, Etowah, Franklin, Jackson, Lauderdale, Lawrence, Limestone, Madison, Marshall, Morgan, Lincoln (TN)
Mobile, AL	Baldwin, Clarke, Conecuh, Escambia, Mobile, Monroe, Washington, Wilcox
Montgomery, AL	Autauga, Bullock, Butler, Crenshaw, Dallas, Elmore, Lowndes, Montgomery, Perry, Pike

Table 1-4
Counties Located in Alabama Metropolitan Areas

Metropolitan Area	Counties
Anniston, AL	Calhoun
Auburn-Opelika, AL	Lee
Birmingham, AL	Blount, Jefferson, St. Clair, Shelby
Decatur, AL	Lawrence, Morgan
Dothan, AL	Dale, Houston
Florence, AL	Colbert, Lauderdale
Gadsden, AL	Etowah
Huntsville, AL	Limestone, Madison
Mobile, AL	Baldwin, Mobile
Montgomery, AL	Autauga, Elmore, Montgomery
Tuscaloosa, AL	Tuscaloosa

Chapter 2

Birmingham, AL Economic Area

Employment

Total 2001 employment in the Birmingham, AL economic area was 637,177, which was 0.55% of national employment. Birmingham, AL economic area's average wages in 2001 were $30,522 -vs- $34,669 for the US, or 11.96% below the national average. Average wage growth per year in the Birmingham, AL economic area was 3.92% -vs- 4.41% for the US. As Table 2-1 and Figure 2-1 show, the 3 largest clusters in this economic area were business services, financial services, and metal manufacturing. As Table 2-2 shows, the 3 largest subclusters in this area were iron steel mills & foundries, final construction, and insurance products.

Job Creation/Loss

Employment growth from 1990-2001 in the Birmingham, AL economic area was 1.90% -vs.- 2.10% for the US. As shown in Figure 2-2, the largest job creation from 1990-2000 occurred in the business services cluster, gaining about 9,000 jobs, the hospitality and tourism cluster, gaining about 3,800 jobs, and the financial services cluster gaining about 3,700 jobs. Figure 2-2 also shows that the largest job loss from 1990-2001 occurred in the apparel cluster, losing about 8,000 jobs, the textiles cluster, losing about 2,000 jobs, and the heavy construction services cluster, losing about 1,300 jobs.

Cluster Overlap and Potential for Growth

Figure 2-3 shows the largest 15 clusters for the Birmingham Economic Area. As Figure 2-3 shows the Birmingham Economic Area has areas of overlap between its major clusters. The first grouping includes, education and knowledge creation, financial services, and publishing and printing. Another grouping includes the automotive cluster, the metal manufacturing cluster, and the motor driven products cluster. As Figure 2 shows, there are other clusters that overlap with these significant clusters. One of these clusters is motor driven products. Table 2-3 lists the subclusters included within these clusters. This table lists the specific industries that may be targeted for growth and development.

Table 2-1
Birmingham, AL Economic Area
Total Employment by Cluster, 2001

Cluster	Employment
Business Services	21,169
Financial Services	17,657
Metal Manufacturing	16,597
Heavy Construction Services	16,539
Hospitality and Tourism	8,691

Table 2-2
Birmingham, AL Economic Area
Total Employment by Subcluster, 2001

Cluster	Subcluster	Employment
Metal Manufacturing	Iron Steel Mills & Foundries	9,205
Financial Services	Insurance Products	7,430
Heavy Construction	Final Construction	7,054
Business Services	Management Consulting	5,567
Hospitality & Tourism	Accommodations & Related Services	5,072
Business Services	Computer Programming	4,564
Financial Services	Depository Institutions	4,531
Distribution Services	Merchandise & Warehousing	3,841
Business Services	Engineering Services	3,603
Prefabricated Enclosures	Mobile Homes	3,387

Figure 2-1
Birmingham, AL Economic Area
Total Employment by Traded Cluster, 2001

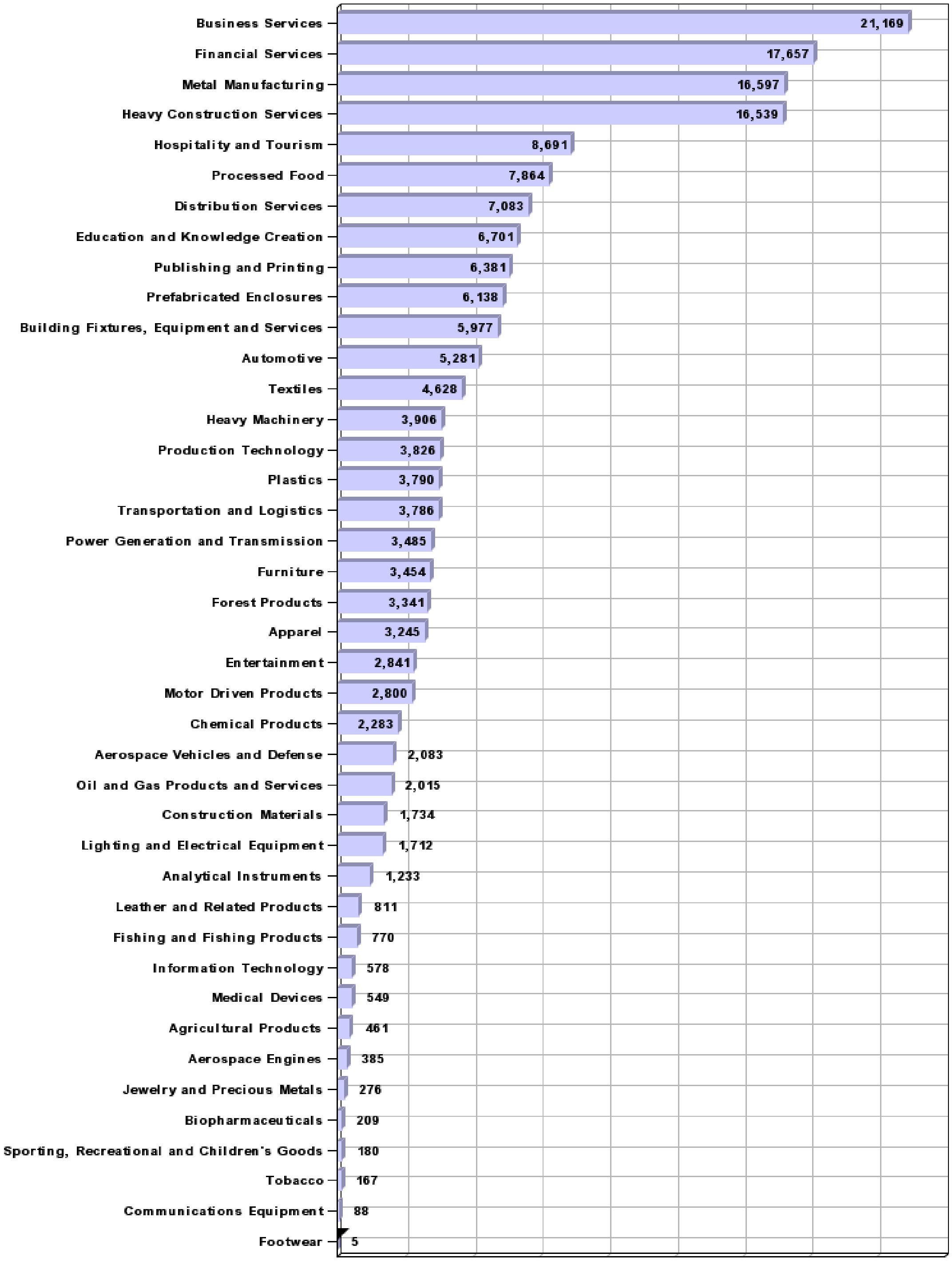


Figure 2-2
Birmingham, AL Economic Area
Job Creation by Traded Cluster, 1990-2001

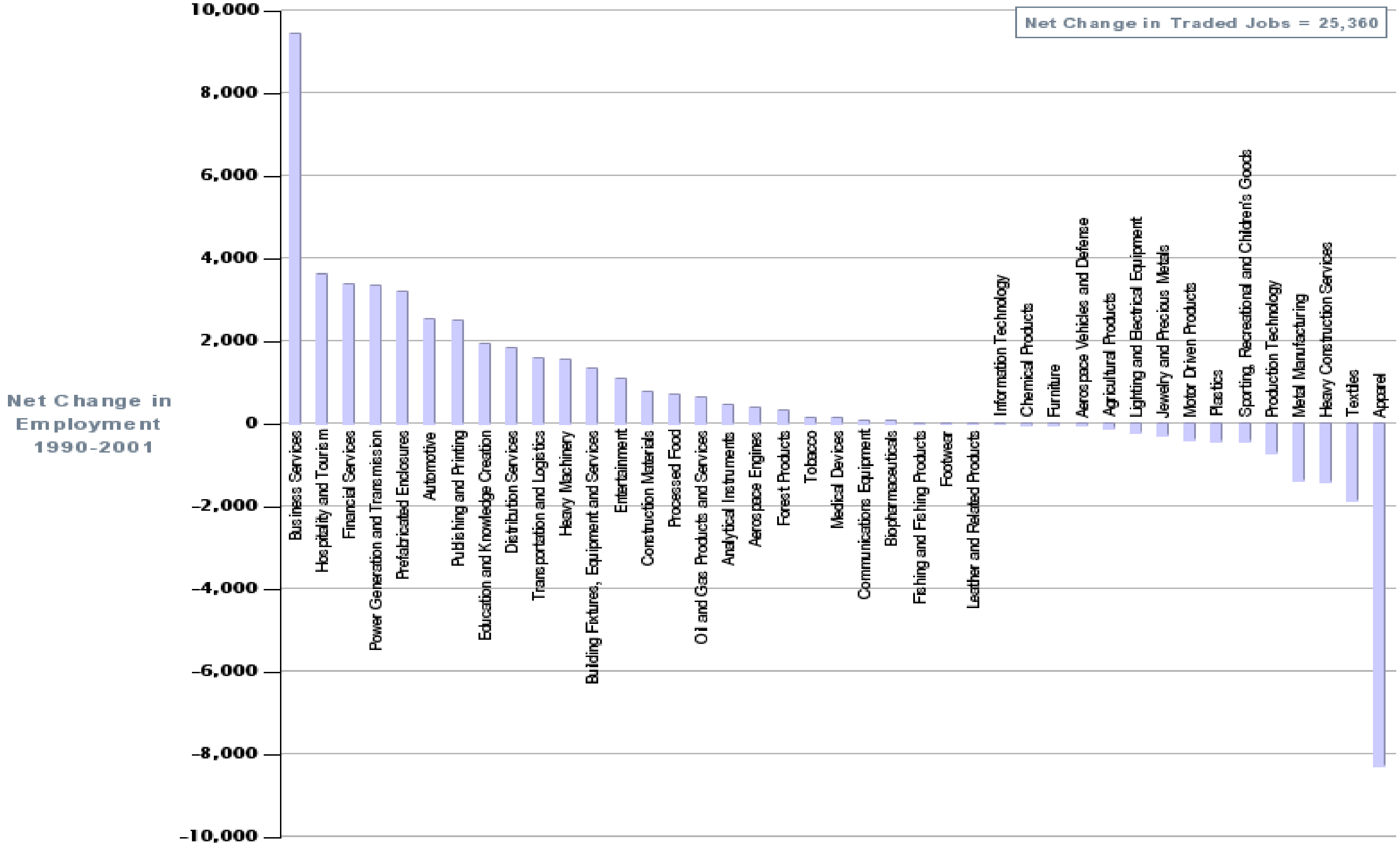
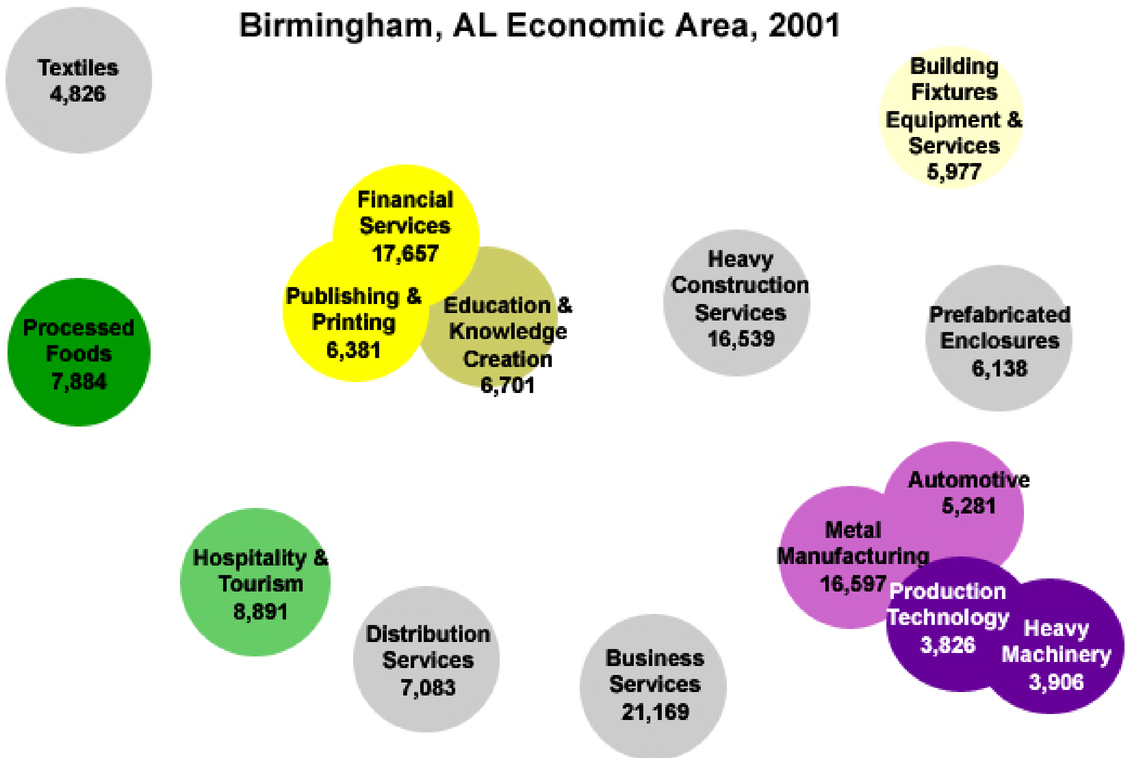


Figure 2-3

Cluster Overlap and Employment in Birmingham, AL Economic Area, 2001



Data Collected from Harvard Business School, Chart by Matthew J. Faulkner, UAH

Table 2-3
Birmingham, AL Economic Area Major Subcluster Employment and Potential for Growth

	Subclusters with Major Employment	Subclusters with Minor or no Employment
Cluster		
	Financial Services	
Subclusters		
	Insurance Products	Risk Capital Providers
	Depository Institutions	Investment Funds
	Health Plans	Real Estate Investment - Trusts
	Securities Brokers, Dealers, and Exchanges	Passenger Car Leasing
		Information Providers
		Computer and - Communications Services
		Printing Services
		Patent Owners and Lessors
		Marketing Related Services
		Research Organizations
Cluster		
	Publishing and Printing	
Subclusters		
	Publishing	News Syndicates
	Printing Services	Signs and Advertising - Specialties
	Paper Products	Radio, TV, Publisher - Representatives
		Printing Inputs
		Specialty Paper Products
		Inked Paper and Ribbons
		Office Equipment - and Supplies
		Marketing Related Services
		Printing - Related Machinery
		Online Information Services
		Computer Services
		Research Organizations
		Research Facilities

Cluster

Education and - Knowledge Creation

Subclusters

- Educational Institutions
- Research Organizations
- Educational Facilities
- Patent Owners and Lessors
- Supplies
- Research Related Instruments
- Pharmaceuticals
- Publishing
- Printing
- Communications Services
- Marketing and Information - Services
- Online Information Services
- Computer Services
- Prepackaged Software
- Computer and Software - Wholesaling and Services
- Computer Equipment

Cluster

Transportation and - Logistics

Subclusters

- Air Transportation
- Transportation Arrangement - and Warehousing
- Bus Transportation
- Marine Transportation
- Ship Building
- Trucking Terminal
- Airports
- Bus Terminals
- Passenger Transportation
- Communication Equipment - and Related Services
- Rental or Railroad Cars
- Computer Services and - Equipment

Cluster

Hospitality and Tourism

Subclusters

- Accommodations and Related - Services
- Tourism Related Services
- Water Passenger - Transportation
- Boat Related Services

	Tourism Attractions	Ground Transportation Other Local Transportation Related Professional - Services Other Attractions Air Services Vehicle Distribution and - Wholesaling Facilities Support Services

Cluster

Automotive

Subclusters

	Automotive Parts Motor Vehicles	Automotive Components Forgings and Stampings Flat Glass Production Equipment Small Vehicles and Trailers Marine, Tank, and - Stationary Engines Related Parts Motors and Generators Related Vehicles Metal Processing Machine Tools Related Process Machinery Industrial Trucks and Tractors Die-Castings

Cluster

Metal Manufacturing

Subcluster

	Iron Steel Mills and Foundries Fabricated Metal Products Metal Processing Metal Furniture	Metal Alloys Primary Metal Products Precision Metal Products Fasteners Wire and Springs Nonferrous Mills and Foundries Environmental Controls Pumps Saw Blades and Handsaws General Industrial Machinery Laundry and Cleaning Equipment Metal Armaments Measuring and Dispensing -

Pumps
Tools, Dies, and Fixtures
Paints and Allied Products
Lubricating Oils and Greases
Abrasive Products
Metalworking Machinery and - Components
Related Metal Processing
Industrial Furnaces and Ovens
Automotive Parts and Equipment
Hoists and Cranes
Related Metal Products
Motorcycles and Bicycles

Cluster

Production Technology

Subclusters

Process Equipment - Subsystems and Components
Fabricated Plate Work
Ball and Roller Bearings

Machine Tool and Accessories
Hoists and Cranes
Process Machinery
Industrial Patterns
Industrial Trucks and Trailers
Production Machinery and - Components
Blast Furnaces and Steel Mills
Household Appliances
Abrasive Products
Metal Heat Testing
Process Equipment
Vehicle and Heavy Stamping
Construction Machinery
Castings, Forgings, and Metal - Alloys

Cluster

Motor Driven Products

Subclusters

Tires and Inner Tubes
Refrigeration and Heating - Products

Motors and Generators
Batteries
Motorized Equipment
Appliances
Specialized Pumps
Specialized Machinery
Marine, Tank, and Stationary - Engines

Motorcycles and Bicycles
Metal Processing
Related Appliances
Hoists and Cranes
Printing Trades Machinery
Elevators and Moving -
Stairways
Air and Gas Compressors
Power Transmission, Motors -
and Pumps
Control Devices

Chapter 3

Dothan, AL Economic Area

Employment

Total 2001 employment in the Dothan, AL economic area was 102,654, which was 0.09% of national employment. Dothan, AL economic area's average wages in 2001 were $24,133 -vs- $34,669 for the US, or 30.39% below the national average. Average wage growth per year in the Dothan, AL economic area was 4.40% -vs- 4.41% for the US. As Table 3-1 and Figure 3-1 show, the 3 largest clusters in this area were textiles, heavy construction services, and transportation and logistics. As Table 3-2 shows, the 3 largest subclusters in this area were airports, trucks and trailers, and fibers.

Job Creation/Loss

Employment growth per year from 1990-2001 in the Dothan, AL-FL-GA economic area was 0.98% -vs- 2.10% for the US. As Figure 3-2 shows the largest job creation from 1990-2001 in the Dothan Alabama Economic area occurred in the business services cluster, gaining about 8,000 jobs, the financial services cluster, gaining about 3,000 jobs, and the hospitality and tourism cluster, gaining about 2,700 jobs. Figure 3-2 also shows that the largest job loss in from 1990-2001 in this area occurred in the heavy construction services cluster, losing about 2,500 jobs, the metal manufacturing cluster, losing about 1,600 jobs, and the apparel cluster losing about 1,000 jobs.

Cluster Overlap and Potential for Growth

Figure 3-3 shows the largest 15 clusters for the Dothan Economic Area. As Figure 3-3 shows the Dothan Economic Area has areas of overlap between its major clusters. The first grouping includes, financial services, publishing and printing, and aerospace vehicles and defense. Another grouping includes transportation and logistics, hospitality and tourism, entertainment. As Figure 2 shows, there are other clusters that overlap with these significant clusters. Another cluster that could possibly be developed in this area is production technology. This cluster is a compliment to the motor driven products cluster. Table 3-3 lists the subclusters included within these clusters. This table lists the specific industries that may be targeted for growth and development.

Table 3-1
Dothan, AL Economic Area
Total Employment by Cluster, 2001

Cluster	Employment
Textiles	3,849
Heavy Construction Services	3,382
Transportation and Logistics	2,154
Hospitality and Tourism	2,059
Furniture	2,052

Table 3-2
Dothan, AL Economic Area
Total Employment by Subcluster, 2001

Cluster	Subcluster	Employment
Transportation & Logistics	Airports	1,782
Textiles	Fibers	1,750
Furniture	Furnishings	1,500
Hospitality & Tourism	Accommodations & Related Services	1,416
Textiles	Fabric Mills	1,041
Distribution Services	Farm Materials & Supplies Wholesaling	836
Motor Driven Products	Tires & Inner Tubes	750
Entertainment	Recorder Products	750
Apparel	Men's Clothing	577
Apparel	Women's & Children's Clothing	577

Figure 3-1
Dothan, AL Economic Area
Total Employment by Traded Cluster, 2001

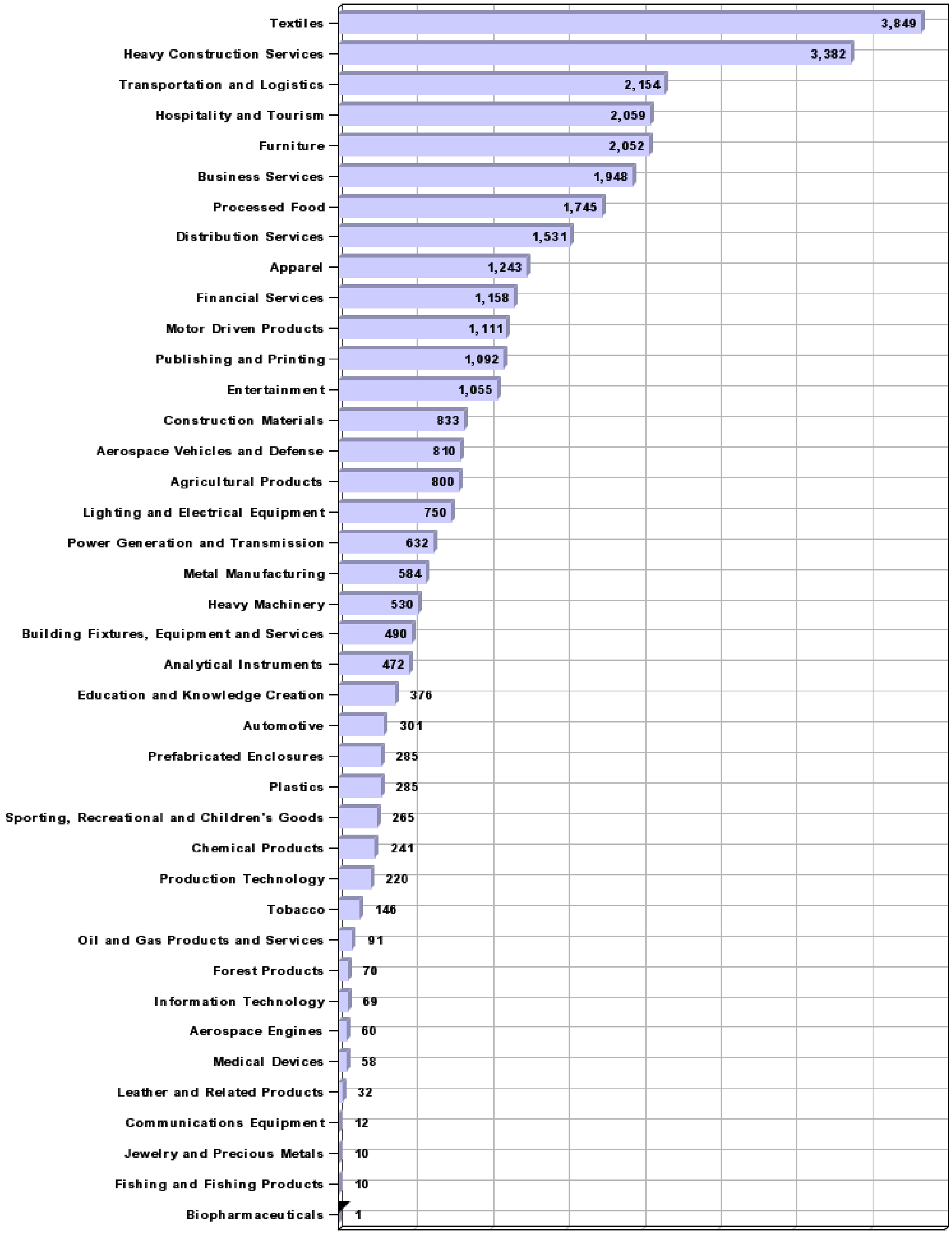


Figure 3-2
Dothan, AL Economic Area
Job Creation by Traded Cluster, 1990-2001

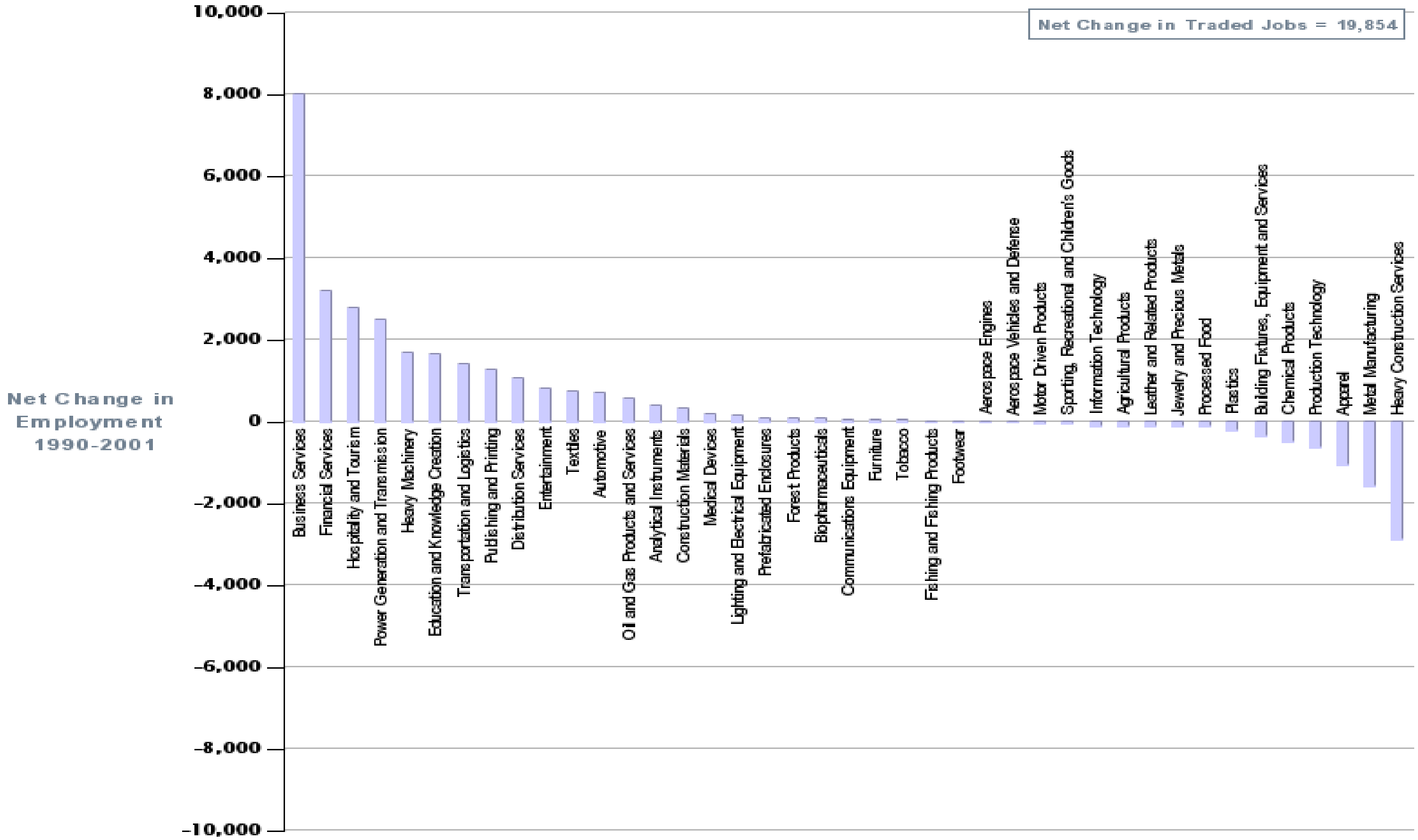


Figure 3-3

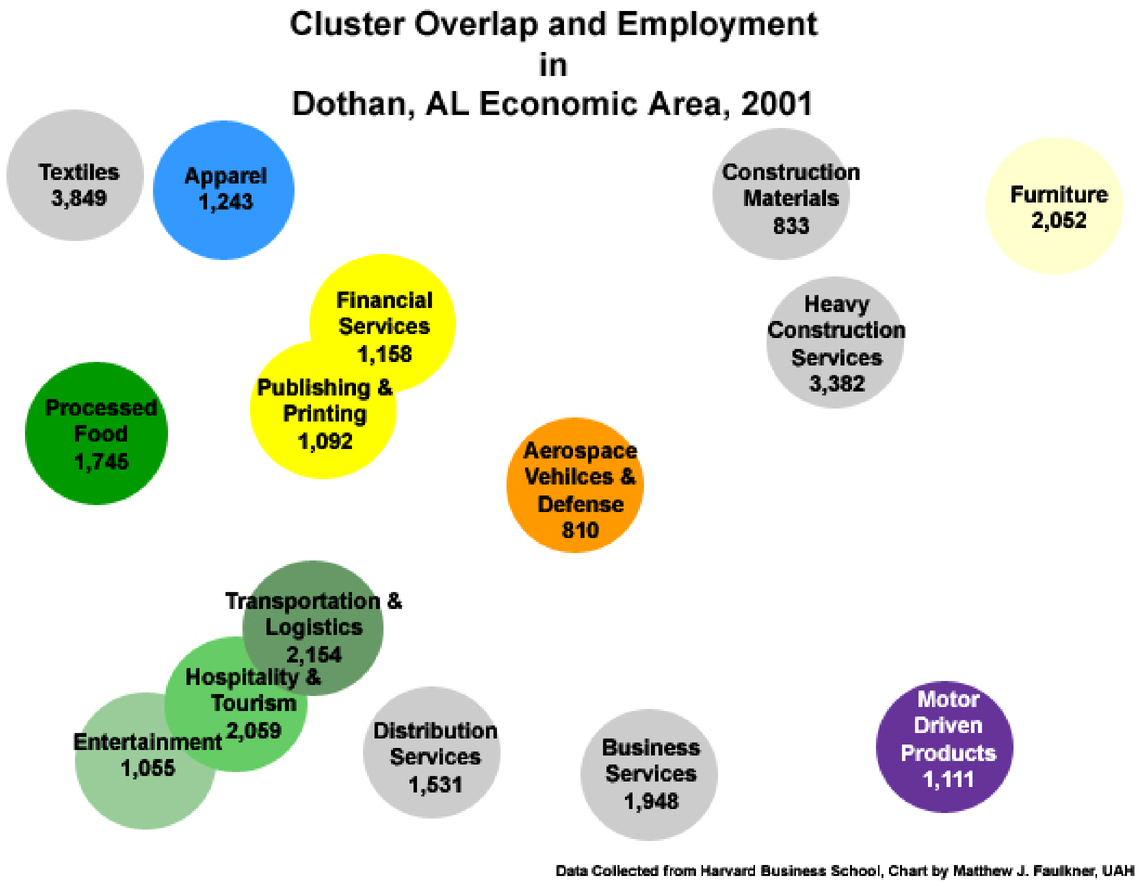

Cluster Overlap and Employment
in
Dothan, AL Economic Area, 2001
Textiles 3,849
Apparel 1,243
Construction Materials 833
Furniture 2,052
Financial Services 1,158
Heavy Construction Services 3,382
Publishing & Printing 1,092
Processed Food 1,745
Aerospace Vehilces & Defense 810
Transportation & Logistics 2,154
Hospitality & Tourism 2,059
Entertainment 1,055
Distribution Services 1,531
Business Services 1,948
Motor Driven Products 1,111
Data Collected from Harvard Business School, Chart by Matthew J. Faulkner, UAH

Table 3-3
Dothan, AL Economic Area Major Subcluster Employment and Potential for Growth

	Subclusters with Major Employment	Subclusters with Minor or no Employment
Cluster		
	Financial Services	
Subclusters		
	Insurance Products	Risk Capital Providers
	Depository Institutions	Investment Funds
		Real Estate Investment - Trusts
		Passenger Car Leasing
		Information Providers
		Computer and - Communications Services
		Printing Services
		Patent Owners and Lessors
		Marketing Related Services
		Research Organizations
		Health Plans
		Securities Brokers, Dealers, and Exchanges
Cluster		
	Publishing and Printing	
Subclusters		
	Signs and Advertising - Specialties	News Syndicates
		Radio, TV, Publisher - Representatives
		Printing Inputs
		Specialty Paper Products
		Inked Paper and Ribbons
		Office Equipment - and Supplies
		Marketing Related Services
		Printing - Related Machinery
		Online Information Services
		Computer Services
		Research Organizations
		Research Facilities
		Printing Services
		Paper Products

Publishing

Cluster

Aerospace Vehicles - and Defense

Subclusters

Aircraft	Missiles and Space Vehicles
	Defense Equipment
	Distribution and Wholesaling
	Metallic Parts
	Electronic Parts
	Instruments
	Semiconductor and - Computers
	Related Equipment
	Communications Equipment
	Software and Computer - Services
	Research

Cluster

Transportation and - Logistics

Subclusters

Airports	Air Transportation
	Bus Transportation
	Trucking Terminal
	Bus Terminals
	Passenger Transportation
	Communications Equipment - and Services
	Rental of Railroad Cars
	Computer Services and Equipment
	Ship Building
	Marine Transportation
	Transportation Arrangement - and Warehousing

Cluster

Hospitality and Tourism

Subclusters

Accommodations and - Related Services	Water Passenger - Transportation
	Boat Related Services

		Ground Transportation Other Local Transportation Related Professional - Services Other Attractions Air Services Vehicle Distribution and - Wholesaling Facilities Support Services Tourism Related Services Tourism Attractions
Cluster		
	Entertainment	
Subclusters		
	Recorded Products	Video Production and Distribution Entertainment Equipment Entertainment Related Services Entertainment Venues Distribution and Wholesaling Marketing and Promotional Services Related Attractions News Syndicates Audio and Video Equipment
Cluster		
	Motor Driven Products	
Subclusters		
	Tires and Inner Tubes	Motors and Generators Batteries Motorized Equipment Specialized Pumps Specialized Machinery Marine, Tank and Stationary - Engines Motorcycles and Bicycles Metal Processing Related Appliances Hoists and Cranes Printing Trades Machinery Elevators and Moving Stairways Air and Gas Compressors Power Transmission, Motors - and Pumps Control Devices

Refrigeration and -
Heating Equipment
Appliances

Cluster

Production Technology

Subclusters

No Significant Subclusters	Hoists and Cranes
	Industrial Patterns
	Fabricated Plate Work
	Industrial Trucks and Tractors
	Ball and Roller Bearings
	Production Machinery and - Components
	Blast Furnaces and Steel Mills
	Household Appliances
	Abrasive Products
	Metal Heat Treating
	Process Equipment
	Vehicle and Heavy Stamping
	Construction Machinery
	Casting, Forgings and Metal Alloys
	Process Equipment
	Subsystems and Components - Process Machinery
	Machine Tools and Accessories

Chapter 4

Huntsville, AL Economic Area

Employment

Total employment in the Huntsville, AL economic area in 2001 was 365,958, which was 0.32% of national employment. Huntsville, AL economic area's average wages in 2001 were $26,987 -vs- $34,669 for the US, or 22.16% below the national average. Average wage growth per year in Huntsville, AL economic area was 3.36% -vs- 4.41% for the US. As Table 4-1 and Figure 4-1 show, the Huntsville economic area's largest clusters were business services, apparel, and automotive. As Table 4-2 shows, the largest subclusters in this economic were, hosiery and other garments, automotive parts, and engineering services.

Job Creation/Loss

Employment growth per year from 1990-2001 in the Huntsville, AL economic area was 2.11% -vs.- 2.10% for the US. As Figure 4-2 shows, in the Huntsville economic area, the largest job creation from 1990-2001 occurred in the business services cluster, gaining about 5,000 jobs, the education and knowledge creation cluster, gaining about 3,800 jobs, and the heavy machinery cluster, gaining about 1,900 jobs. Figure 4-2 also shows that the largest job loss from 1990-2001 occurred in the apparel cluster, losing about 8,000 jobs, the aerospace vehicles and defense cluster, losing about 3,800 jobs, and the automotive cluster, losing about 2,100 jobs.

Cluster Overlap and Potential for Growth

Figure 4-3 shows the largest 15 clusters for the Huntsville Economic Area. As Figure 4-3 shows the Huntsville Economic Area has areas of overlap between its major clusters. The first grouping includes education and knowledge creation, analytical instruments, and information technology. Another grouping occurs between the automotive, metal manufacturing, and motor driven products clusters. As Figure 2 shows, there are other clusters that overlap with these significant clusters. Some other clusters that could be developed to compliment these areas are medical devices, aerospace engines, and production technology. The transportation and logistics cluster could be a nice compliment to the hospitality and tourism cluster. Table 4-3 lists the subclusters included within these clusters. This table lists the specific industries that may be targeted for growth and development.

Table 4-1
Huntsville, AL Economic Area
Total Employment by Cluster, 2001

Cluster	Employment
Business Services	19,899
Apparel	11,689
Automotive	9,382
Prefabricated Enclosures	7,585
Motor Driven Products	7,527

Table 4-2
Huntsville, AL Economic Area
Total Employment by Subcluster, 2001

Cluster	Subcluster	Employment
Business Services	Engineering Services	7,668
Automotive	Automotive Parts	7,442
Apparel	Hosiery & Other Garments	6,825
Business Services	Computer Programming	5,875
Information Technology	Computers	4,125
Motor Driven Products	Refrigeration & Heating Equipment	3,868
Education & Knowledge Creation	Research Organizations	3,860
Motor Driven Products	Tires & Inner Tubes	3,620
Analytical Instruments	Electronic Components	3,406
Prefabricated Enclosures	Aluminum Processing	3,059

Figure 4-1
Huntsville, AL Economic Area
Total Employment by Traded Cluster, 2001

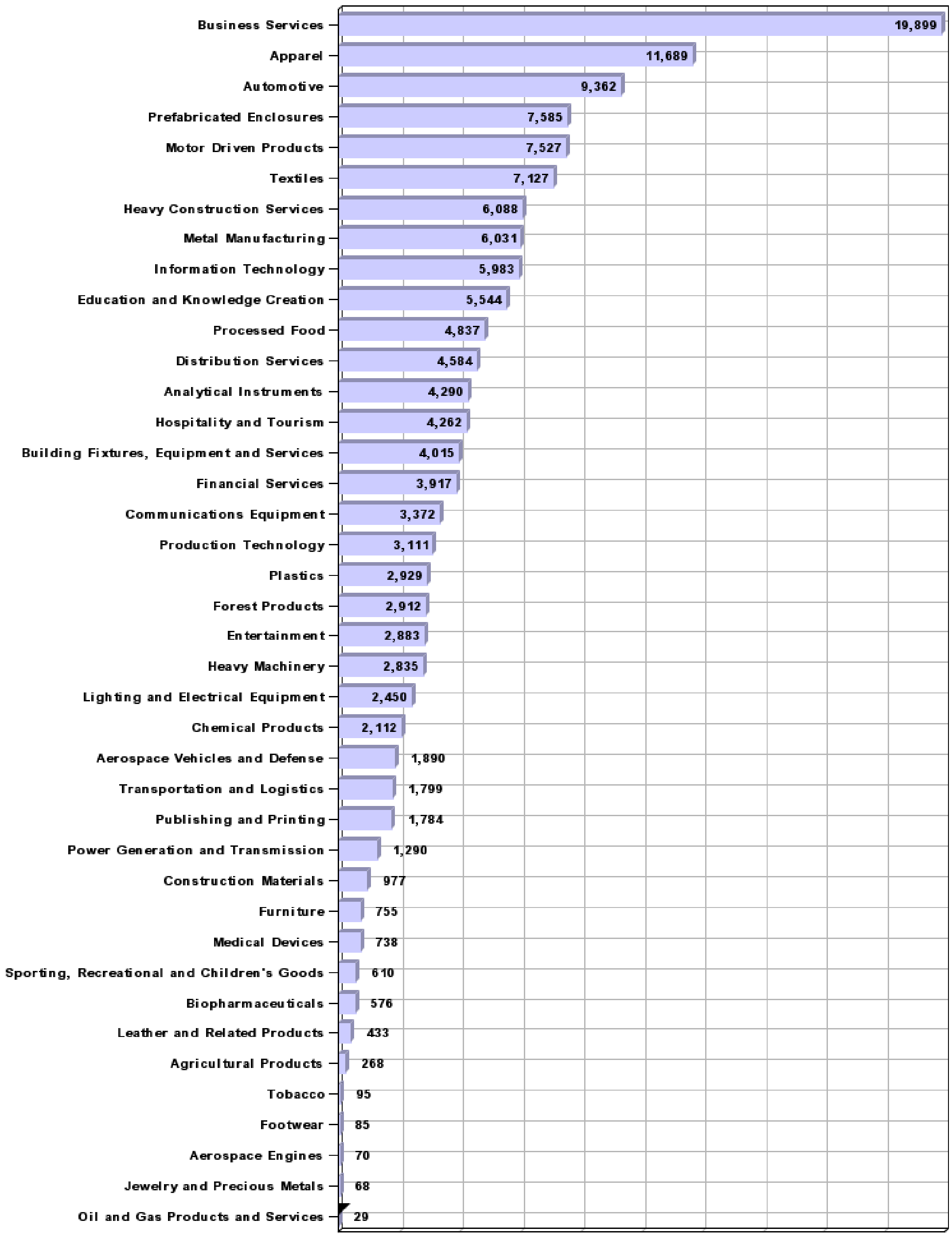


Figure 4-2
Huntsville, AL Economic Area
Job Creation by Traded Cluster, 1990-2001

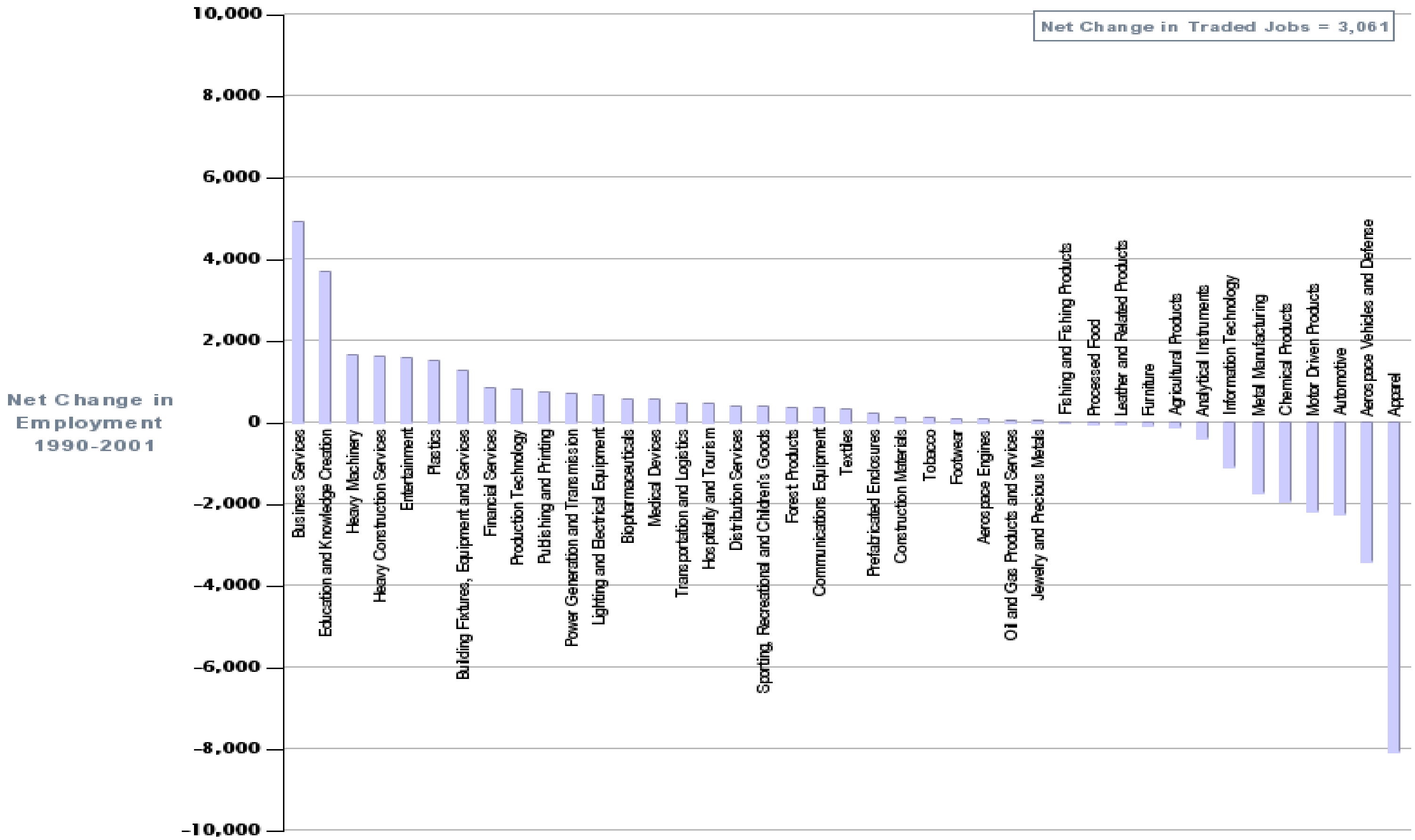
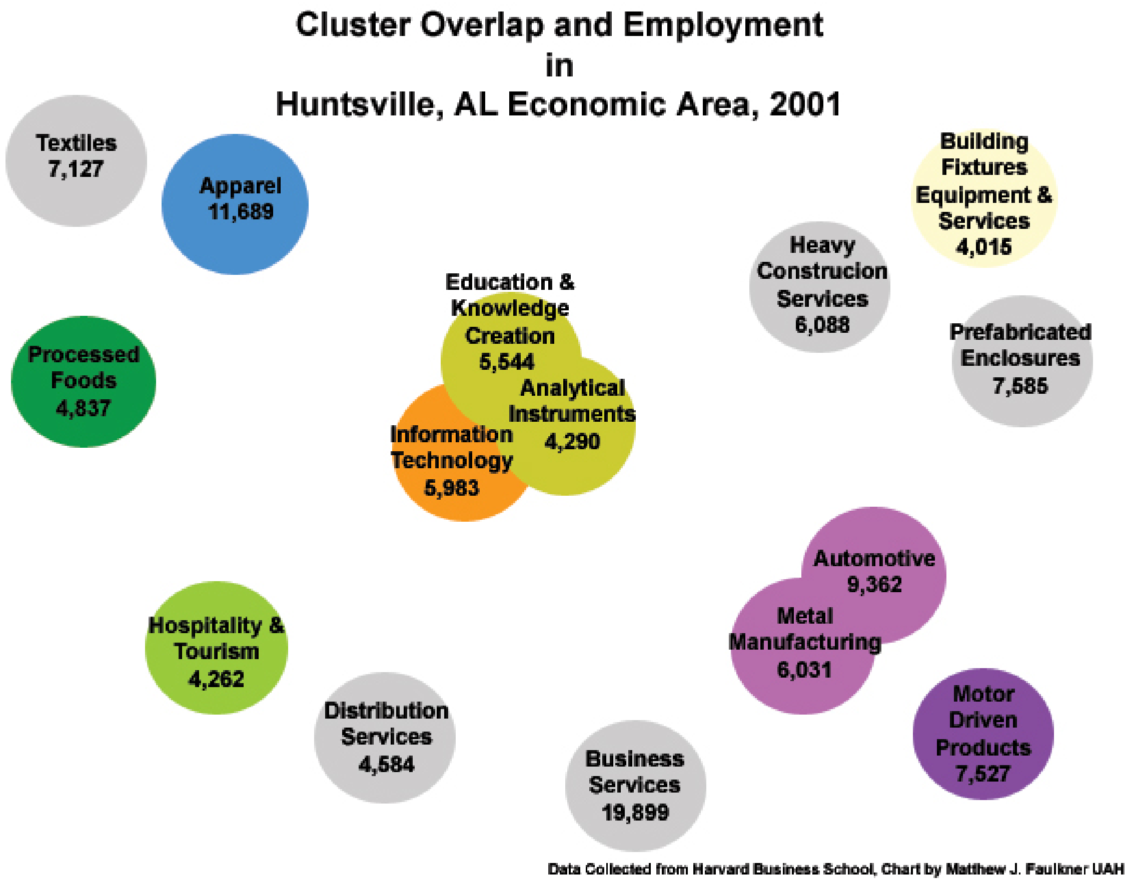


Figure 4-3



Cluster Overlap and Employment
in
Huntsville, AL Economic Area, 2001
Textiles 7,127
Apparel 11,689
Building Fixtures Equipment & Services 4,015
Heavy Construcion Services 6,088
Education & Knowledge Creation 5,544
Prefabricated Enclosures 7,585
Processed Foods 4,837
Analytical Instruments 4,290
Information Technology 5,983
Automotive 9,362
Metal Manufacturing 6,031
Hospitality & Tourism 4,262
Motor Driven Products 7,527
Distribution Services 4,584
Business Services 19,899
Data Collected from Harvard Business School, Chart by Matthew J. Faulkner UAH

Table 4-3
Huntsville, AL Economic Area Major Subcluster Employment and Potential for Growth

	Subclusters with Major Employment	Subclusters with Minor or no Employment
Cluster		
	Automotive	
Subclusters		
	Automotive Parts	Motor Vehicles
	Production Equipment	Automotive Components
		Forgings and Stampings
		Flat Glass
Cluster		
	Metal Manufacturing	
Subclusters		
	Iron and Steel Mill Foundries	Metal Alloys
	Metal Processing	Primary Metal Products
	Metal Furniture	Precision Metal Products
	Fabricated Metal Products	Fasteners
		Wire and Springs
		Nonferrous Mills and - Foundries
		Environmental Controls
		Pumps
		Saw Blades and Handsaws
		General Industrial Machinery
		Laundry and Cleaning Equipment
		Metal Armaments
		Measuring and Dispensing - Pumps
		Tools, Dies, and Fixtures
		Plants and Allied Products
		Lubricating Oils and Greases
		Abrasive Products
		Metalworking Machinery and - Components
		Related Metal Processing
		Industrial Furnaces and Ovens
		Automotive Parts and - Equipment
		Hoists and Cranes
		Related Metal Products

Motorcycles and Bicycles

Cluster

Motor Driven Products

Subcluster

Refrigeration and -
Heating Equipment
Tires and Inner Tubes

Motors and Generators
Batteries
Motorized Equipment
Appliances
Specialized Pumps
Specialized Machinery
Marine, Tank and Stationary -
Engines
Motorcycles and Bicycles
Metal Processing
Related Appliances
Hoists and Cranes
Printing Trades Machinery
Elevators and Moving Stairways
Air and Gas Compressors
Power Transmission, Motors -
and Pumps
Control Devices

Cluster

Information Technology

Subcluster

Computers
Software

Electronic Components and -
Assemblies
Peripherals
Communication Services
Distribution and Wholesaling
Other Electronic Components -
and Parts
Recording Media Services
Online Information Services
Computer Services
Instruments
Communication Equipment
Research Organizations

Cluster

Education and -
Knowledge Creation

Subcluster

Research Organizations

Educational Facilities

	Educational Institutions	Plant Owners and Lessors Supplies Research Related Instruments Pharmaceuticals Publishing Printing Communications Services Marketing and Information - Systems Online Information Services Computer Services Prepackaged Software Computer and Software - Wholesaling and Services Computer Equipment
Cluster	Analytical Instruments	
Subcluster	Electronic Components Laboratory Instruments	Optical Instruments Process Instruments Search and Navigation Equipment Distribution and Wholesaling Electronic Parts Other Parts Medical Equipment Related Process Equipment Related Equipment Computer and Software - Services Research Organizations
Cluster	Aerospace Engines	
Subcluster	no major subclusters	Aircraft Engines Precision Metal Products Engine and Other Instruments Parts and Components Foundries Parts Processing Nonferrous Processing Machine Tools Aircraft and Parts
Cluster	Production Technology	

Subcluster		
	Process Equipment Subsystems and Components -	Hoists and Cranes
		Industrial Patterns
	Process Machinery	Fabricated Plate Work
	Machine Tools and Accessories	Industrial Trucks and Tractors
		Ball and Roller Bearings
		Production Machinery and - Components
		Blast Furnaces and Steel Mills
		Household Appliances
		Abrasive Products
		Metal Heat Treating
		Process Equipment
		Vehicle and Heavy Stamping
		Construction Machinery
		Casting, Forgings and Metal Alloys
Cluster	Transportation and Logistics	
Subcluster	Transportation Arrangement - and Warehousing	Bus Transportation
		Marine Transportation
	Air Transportation	Ship Building
		Trucking Terminals
		Airports
		Bus Terminals
		Passenger Transportation
		Communications Equipment and - Services
		Rental of Railroad Cars
		Computer Services and Equipment
Cluster		
	Medical Devices	
Subcluster		
	Surgical Instruments - and Supplies	Dental Instruments and Supplies
		Ophthalmic Goods
		Medical Equipment
		Diagnostic Substances
		Biological Products
		Laboratory Apparatus
		Electronic Components
		Plastic Parts
		Metal Parts
		Online Information Services

Precision Instruments
Computer Equipment
Pharmaceutical Products
Research Organizations

Chapter 5

Mobile, AL Economic Area

Employment

In 2001, employment in the Mobile, AL economic area was 233,365, which was 0.2% of national employment. Mobile, AL economic area's average wages in 2001 were $26,443 -vs- $34,669 for the US, or 23.73% below the national average. Average wage growth per year in the Mobile, AL economic area was 3.81% -vs- 4.41% for the US. As Table 5-1and Figure 5-1 show, the 3 largest clusters in the Mobile economic area were business services, transportation and logistics, and heavy construction services. As Table 5-2 shows, the 3 largest subclusters were paper mills, intermediate chemicals and gasses, and accommodations and related services.

Job Creation/Loss

Employment growth per year from 1990-2001 in the Mobile, AL economic area was 2.39% -vs.- 2.10% for the US. As Figure 5-2 shows the largest job creation from 1990-2001 for the Mobile economic area occurred in the business services cluster, gaining about 2,400 jobs, the aerospace vehicles and defense cluster, gaining about 1,500 jobs, and the heavy construction services cluster, gaining about 1,300 jobs. Figure 5-2 also shows that the area lost the most jobs from 1990-2001 in the forest products cluster, losing about 2,100 jobs, the transportation and logistics cluster, losing about 1,300 jobs, and the textiles cluster, losing about 1,000 jobs.

Cluster Overlap and Potential for Growth

Figure 5-3 shows the largest 15 clusters for the Mobile Economic Area. As Figure 5-3 shows the Mobile Economic Area has areas of overlap between its major clusters. The first grouping includes, chemical products, financial services, education and knowledge creation, and aerospace vehicles and defense. Another grouping occurs between the transportation and logistics, hospitality and tourism, and distribution services clusters. A third grouping occurs between the metal manufacturing and production technology clusters. Table 5-3 lists the subclusters included within these clusters. This table lists the specific industries that may be targeted for growth and development.

Table 5-1
Mobile, AL Economic Area
Total Employment by Cluster, 2001

Cluster	Employment
Business Services	5,555
Transportation and Logistics	4,452
Heavy Construction Services	4,321
Chemical Products	4,241
Hospitality and Tourism	3,861

Table 5-2
Mobile, AL Economic Area
Total Employment by Subcluster, 2001

Cluster	Subcluster	Employment
Chemicals Products	Intermediate Chemicals & Gasses	5,356
Forest Products	Paper Mills	3,462
Hospitality & Tourism	Accommodations & Related Services	3,036
Aerospace Vehicles & Defense	Aircraft	2,300
Heavy Construction Services	Final Construction	2,074
Business Services	Management Consulting	1,941
Furniture	Furniture	1,899
Transportation & Logistics	Ship Building	1,760
Business Services	Engineering Services	1,583
Education & Knowledge Creation	Educational Institutions	1,078

Figure 5-1
Mobile, AL Economic Area
Total Employment by Traded Cluster, 2001

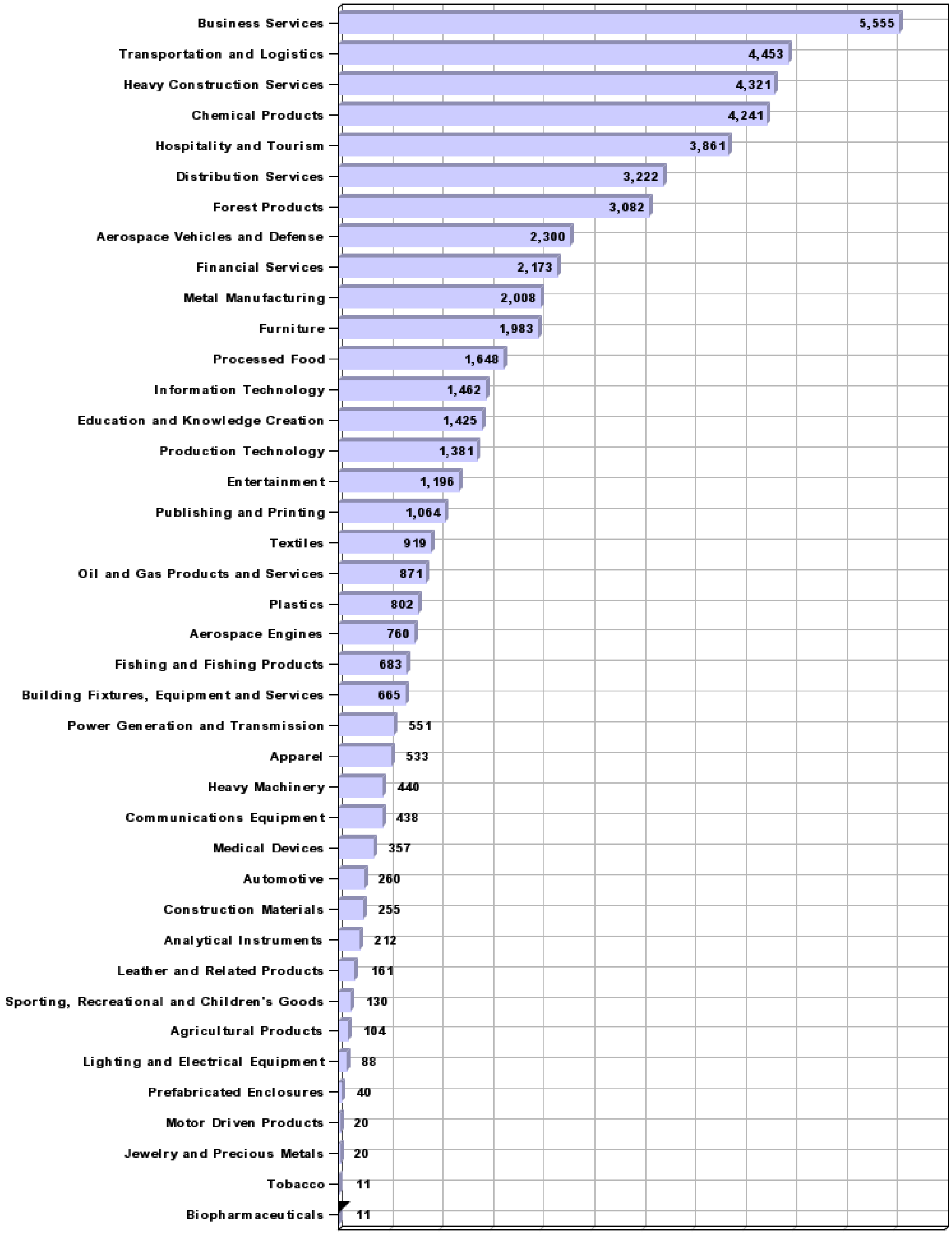


Figure 5-2
Mobile, AL Economic Area
<u>Job Creation by Traded Cluster, 1990-2001</u>

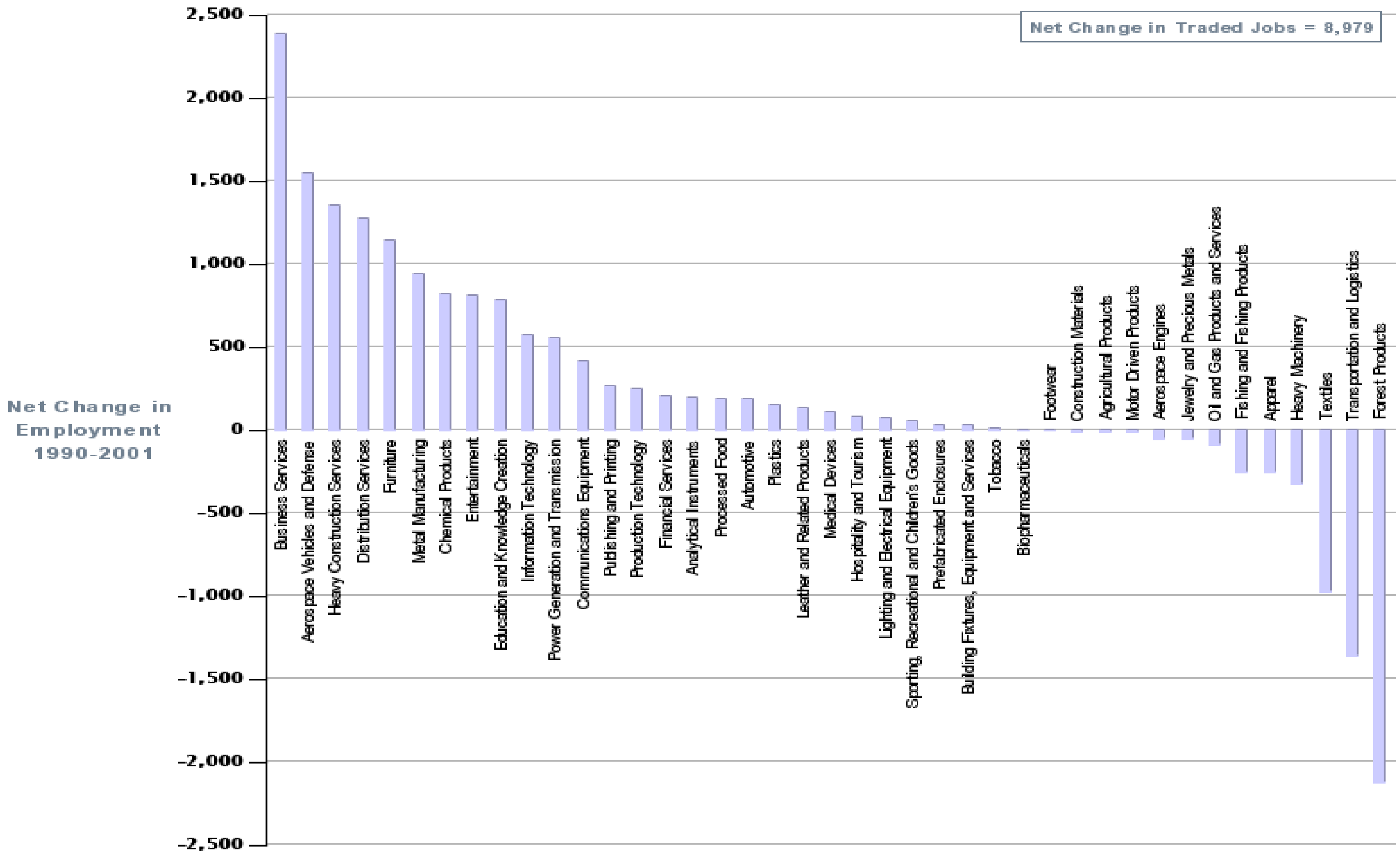
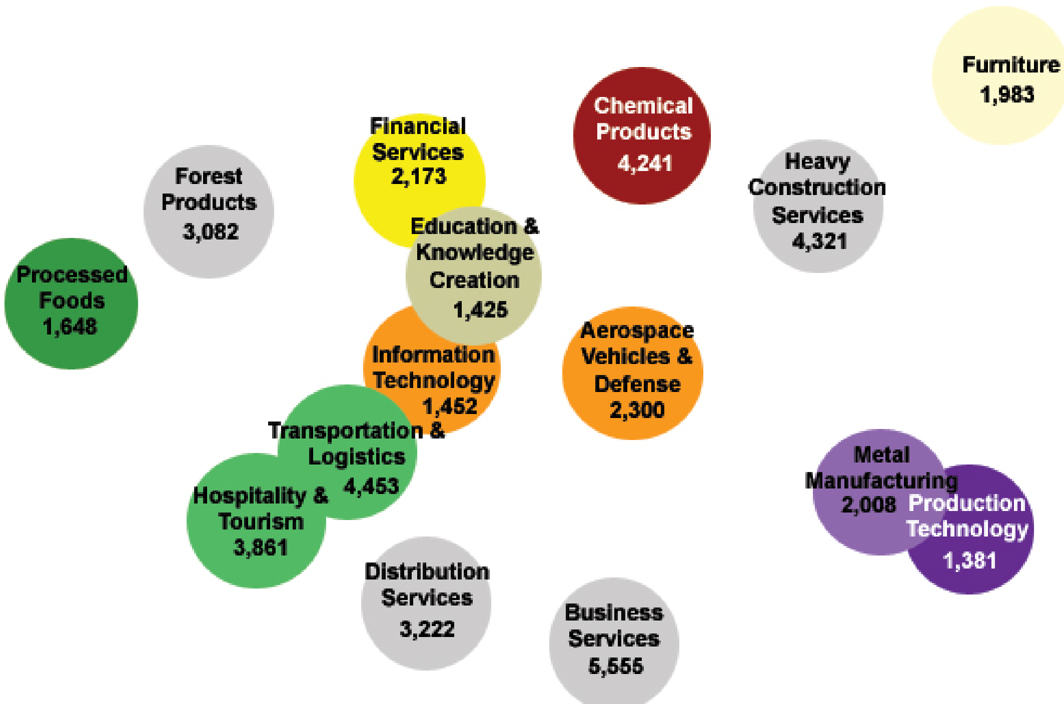


Figure 5-3

Cluster Overlap and Employment
in
Mobile, Alabama Economic Area's Economy, 2001



Data Collected from Harvard Business School, Chart designed by Matthew J. Faulkner UAH

Table 5-3
Mobile, AL Economic Area Major Subcluster Employment and Potential for Growth

	Subclusters with Major Employment	Subclusters with Minor or no Employment
Cluster		
	Chemical Products	
Subclusters		
	Intermediate Chemicals - and Gasses	Packaged Chemical Products
	Other Processed Chemicals	Refractories
		Leather Training and - Finishing
		Ammunition
		Special Packaging
		Treated Garments
		Hydrocarbons
		Petrochemicals
		Plastics, Resins and Products
		Pharmaceuticals
		Diagnostics and Biological - Products
		Related Consumer Products
		Other Packaging
		Processing Instruments
Cluster		
	Financial Services	
Subclusters		
	Insurance Products	Health Plans
	Depository Institutions	Risk Capital Providers
	Securities Brokers, Dealers - and Institutions	Investment Funds
		Real Estate Investment Trusts
		Passenger Car Leasing
		Information Providers
		Computer and Communication - Services
		Printing Services
		Patent Owners and Lessors
		Marketing Related Services
		Research Organizations
Cluster		
	Education and Knowledge -	

Creation

Subclusters

Educational Institutions

Research Organizations
Educational Facilities
Plant Owners and Lessors
Supplies
Research Related Instruments
Pharmaceuticals
Publishing
Printing
Communications Services
Marketing and Information - Services
Online Information Services
Computer Services
Prepackaged Software
Computer and Software - Wholesaling and Services
Computer Equipment

Cluster

Aerospace Vehicles and - Defense

Subclusters

Aircraft

Missiles and Space Vehicles
Defense Equipment
Distribution and Wholesaling
Metallic Parts
Electronic Parts
Instruments
Semiconductors and Computers
Related Equipment
Communications Equipment
Software and Computer Services
Research

Cluster

Transportation and Logistics

Subclusters

Ship Building
Marine Transportation
Transportation Arrangement - and Warehousing

Air Transportation
Bus Transportation
Trucking Terminal
Airports
Bus Terminals

Passenger Transportation
Communications Equipment -
and Services
Rental of Railroad Cars
Computer Services and Equipment

Cluster

Hospitality and Tourism

Subclusters

Accommodations and Related -
Services
Tourism Attractions
Boat Related Services

Tourism Related Services
Water Passenger Transportation
Ground Transportation
Other Local Transportation
Related Professional Services
Other Attractions
Air Services
Vehicle Distribution -
and Wholesaling
Facilities Support Services

Cluster

Distribution Services

Subcluster

Food Products Wholesaling
Merchandise Wholesaling
Catalog and Mail Order

Apparel and Accessories -
Wholesaling
Farm Materials and Supplies -
Wholesaling
Transportation Vehicles and -
Equipment Distribution
Special Warehousing and Storage
Jewelry and Precious Stone -
Wholesaling
Construction Machinery Wholesaling

Chapter 6

Montgomery, AL Economic Area

Employment

Total 2001 employment in the Montgomery, AL economic area was 168,100, which was 0.15% of national employment. Montgomery, AL economic area's average wages in 2001 were $26,620 -vs- $34,669 for the US, or 23.22% below the national average. Average wage growth per year in the Montgomery, AL economic area was 4.05% -vs- 4.41% for the US. As Table 6-1 and Figure 6-1 show, the 3 largest clusters in this area were business services, financial services, and heavy construction services. Table 6-2 shows that the 3 largest subclusters in this area were insurance products, appliances, and automotive parts.

Job Creation/Loss

Employment growth per year from 1990-2001 in Montgomery, AL was 1.86% -vs.- 2.10% for the US. As Figure 6-2 shows, from 1990-2001 the largest job creation in the Montgomery economic area occurred in the business services cluster, gaining about 2,200 jobs, the plastics cluster, gaining about 1,700 jobs, and the financial services cluster, gaining about 1,200 jobs. Figure 6-2 also shows that the largest job loss in this area from 1990-2001 occurred in the heavy machinery cluster, losing about 3,000 jobs, the processed foods cluster, losing about 1,200 jobs, and the apparel cluster, losing about 1,200.

Cluster Overlap and Potential for Growth

Figure 6-3 shows the largest 15 clusters for the Montgomery Economic Area. As Figure 6-3 shows the Montgomery Economic Area has areas of overlap between its major clusters. The first grouping includes, plastics, financial services, publishing and printing, and education and knowledge creation. Another grouping occurs between the automotive, metal manufacturing, motor driven products, and heavy machinery clusters. A third grouping occurs between the hospitality and tourism and transportation and logistics cluster. As Figure 2 shows, there are other clusters that overlap with these significant clusters. A cluster that could be developed to compliment these areas is the production technology cluster. Table 6-3 lists the subclusters included within these clusters. This table lists the specific industries that may be targeted for growth and development.

Table 6-1
Montgomery, AL Economic Area
Total Employment by Cluster, 2001

Cluster	Employment
Business Services	5,302
Financial Services	4,103
Heavy Construction Services	3,806
Plastics	3,167
Metal Manufacturing	2,441

Table 6-2
Montgomery, AL Economic Area
Total Employment by Subcluster, 2001

Cluster	Subcluster	Employment
Financial Services	Insurance Products	2,329
Plastics	Plastic Products	2,212
Motor Driven Products	Appliances	1,898
Heavy Construction Services	Final Construction	1,550
Automotive	Automotive Parts	1,530
Business Services	Management Consulting	1,526
Financial Services	Depository Institutions	1,215
Business Services	Computer Programming	1,044
Business Services	Computer Services	1,010
Heavy Construction Services	Subcontractors	972

Figure 6-1
Montgomery, AL Economic Area
<u>Total Employment by Traded Cluster, 2001</u>

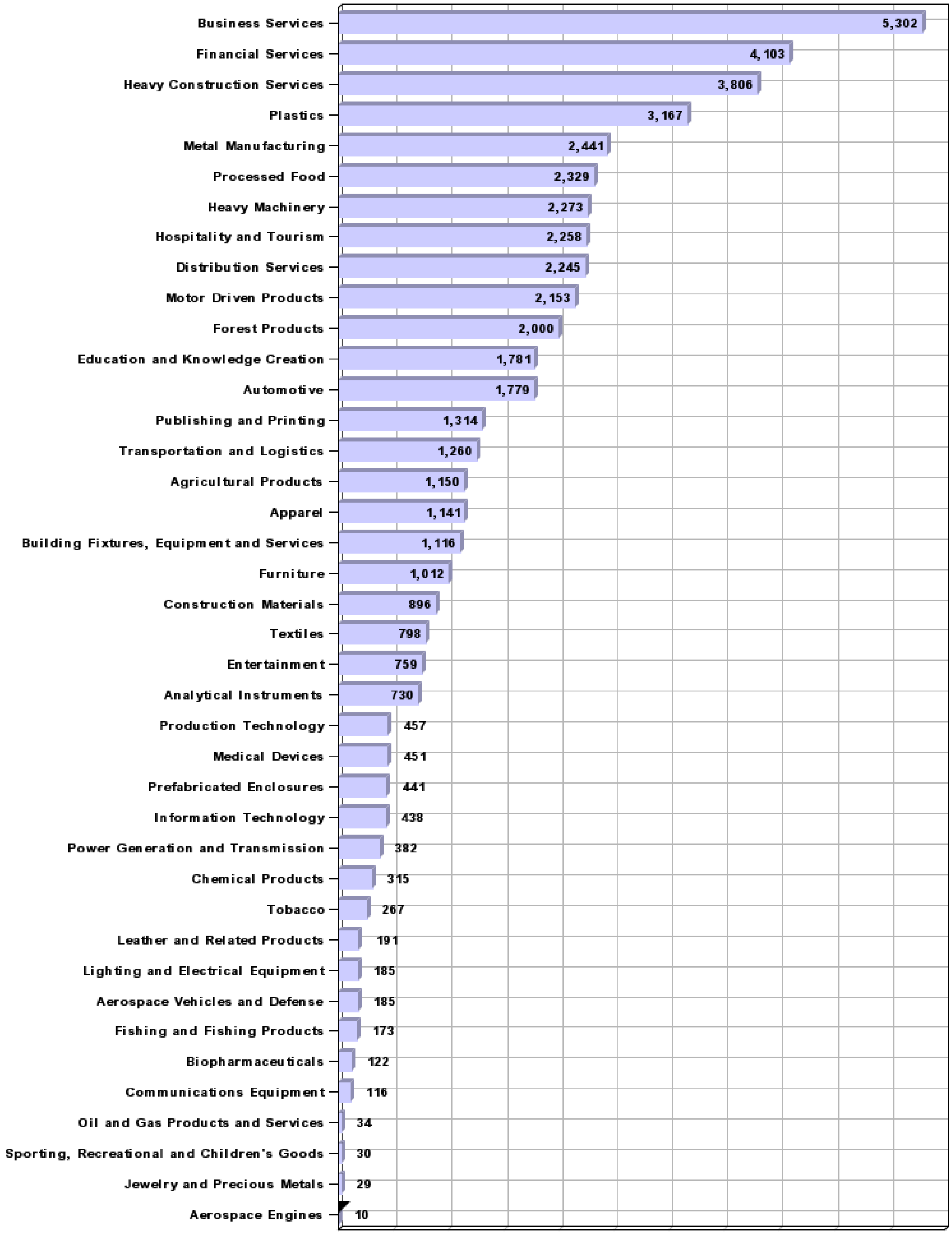


Figure 6-2
Montgomery, AL Economic Area
Job Creation by Traded Cluster, 1990-2001

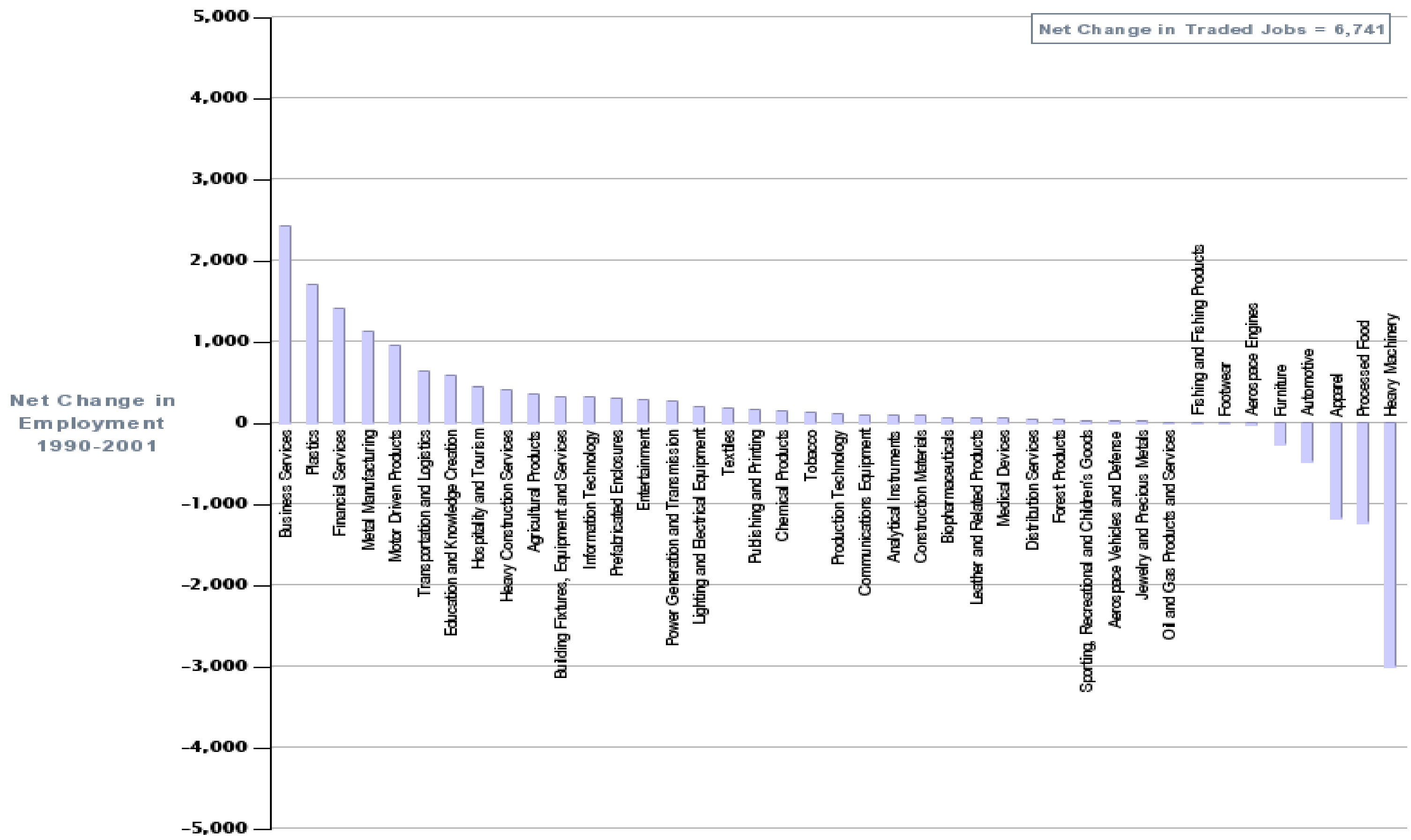
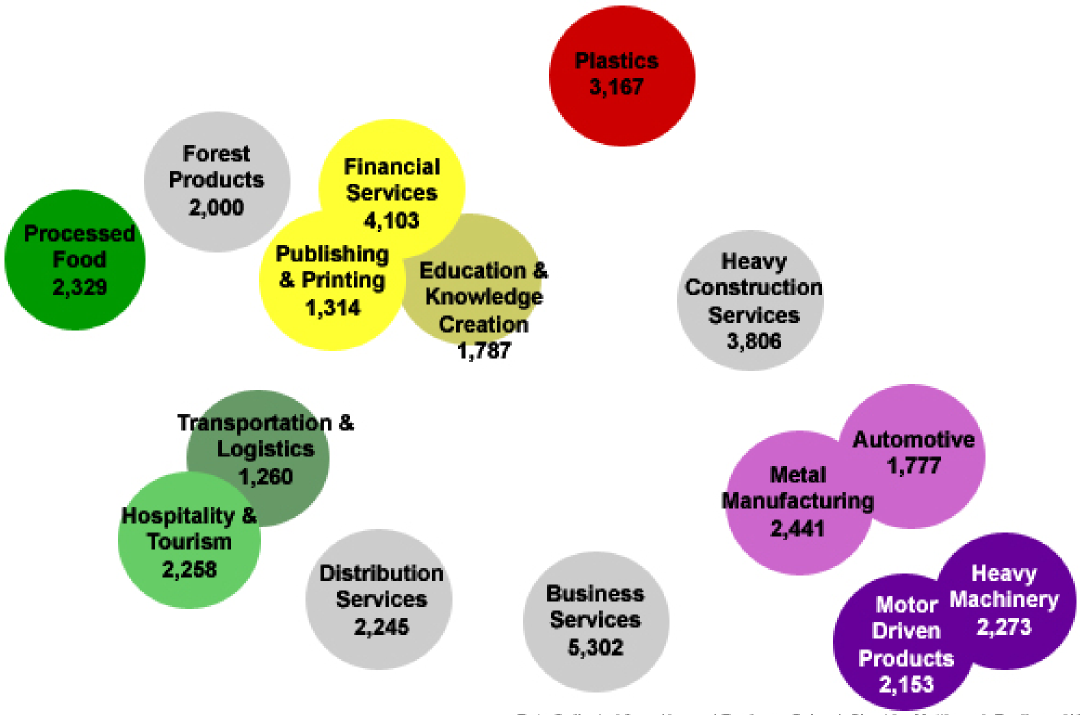


Figure 6-3

Cluster Overlap and Employment in Montgomery, AL Economic Area, 2001



Data Collected from Harvard Business School, Chart by Matthew J. Faulkner, UAH

Table 6-3
Montgomery, AL Economic Area Major Subcluster Employment and Potential for Growth

	Subclusters with Major Employment	Subclusters with Minor or no Employment
Cluster	Financial Services	
Subclusters	Insurance Products Depository Institutions	Security Brokers, Dealers, and Exchanges Health Plans Risk Capital Providers Investment Funds Real Estate Investment - Trusts Passenger Car Leasing Information Providers Computer and Communication - Systems Printing Services Patent Owners and Lessors Marketing Related Services Research Organizations
Cluster	Publishing and Printing	
Subclusters	Publishing	News Syndicates Signs and Advertising - Specialties Radio, TV, Publisher - Representatives Printing Inputs Specialty Paper Products Inked Paper and Ribbons Office Equipment - and Supplies Marketing Related Services Printing - Related Machinery Online Information Services Computer Services Research Organizations Research Facilities Printing Services

Paper Products

Cluster

Education and -
Knowledge Creation

Subclusters

Educational Institutions

Educational Facilities
Plant Owners and Lessors
Supplies
Research Related Instruments
Pharmaceuticals
Publishing
Printing
Communications Services
Marketing and Information -
Systems
Online Information Services
Computer Services
Prepackaged Software
Computer and Software -
Wholesaling and Services
Computer Equipment
Research Organizations

Cluster

Metal Manufacturing

Subclusters

Precision Metal Products
Fabricated Metal Products

Metal Alloys
Primary Metal Products
Iron and Steel Mill Foundries
Fasteners
Wire and Springs
Nonferrous Mills and -
Foundries
Environmental Controls
Pumps
Saw Blades and Handsaws
General Industrial Machinery
Laundry and Cleaning Equipment
Metal Armaments
Measuring and Dispensing -
Pumps
Tools, Dies, and Fixtures
Plants and Allied Products
Lubricating Oils and Greases
Abrasive Products

		Metalworking Machinery and - Components
		Related Metal Processing
		Industrial Furnaces and Ovens
		Automotive Parts and - Equipment
		Hoists and Cranes
		Related Metal Products
		Motorcycles and Bicycles
		Metal Processing
		Metal Furniture
Cluster		
	Automotive	
Subclusters		
	Automotive Parts	Motor Vehicles
		Automotive Components
		Forgings and Stampings
		Flat Glass
		Production Equipment
		Small Vehicles and Trailers
		Marine, Tank, and Stationary - Engines
		Related Parts
		Metal Processing
		Machine Tools
		Related Processing Machinery
		Industrial Trucks and Trailers
		Die-Castings
Cluster		
	Production Technology	
Subclusters		
	no significant subclusters	Hoists and Cranes
		Industrial Patterns
		Fabricated Plate Work
		Industrial Trucks and Tractors
		Ball and Roller Bearings
		Production Machinery and - Components
		Blast Furnaces and Steel Mills
		Household Appliances
		Abrasive Products
		Metal Heat Treating
		Process Equipment

		Vehicle and Heavy Stamping Construction Machinery Casting, Forgings and Metal Alloys Process Equipment Subsystems and Components - Process Machinery Machine Tools and Accessories

Cluster

Motor Driven Products

Subclusters

	Appliances	Motors and Generators Batteries Motorized Equipment Specialized Pumps Specialized Machinery Marine, Tank and Stationary - Engines Motorcycles and Bicycles Metal Processing Related Appliances Hoists and Cranes Printing Trades Machinery Elevators and Moving Stairways Air and Gas Compressors Power Transmission, Motors - and Pumps Control Devices Refrigeration and - Heating Equipment Tires and Inner Tubes

Cluster

Heavy Machinery

Subclusters

	Construction Machinery	Farm Machinery Railroad Equipment and Rental Mining Machinery Machinery Components Valves and Pipe Fittings Hoists and Cranes Forgings, Castings, and Metal - Parts Engines Related Parts

		Compressors and Fans
		Tires and Inner Tubes
Cluster		
	Motor Driven Products	
Subclusters		
	Appliances	Motors and Generators
		Batteries
		Motorized Equipment
		Specialized Pumps
		Specialized Machinery
		Marine, Tank and Stationary - Engines
		Motorcycles and Bicycles
		Metal Processing
		Related Appliances
		Hoists and Cranes
		Printing Trades Machinery
		Elevators and Moving Stairways
		Air and Gas Compressors
		Power Transmission, Motors - and Pumps
		Control Devices
		Refrigeration and - Heating Equipment
		Tires and Inner Tubes

Chapter 7

Anniston, AL Metropolitan Area

Employment

Total 2001 private employment in the Anniston, AL MSA was 39,752, which was 0.03% of national employment. Anniston, AL MSA's average wages in 2001 were $23,265 -vs- $34,669 for the US, or 32.89% below the national average. Average wage growth per year in the Anniston, AL MSA was 3.59% -vs- 4.41% for the US. As Table 7-1 and Figure 7-1 show the 3 largest clusters were metal manufacturing, heavy construction services, and textiles. As Table 7-2 shows the 3 largest subclusters were iron steel mills and foundries, fabricated metal structures and piping, and furnishings.

Job Creation/Loss

Employment growth per year from 1990-2001 in the Anniston, AL MSA was 1.75% -vs.- 2.10% for the US. As Figure 7-2 shows, from 1990-2001 the largest job creation for the Anniston MSA occurred in the prefabricated enclosures cluster, gaining about 700 jobs, the publishing and printing cluster, gaining about 600 jobs, and the aerospace engines cluster, gaining about 400 jobs. Figure 7-2 also shows the greatest job loss in this area from 1990-2001 occurred in the apparel cluster, losing about 1,200 jobs, the textiles cluster, losing about 1,100 jobs, and the motor driven products cluster, losing about 460 jobs.

Cluster Overlap and Potential for Growth

Figure 7-3 shows the largest 15 clusters for the Anniston MSA. As Figure 7-3 shows the Anniston MSA has areas of overlap between its major clusters. The first grouping includes, publishing and printing and aerospace vehicles and defense. Another grouping occurs between the aerospace engines, automotive, metal manufacturing, and heavy machinery clusters. Table 7-3 lists the subclusters included within these clusters. This table lists the specific industries that may be targeted for growth and development.

Table 7-1
Anniston, AL MSA
Total Employment by Cluster, 2001

Cluster	Employment
Metal Manufacturing	2,507
Heavy Construction Services	1,059
Textiles	856
Prefabricated Enclosures	788
Furniture	786

Table 7-2
Anniston, AL MSA
Total Employment by Subcluster, 2001

Cluster	Subcluster	Employment
Metal Manufacturing	Iron Steel Mills & Foundries	1,123
Heavy Construction Services	Fabricated Metal Structures & Piping	760
Furniture	Furnishings	750
Prefabricated Enclosures	Trucks & Trailers	721
Metal Manufacturing	Fabricated Metal Products	666
Apparel	Men's Clothing	586
Textiles	Specialty Fabric Mills	541
Publishing & Printing	Specialty Paper Products	302
Distribution Services	Merchandise Wholesaling	269
Metal Manufacturing	Metal Furniture	214

Figure 7-2
Anniston, AL MSA
Total Employment by Traded Cluster, 2001

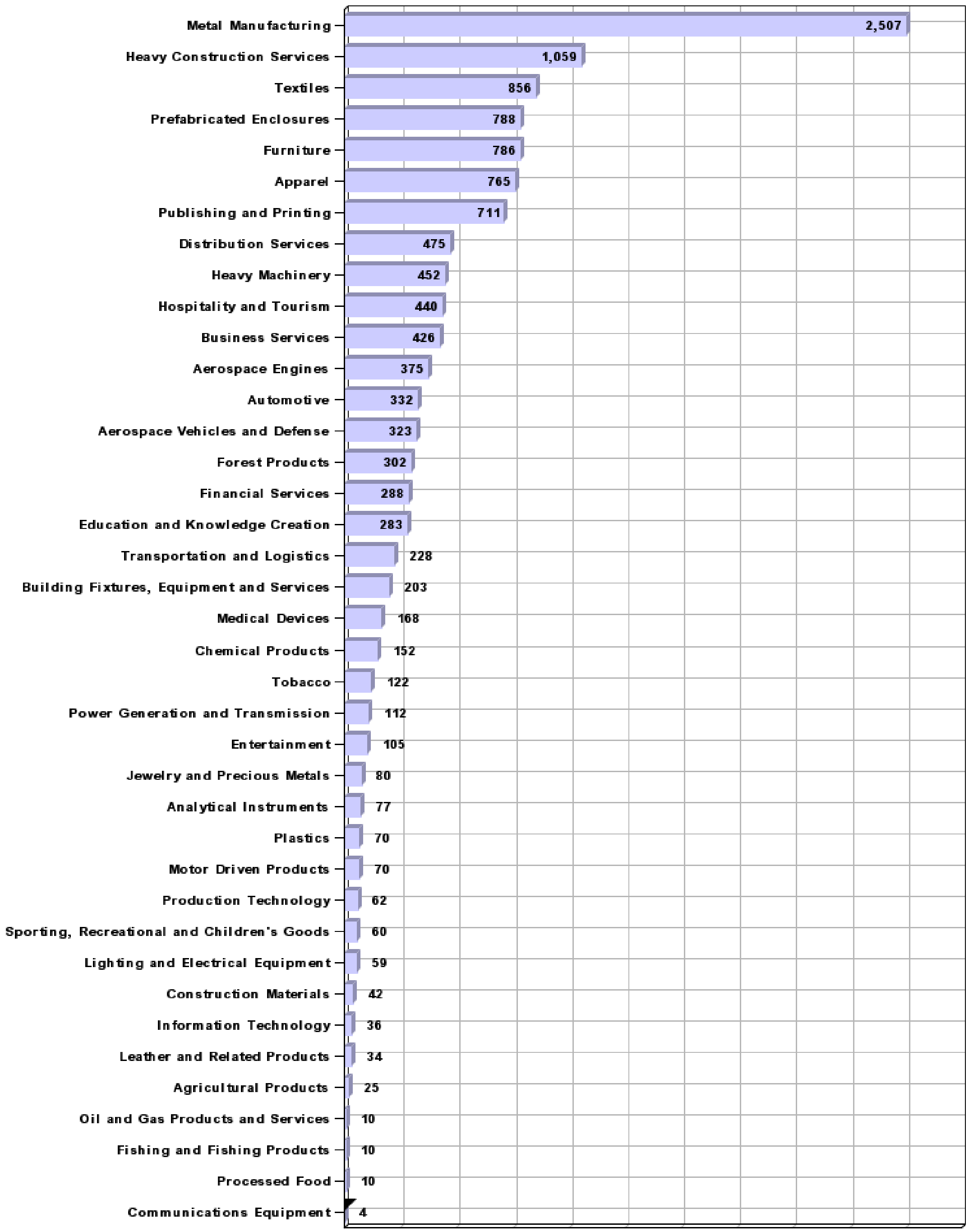


Figure 7-3
Anniston, AL MSA
Job Creation by Traded Cluster 1990-2001

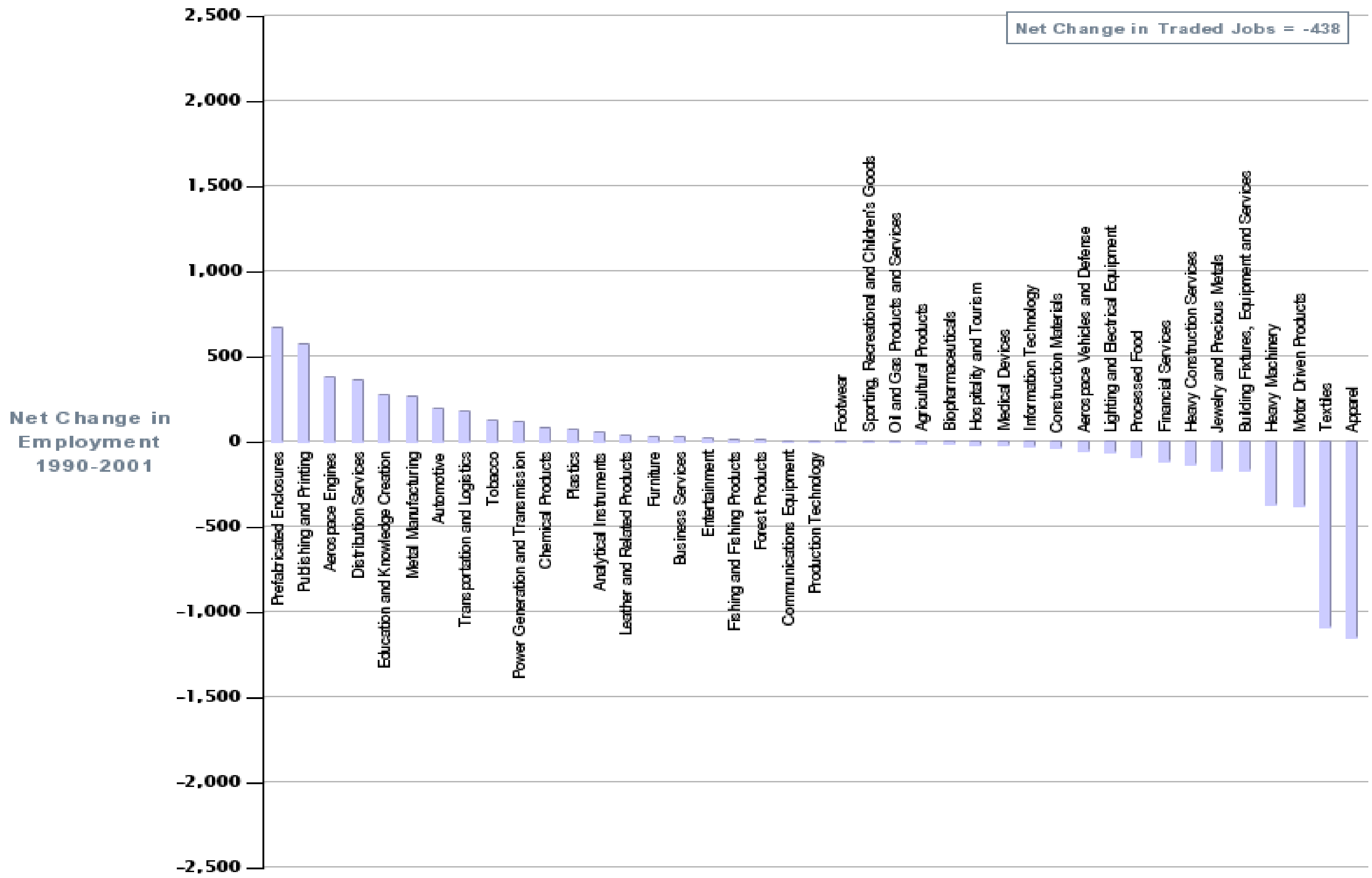


Figure 7-4
Anniston, AL MSA

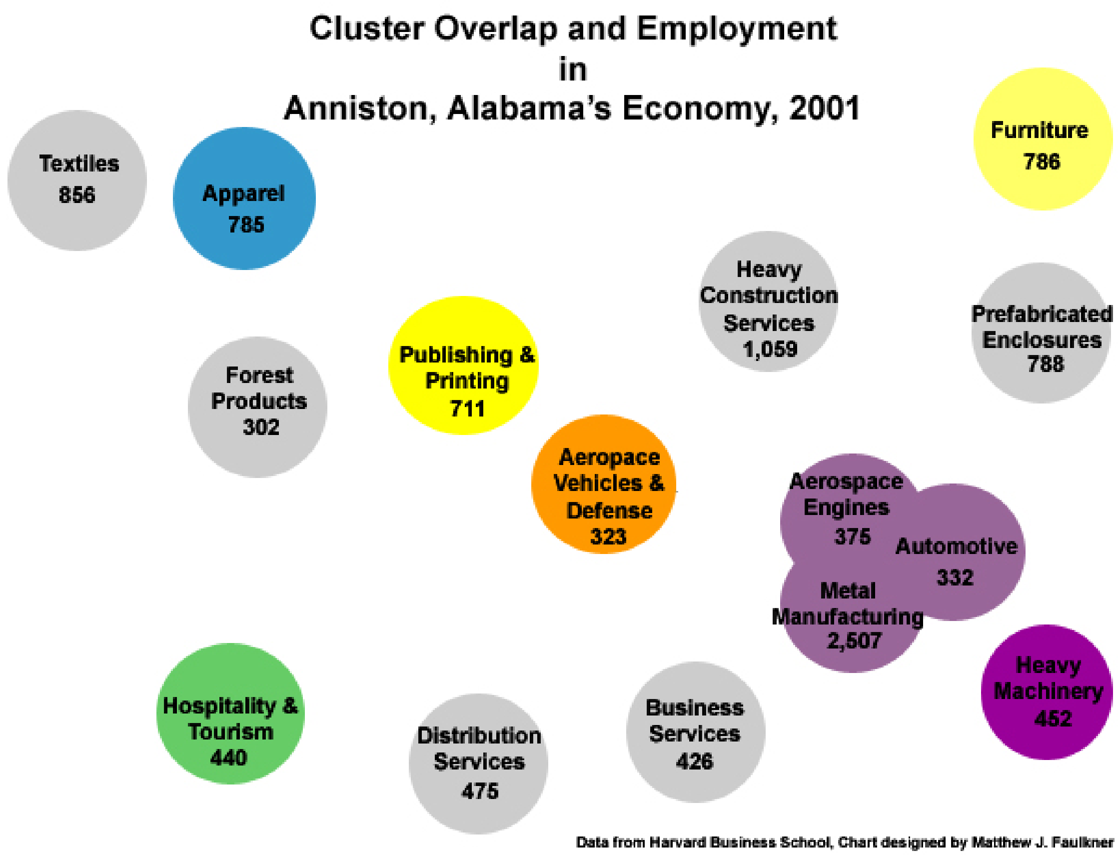


Table 7-3
Anniston, AL Metropolitan Area Major Subcluster Employment and Potential for Growth

	Subclusters with Major Employment	Subclusters with Minor or no Employment
Cluster		
	Financial Services	
Subclusters		
	No Major Employment	Risk Capital Providers
		Investment Funds
		Real Estate Investment - Trusts
		Passenger Car Leasing
		Information Providers
		Computer and - Communications Services
		Printing Services
		Patent Owners and Lessors
		Marketing Related Services
		Research Organizations
		Health Plans
		Insurance Products
		Depository Institutions
		Securities Brokers, Dealers, - and Exchanges
Cluster		
	Publishing and Printing	
Subclusters		
	Specialty Paper Products	News Syndicates
		Radio, TV, Publisher - Representatives
		Printing Inputs
		Inked Paper and Ribbons
		Office Equipment - and Supplies
		Marketing Related Services
		Printing - Related Machinery
		Online Information Services
		Computer Services
		Research Organizations
		Research Facilities

		Printing Services
		Paper Products
		Publishing
		Signs and Advertising -
		Specialties
Cluster		
	Aerospace Vehicles -	
	and Defense	
Subclusters		
	Defense Equipment	Aircraft
		Distribution and Wholesaling
		Metallic Parts
		Electronic Parts
		Instruments
		Semiconductors and Computers
		Related Equipment
		Communications Equipment
		Software and Computer Services
		Research
		Missiles and Space -
		Vehicles
Cluster		
	Aerospace Engines	
Subclusters		
	Aircraft Engines	Precision Metal Products
		Engine and Other Instruments
		Parts and Components
		Foundries
		Parts Processing
		Nonferrous Processing
		Machine Tools
		Aircraft and Aircraft Parts
Cluster		
	Metal Manufacturing	
Subclusters		
	Iron Steel Mills and -	Metal Alloys
	Foundries	Precision Metal Products
	Fabricated Metal Products	Fasteners
		Wire and Springs
		Environmental Controls
		Pumps

Saw Blades and Handsaws
General Industrial Machinery
Laundry and Cleaning Equipment
Metal Armaments
Measuring and Dispensing -
Pumps
Tools, Dies, and Fixtures
Paints and Allied Products
Lubricating Oils and Greases
Abrasive Products
Metalworking Machinery and -
Components
Related Metal Processing
Industrial Furnaces and Ovens
Automotive Parts and Equipment
Hoists and Cranes
Related Metal Products
Motorcycles and Bicycles
Metal Processing
Metal Furniture
Precision Metal Products
Nonferrous Steel Mills and -
Foundries

Cluster

Automotive

Subclusters

No Major Employment	
	Motor Vehicles
	Automotive Components
	Forgings and Stampings
	Flat Glass
	Production Equipment
	Small Vehicles and Trailers
	Marine, Tank, and Stationary - Engines
	Related Parts
	Motors and Generators
	Related Vehicles
	Metal Processing
	Machine Tools
	Related Process Machinery
	Industrial Trucks and Trailers
	Die-Castings
	Automotive Parts

Cluster

	Heavy Machinery	
Subclusters		
	Valves and Pipe Fittings	Farm Machinery
		Railroad Equipment and Rental
		Mining Machinery
		Hoists and Cranes
		Forgings, Castings, and Metal - Parts
		Engines
		Related Parts
		Compressors and Fans
		Tires and Inner Tubes
		Construction Machinery
		Machinery Components

Chapter 8

Auburn-Opelika Metropolitan Area

Employment

Total 2001 private employment in the Auburn-Opelika, AL MSA was 32,564, which was 0.03% of national employment. Auburn-Opelika, AL MSA's average wages in 2001 were $21,633 -vs- $34,669 for the US, or 37.6% below the national average. Average wage growth per year in the Auburn-Opelika, AL MSA was 3.13% -vs- 4.41% for the US. As Table 8-1 and Figure 8-1 show the 3 largest clusters were motor driven products, automotive, and business services. As Table 8-2 shows the 3 largest subclusters were tires and inner tubes, professional organizations and services, and fabric mills.

Job Creation/Loss

Employment growth per year from 1990-2001 in the Auburn-Opelika, AL MSA was 1.64% -vs.- 2.10% for the US. As Figure 8-2 shows from 1990-2001 the largest job creation for the Auburn-Opelika MSA occurred in the automotive cluster, gaining about 750 jobs, the building fixtures and equipment cluster, gaining about 500 jobs, and the plastics cluster, gaining about 300 jobs. Figure 8-2 also shows that the largest job loss in this area from 1990-2001 occurred in the sporting goods cluster, losing about 1,750 jobs, the entertainment cluster, losing about 1,300 jobs, and the textiles cluster, losing about 1,200 jobs.

Cluster Overlap and Potential for Growth

Figure 8-3 shows the largest 15 clusters for the Auburn-Opelika MSA. As Figure 8-3 shows the Auburn-Opelika MSA has areas of overlap between its major clusters. The first grouping includes, automotive, metal manufacturing, production technology, and motor driven products. Another grouping occurs between the hospitality and tourism and entertainment clusters. Table 8-3 lists the subclusters included within these clusters. This table lists the specific industries that may be targeted for growth and development.

Table 8-1
Auburn-Opelika, AL MSA
Total Employment by Cluster, 2001

Cluster	Employment
Motor Driven Products	1,758
Automotive	785
Business Services	748
Heavy Construction Services	651
Textiles	603

Table 8-2
Auburn-Opelika, AL MSA
Total Employment by Subcluster, 2001

Cluster	Subcluster	Employment
Motor Driven Products	Tires & Inner Tubes	1,750
Automotive	Marine, Tank, and Stationary Engines	745
Building Fixtures	Wood Cabinets, Fixtures, and Other Products	534
Hospitality & Tourism	Accommodations & Related Services	398
Business Services	Professional Organizations & Services	394
Entertainment	Recorded Products	375
Plastics	Plastic Products	373
Heavy Construction Services	Final Construction	370
Textiles	Fabric Mills	347
Metal Manufacturing	Iron Steel Mills & Foundries	243

Figure 8-1
Auburn-Opelika, AL MSA
Total Employment by Traded Cluster, 2001

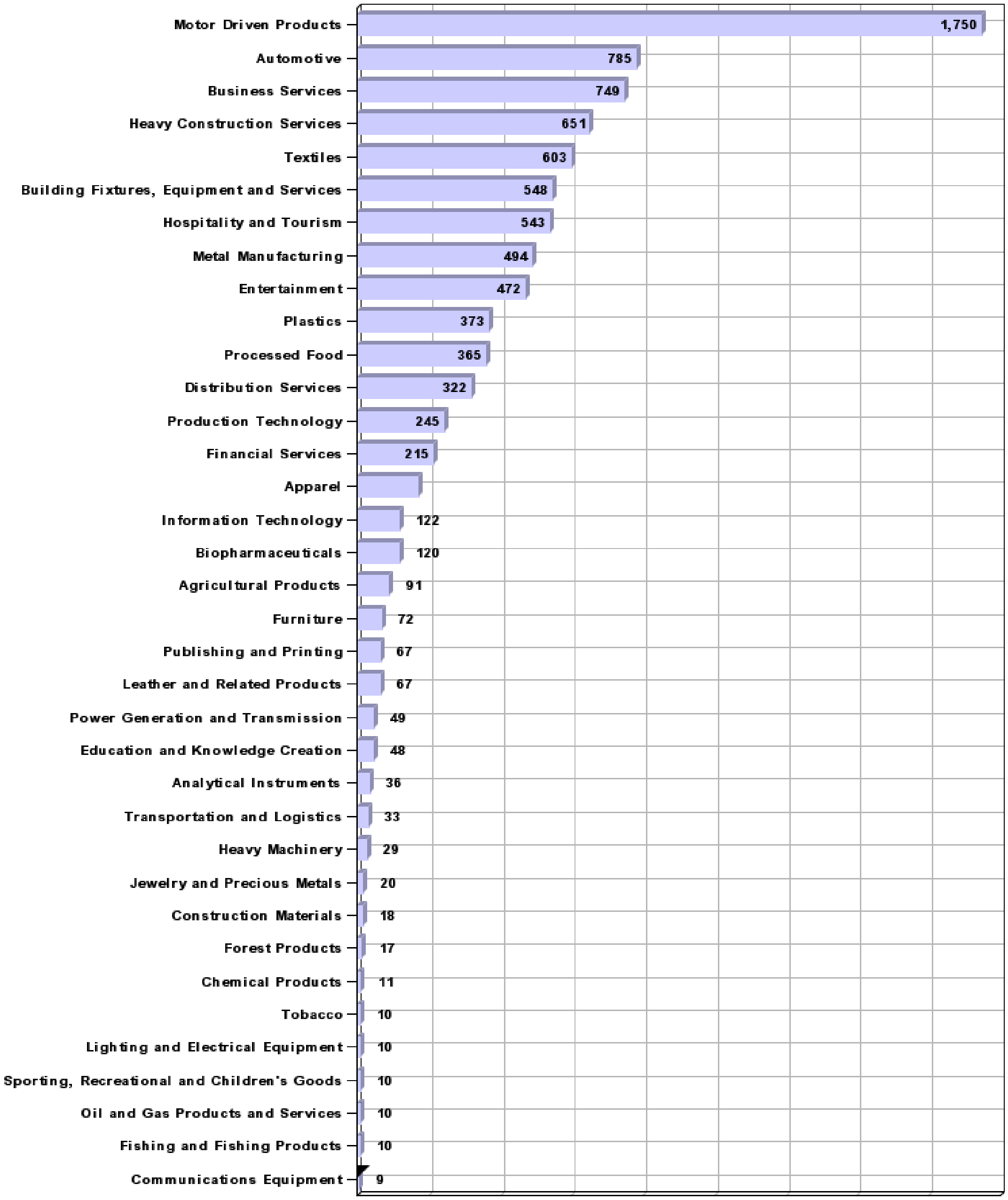


Figure 8-2
Auburn-Opelika, AL MSA
Job Creation by Traded Cluster 1990-2001

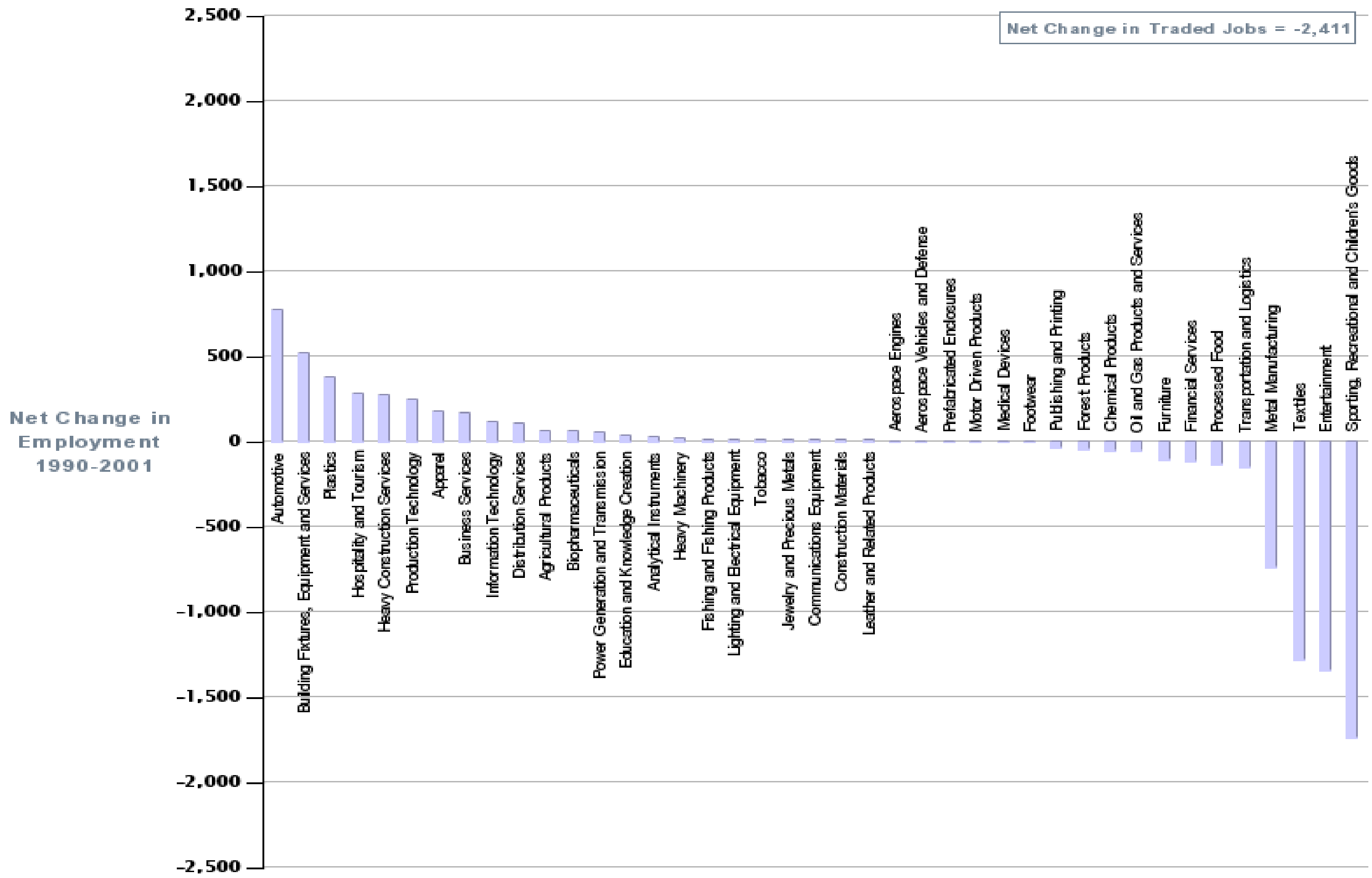


Figure 8-2
Auburn-Opelika, AL MSA

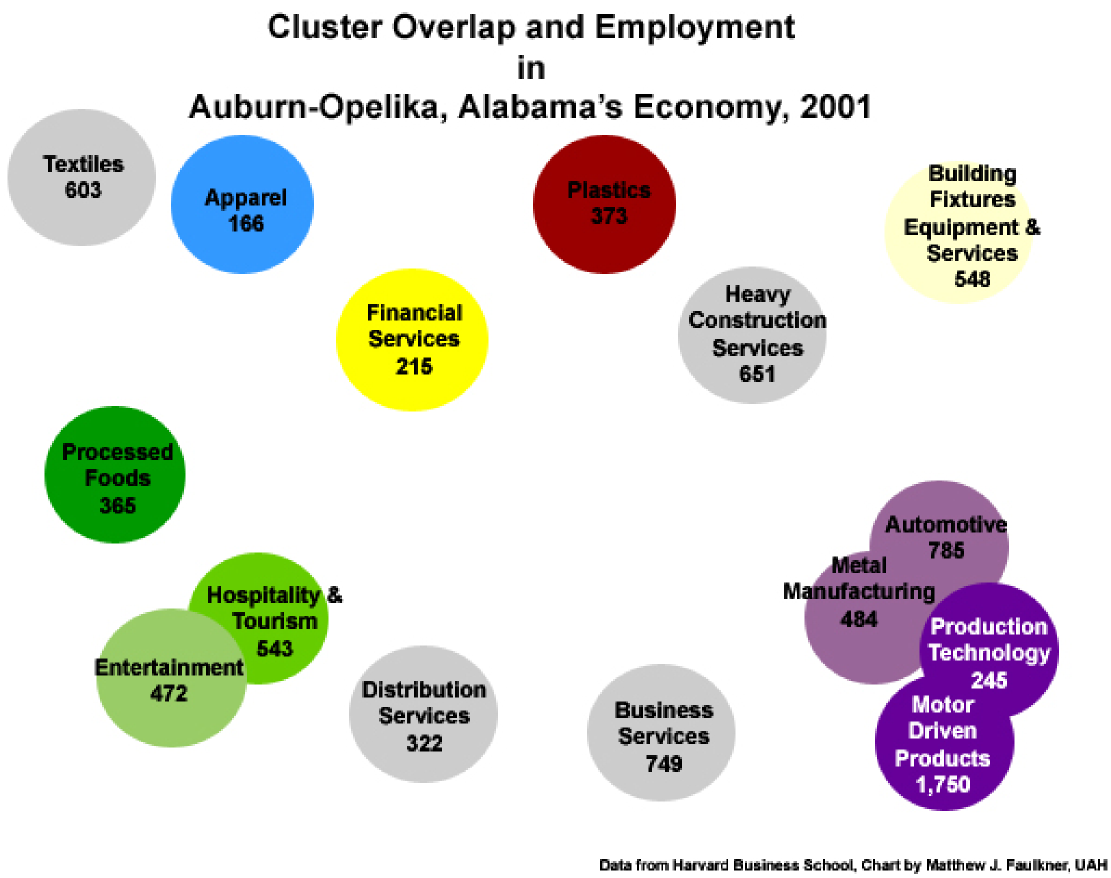


Table 8-3
Auburn-Opelika, AL Metropolitan Area Major Subcluster Employment and Potential for Growth

	Subclusters with **Major Employment**	Subclusters with **Minor or no Employment**
Cluster	Hospitality and - Tourism	
Subclusters	Accommodations and - Related Services	Water Passenger - Transportation Ground Transportation Other Local Transportation Related Professional - Services Other Attractions Air Services Vehicle Distribution and - Wholesaling Facilities Support Services Tourism Related Services Tourism Attractions Boat Related Services
Cluster	Entertainment	
Subclusters	Recorded Products	Video Production and Distribution Entertainment Equipment Entertainment Related Services Entertainment Venues Distribution and Wholesaling Marketing and Promotional Services Related Attractions News Syndicates Audio and Video Equipment
Cluster	Automotive	
Subclusters	Marine, Tank, and	Automotive Components

	Stationary Engines	Forgings and Stampings Flat Glass Production Equipment Small Vehicles and Trailers Related Parts Motors and Generators Related Vehicles Metal Processing Machine Tools Related Process Machinery Industrial Trucks and Tractors Die-Castings Motor Vehicles Automotive Parts
Cluster		
	Metal Manufacturing	
Subclusters		
	Iron Steel Mills and - Foundries Nonferrous Steel Mills and - Foundries	Metal Alloys Precision Metal Products Fasteners Wire and Springs Environmental Controls Pumps Saw Blades and Handsaws General Industrial Machinery Laundry and Cleaning Equipment Metal Armaments Measuring and Dispensing - Pumps Tools, Dies, and Fixtures Paints and Allied Products Lubricating Oils and Greases Abrasive Products Metalworking Machinery and - Components Related Metal Processing Industrial Furnaces and Ovens Automotive Parts and Equipment Hoists and Cranes Related Metal Products Motorcycles and Bicycles Metal Processing Metal Furniture Precision Metal Products Fabricated Metal -

		Products
Cluster		
	Production Technology	
Subclusters		
	No Major Employment	Machine Tool and Accessories Hoists and Cranes Process Machinery Industrial Patterns Industrial Trucks and Trailers Production Machinery and - Components Blast Furnaces and Steel Mills Household Appliances Abrasive Products Metal Heat Testing Process Equipment Vehicle and Heavy Stamping Construction Machinery Castings, Forgings, and Metal - Alloys Ball and Roller Bearings Process Equipment Subsystems - and Components Fabricated Plate Work
Cluster		
	Motor Driven Products	
Subclusters		
	Tires and Inner Tubes	Motors and Generators Batteries Motorized Equipment Specialized Pumps Specialized Machinery Marine, Tank, and Stationary - Engines Motorcycles and Bicycles Metal Processing Related Appliances Hoists and Cranes Printing Trades Machinery Elevators and Moving - Stairways Air and Gas Compressors Power Transmission, Motors -

and Pumps
Control Devices
Refrigeration and Heating -
Equipment
Appliances

Chapter 9

Birmingham, AL Metropolitan Area

Employment

Total 2001 employment in the Birmingham, AL MSA was 435,530, which was 0.38% of national employment. Birmingham, AL MSA's average wages in 2001 were $33,136 -vs- $34,669 for the US, or 4.42% below the national average. Average wage growth per year in the Birmingham, AL MSA was 3.93% -vs- 4.41% for the US. As Table 9-1 and Figure 9-1 show the 3 largest clusters were business services, financial services and metal manufacturing. As Table 9-2 shows the 3 largest subclusters were iron steel mills and foundries, insurance products, and final construction.

Job Creation/Loss

Employment growth per year from 1990-2001 in the Birmingham, AL MSA was 1.84% -vs.- 2.10% for the US. As Figure 9-2 shows from 1990-2001 the largest job creation in the Birmingham, AL MSA occurred in the business services cluster, gaining about 8,000 jobs, the financial services cluster, gaining about 3,000 jobs, and the hospitality and tourism cluster, gaining about 2,800 jobs. Figure 9-2 also shows that the largest job loss in this area from 1990-2001 occurred in the heavy construction services cluster, losing about 3,000 jobs, the metal manufacturing cluster, losing about 1,800 jobs, and the apparel cluster, losing about 500 jobs.

Cluster Overlap and Potential for Growth

Figure 9-3 shows the largest 15 clusters for the Birmingham MSA. As Figure 9-3 shows the Birmingham MSA has areas of overlap between its major clusters. The first grouping includes, financial services, publishing and printing, education and knowledge creation, and aerospace vehicles and defense. Another grouping occurs between the transportation and logistics and hospitality and tourism clusters. A third grouping occurs between the metal manufacturing, production technology, and heavy machinery clusters. Table 9-3 lists the subclusters included within these clusters. This table lists the specific industries that may be targeted for growth and development.

Table 9-1
Birmingham, AL MSA
Total Employment by Cluster, 2001

Clusters	Employment
Business Services	18,151
Financial Services	15,296
Metal Manufacturing	11,865
Heavy Construction Services	10,508
Hospitality and Tourism	6,143

Table 9-2
Birmingham, AL MSA
Total Employment by Subcluster, 2001

Cluster	Subcluster	Employment
Metal Manufacturing	Iron Steel Mills & Foundries	7,380
Financial Services	Insurance Products	6,429
Business Services	Management Consulting	4,789
Heavy Construction Services	Final Construction	4,693
Business Services	Computer Programming	4,238
Financial Services	Depository Institutions	3,539
Hospitality & Tourism	Accommodations & Related Services	3,507
Distribution Services	Merchandise Wholesaling	3,260
Business Services	Engineering Services	3,048
Financial Services	Health Plans	3,039

Figure 9-1
Birmingham, AL MSA
Total Employment by Traded Cluster, 2001

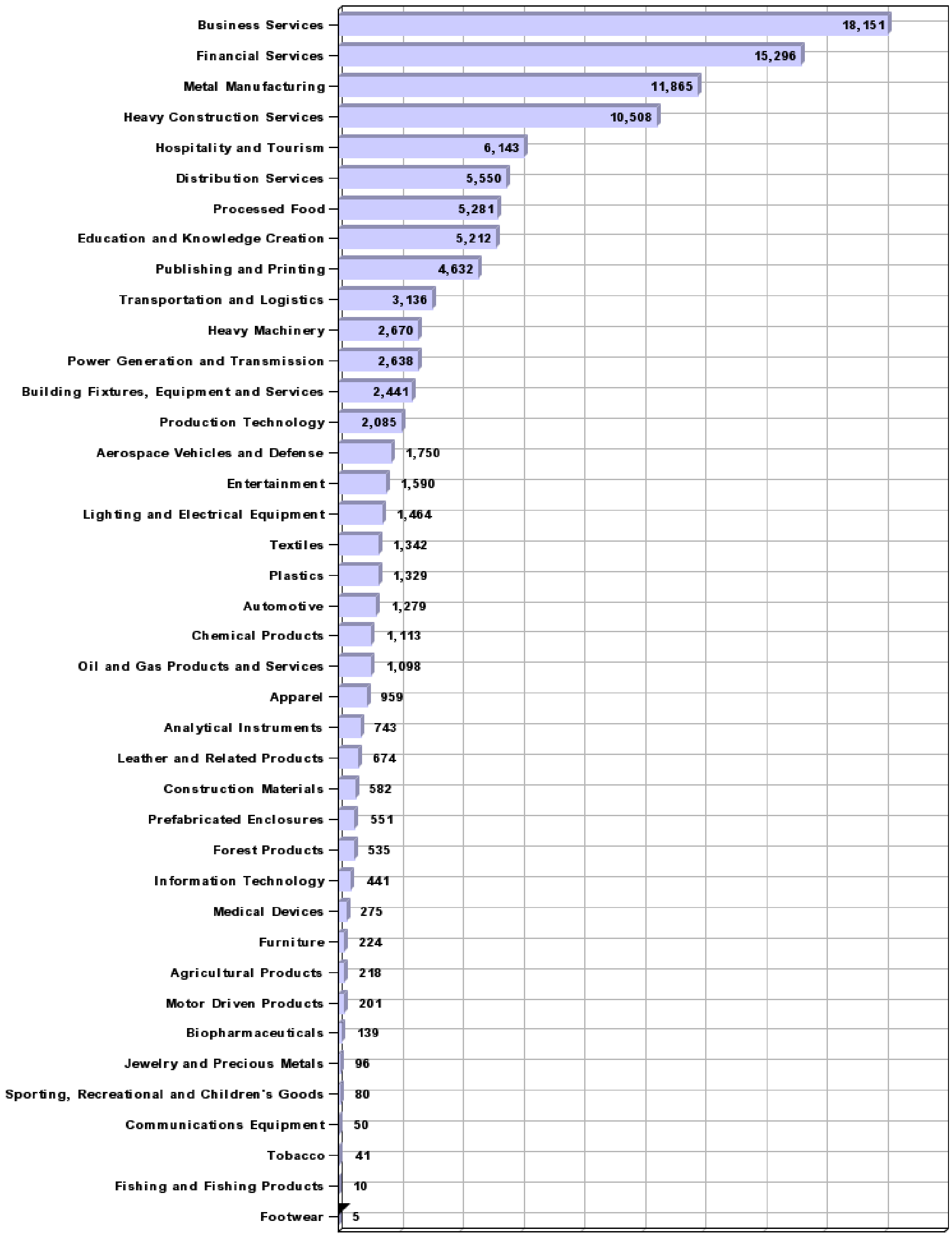


Figure 9-2
Birmingham, AL MSA
Job Creation by Traded Cluster, 1990-2001

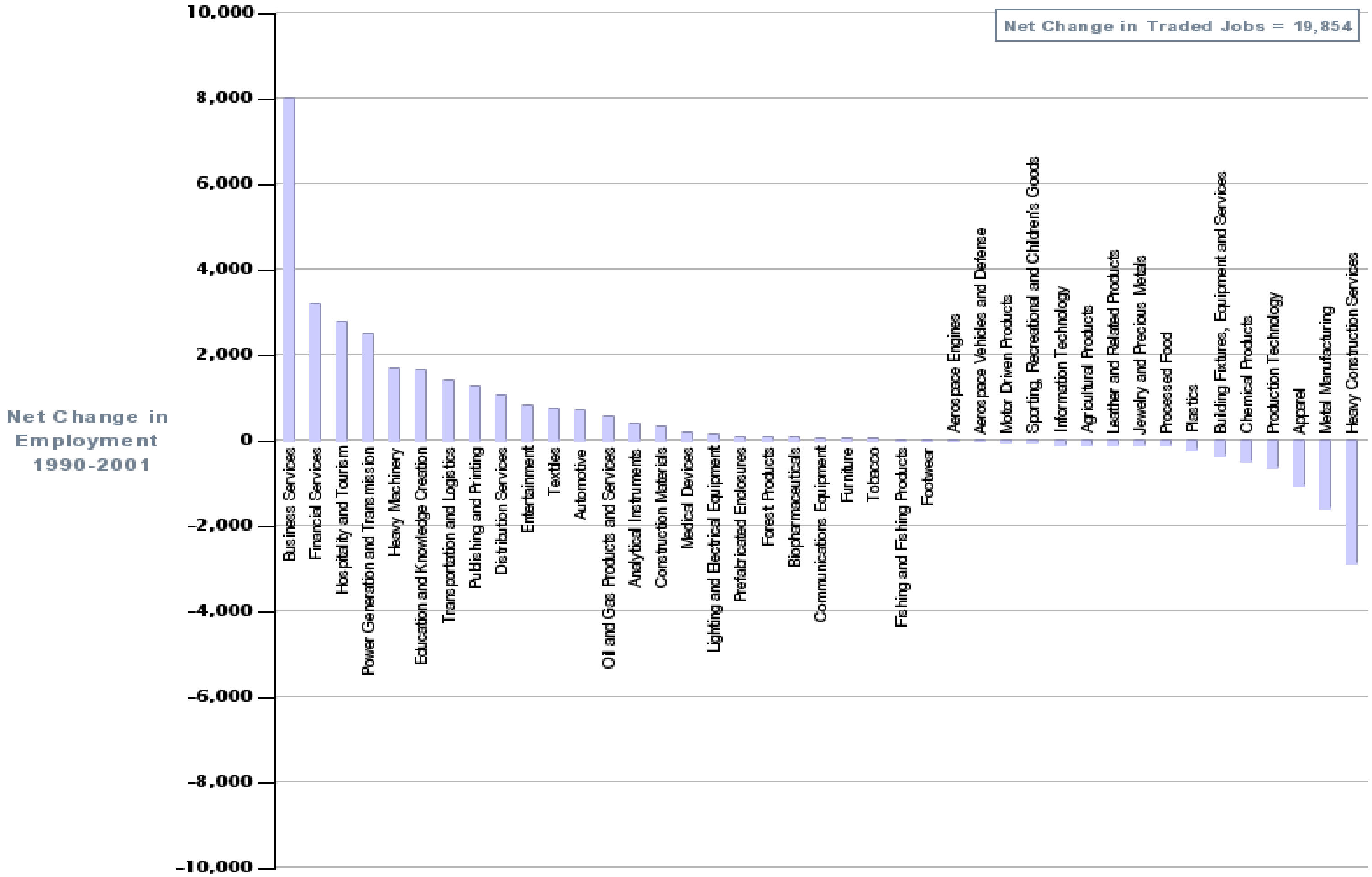


Figure 9-3
Birmingham, AL MSA

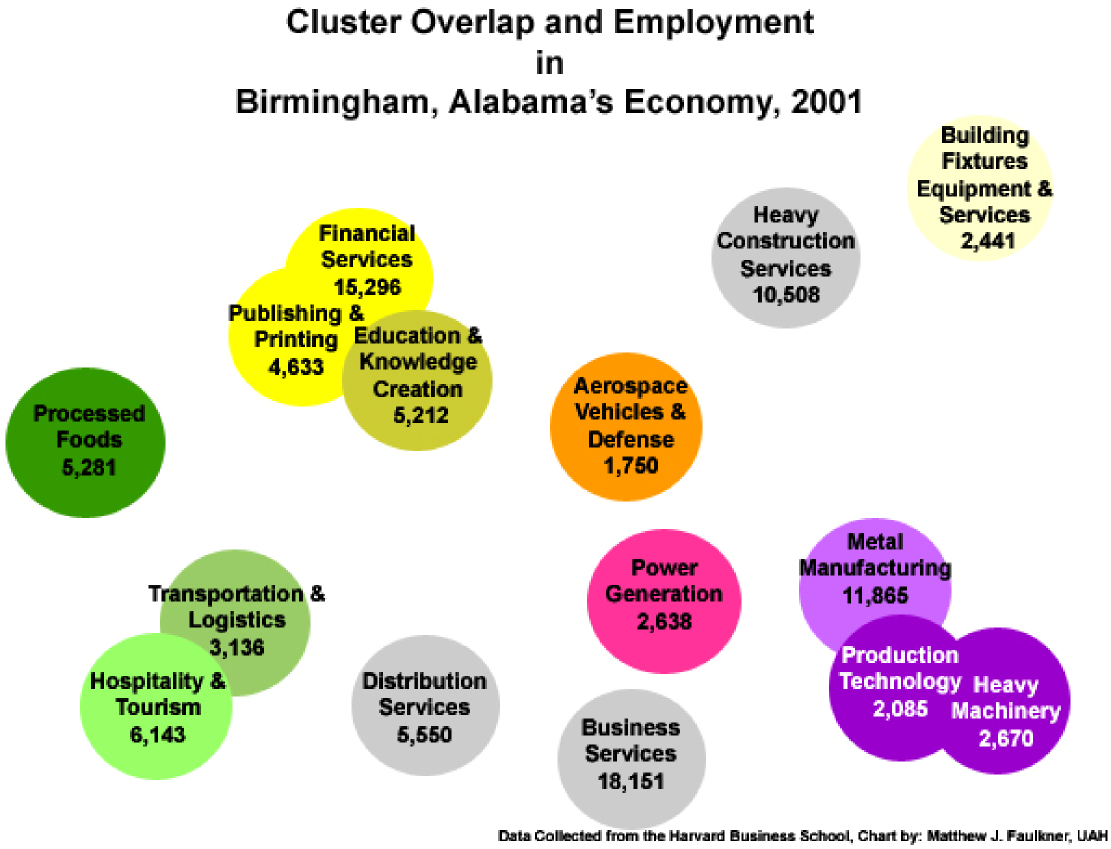


Table 9-3
Birmingham, AL Metropolitan Area Major Subcluster Employment and Potential for Growth

	Subclusters with Major Employment	Subclusters with Minor or no Employment
Cluster		
	Financial Services	
Subclusters		
	Insurance Products	Risk Capital Providers
	Depository Institutions	Investment Funds
	Health Plans	Real Estate Investment - Trusts
	Securities Brokers, Dealers - and Exchanges	Passenger Car Leasing
		Information Providers
		Computer and - Communications Services
		Printing Services
		Patent Owners and Lessors
		Marketing Related Services
		Research Organizations
Cluster		
	Publishing and Printing	
Subclusters		
	Publishing	News Syndicates
	Radio, TV, Publisher - Representatives	Signs and Advertising - Specialties
		Printing Services
		Paper Products
		Printing Inputs
		Specialty Paper Products
		Inked Paper and Ribbons
		Office Equipment - and Supplies
		Marketing Related Services
		Printing - Related Machinery
		Online Information Services
		Computer Services
		Research Organizations
		Research Facilities
Cluster		
	Education and Knowledge -	

Creation

Subclusters

Educational Institutions
Research Organizations

Educational Facilities
Patent Owners and Lessors
Supplies
Research Related Instruments
Pharmaceuticals
Publishing
Printing
Communications Services
Marketing and Information -
Services
Online Information Services
Computer Services
Prepackaged Software
Computer and Software -
Wholesaling and Services
Computer Equipment

Cluster

Aerospace Vehicles and -
Defense

Subclusters

Aircraft

Missiles and Space Vehicles
Defense Equipment
Distribution and Wholesaling
Metallic Parts
Electronic Parts
Instruments
Semiconductor and -
Computers
Related Equipment
Communications Equipment
Software and Computer -
Services
Research

Cluster

Transportation and Logistics

Subclusters

Air Transportation
Transportation Arrangement -
and Warehousing

Bus Transportation
Marine Transportation
Ship Building
Trucking Terminal

Airports
Bus Terminals
Passenger Transportation
Communication Equipment - and Related Services
Rental or Railroad Cars
Computer Services and - Equipment

Cluster

Hospitality and Tourism

Subclusters

Accommodations and Related - Services
Tourism Related Services
Tourism Attractions
Water Passenger - Transportation
Boat Related Services
Ground Transportation
Other Local Transportation
Related Professional - Services
Other Attractions
Air Services
Vehicle Distribution and - Wholesaling
Facilities Support Services

Cluster

Metal Manufacturing

Subclusters

Iron Steel Mills and Foundries
Metal Processing
Fabricated Metal Products
Metal Alloys
Primary Metal Products
Precision Metal Products
Fasteners
Wire and Springs
Nonferrous Mills and Foundries
Environmental Controls
Pumps
Saw Blades and Handsaws
General Industrial Machinery
Laundry and Cleaning Equipment
Metal Armaments
Measuring and Dispensing - Pumps
Tools, Dies, and Fixtures
Paints and Allied Products
Lubricating Oils and Greases

Abrasive Products
Metalworking Machinery and - Components
Related Metal Processing
Industrial Furnaces and Ovens
Automotive Parts and Equipment
Hoists and Cranes
Related Metal Products
Motorcycles and Bicycles
Metal Furniture

Cluster

Production Technology

Subclusters

Process Equipment Subsystems - and Components	Machine Tool and Accessories Hoists and Cranes Process Machinery Industrial Patterns Industrial Trucks and Trailers Production Machinery and - Components Blast Furnaces and Steel Mills Household Appliances Abrasive Products Metal Heat Testing Process Equipment Vehicle and Heavy Stamping Construction Machinery Castings, Forgings, and Metal - Alloys Fabricated Plate Work Ball and Roller Bearings

Cluster

Heavy Machinery

Subclusters

Construction Machinery	Farm Machinery Railroad Equipment and Rental Mining Machinery Machinery Components Valves and Pipe Fittings Hoists and Cranes Forgings, Castings, and Metal - Parts Engines

Related Parts
Compressors and Fans
Tires and Inner Tubes

Chapter 10

Decatur, AL Metropolitan Area

Employment

Total 2001 employment in the Decatur, AL MSA was 51,078, which was 0.04% of national employment. Decatur, AL MSA's average wages in 2001 were $26,996 -vs- $34,669 for the US, or 22.13% below the national average. Average wage growth per year in the Decatur, AL MSA was 2.93% -vs- 4.41% for the US. As Table 10-1 and Figure 10-1 show the 3 largest clusters were prefabricated enclosures, forest products, and motor driven products. As Table 10-2 shows the 3 largest subclusters were household refrigeration and heating equipment, refrigeration and heating equipment, and paper mills.

Job Creation/Loss

Employment growth per year from 1990-2001 in the Decatur, AL MSA was 2.28% -vs.- 2.10% for the US. As Figure 10-2 shows, from 1990-2001 the largest job creation for the Decatur MSA occurred in the motor driven products cluster, gaining about 1,000 jobs, the metal manufacturing cluster, gaining about 800 jobs, and the business services cluster, gaining about 750 jobs. Figure 10-2 also shows that form 1990-2001 the largest job loss in this area occurred in the chemical products cluster, losing about 1,400 jobs, the textiles cluster, losing about 1,200 jobs, and the apparel cluster, losing about 600 jobs.

Cluster Overlap and Potential for Growth

Figure 10-3 shows the largest 15 clusters for the Decatur MSA. As Figure 10-3 shows the Decatur MSA has areas of overlap between its major clusters. The first grouping includes, plastics, chemical products, financial services, and lighting and electrical equipment. Another grouping occurs between the metal manufacturing and motor driven products clusters. Table 10-3 lists the subclusters included within these clusters. This table lists the specific industries that may be targeted for growth and development.

Table 10-1
Decatur, AL MSA
Total Employment by Cluster, 2001

Cluster	Employment
Prefabricated Enclosures	2,142
Forest Products	1,911
Motor Driven Products	1,747
Textiles	1,505
Metal Manufacturing	1,252

Table 10-2
Decatur, AL MSA
Total Employment by Subcluster, 2001

Cluster	Subcluster	Employment
Prefabricated Enclosures	Household Refrigeration & Heating	1,750
Motor Driven Products	Refrigeration & Heating Equipment	1,747
Forest Products	Paper Mills	1,478
Lighting & Electrical Equipment	Metal Parts	810
Textiles	Tire Cord & Fabrics	750
Textiles	Fibers	750
Chemical Products	Other Processed Chemicals	732
Hospitality & Tourism	Accommodations & Related Services	545
Business Services	Professional Organizations & Services	456
Heavy Construction Services	Final Construction	421

Figure 10-1
Decatur, AL MSA
Total Employment by Traded Cluster, 2001

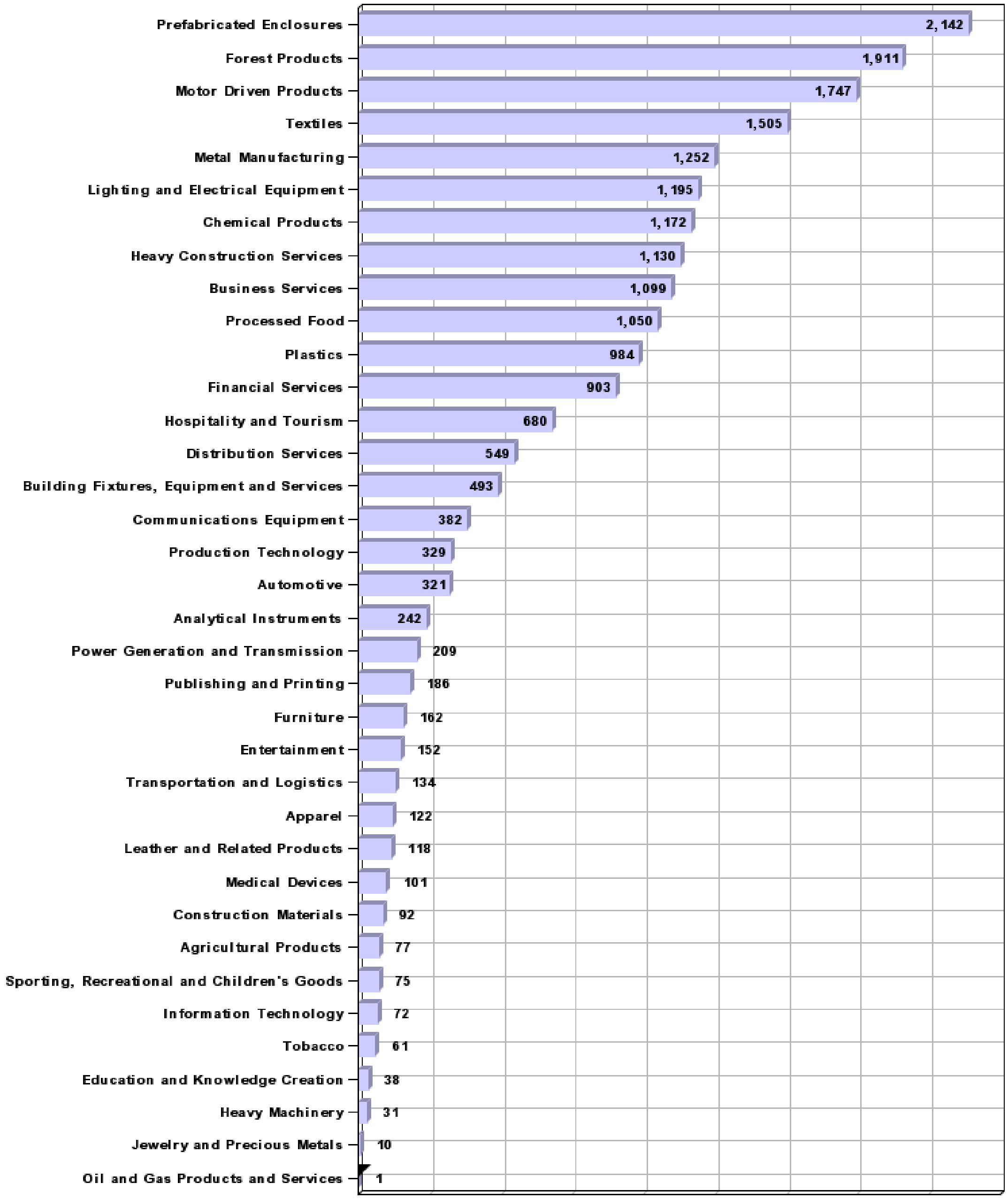


Figure 10-2
Decatur, AL MSA
Job Creation by Traded Cluster 1990-2001

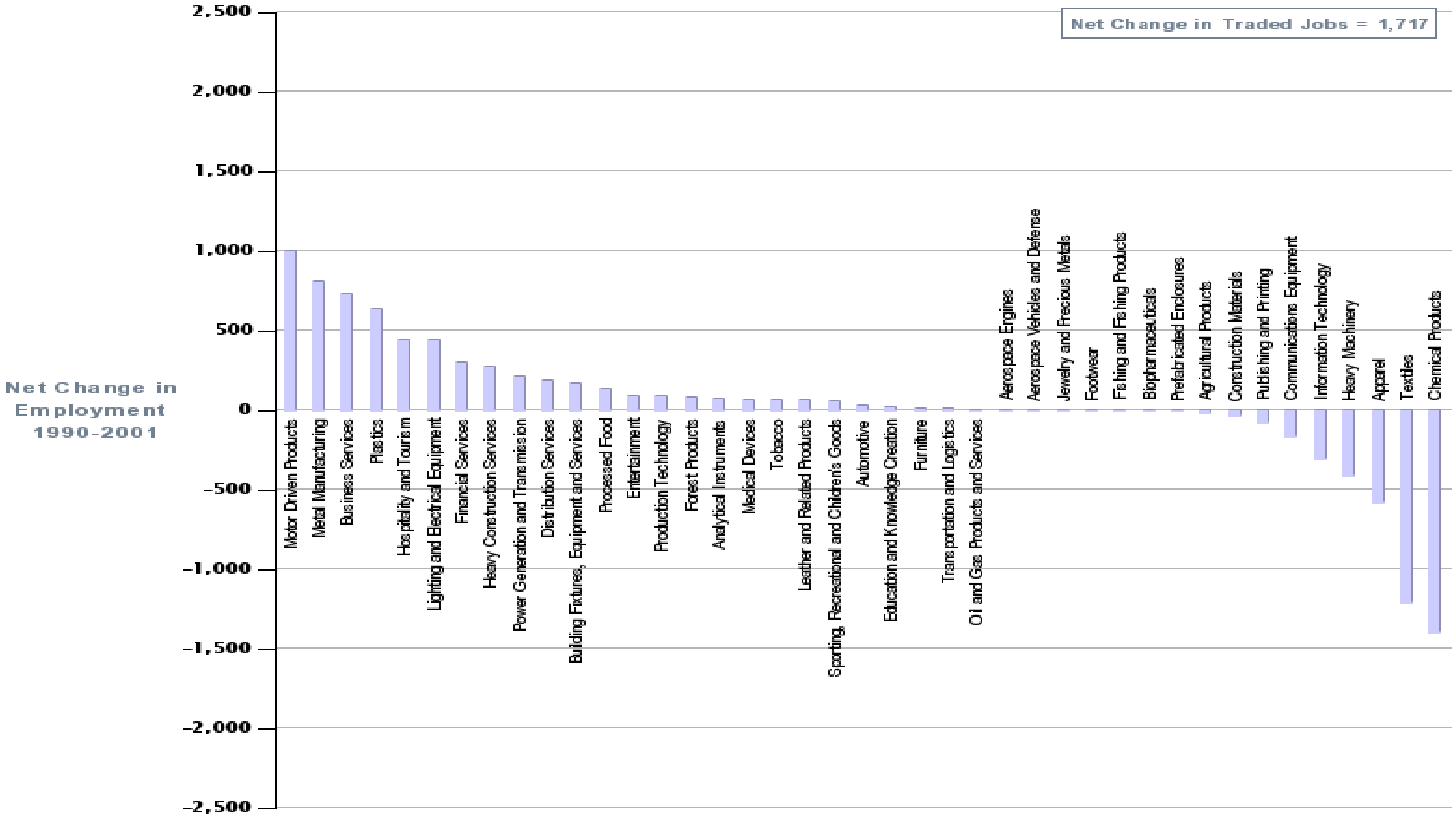


Figure 10-3

Decatur, AL MSA

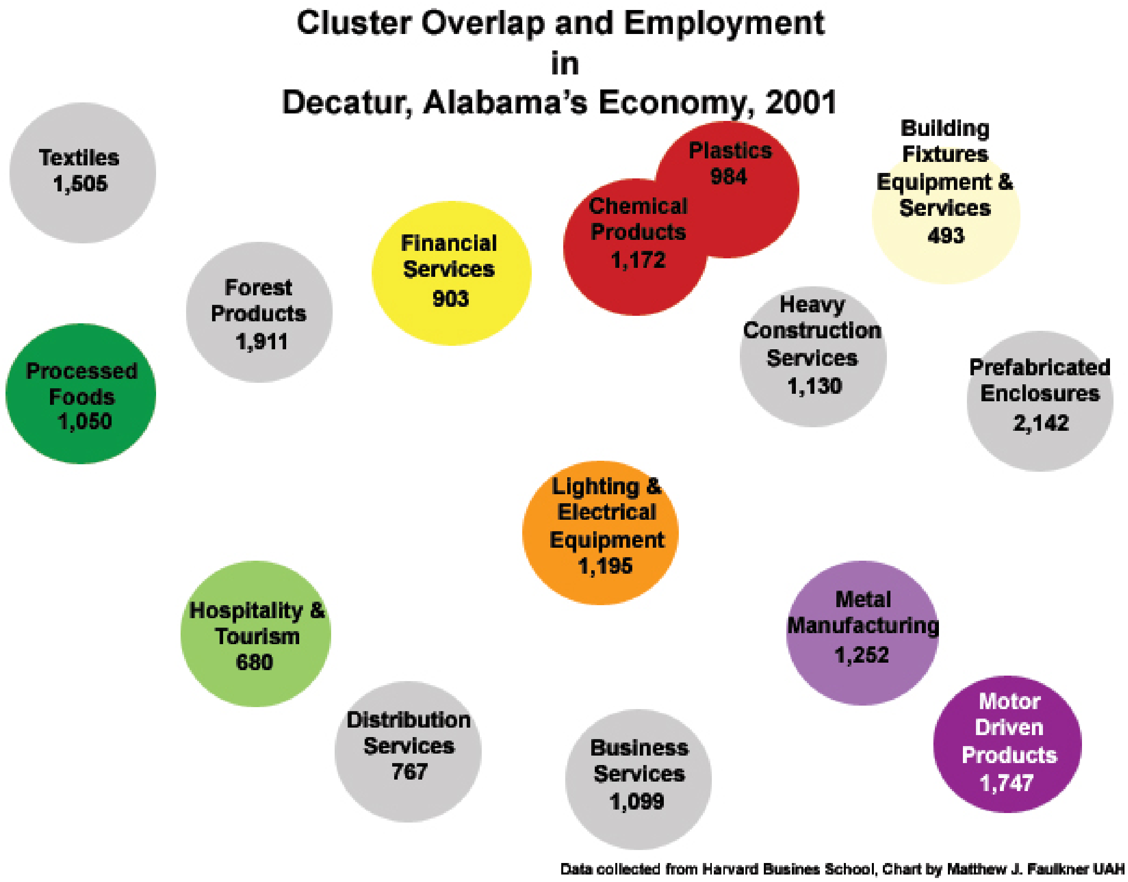


Table 10-3
Decatur, AL Metropolitan Area Major Subcluster Employment and Potential for Growth

	Subclusters with Major Employment	Subclusters with Minor or no Employment
Cluster		
	Plastics	
Subclusters		
	Plastic Materials - and Resins	Paints and Allied - Products
	Plastic Products	Synthetic Rubber
		Plastics Distribution - and Wholesaling
		Organic Chemicals
		Alkalies and Chlorine
		Inorganic Chemicals
		Related Plastic Products
		Hydrocarbons
		Petroleum Products
		Surface Active Ingredients
		Adhesives and Sealants
		Process Equipment
Cluster		
	Chemical Products	
Subclusters		
	Other Processed - Chemicals	Packaged Chemical - Products
	Intermediate Chemicals - and Gasses	Refractories
		Leather Tanning and Finishing
		Ammunition
		Special Packaging
		Treated Garments
		Hydrocarbons
		Petrochemicals
		Plastics, Resins, and - Products
		Pharmaceuticals
		Diagnostics and Biological - Products
		Related Consumer Products
		Other Packaging
		Processing Instruments

Other Processed -
Chemicals

Cluster

Financial Services

Subclusters

Insurance Products
Depository Institutions

Risk Capital Providers
Investment Funds
Real Estate Investment -
Trusts
Passenger Car Leasing
Information Providers
Computer and -
Communications Services
Printing Services
Patent Owners and Lessors
Marketing Related Services
Research Organizations
Health Plans
Securities Brokers, Dealers, -
and Exchanges

Cluster

Lighting and Electrical -
Equipment

Subclusters

Metal Parts
Electrical Parts

Lighting Fixtures
Electric Lamps
Batteries
Switchgear
Related Electrical Equipment
Instruments to Measure -
Electricity
Electric Services
Glass and Ceramics Products
Wire
Related Electronic Parts
Other Lighting Equipment

Cluster

Metal Manufacturing

Subclusters

Iron and Steel Mills and -
Foundries

Metal Alloys
Precision Metal Products

Fabricated Metal Products Fasteners	Fasteners Wire and Springs Environmental Controls Pumps Saw Blades and Handsaws General Industrial Machinery Laundry and Cleaning Equipment Metal Armaments Measuring and Dispensing - Pumps Tools, Dies, and Fixtures Paints and Allied Products Lubricating Oils and Greases Abrasive Products Metalworking Machinery and - Components Related Metal Processing Industrial Furnaces and Ovens Automotive Parts and Equipment Hoists and Cranes Related Metal Products Motorcycles and Bicycles Metal Processing Metal Furniture Precision Metal Products Nonferrous Steel Mills and - Foundries

Cluster

Motor Driven Products

Subclusters

Refrigeration and Heating - Equipment	Motors and Generators Batteries Motorized Equipment Specialized Pumps Specialized Machinery Marine, Tank, and Stationary - Engines Motorcycles and Bicycles Metal Processing Related Appliances Hoists and Cranes Printing Trades Machinery Elevators and Moving - Stairways Air and Gas Compressors

Power Transmission, Motors -
and Pumps
Control Devices
Appliances
Tires and Inner Tubes

Chapter 11

Dothan, AL Metropolitan Area

Employment

Total 2001 employment in the Dothan, AL MSA was 55,257, which was 0.05% of national employment. Dothan, AL MSA's average wages in 2001 were $26,603 -vs- $34,669 for the US, or 23.27% below the national average. Average wage growth per year in the Dothan, AL MSA was 4.30% -vs- 4.41% for the US. As Table 11-1 and Figure 11-2 show the 3 largest clusters were transportation and logistics, hospitality and tourism, and business services. As Table 11-2 shows the largest subclusters were airports, accommodations and related services, and aircrafts.

Job Creation/Loss

Employment growth per year from 1990-2001 in the Dothan, AL MSA was 1.40% -vs.- 2.10% for the US. As Figure 11-2 shows, from 1990-2001 the largest job creation in the Dothan Alabama MSA occurred in the publishing and printing cluster, gaining about 550 jobs, the processed food cluster, gaining about 520 jobs, and the processed foods cluster, gaining about 250 jobs. The largest job loss from 1990-2001 for this area occurred in the apparel cluster, losing about 1,700 jobs, the construction materials cluster, losing about 1,600 jobs, and the entertainment cluster, losing about 1,000 jobs.

Cluster Overlap and Potential for Growth

Figure 11-3 shows the largest 15 clusters for the Dothan MSA. As Figure 11-3 shows the Decatur MSA has areas of overlap between its major clusters. The first grouping includes, financial services, publishing and printing, and aerospace vehicles and defense. Another grouping occurs between the transportation and logistics, hospitality and tourism, and entertainment clusters. Table 11-3 lists the subclusters included within these clusters. This table lists the specific industries that may be targeted for growth and development.

Table 11-1
Dothan, AL MSA
Total Employment by Subcluster, 2001

Cluster	Employment
Transportation and Logistics	2,023
Hospitality and Tourism	1,414
Business Services	1,117
Motor Driven Products	1,111
Heavy Construction Services	972

Table 11-2
Dothan, AL MSA
Total Employment by Subcluster, 2001

Cluster	Subcluster	Employment
Transportation & Logistics	Airports	1,762
Hospitality & Tourism	Accommodations & Related Services	1,009
Aerospace Vehicles & Defense	Aircraft	810
Motor Driven Products	Tires & Inner Tubes	750
Entertainment	Recorded Products	750
Publishing & Printing	Signs & Advertising Specialties	750
Processed Food	Baked Packaged Goods	385
Processed Food	Milk & Frozen Desserts	375
Apparel	Men's Clothing	366
Heavy Construction Services	Fabricated Metal Structures & Piping	332

Figure 11-2
Dothan, AL MSA
Total Employment by Traded Cluster, 2001

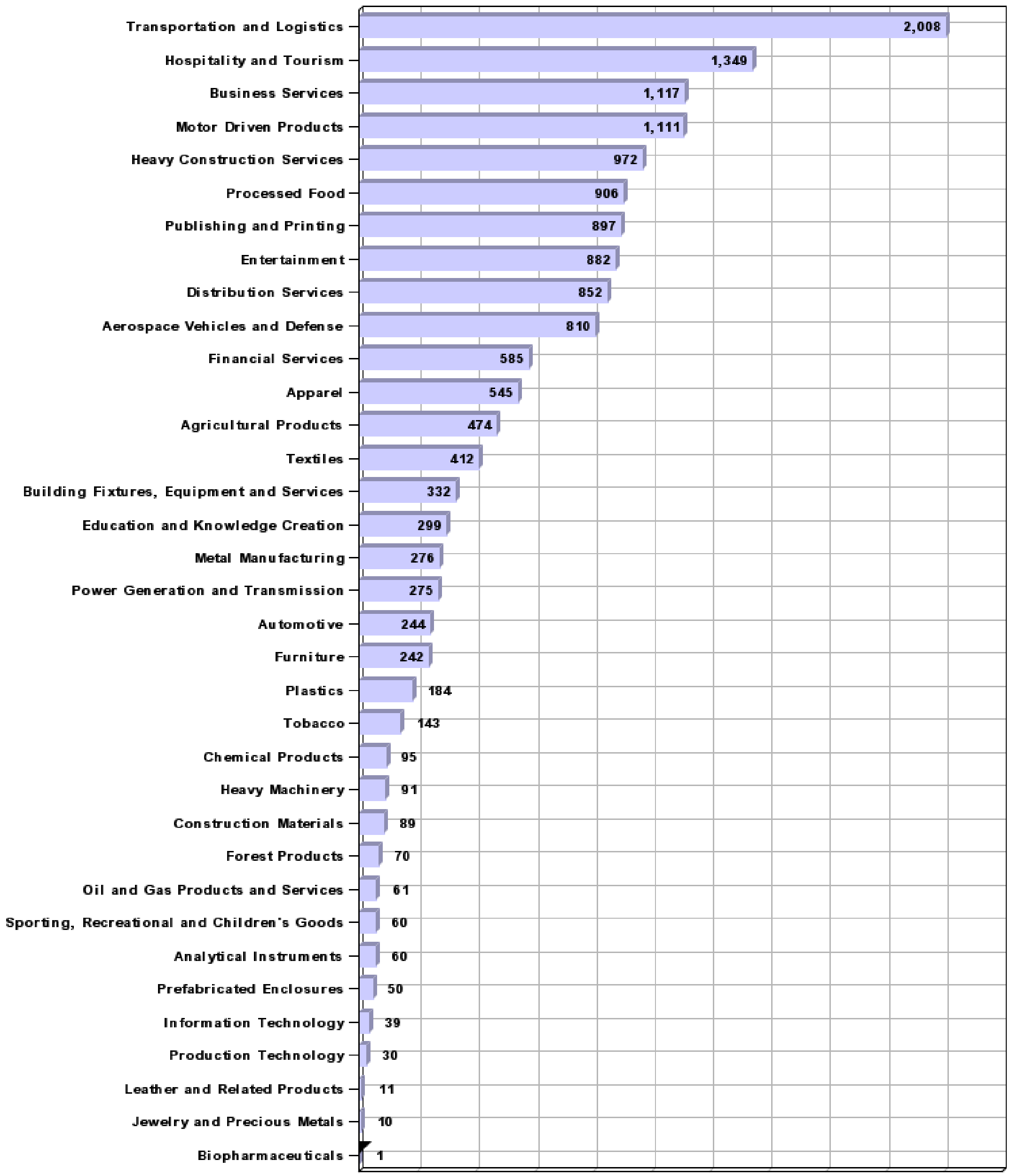


Figure 11-2
Dothan, AL MSA
Job Creation by Traded Cluster, 1990-2000

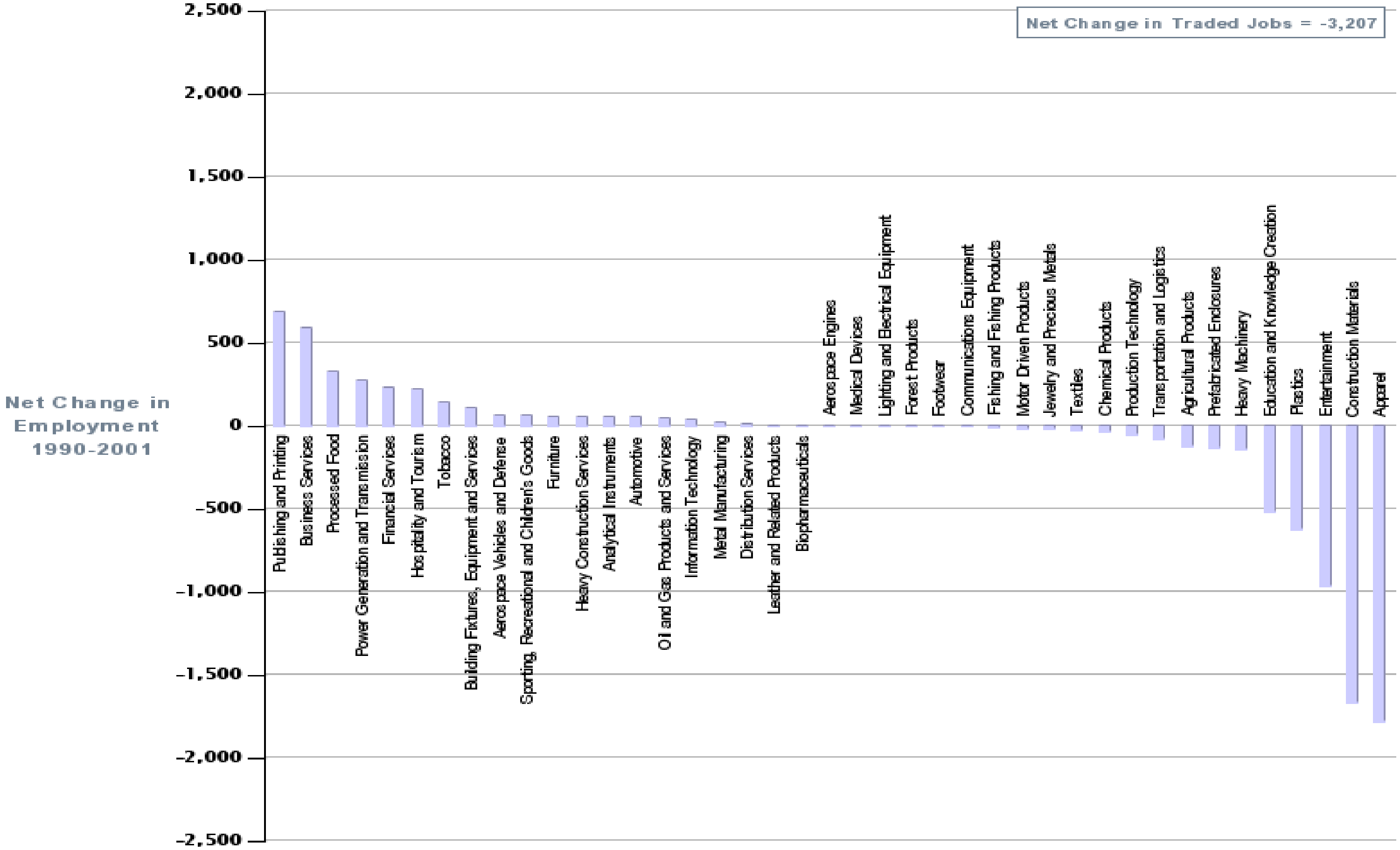


Figure 11-3
Dothan, AL MSA

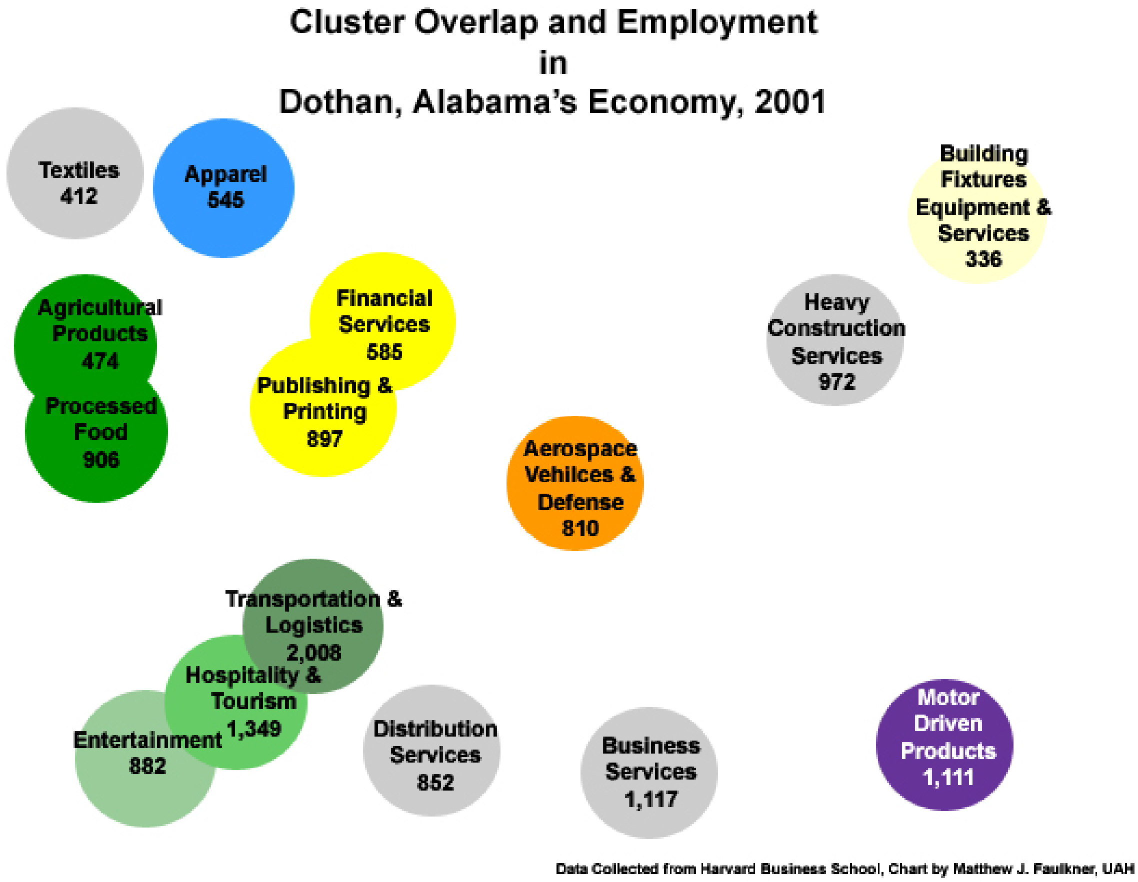


Table 11-3
Dothan, AL Metropolitan Area Major Subcluster Employment and Potential for Growth

	Subclusters with Major Employment	Subclusters with Minor or no Employment
Cluster		
	Financial Services	
Subclusters		
	Insurance Products	Risk Capital Providers
	Depository Institutions	Investment Funds
		Real Estate Investment - Trusts
		Passenger Car Leasing
		Information Providers
		Computer and - Communications Services
		Printing Services
		Patent Owners and Lessors
		Marketing Related Services
		Research Organizations
		Health Plans
		Securities Brokers, Dealers, and Exchanges
Cluster		
	Publishing and Printing	
Subclusters		
	Signs and Advertising - Specialties	News Syndicates
		Radio, TV, Publisher - Representatives
		Printing Inputs
		Specialty Paper Products
		Inked Paper and Ribbons
		Office Equipment - and Supplies
		Marketing Related Services
		Printing - Related Machinery
		Online Information Services
		Computer Services
		Research Organizations
		Research Facilities
		Printing Services
		Paper Products

Publishing

Cluster

Aerospace Vehicles -
and Defense

Subclusters

Aircraft

Missiles and Space Vehicles
Defense Equipment
Distribution and Wholesaling
Metallic Parts
Electronic Parts
Instruments
Semiconductor and -
Computers
Related Equipment
Communications Equipment
Software and Computer -
Services
Research

Cluster

Transportation and -
Logistics

Subclusters

Airports

Air Transportation
Bus Transportation
Trucking Terminal
Bus Terminals
Passenger Transportation
Communications Equipment -
and Services
Rental of Railroad Cars
Computer Services and Equipment
Ship Building
Marine Transportation
Transportation Arrangement -
and Warehousing

Cluster

Hospitality and Tourism

Subclusters

Accommodations and -
Related Services

Water Passenger -
Transportation
Boat Related Services

		Ground Transportation
		Other Local Transportation
		Related Professional - Services
		Other Attractions
		Air Services
		Vehicle Distribution and - Wholesaling
		Facilities Support Services
		Tourism Related Services
		Tourism Attractions

Cluster

Entertainment

Subclusters

	Recorded Products	Video Production and Distribution
		Entertainment Equipment
		Entertainment Related Services
		Entertainment Venues
		Distribution and Wholesaling
		Marketing and Promotional Services
		Related Attractions
		News Syndicates
		Audio and Video Equipment

Chapter 12

Florence, AL Metropolitan Area

Employment

Total 2001 employment in the Florence, AL MSA was 49,578, which was 0.04% of national employment. Florence, AL MSA's average wages in 2001 were $21,718 -vs- $34,669 for the US, or 37.36% below the national average. Average wage growth per year in the Florence, AL MSA was 2.69% -vs- 4.41% for the US. As Table 12-1 and Figure 12-1 show the 3 largest clusters were apparel, prefabricated enclosures, and metal manufacturing. As Table 12-2 shows the 3 largest subclusters were knitting and finishing mills, aluminum processing, and production equipment.

Job Creation/Loss

Employment growth per year from 1990-2001 in the Florence, AL MSA was 1.54% -vs.- 2.10% for the US. As Figure 12-2 shows, from 1990-2001 the largest job creation for the Florence MSA occurred in the automotive cluster, gaining about 600 jobs, the business services cluster gaining about 400 jobs, and the processed food cluster, gaining about 390 jobs. Figure 12-2 also shows that the largest job loss in this area from 1990-2001 occurred in the apparel cluster, losing about 1,000 jobs, the motor driven products cluster, losing about 700 jobs, and the metal manufacturing cluster, losing about 250 jobs.

Cluster Overlap and Potential for Growth

Figure 12-3 shows the largest 15 clusters for the Florence MSA. As Figure 12-3 shows the Florence MSA has areas of overlap between its major clusters. The first grouping includes financial services, publishing and printing, and communications equipment. Another grouping occurs between the automotive and metal manufacturing clusters. Table 12-3 lists the subclusters included within these clusters. This table lists the specific industries that may be targeted for growth and development.

Table 12-1
Florence, AL MSA
Total Employment by Cluster, 2001

Cluster	Employment
Apparel	2,710
Prefabricated Enclosures	2,322
Metal Manufacturing	1,163
Automotive	1,133
Business Services	1,101

Table 12-2
Florence, AL MSA
Total Employment by Subcluster, 2001

Cluster	Subcluster	Employment
Prefabricated Enclosures	Aluminum Processing	1,987
Apparel	Knitting & Finishing Mills	1,925
Automotive	Production Equipment	802
Processed Foods	Specialty Foods & Ingredients	758
Business Services	Professional Organizations & Services	564
Distribution Services	Merchandise Wholesaling	470
Plastics	Plastic Products	433
Metal Manufacturing	Metal Furniture	379
Building Fixtures Equipment & Services	Floor Coverings	362
Heavy Construction Services	Final Construction	296

Figure 12-1
Florence, AL MSA
Total Employment by Traded Cluster, 2001

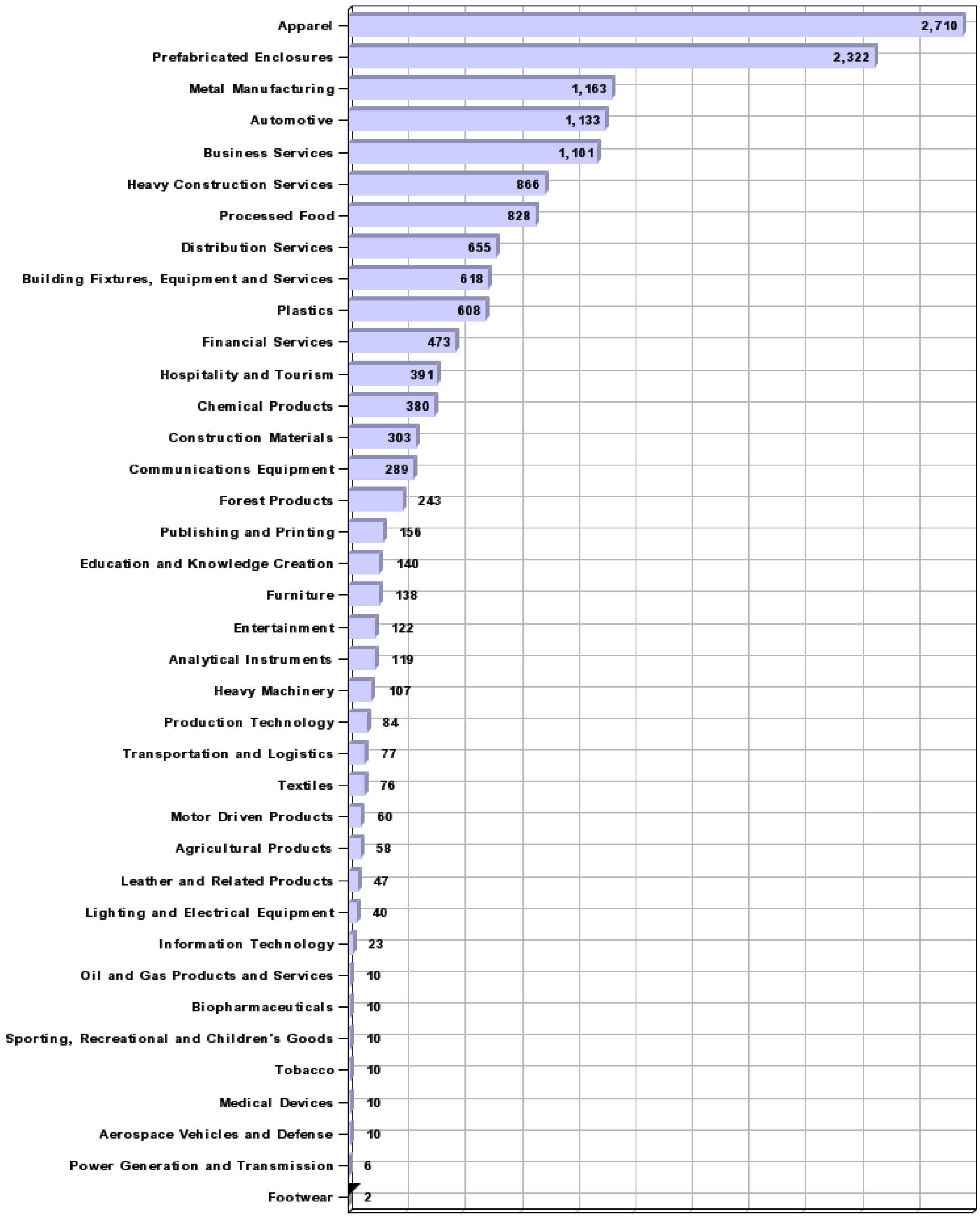


Figure 12-2
Florence, AL MSA
Job Creation by Traded Cluster 1990-2001

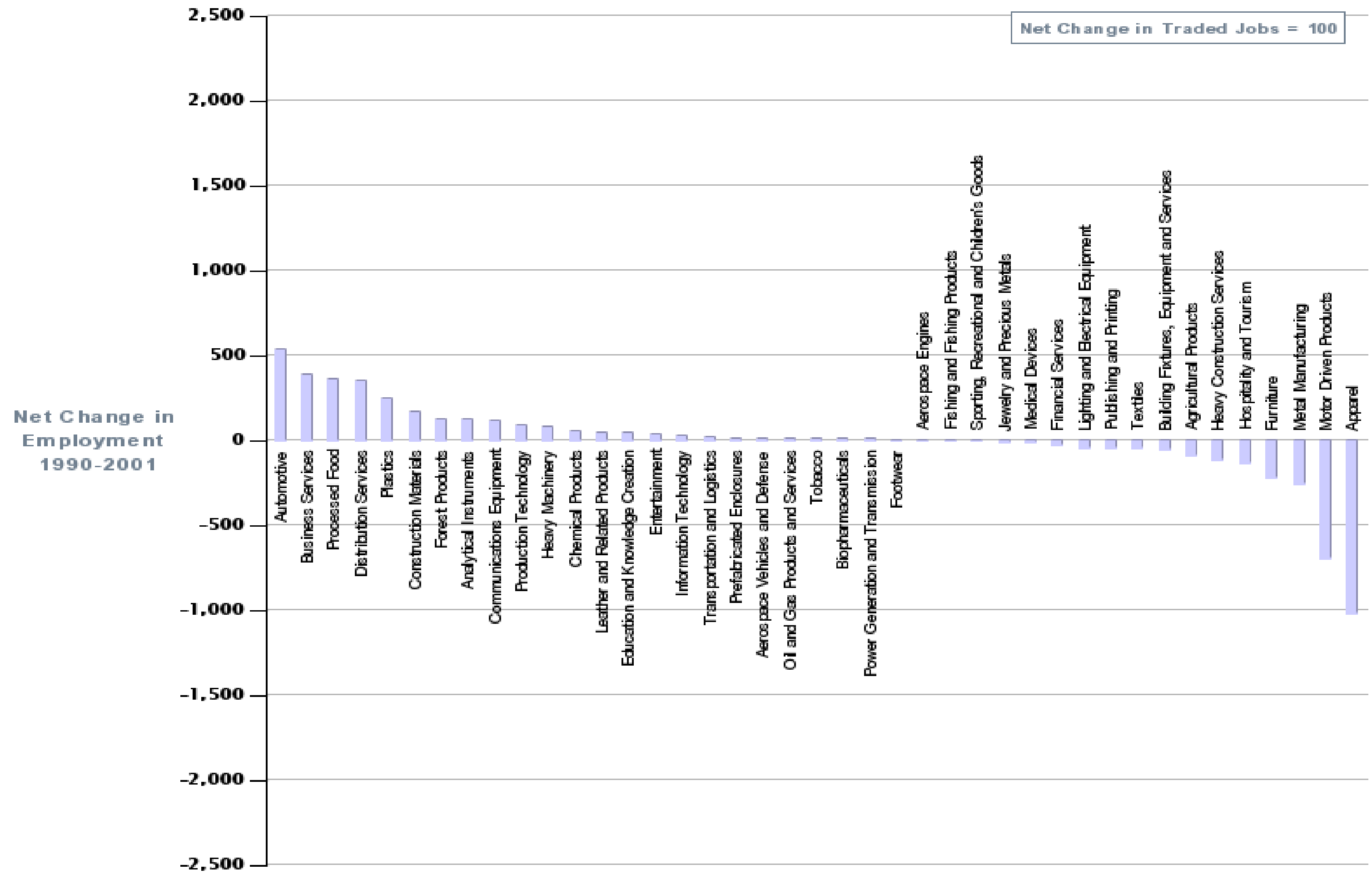


Figure 12-3
Florence, AL MSA

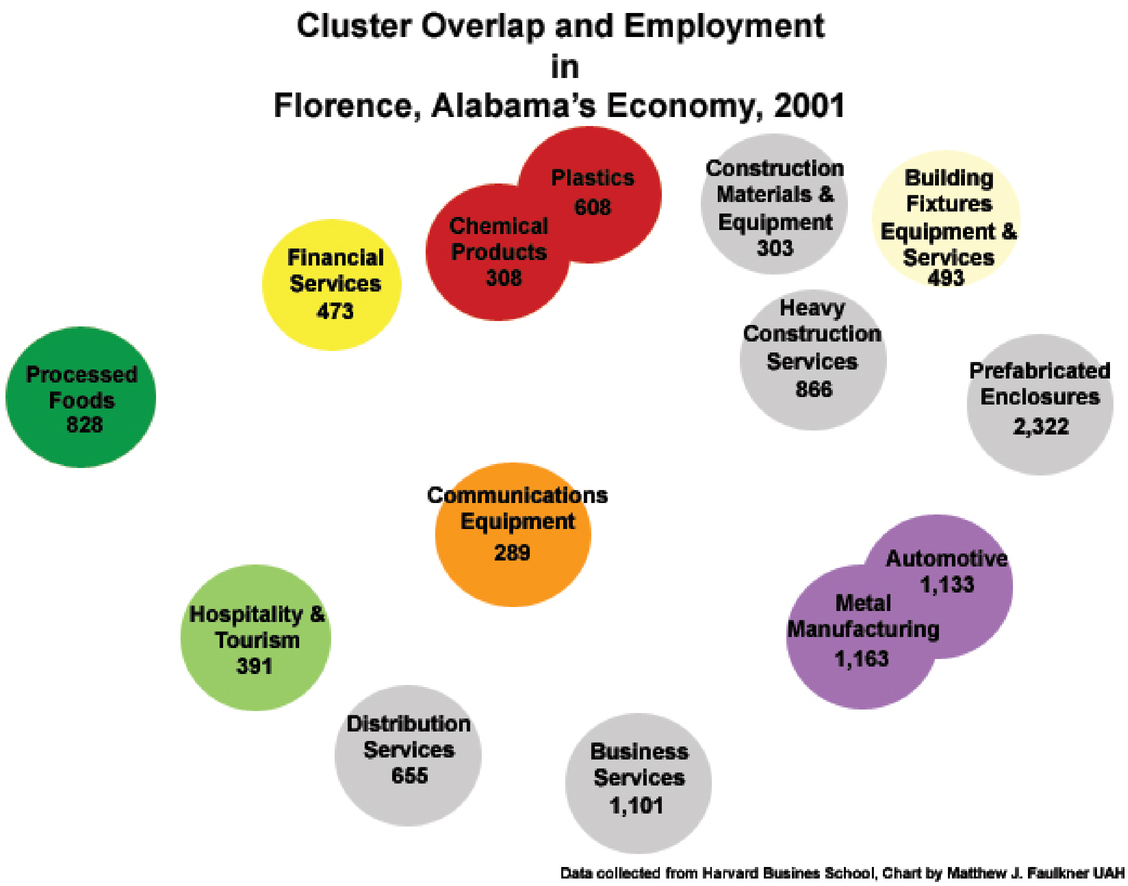


Table 11-3
Florence, AL Metropolitan Area Major Subcluster Employment and Potential for Growth

	Subclusters with Major Employment	Subclusters with Minor or no Employment
Cluster		
	Financial Services	
Subcluster		
	No Major Subclusters	Risk Capital Providers
		Investment Funds
		Real Estate Investment - Trusts
		Passenger Car Leasing
		Information Providers
		Computer and - Communications Services
		Printing Services
		Patent Owners and Lessors
		Marketing Related Services
		Research Organizations
		Health Plans
		Securities Brokers, Dealers, - and Exchanges
		Insurance Products
		Depository Institutions
Cluster		
	Publishing and Printing	
Subclusters		
	No Major Subclusters	News Syndicates
		Signs and Advertising - Specialties
		Printing Services
		Paper Products
		Printing Inputs
		Specialty Paper Products
		Inked Paper and Ribbons
		Office Equipment - and Supplies
		Marketing Related Services
		Printing - Related Machinery
		Online Information Services
		Computer Services

		Research Organizations Research Facilities Publishing Radio, TV, Publisher - Representatives
Cluster	Communications - Equipment	
Subclusters	No Major Subclusters	Communications Equipment Electrical and Electronic - Components Specialty Office Machines Communications Services Related Services Distribution and Wholesaling Wiring, Coils, and Transformers Semiconductor and Optical - Devices Software and Computer Services Metal Processing Cabinets Power Transmission Equipment Storage Batteries Computer Equipment Household Audio and Video - Equipment Guided Missiles and Space - Vehicles Search and Navigation Equipment Related Instruments Research Institutions
Cluster	Automotive	
Subclusters	Production Equipment	Automotive Components Forgings and Stampings Flat Glass Small Vehicles and Trailers Marine, Tank, and - Stationary Engines Related Parts

Motors and Generators
Related Vehicles
Metal Processing
Machine Tools
Related Process Machinery
Industrial Trucks and Tractors
Die-Castings
Automotive Parts
Motor Vehicles

Cluster

Metal Manufacturing

Subclusters

Metal Furniture	Metal Alloys
	Primary Metal Products
	Precision Metal Products
	Fasteners
	Wire and Springs
	Nonferrous Mills and Foundries
	Environmental Controls
	Pumps
	Saw Blades and Handsaws
	General Industrial Machinery
	Laundry and Cleaning Equipment
	Metal Armaments
	Measuring and Dispensing - Pumps
	Tools, Dies, and Fixtures
	Paints and Allied Products
	Lubricating Oils and Greases
	Abrasive Products
	Metalworking Machinery and - Components
	Related Metal Processing
	Industrial Furnaces and Ovens
	Automotive Parts and Equipment
	Hoists and Cranes
	Related Metal Products
	Motorcycles and Bicycles

Chapter 13

Gadsden, AL Metropolitan Area

Employment

Total 2001 employment in the Gadsden, AL MSA was 32,485, which was 0.03% of national employment. Gadsden, AL MSA's average wages in 2001 were $23,444 -vs- $34,669 for the US, or 32.38% below the national average. Average wage growth per year in the Gadsden, AL MSA was 2.18% -vs- 4.41% for the US. As Table 13-1 and Figure 13-1 show the 3 largest clusters were motor driven products, business services, and metal manufacturing. As Table 13-2 shows the 3 largest subclusters were iron steel mills and foundries, tires and inner tubes, and management consulting.

Job Creation/Loss

Employment growth per year from 1990-2000 in the Gadsden, AL MSA was 0.51% -vs.- 2.10% for the US. As Figure 13-2 shows, from 1990-2001 the largest job creation for the Gadsden MSA occurred in the publishing and printing cluster, gaining about 490 jobs, the business services cluster, gaining about 480 jobs, and the heavy machinery cluster gaining about 460 jobs. Figure 13-2 also shows that the largest job loss for this area from 1990-2001 occurred in the motor driven products cluster, losing about 2,500 jobs, the metal manufacturing cluster, losing about 1,700 jobs, and the chemical products cluster, losing about 700 jobs.

Cluster Overlap and Potential for Growth

Figure 13-3 shows the largest 15 clusters for the Gadsden MSA. As Figure 13-3 shows the Gadsden MSA has areas of overlap between its major clusters. The first grouping includes, financial services and publishing and printing. Another grouping occurs between the automotive, metal manufacturing, motor driven products, and heavy machinery clusters. A third grouping occurs between the transportation and logistics and hospitality and tourism clusters. Table 13-3 lists the subclusters included within these clusters. This table lists the specific industries that may be targeted for growth and development.

Table 13-1
Gadsden, AL, MSA
Total Employment by Cluster, 2001

Cluster	Employment
Motor Driven Products	1,750
Business Services	963
Metal Manufacturing	556
Heavy Construction Services	547
Publishing and Printing	507

Table 13-2
Gadsden, AL, MSA
Total Employment by Subcluster, 2001

Cluster	Subcluster	Employment
Motor Driven Products	Tires & Inner Tubes	1,750
Business Services	Management Consulting	806
Publishing & Printing	Photographic Equipment & Supplies	375
Forest Products	Paper Mills	319
Automotive	Automotive Parts	228
Heavy Construction Services	Subcontractors	211
Heavy Machinery	Machinery Components	201
Hospitality & Tourism	Accommodations & Related Services	199
Processed Foods	Meat & Related Products & Services	185
Metal Manufacturing	Laundry & Cleaning Equipment	175

Figure 13-1
Gadsden, AL MSA
Total Employment by Traded Cluster, 2001

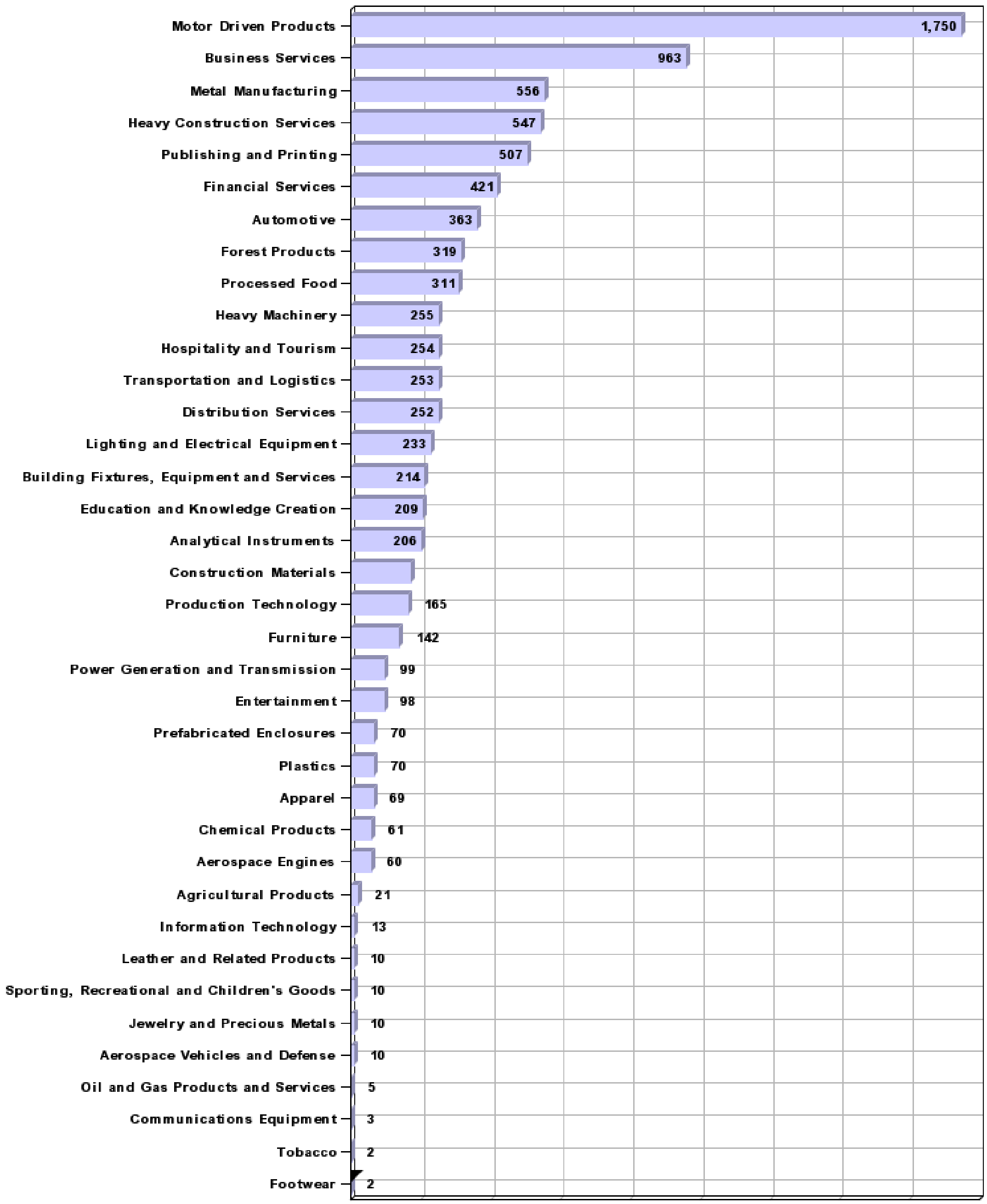


Figure 13-2
Gadsden, AL MSA
Job Creation by Traded Cluster 1990-2001

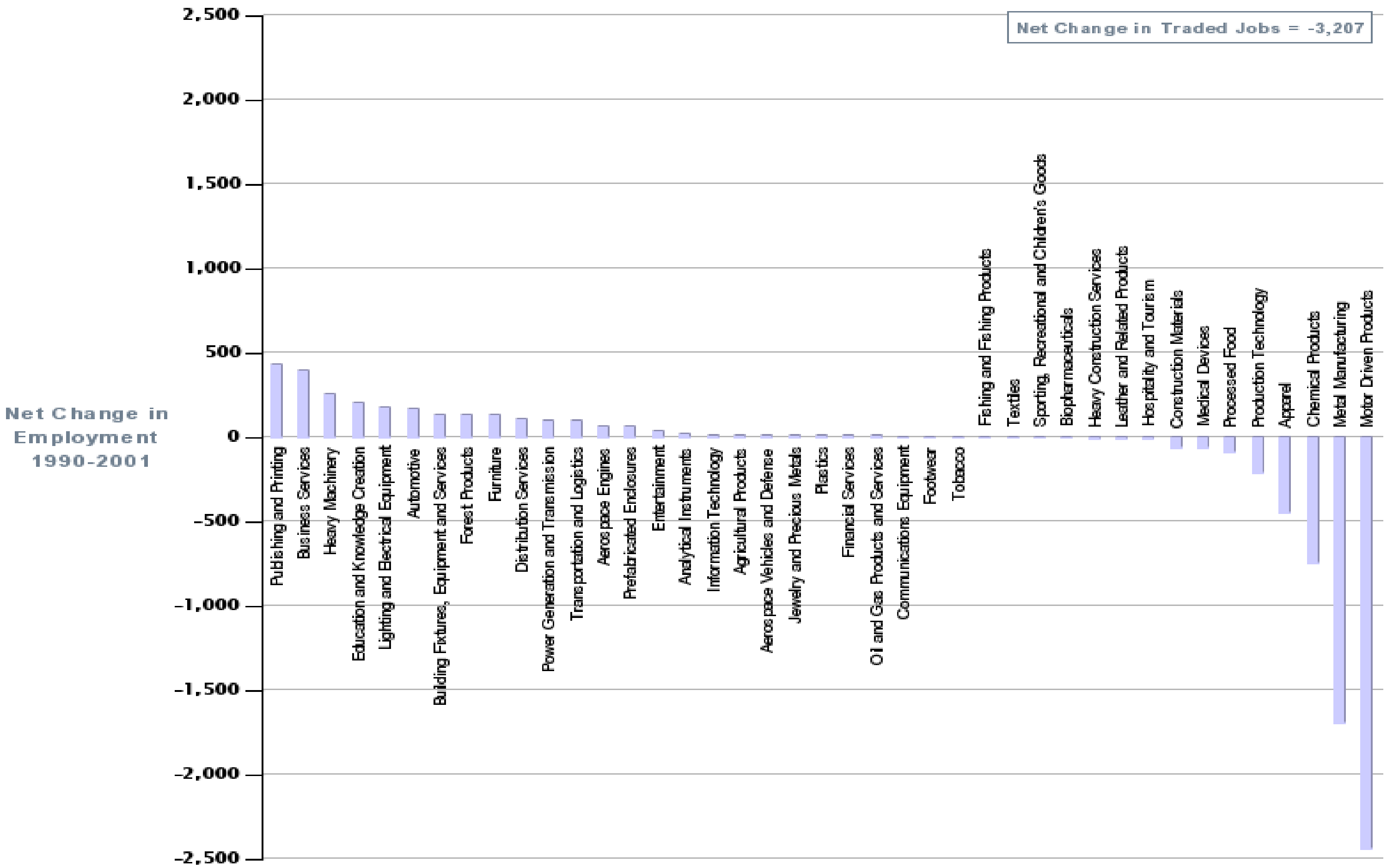


Figure 13-3
Gadsden, AL MSA

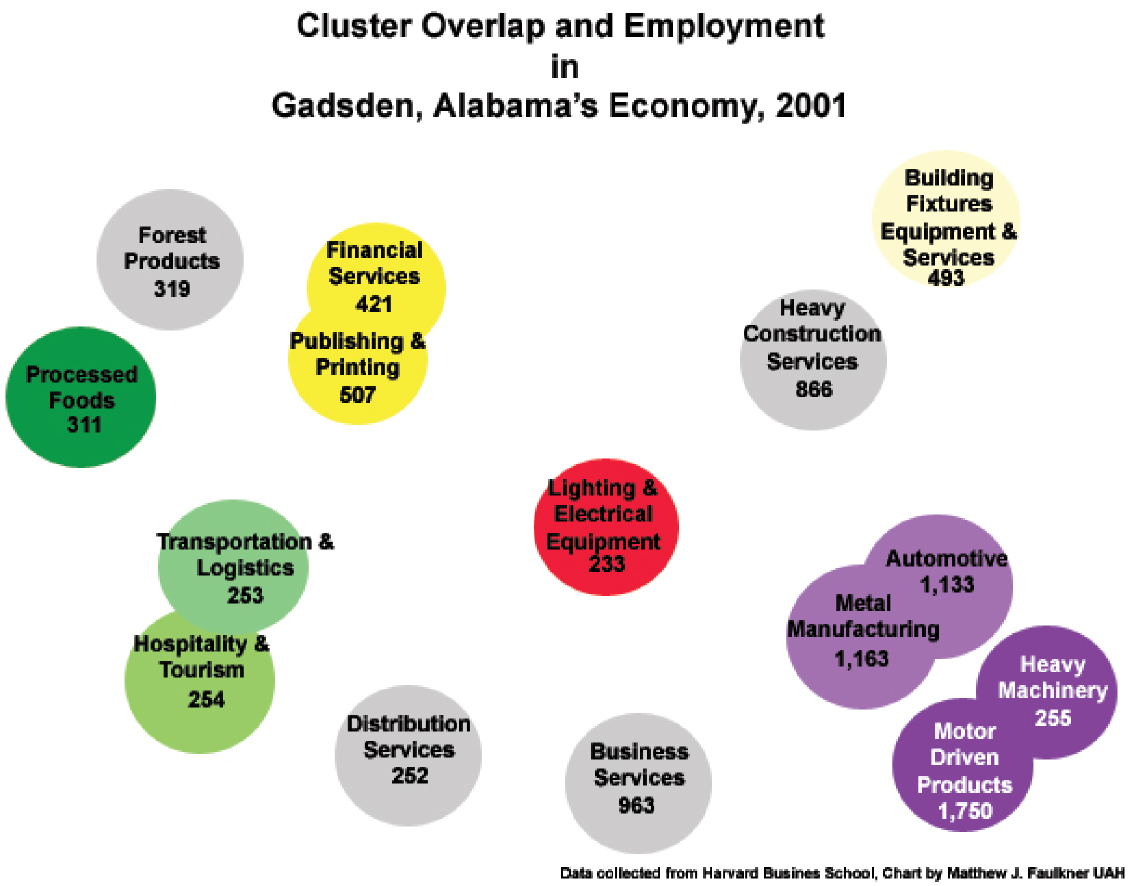


Table 13-3
Gadsden, AL Metropolitan Area Major Subcluster Employment and Potential for Growth

	Subclusters with Major Employment	Subclusters with Minor or no Employment
Cluster		
	Financial Services	
Subclusters		
	No Major Subclusters	Risk Capital Providers Investment Funds Real Estate Investment - Trusts Passenger Car Leasing Information Providers Computer and - Communications Services Printing Services Patent Owners and Lessors Marketing Related Services Research Organizations Insurance Products Depository Institutions Health Plans Securities Brokers, Dealers, and Exchanges
Cluster		
	Publishing and Printing	
Subclusters		
	Photographic Equipment- and Supplies	News Syndicates Signs and Advertising - Specialties Radio, TV, Publisher - Representatives Printing Inputs Specialty Paper Products Inked Paper and Ribbons Office Equipment - and Supplies Marketing Related Services Printing - Related Machinery Online Information Services Computer Services

		Research Organizations Research Facilities Publishing Printing Services Paper Products
Cluster		
	Education and Knowledge - Creation	
Subclusters		
	Educational Institutions	Educational Facilities Patent Owners and Lessors Supplies Research Related Instruments Pharmaceuticals Publishing Printing Communications Services Marketing and Information - Services Online Information Services Computer Services Prepackaged Software Computer and Software - Wholesaling and Services Computer Equipment Educational Institutions Research Organizations
Cluster		
	Analytical Instruments	
Subclusters		
	Electronic Components	Laboratory Instruments Optical Instruments Process Instruments Search and Navigation - Equipment Electronic Components Distribution and Wholesaling Electronic Parts Other Parts Medical Equipment Related Process Equipment Related Equipment Computer and Software -

Services
Research Organizations

Cluster

Transportation and Logistics

Subclusters

Transportation Arrangement - and Warehousing

Air Transportation
Bus Transportation
Trucking Terminal
Airports
Bus Terminals
Passenger Transportation
Communications Equipment - and Services
Rental of Railroad Cars
Computer Services and Equipment
Ship Building
Marine Transportation

Cluster

Hospitality and Tourism

Subclusters

Accommodations and Related - Services

Water Passenger - Transportation
Boat Related Services
Ground Transportation
Other Local Transportation
Related Professional - Services
Other Attractions
Air Services
Vehicle Distribution and - Wholesaling
Facilities Support Services
Tourism Related Services
Tourism Attractions

Cluster

Automotive

Subcluster

Automotive Parts

Automotive Components
Forgings and Stampings
Flat Glass
Production Equipment

		Small Vehicles and Trailers
		Marine, Tank, and - Stationary Engines
		Related Parts
		Motors and Generators
		Related Vehicles
		Metal Processing
		Machine Tools
		Related Process Machinery
		Industrial Trucks and Tractors
		Die-Castings
		Motor Vehicles
Cluster		
	Metal Manufacturing	
Subclusters		
	Laundry and Cleaning Equipment	Metal Alloys
		Primary Metal Products
		Precision Metal Products
		Fasteners
		Wire and Springs
		Nonferrous Mills and Foundries
		Environmental Controls
		Pumps
		Saw Blades and Handsaws
		General Industrial Machinery
		Metal Armaments
		Measuring and Dispensing - Pumps
		Tools, Dies, and Fixtures
		Paints and Allied Products
		Lubricating Oils and Greases
		Abrasive Products
		Metalworking Machinery and - Components
		Related Metal Processing
		Industrial Furnaces and Ovens
		Automotive Parts and Equipment
		Hoists and Cranes
		Related Metal Products
		Motorcycles and Bicycles
		Fabricated Metal Products
		Metal Processing
		Iron Steel Mills and - Foundries
		Metal Furniture

Cluster

Motor Driven Products

Subclusters

Tires and Inner Tubes	Motors and Generators Batteries Motorized Equipment Appliances Specialized Pumps Specialized Machinery Marine, Tank, and Stationary - Engines Motorcycles and Bicycles Metal Processing Related Appliances Hoists and Cranes Printing Trades Machinery Elevators and Moving - Stairways Air and Gas Compressors Power Transmission, Motors - and Pumps Control Devices Refrigeration and Heating - Equipment

Cluster

Heavy Machinery

Subclusters

Machinery Components	Farm Machinery Railroad Equipment and Rental Mining Machinery Valves and Pipe Fittings Hoists and Cranes Forgings, Castings, and Metal - Parts Engines Related Parts Compressors and Fans Tires and Inner Tubes Construction Machinery

Chapter 14

Huntsville, AL Metropolitan Area

Employment

Total 2001 employment in the Huntsville, AL MSA was 147,076, which was 0.13% of national employment. Huntsville, AL MSA's average wages in 2001 were $32,620 -vs- $34,669 for the US, or 5.91% below the national average. Average wage growth per year in the Huntsville, AL MSA was 3.74% -vs- 4.41% for the US. As Table 14-1 and Figure 14-1 show the 3 largest clusters were business services, automotive, and information technology. As Table 14-2 shows the largest subclusters were automotive parts, engineering services, and computer programming.

Job Creation/Loss

Employment growth per year from 1990-2001 in the Huntsville, AL MSA was 2.54% -vs.- 2.10% for the US. As Figure 14-2 shows, form 1990-2001 the largest job creation for the Huntsville MSA occurred in the education and knowledge creation cluster, gaining about 3,200 jobs, the business services cluster gaining about 2,800 jobs, and the heavy machinery cluster, gaining 1,800 jobs. Figure 14-2 also shows that the largest job loss for the area from 1990-2001 occurred in the aerospace vehicles and defense cluster, losing about 3,500 jobs, the automotive cluster, losing about 2,800 jobs, and the apparel cluster, losing about 1,100 jobs.

Cluster Overlap and Potential for Growth

Figure 14-3 shows the largest 15 clusters for the Huntsville MSA. As Figure 13-3 shows the Huntsville MSA has areas of overlap between its major clusters. The first grouping includes, education and knowledge creation, information technology, communications equipment, analytical instruments, and aerospace vehicles and defense. Another grouping occurs between the automotive, metal manufacturing, motor driven products, production technology, and heavy machinery clusters. A third grouping occurs between the hospitality and tourism and entertainment clusters. Table 13-3 lists the subclusters included within these clusters. This table lists the specific industries that may be targeted for growth and development.

Table 14-1
Huntsville, AL MSA
Total Employment by Subcluster, 2001

Cluster	Employment
Business Services	15,620
Automotive	6,709
Information Technology	5,478
Education and Knowledge Creation	4,982
Analytical Instruments	2,926

Table 14-2
Huntsville, AL MSA
Total Employment by Subcluster, 2001

Cluster	Subcluster	Employment
Business Services	Engineering Services	6,962
Automotive	Automotive Parts	6,328
Business Services	Computer Programming	5,582
Education & Knowledge Creation	Research Organizations	3,820
Information Technology	Computers	3,750
Analytical Instruments	Electronic Components	2,235
Heavy Machinery	Machinery Components	2,009
Communications Equipment	Communications Equipment	1,901
Distribution Services	Merchandise Wholesaling	1,853
Aerospace Vehicles & Defense	Missiles & Space Vehicles	1,810

Figure 14-1
Huntsville, AL MSA
Total Employment by Traded Cluster, 2001

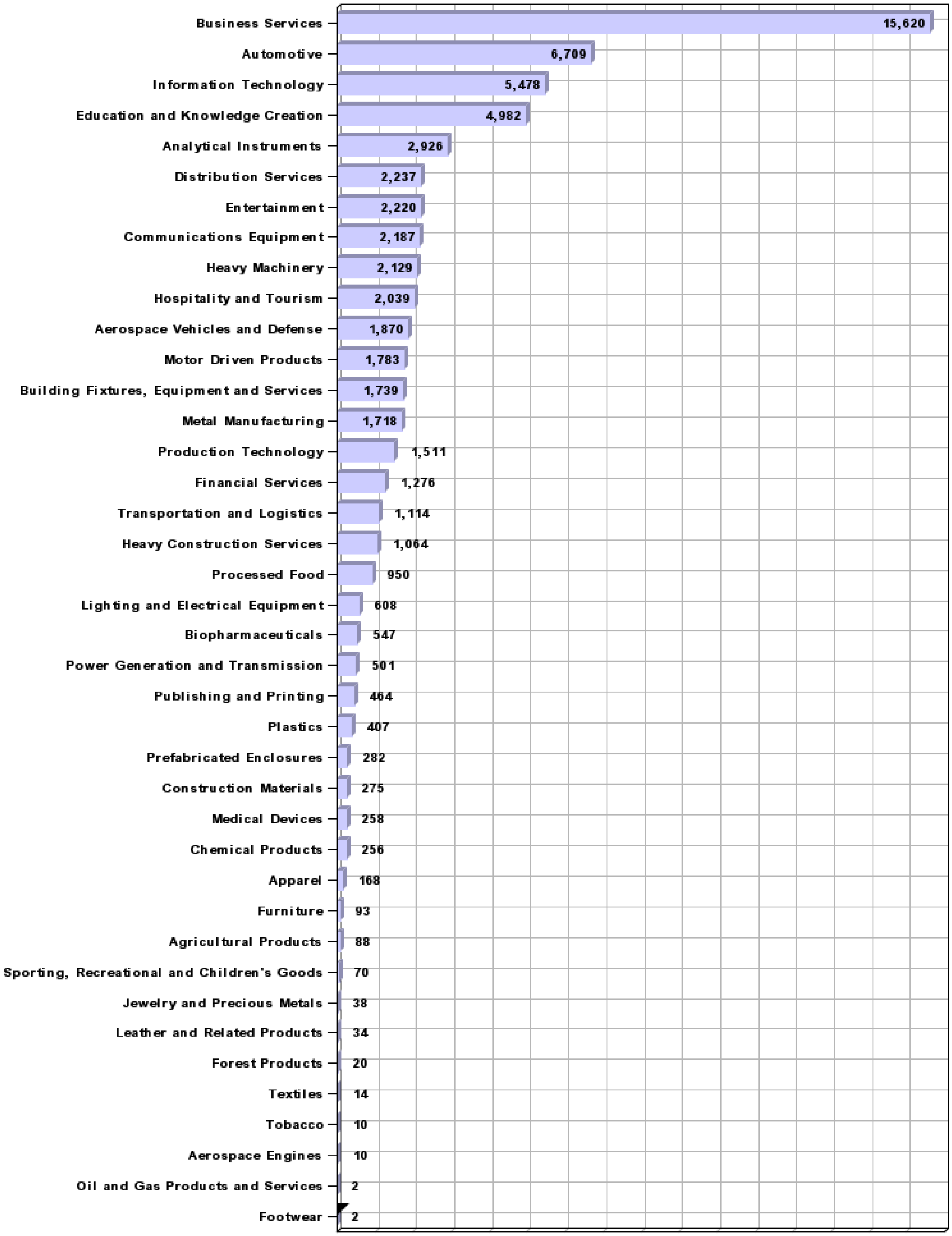


Figure 14-2
Huntsville, AL MSA
Job Creation by Traded Cluster, 1990-2001

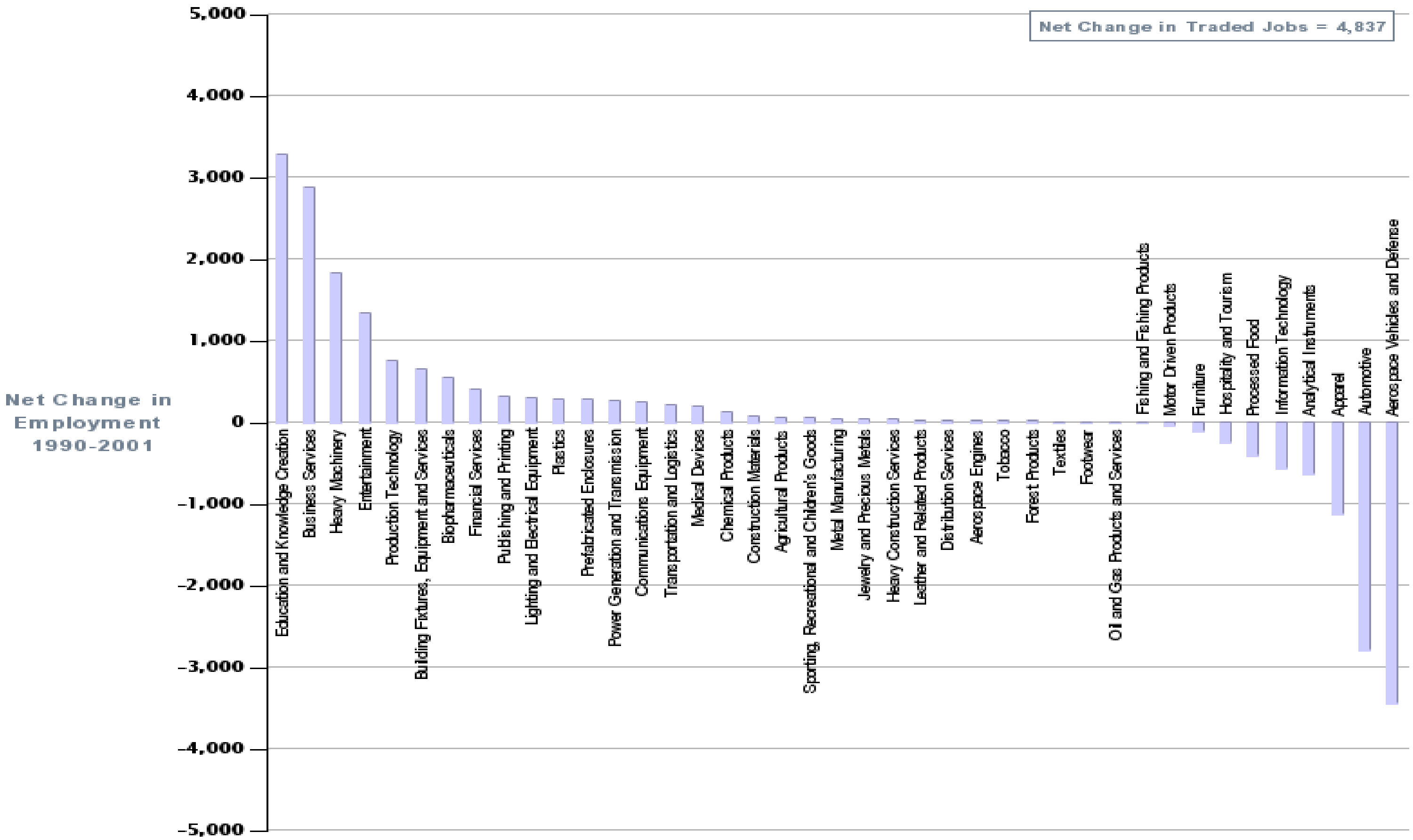


Figure 14-3
Huntsville, AL MSA

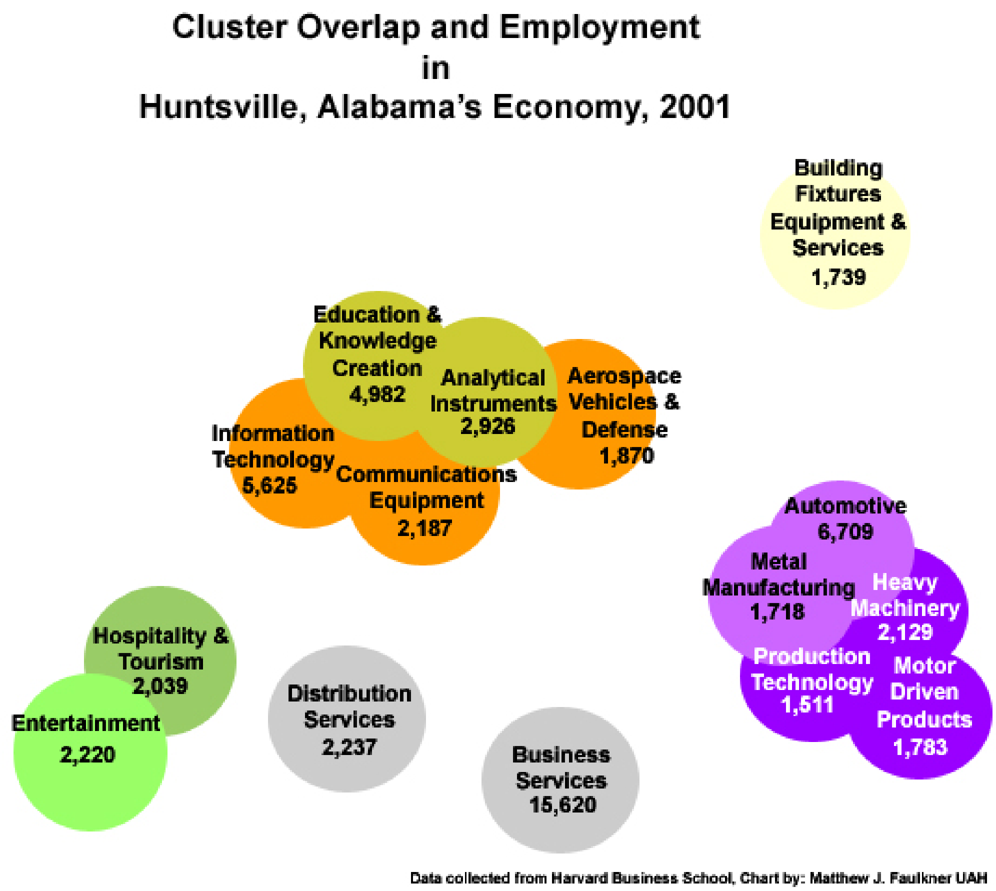


Table 14-3
Huntsville, AL Metropolitan Area Major Subcluster Employment and Potential for Growth

	Subclusters with Major Employment	Subclusters with Minor or no Employment
Cluster	Education and - Knowledge Creation	
Subclusters	Research Organizations Educational Institutions	Educational Facilities Plant Owners and Lessors Supplies Research Related Instruments Pharmaceuticals Publishing Printing Communications Services Marketing and Information - Services Online Information Services Computer Services Prepackaged Software Computer and Software - Wholesaling and Services Computer Equipment
Cluster	Information Technology	
Subclusters	Computers Software	Electronic Components and - Assemblies Peripherals Communication Services Distribution and Wholesaling Other Electronic Components - and Parts Recording Media Services Online Information Services Computer Services Instruments Communication Equipment Research Organizations
Cluster		

	Communications - Equipment	
Subclusters		
	Communications - Equipment	Electrical and Electronic - Components Specialty Office Machines Communications Services Related Services Distribution and Wholesaling Wiring, Coils, and Transformers Semiconductor and Optical - Devices Software and Computer Services Metal Processing Cabinets Power Transmission Equipment Storage Batteries Computer Equipment Household Audio and Video - Equipment Guided Missiles and Space - Vehicles Search and Navigation Equipment Related Instruments Research Institutions
Cluster		
	Analytical Instruments	
Subclusters		
	Electronic Components	Optical Instruments Process Instruments Search and Navigation Equipment Distribution and Wholesaling Electronic Parts Other Parts Medical Equipment Related Process Equipment Related Equipment Computer and Software - Services Research Organizations Laboratory Instruments
Cluster		
	Aerospace Vehicles and -	

Defense

Subclusters

Missiles and Space - Vehicles	Aircraft Defense Equipment Distribution and Wholesaling Metallic Parts Electronic Parts Instruments Semiconductors and Computers Related Equipment Communications Equipment Software and Computer Services Research

Cluster

Hospitality and Tourism

Subclusters

Accommodations and - Related Services	Water Passenger - Transportation Boat Related Services Ground Transportation Other Local Transportation Related Professional - Services Other Attractions Air Services Vehicle Distribution and - Wholesaling Facilities Support Services Tourism Related Services Tourism Attractions

Cluster

Entertainment

Subclusters

Recorded Products Video Production and - Distribution	Entertainment Equipment Entertainment Related Services Entertainment Venues Distribution and Wholesaling Marketing and Promotional Services Related Attractions News Syndicates Audio and Video Equipment

Cluster

Automotive

Subclusters

Automotive Parts	Motor Vehicles
	Automotive Components
	Forgings and Stampings
	Flat Glass
	Production Equipment
	Small Vehicles and Trailers
	Marine, Tank, and Stationary - Engines
	Related Parts
	Motors and Generators
	Related Vehicles
	Metal Processing
	Machine Tools
	Related Process Machinery
	Industrial Trucks and Trailers
	Die-Castings

Cluster

Metal Manufacturing

Subclusters

Metal Furniture	Metal Alloys
Metal Processing	Primary Metal Products
	Precision Metal Products
	Fasteners
	Wire and Springs
	Nonferrous Mills and - Foundries
	Environmental Controls
	Pumps
	Saw Blades and Handsaws
	General Industrial Machinery
	Laundry and Cleaning Equipment
	Metal Armaments
	Measuring and Dispensing - Pumps
	Tools, Dies, and Fixtures
	Plants and Allied Products
	Lubricating Oils and Greases
	Abrasive Products
	Metalworking Machinery and - Components
	Related Metal Processing

		Industrial Furnaces and Ovens Automotive Parts and - Equipment Hoists and Cranes Related Metal Products Motorcycles and Bicycles Iron and Steel Mill Foundries Fabricated Metal Products
Cluster		
	Heavy Machinery	
Subclusters		
	Machinery Components	Farm Machinery Railroad Equipment and Rental Mining Machinery Valves and Pipe Fittings Hoists and Cranes Forgings, Castings, and Metal - Parts Engines Related Parts Compressors and Fans Tires and Inner Tubes Construction Machinery
Cluster		
	Production Technology	
Subclusters		
	Process Equipment - Subsystems and Components	Machine Tool and Accessories Hoists and Cranes Process Machinery Industrial Patterns Industrial Trucks and Trailers Production Machinery and - Components Blast Furnaces and Steel Mills Household Appliances Abrasive Products Metal Heat Testing Process Equipment Vehicle and Heavy Stamping Construction Machinery Castings, Forgings, and Metal - Alloys Fabricated Plate Work

Ball and Roller Bearings

Cluster

Motor Driven Products

Subclusters

Tires and Inner Tubes	Motors and Generators
Refrigeration and Heating - Products	Batteries
	Motorized Equipment
	Appliances
	Specialized Pumps
	Specialized Machinery
	Marine, Tank, and Stationary - Engines
	Motorcycles and Bicycles
	Metal Processing
	Related Appliances
	Hoists and Cranes
	Printing Trades Machinery
	Elevators and Moving - Stairways
	Air and Gas Compressors
	Power Transmission, Motors - and Pumps
	Control Devices

Chapter 15

Mobile, AL Metropolitan Area

Employment

Total 2001 private employment in the Mobile, AL MSA was 196,193, which was 0.17% of national employment. Mobile, AL MSA's average wages in 2001 were $26,506 -vs- $34,669 for the US, or 23.55% below the national average. Average wage growth per year in the Mobile, AL MSA was 3.85% -vs- 4.41% for the US. As Table 15-1 and Figure 15-1 show the largest clusters were business services, transportation and logistics, and heavy construction services. As Figure 15-2 shows the largest subclusters were intermediate chemicals and gasses, accommodations and related services, and aircrafts.

Job Creation/Loss

Employment growth per year from 1990-2001 in the Mobile, AL MSA was 2.73% -vs.- 2.10% for the US. As Figure 15-2 shows, from 1990-2001 the largest job creation for the Mobile MSA occurred in the business services cluster, gaining about 2,400 jobs, the aerospace vehicles and defense cluster, gaining about 1,600 jobs, and the heavy construction services cluster, gaining about 1,300 jobs. Figure 15-2 also shows that from 1990-2001 the largest job loss occurred in the forest products cluster, losing about 2,100 jobs, the transportation and logistics cluster, losing about 1,400 jobs, and the textiles cluster, losing about 1,000 jobs.

Cluster Overlap and Potential for Growth

Figure 15-3 shows the largest 15 clusters for the Mobile MSA. As Figure 15-3 shows the Mobile MSA has areas of overlap between its major clusters. The first grouping includes, chemical products, financial services, education and knowledge creation, aerospace vehicles and defense, information technology, transportation and logistics, and hospitality and tourism. Another grouping occurs between the metal manufacturing and production technology clusters. Table 15-3 lists the subclusters included within these clusters. This table lists the specific industries that may be targeted for growth and development.

Table 15-1
Mobile, AL MSA
Total Employment by Cluster, 2001

Cluster	Employment
Business Services	5,555
Transportation and Logistics	4,453
Heavy Construction Services	4,321
Chemical Products	4,241
Hospitality and Tourism	3,861

Table 15-2
Mobile, AL MSA
Total Employment by Subcluster, 2001

Cluster	Subcluster	Employment
Chemical Products	Intermediate Chemicals & Gasses	3,222
Hospitality & Tourism	Accommodations & Related Services	2,449
Aerospace Vehicles & Defense	Aircraft	2,300
Heavy Construction Services	Final Construction	1,880
Business Services	Management Consulting	1,862
Transportation & Logistics	Ship Building	1,760
Business Services	Engineering Services	1,503
Heavy Construction Services	Subcontractors	1,035
Education & Knowledge Creation	Educational Institutions	1,004
Transportation & Logistics	Marine Transportation	970

Figure 15-1
Mobile, AL MSA
Total Employment by Traded Cluster, 2001

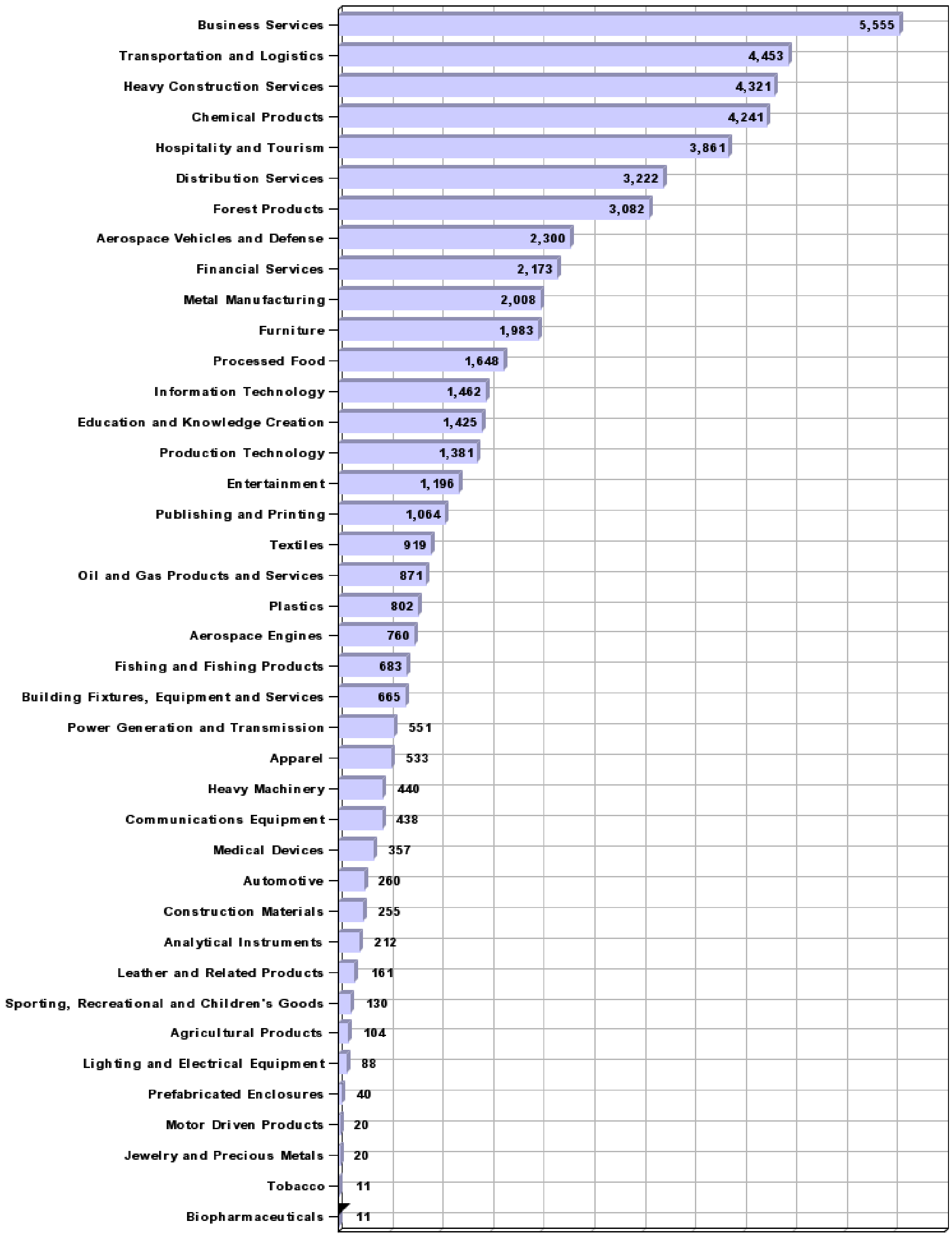


Figure 15-2
Mobile, AL MSA
Job Creation by Traded Cluster 1990-2001

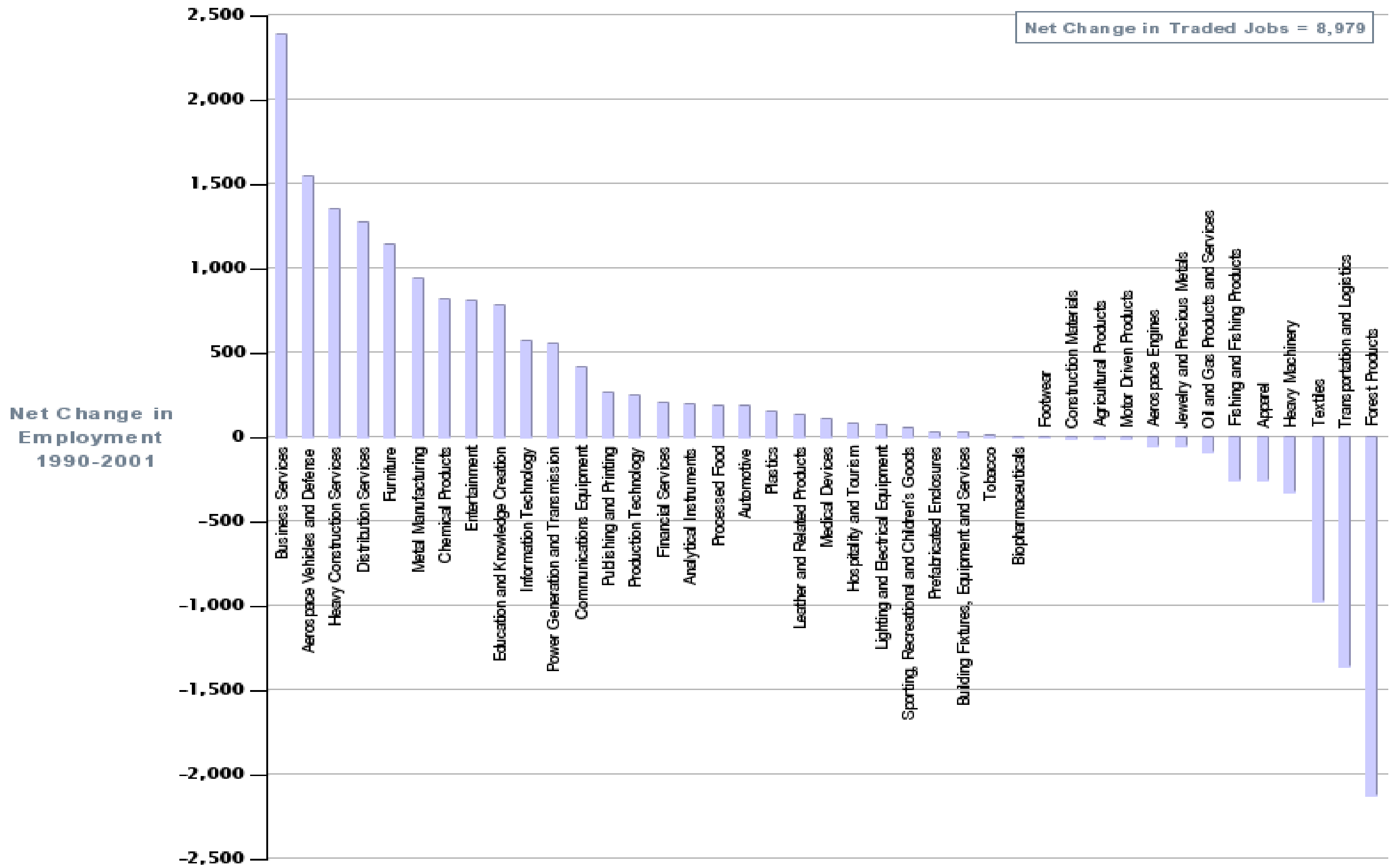
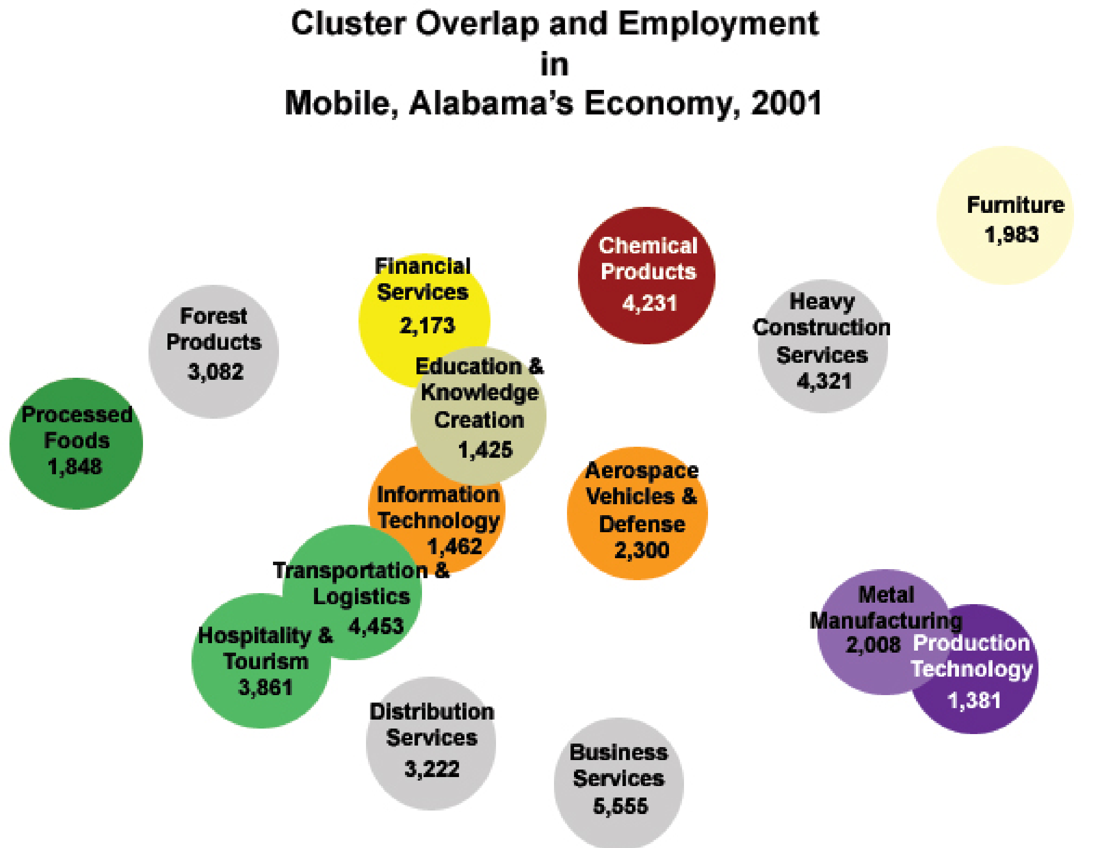


Figure 15-3
Mobile, AL MSA



Data Collected from Harvard Business School, Chart designed by Matthew J. Faulkner UAH

Table 15-3
Mobile, AL Metropolitan Area Major Subcluster Employment and Potential for Growth

	Subclusters with Major Employment	Subclusters with Minor or no Employment
Cluster		
	Chemical Products	
Subclusters		
	Intermediate Chemicals - and Gasses	Packaged Chemical - Products
		Refractories
		Leather Tanning and Finishing
		Ammunition
		Special Packaging
		Treated Garments
		Hydrocarbons
		Petrochemicals
		Plastics, Resins, and - Products
		Pharmaceuticals
		Diagnostics and Biological - Products
		Related Consumer Products
		Other Packaging
		Processing Instruments
		Other Processed - Chemicals
Cluster		
	Financial Services	
Subclusters		
	Insurance Products	Risk Capital Providers
	Depository Institutions	Investment Funds
	Securities Brokers, Dealers, - and Exchanges	Real Estate Investment - Trusts
		Passenger Car Leasing
		Information Providers
		Computer and - Communications Services
		Printing Services
		Patent Owners and Lessors
		Marketing Related Services
		Research Organizations

		Health Plans
Cluster	Education and Knowledge - Creation	
Subclusters	Educational Institutions	Educational Facilities Patent Owners and Lessors Supplies Research Related Instruments Pharmaceuticals Publishing Printing Communications Services Marketing and Information - Services Online Information Services Computer Services Prepackaged Software Computer and Software - Wholesaling and Services Computer Equipment Research Organizations
Cluster	Information Technology	
Subclusters	Software Electronic Components and - Assemblies Peripherals	Communication Services Distribution and Wholesaling Other Electronic Components - and Parts Recording Media Services Online Information Services Computer Services Instruments Communication Equipment Research Organizations Computers
Cluster	Transportation and Logistics	
Subclusters	Ship Building Marine Transportation Transportation Arrangement -	Air Transportation Bus Transportation Trucking Terminal

	and Warehousing	Bus Terminals Passenger Transportation Communications Equipment - and Services Rental of Railroad Cars Computer Services and Equipment Airports

Cluster

Hospitality and Tourism

Subclusters

Accommodations and Related - Services Tourism Attractions Boat Related Services	Water Passenger - Transportation Ground Transportation Other Local Transportation Related Professional - Services Other Attractions Air Services Vehicle Distribution and - Wholesaling Facilities Support Services Tourism Related Services

Cluster

Metal Manufacturing

Subcluster

Iron Steel Mills and Foundries Nonferrous Steel Mills and - Foundries	Metal Alloys Precision Metal Products Fasteners Wire and Springs Environmental Controls Pumps Saw Blades and Handsaws General Industrial Machinery Laundry and Cleaning Equipment Metal Armaments Measuring and Dispensing - Pumps Tools, Dies, and Fixtures Paints and Allied Products Lubricating Oils and Greases Abrasive Products Metalworking Machinery and - Components

		Related Metal Processing
		Industrial Furnaces and Ovens
		Automotive Parts and Equipment
		Hoists and Cranes
		Related Metal Products
		Motorcycles and Bicycles
		Metal Processing
		Metal Furniture
		Precision Metal Products
		Fabricated Metal - Products
Cluster		
	Production Technology	
Subcluster		
	Fabricated Plate Work	Machine Tool and Accessories
		Hoists and Cranes
		Process Machinery
		Industrial Patterns
		Industrial Trucks and Trailers
		Production Machinery and - Components
		Blast Furnaces and Steel Mills
		Household Appliances
		Abrasive Products
		Metal Heat Testing
		Process Equipment
		Vehicle and Heavy Stamping
		Construction Machinery
		Castings, Forgings, and Metal - Alloys
		Ball and Roller Bearings
		Process Equipment Subsystems - and Components

Chapter 16

Montgomery, AL Metropolitan Area

Employment

Total 2001 employment in the Montgomery, AL MSA was 129,824, which was 0.11% of national employment. Montgomery, AL MSA's average wages in 2001 were $26,620 -vs- $34,669 for the US, or 23.22% below the national average. Average wage growth per year in the Montgomery, AL MSA was 4.05% -vs- 4.41% for the US. As Table 16-1 and Figure 16-1 shows the 3 largest clusters were business services, financial services, and heavy construction services. As Table 16-2 the largest subclusters were appliances, insurance products, and management consulting.

Job Creation/Loss

Employment growth per year from 1990-2001 in Montgomery, AL was 2.22% -vs.- 2.10% for the US. As Figure 16-2 shows from 1990-2001 the largest job creation occurred in the business services cluster, gaining about 2,400 jobs, the plastics cluster, gaining about 1,700 jobs, and the financial services cluster, gaining about 1,200 jobs. Figure 16-2 also shows from 1990-2001 the largest job loss in this area occurred in the heavy machinery cluster, losing about 3,000 jobs, the processed food cluster, losing about 1,200 jobs, and the apparel cluster, losing about 1,100 jobs.

Cluster Overlap and Potential for Growth

Figure 16-3 shows the largest 15 clusters for the Montgomery MSA. As Figure 16-3 shows the Montgomery MSA has areas of overlap between its major clusters. The first grouping includes, plastics, financial services, publishing and printing, and education and knowledge creation. Another grouping occurs between the transportation and logistics and hospitality and tourism clusters. A third grouping occurs between metal manufacturing, automotive, and motor driven products. Table 16-3 lists the subclusters included within these clusters. This table lists the specific industries that may be targeted for growth and development.

Table 16-1
Montgomery, AL MSA
Total Employment by Subcluster, 2001

Cluster	Employment
Business Services	4,701
Financial Services	3,636
Heavy Construction Services	2,890
Motor Driven Products	2,083
Plastics	1,893

Table 16-2
Montgomery, AL MSA
Total Employment by Subcluster, 2001

Cluster	Subcluster	Employment
Financial Services	Insurance Products	1,978
Motor Driven Products	Appliances	1,898
Hospitality & Tourism	Accommodations & Related Services	1,263
Automotive	Automotive Parts	1,181
Business Services	Management Consulting	1,154
Financial Services	Depository Institutions	1,068
Business Services	Computer Programming	1,014
Business Services	Computer Services	1,002
Education & Knowledge Creation	Educational Institutions	962
Heavy Construction Services	Subcontractors	955

Figure 16-1
Montgomery, AL MSA
Total Employment by Traded Cluster, 2001

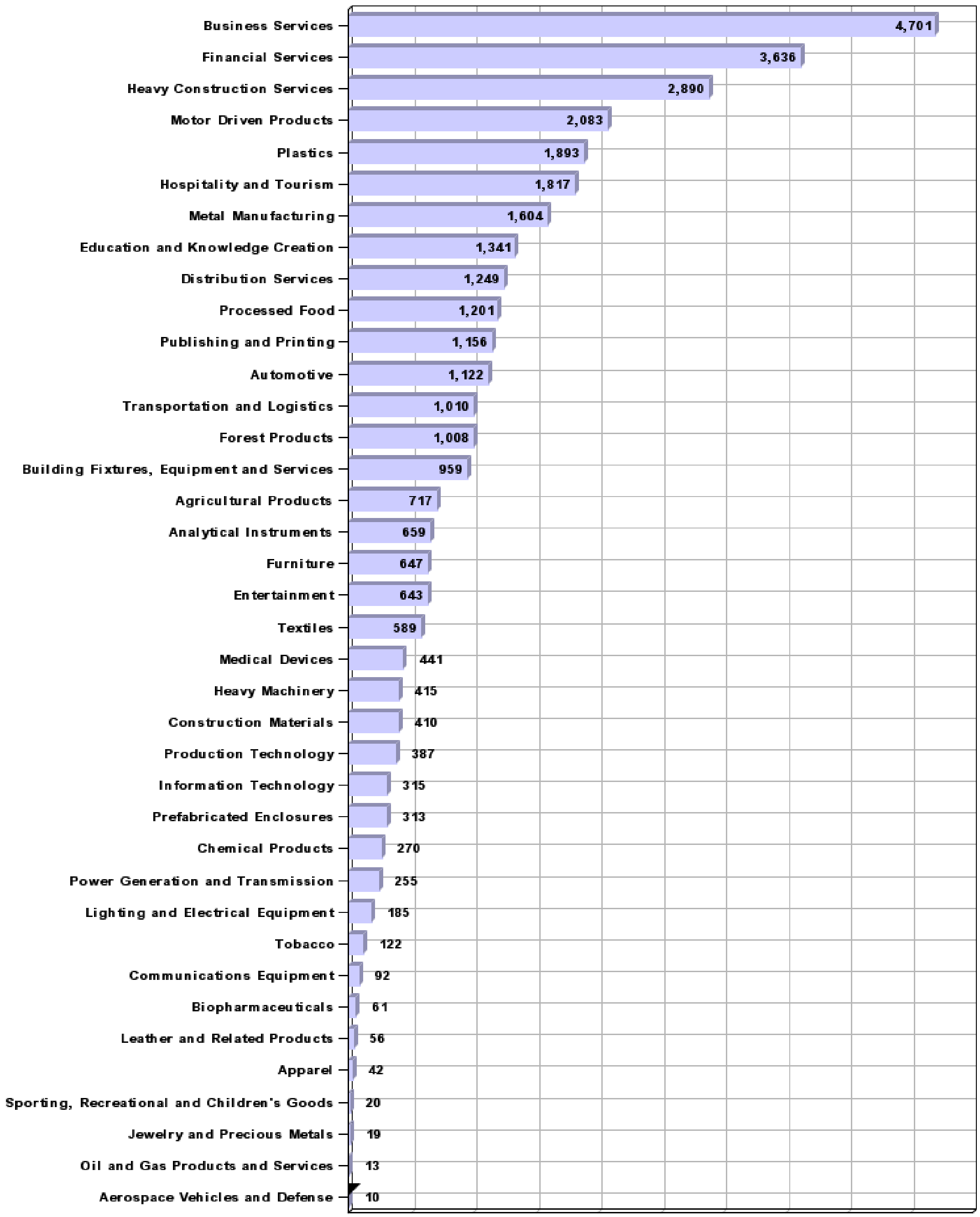


Figure 16-2
Montgomery, AL MSA
Job Creation by Traded Cluster, 1990-2001

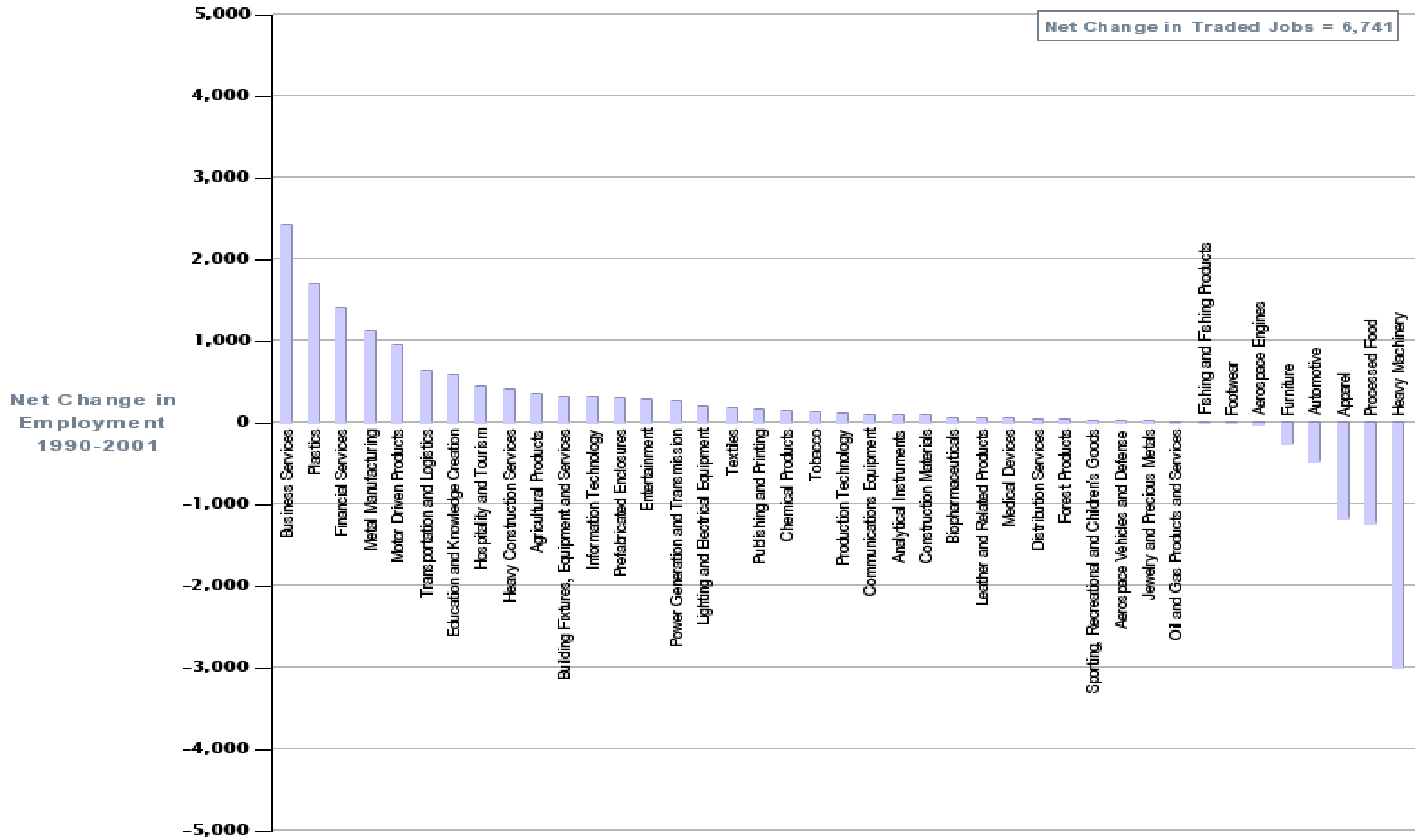


Figure 16-3
Montgomery, AL MSA

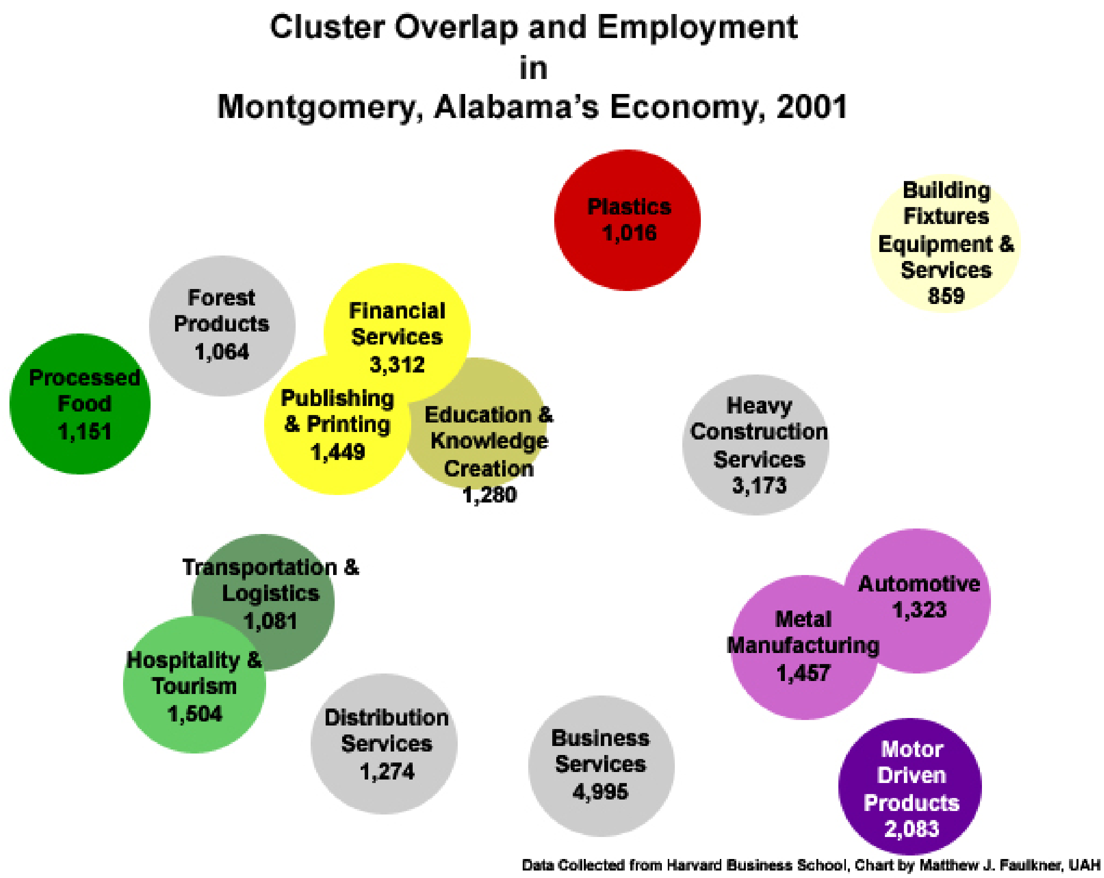


Table 16-3
Montgomery, AL Metropolitan Area Major Subcluster Employment and Potential for Growth

	Subclusters with Major Employment	Subclusters with Minor or no Employment
Cluster		
	Plastics	
Subclusters		
	Plastic Products	Plastic Materials and Resins
		Paints and Allied - Products
		Synthetic Rubber
		Plastics Distribution - and Wholesaling
		Organic Chemicals
		Alkalis and Chlorine
		Inorganic Chemicals
		Related Plastic Products
		Hydrocarbons
		Petroleum Products
		Surface Active Ingredients
		Adhesives and Sealants
		Process Equipment
Cluster		
	Financial Services	
Subclusters		
	Insurance Products	Risk Capital Providers
	Depository Institutions	Investment Funds
		Real Estate Investment - Trusts
		Passenger Car Leasing
		Information Providers
		Computer and - Communications Services
		Printing Services
		Patent Owners and Lessors
		Marketing Related Services
		Research Organizations
		Health Plans
		Securities Brokers, Dealers, and Exchanges

Cluster		
	Publishing and Printing	
Subclusters		
	Publishing	News Syndicates Signs and Advertising - Specialties Printing Services Paper Products Printing Inputs Specialty Paper Products Inked Paper and Ribbons Office Equipment - and Supplies Marketing Related Services Printing - Related Machinery Online Information Services Computer Services Research Organizations Research Facilities Radio, TV, Publisher - Representatives
Cluster		
	Education and - Knowledge Creation	
Subclusters		
	Educational Institutions	Educational Facilities Patent Owners and Lessors Supplies Research Related Instruments Pharmaceuticals Publishing Printing Communications Services Marketing and Information - Services Online Information Services Computer Services Prepackaged Software Computer and Software - Wholesaling and Services Computer Equipment Research Organizations
Cluster		

	Transportation and - Logistics	
Subclusters		
	Air Transportation	Bus Transportation Marine Transportation Ship Building Trucking Terminal Airports Bus Terminals Passenger Transportation Communication Equipment - and Related Services Rental or Railroad Cars Computer Services and - Equipment Transportation Arrangement - and Warehousing
Cluster		
	Hospitality and Tourism	
Subcluster		
	Accommodations and - Related Services	Water Passenger - Transportation Boat Related Services Ground Transportation Other Local Transportation Related Professional - Services Other Attractions Air Services Vehicle Distribution and - Wholesaling Facilities Support Services Tourism Related Services Tourism Attractions
Cluster		
	Automotive	
Subclusters		
	Automotive Parts	Automotive Components Forgings and Stampings Flat Glass Production Equipment Small Vehicles and Trailers

Marine, Tank, and -
Stationary Engines
Related Parts
Motors and Generators
Related Vehicles
Metal Processing
Machine Tools
Related Process Machinery
Industrial Trucks and Tractors
Die-Castings
Motor Vehicles

Cluster

Metal Manufacturing

Subclusters

Precision Metal Products	Metal Alloys
Fabricated Metal - Products	Precision Metal Products
	Fasteners
	Wire and Springs
	Nonferrous Mills and Foundries
	Environmental Controls
	Pumps
	Saw Blades and Handsaws
	General Industrial Machinery
	Laundry and Cleaning Equipment
	Metal Armaments
	Measuring and Dispensing - Pumps
	Tools, Dies, and Fixtures
	Paints and Allied Products
	Lubricating Oils and Greases
	Abrasive Products
	Metalworking Machinery and - Components
	Related Metal Processing
	Industrial Furnaces and Ovens
	Automotive Parts and Equipment
	Hoists and Cranes
	Related Metal Products
	Motorcycles and Bicycles
	Metal Processing
	Iron Steel Mills and - Foundries
	Metal Furniture

Cluster

Motor Driven Products

Subclusters		
	Appliances	Motors and Generators Batteries Motorized Equipment Specialized Pumps Specialized Machinery Marine, Tank, and Stationary - Engines Motorcycles and Bicycles Metal Processing Related Appliances Hoists and Cranes Printing Trades Machinery Elevators and Moving - Stairways Air and Gas Compressors Power Transmission, Motors - and Pumps Control Devices Tires and Inner Tubes Refrigeration and Heating - Equipment

Chapter 17

Tuscaloosa, AL Metropolitan Area

Employment

Total 2001 employment in the Tuscaloosa, AL MSA was 68,658, which was 0.06% of national employment. Tuscaloosa, AL MSA's average wages in 2001 were $27,686 -vs- $34,669 for the US, or 20.14% below the national average. Average wage growth per year in the Tuscaloosa, AL MSA was 4.57% -vs- 4.41% for the US. As Table 17-1 and Figure 17-1 show the 3 largest clusters were heavy construction services, motor driven products, and automotive. As Table 17-2 shows the 3 largest subclusters were motor vehicles, tires and inner tubes, and plastic products.

Job Creation/Loss

Employment growth per year from 1990-2001 in the Tuscaloosa, AL MSA was 3.67% -vs.- 2.01% for the US. As Figure 17-2 shows the largest job creation occurred the in the automotive cluster, gaining about 1,400 jobs, the heavy construction services cluster gaining about 1,200 jobs, and the processed food cluster, gaining about 700 jobs. Figure 17-2 also shows the largest job loss from 1990-2001 occurred in the apparel cluster, losing about 200 jobs, the forest products cluster, losing about 180 jobs, and the production technology cluster, losing about 100 jobs.

Cluster Overlap and Potential for Growth

Figure 17-3 shows the largest 15 clusters for the Tuscaloosa MSA. As Figure 17-3 shows the Tuscaloosa MSA has areas of overlap between its major clusters. The first grouping includes, plastics, chemical products, and oil and gas. Another grouping occurs between the financial services, publishing and printing, and education and knowledge creation clusters. A third grouping occurs between automotive, metal manufacturing, and motor driven products. Table 17-3 lists the subclusters included within these clusters. This table lists the specific industries that may be targeted for growth and development.

Table 17-1
Tuscaloosa, AL MSA
Total Employment by Cluster, 2001

Cluster	Employment
Heavy Construction Services	2,373
Motor Driven Products	2,133
Automotive	1,958
Plastics	1,742
Business Services	1,307

Table 17-2
Tuscaloosa, AL MSA
Total Employment by Subcluster, 2001

Cluster	Subcluster	Employment
Automotive	Motor Vehicles	1,750
Motor Driven Products	Tires & Inner Tubes	1,750
Plastics	Plastic Products	1,742
Heavy Construction	Final Construction	1,455
Chemical Products	Other Processed Chemicals	760
Entertainment	Recorded Products	750
Processed Foods	Specialty Foods & Ingredients	595
Business Services	Professional Organizations & Services	457
Publishing & Printing	Publishing	454
Metal Manufacturing	Iron & Steel Mill Foundries	381

Figure 17-1
Tuscaloosa, AL MSA
Total Employment by Traded Cluster, 2001

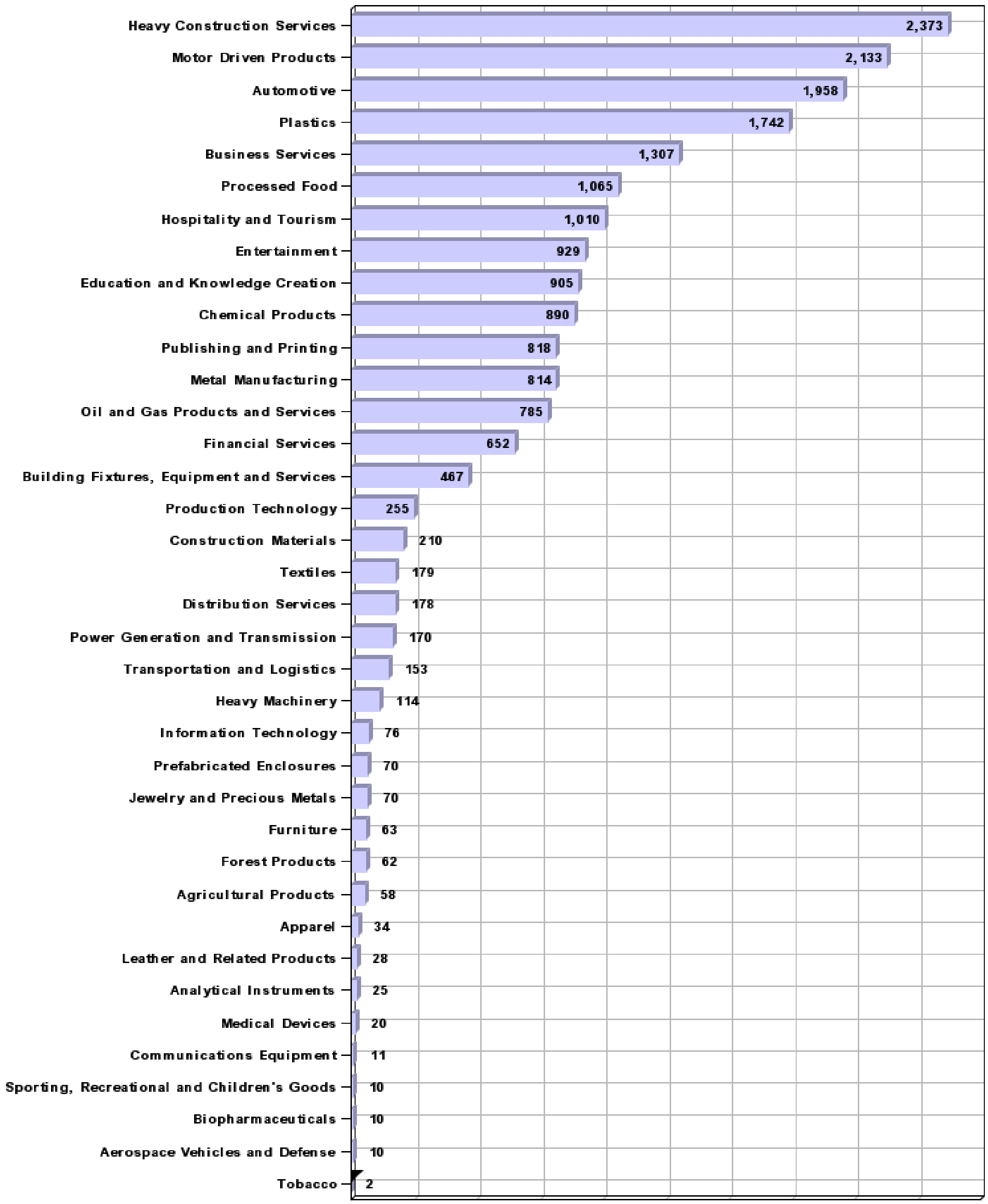


Figure 17-2
Tuscaloosa, AL MSA
Job Creation by Traded Cluster, 1990-2001

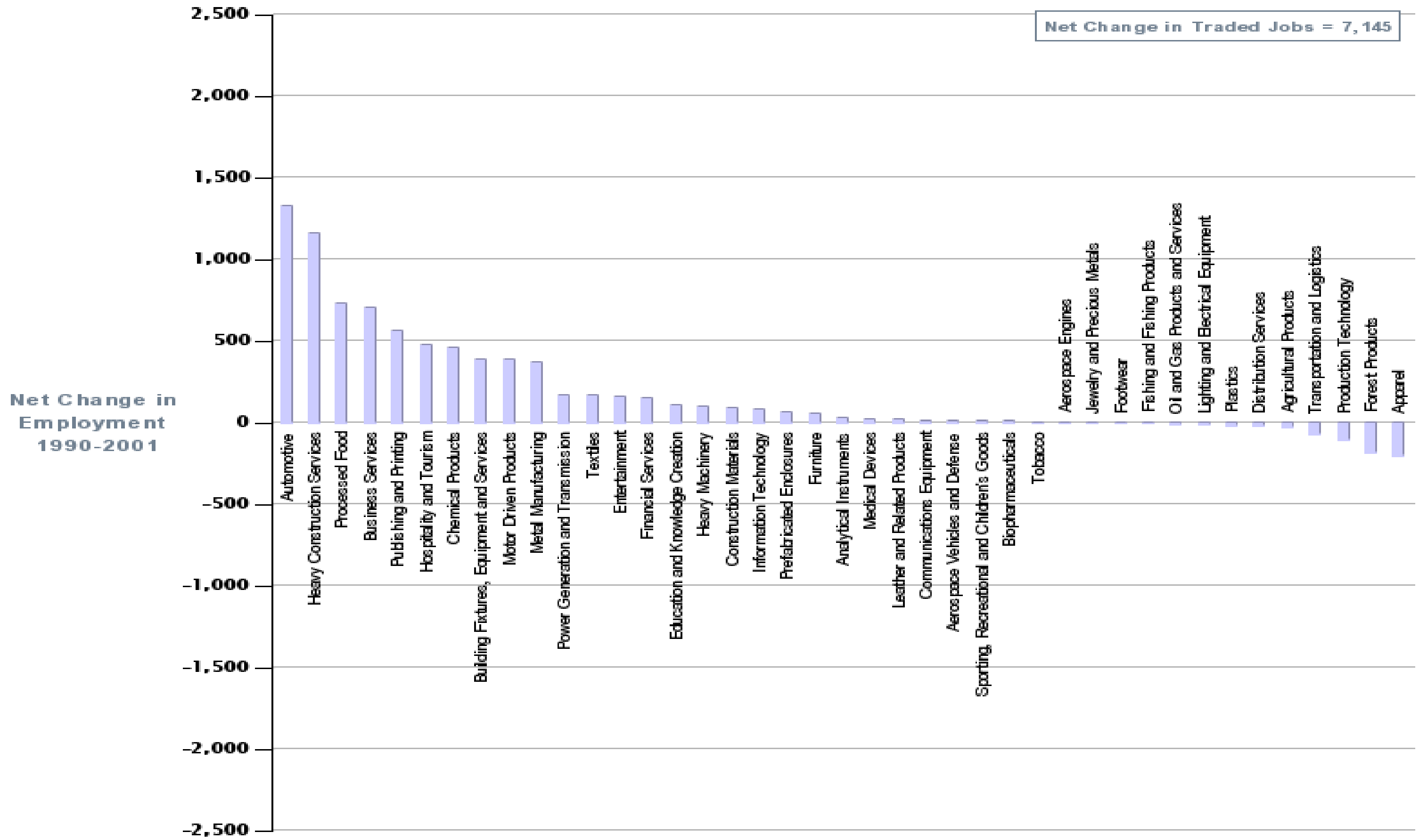


Figure 17-3
Tuscaloosa, AL MSA

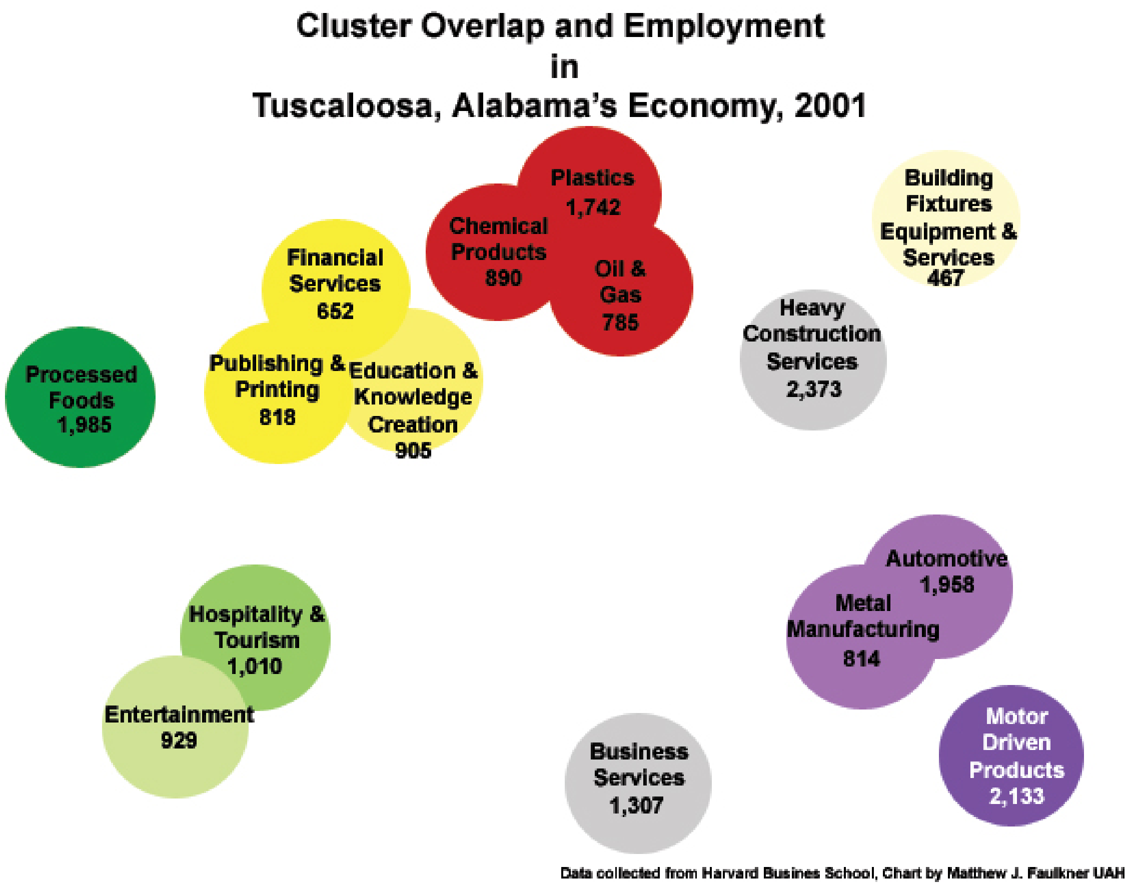


Table 17-3
Tuscaloosa, AL Metropolitan Area Major Subcluster Employment and Potential for Growth

	Subclusters with Major Employment	Subclusters with Minor or no Employment
Cluster		
	Plastics	
Subclusters		
	Plastic Products	Plastic Materials and Resins
		Paints and Allied - Products
		Synthetic Rubber
		Plastics Distribution - and Wholesaling
		Organic Chemicals
		Alkalies and Chlorine
		Inorganic Chemicals
		Related Plastic Products
		Hydrocarbons
		Petroleum Products
		Surface Active Ingredients
		Adhesives and Sealants
		Process Equipment
Cluster		
	Chemical Products	
Subclusters		
	Other Processed - Chemicals	Intermediate Chemicals - and Gasses
		Packaged Chemical - Products
		Refractories
		Leather Tanning and Finishing
		Ammunition
		Special Packaging
		Treated Garments
		Hydrocarbons
		Petrochemicals
		Plastics, Resins, and - Products
		Pharmaceuticals
		Diagnostics and Biological - Products

		Related Consumer Products Other Packaging Processing Instruments
Cluster	Oil and Gas	
Subclusters	Oil & Gas Exploration - and Drilling	Oil & Gas Machinery Plastic Machinery Paints and Allied Products Synthetic Rubber Plastic Distribution & - Wholesaling Organic Chemicals Alkalies and Chlorine Inorganic Chemicals Related Plastic Products Hydrocarbons Petroleum Processing Surface Active Agents Adhesives and Sealants Process Equipment
Cluster	Financial Services	
Subclusters	Depository Institutions Insurance Products	Risk Capital Providers Investment Funds Real Estate Investment - Trusts Passenger Car Leasing Information Providers Computer and - Communications Services Printing Services Patent Owners and Lessors Marketing Related Services Research Organizations Health Plans Securities Brokers, Dealers, and Exchanges
Cluster	Publishing & Printing	

Subclusters

	Publishing	News Syndicates Signs and Advertising - Specialties Radio, TV, Publisher - Representatives Printing Inputs Specialty Paper Products Inked Paper and Ribbons Office Equipment - and Supplies Marketing Related Services Printing - Related Machinery Online Information Services Computer Services Research Organizations Research Facilities Printing Services Paper Products

Cluster

Education and - Knowledge Creation

Subclusters

	Educational Institutions	Educational Facilities Patent Owners and Lessors Supplies Research Related Instruments Pharmaceuticals Publishing Printing Communications Services Marketing and Information - Services Online Information Services Computer Services Prepackaged Software Computer and Software - Wholesaling and Services Computer Equipment Research Organizations

Cluster

Hospitality and Tourism

Subclusters

Accommodations and -
Related Services
Tourism Attractions

Water Passenger -
Transportation
Boat Related Services
Ground Transportation
Other Local Transportation
Related Professional -
Services
Other Attractions
Air Services
Vehicle Distribution and -
Wholesaling
Facilities Support Services
Tourism Related Services

Cluster

Entertainment

Subclusters

Recorded Products

Video Production and Distribution
Entertainment Equipment
Entertainment Related Services
Entertainment Venues
Distribution and Wholesaling
Marketing and Promotional Services
Related Attractions
News Syndicates
Audio and Video Equipment

Cluster

Automotive

Subclusters

Motor Vehicles

Automotive Components
Forgings and Stampings
Flat Glass
Production Equipment
Small Vehicles and Trailers
Marine, Tank, and -
Stationary Engines
Related Parts
Motors and Generators
Related Vehicles
Metal Processing
Machine Tools
Related Process Machinery
Industrial Trucks and Tractors
Die-Castings

Automotive Parts

Cluster

Metal Manufacturing

Subclusters

Iron Steel Mills and - Foundries	Metal Alloys
Metal Furniture	Primary Metal Products
	Precision Metal Products
	Fasteners
	Wire and Springs
	Nonferrous Mills and Foundries
	Environmental Controls
	Pumps
	Saw Blades and Handsaws
	General Industrial Machinery
	Laundry and Cleaning Equipment
	Metal Armaments
	Measuring and Dispensing - Pumps
	Tools, Dies, and Fixtures
	Paints and Allied Products
	Lubricating Oils and Greases
	Abrasive Products
	Metalworking Machinery and - Components
	Related Metal Processing
	Industrial Furnaces and Ovens
	Automotive Parts and Equipment
	Hoists and Cranes
	Related Metal Products
	Motorcycles and Bicycles
	Fabricated Metal Products
	Metal Processing

Cluster

Motor Driven Products

Subclusters

Tires and Inner Tubes	Motors and Generators
Refrigeration and Heating - Equipment	Batteries
	Motorized Equipment
	Appliances
	Specialized Pumps
	Specialized Machinery
	Marine, Tank, and Stationary - Engines

Motorcycles and Bicycles
Metal Processing
Related Appliances
Hoists and Cranes
Printing Trades Machinery
Elevators and Moving -
Stairways
Air and Gas Compressors
Power Transmission, Motors -
and Pumps
Control Devices