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## CHAPTER 2: INDUSTRIAL ANALYSIS

Chapter Two is divided into two major parts: the manufacturing industry analysis section and the services industry analysis section.

### 2A Manufacturing Industry Analysis

The main purpose of the first section is to discuss key Appalachian manufacturing industry clusters with strong export potentials. In selecting the key industry clusters, the project team examined broad segments of the Appalachian economy including 12 major industry groups. Variables considered include, but are not limited to industry size, production value, employment, growth rates and export trends. The following are the initial set of 12 industry cluster candidates considered:

- Industrial Machinery
- Lumber and Wood Products
- Plastics Parts and Chemicals
- Auto-parts and Related Products
- Furniture and Related Products
- Electronic Components
- Textiles and Related Products
- Apparel and Related Products
- Environmental Technologies
- Medical Equipments
- Communications Services
- Coal

More detailed discussions on the 12 industry groups can be found in Appendix A.

Instead of focusing on all of these industry clusters, the ARC and the project team recognized the need to focus on a select group of industries with current or future prospects for growth in exports. In order to identify the Appalachian industry clusters with the strongest export potential, we analyzed a number of factors that influenced the overall health and competitiveness of an industry cluster.

The factors are:

- Location and geographic distribution of the industries;
- Current industry size and future growth potential;
- Nature of the industry i.e. is it a traditional/mature sector or an emerging technology sector;
- Export intensity;
- Growth in foreign demand;
- Competitive pressures;
- Current trade relations; and
- State/Federal initiatives (export promotion for targeted industries).

In addition to the factors listed above, extensive contributions and participation from industry representatives, and members of the Appalachian region's Export Trade Advisory Council, provided necessary information on which the project team based its selection of six Appalachian export industry clusters. These six industries are well distributed within the region and are well positioned to become even more significant components in the region's economy if the region takes advantage of the export

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potential. These six industries will serve as the focal point for assessing the export potential of regional industry clusters in later sections of the study.

The six industry clusters are:

- Electronic Components (SIC 3675, 3676, 3677, 3678, 3679)
  - Food Processing Machinery (SIC 3356)
  - Packaging Machinery (SIC 3565)
  - Wooden Household Furniture (SIC 2511)
  - Upholstered Household Furniture (SIC 2512)
  - Auto Parts (SIC 3714)
- (SIC stands for Standard Industrial Classification)

The rest of this section will be devoted to examining these six key industries in greater detail. The main issues to be addressed within these industries include:

- Geographic concentration;
- Labor costs;
- Labor productivity;
- Capital investment;
- Capacity utilization;
- Industry concentration;
- Regional transactions;
- Economic impact multipliers; and
- Regulatory issues.

## **2.1 Geographic Concentration**

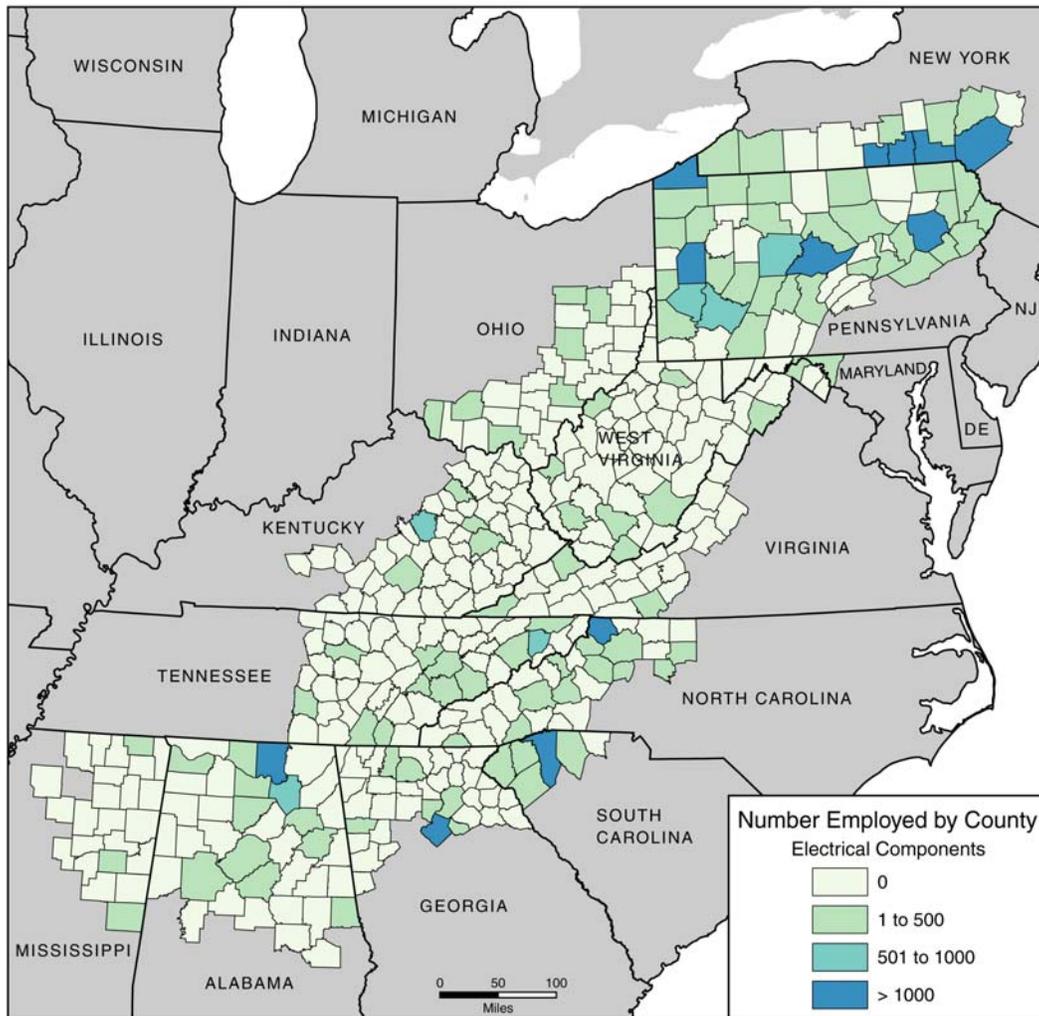
### **Employment**

Employment data by county for the year 2000 were obtained from the Minnesota IMPLAN Group's (MIG) regional input-output modeling system. To develop the data, MIG consolidates data from a wide variety of government sources and then applies proprietary algorithms to estimate points that are missing or are withheld for disclosure reasons. Geographic distributions of these data are reproduced visually in the following maps of Appalachian counties. The maps show where production centers are concentrated which will correlate to some extent with export movement origins. The maps can also be used to identify county gaps within, between, or around these clusters which may be able to take advantage of existing transportation and logistics infrastructure/services if production were to be stimulated.

#### **2.1.1 Electronic Components**

As shown in Exhibit 2-1, production of electronic components is concentrated in the northern and southern regions of Appalachia, with some production also taking place in the central region. Three large clusters can be distinguished: one comprising the production locations in Pennsylvania and New York, one comprising production locations in Tennessee, North Carolina, and South Carolina; and one comprising production locations in Alabama. The northern cluster is the largest and most successful of these clusters.

**Exhibit 2-1: Employment by County in Electronic Components Industry, 2000**



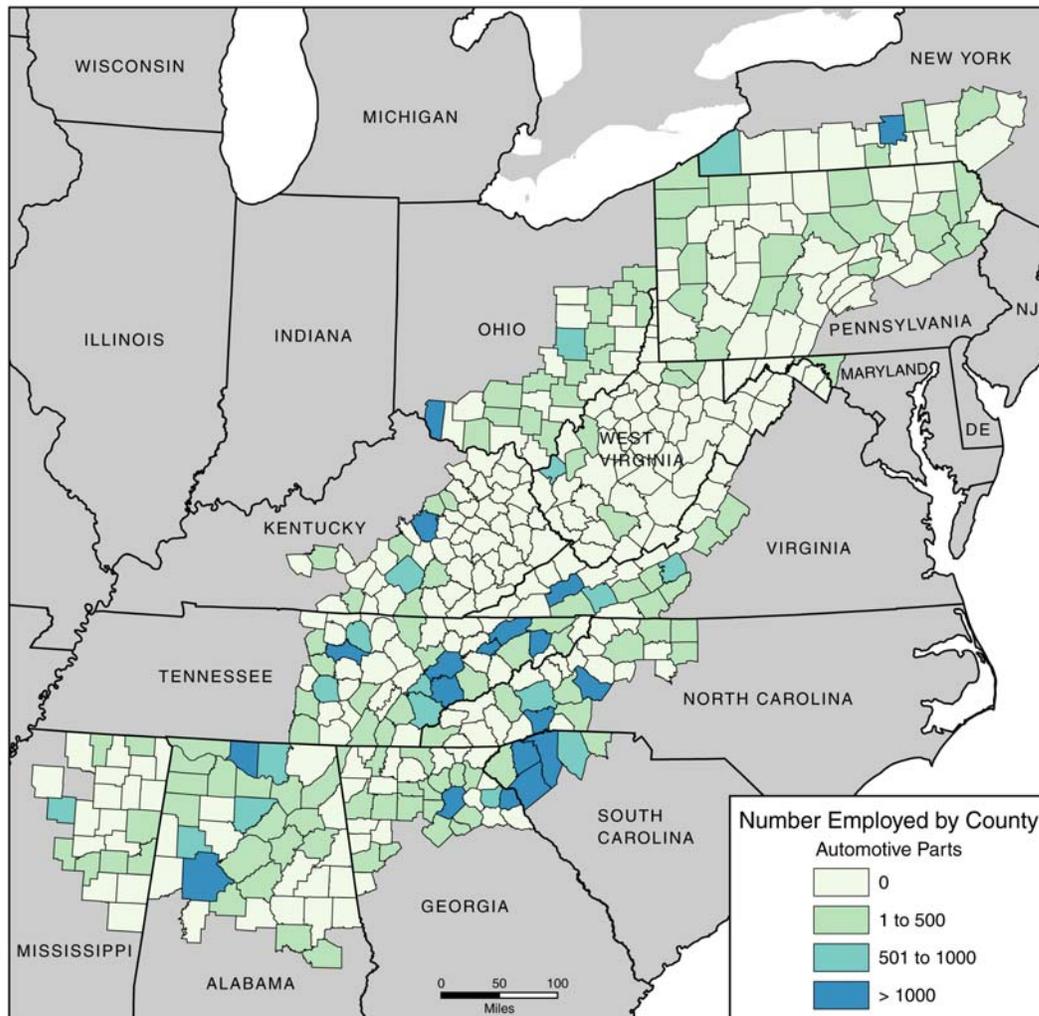
Data Source: Minnesota IMPLAN Group's (MIG) Regional Input-Output Modeling System. Electronic components sectors include SIC 3675, 3676, 3677, 3678, 3679.

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### 2.1.2 Auto Parts

As depicted in Exhibit 2-2, the production of auto parts is widespread in the northern, central and southern regions of Appalachia. The largest concentrations occur in Appalachian counties within the central and southern regions. This includes the states of Alabama, Georgia, Tennessee, North Carolina, South Carolina, Kentucky, Virginia and Southern Ohio. A smaller cluster is distributed within northern Appalachia in the states of Ohio, Pennsylvania and New York.

**Exhibit 2-2: Employment by County in Automotive Parts Industry, 2000**

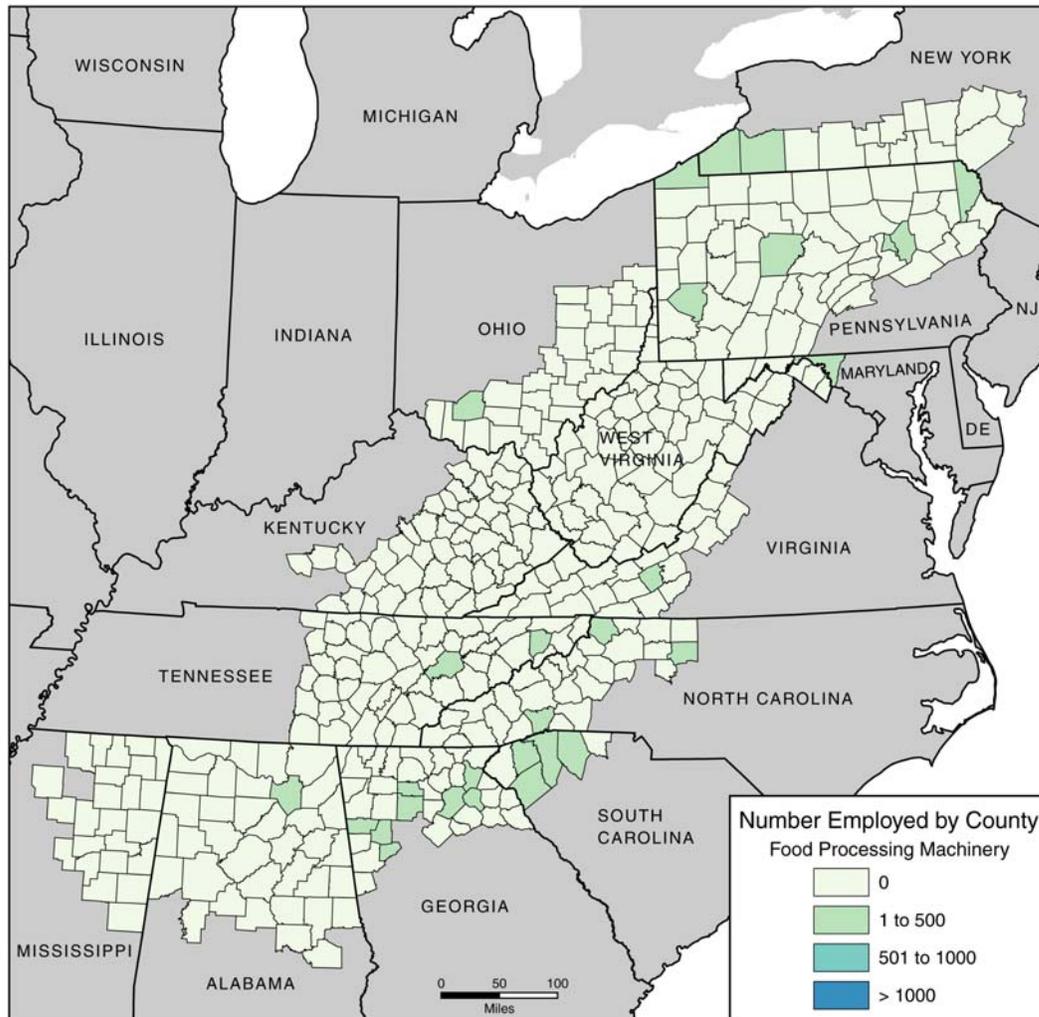


Data Source: Minnesota IMPLAN Group's (MIG) Regional Input-Output Modeling System.  
Auto parts data from SIC 3714.

### 2.1.3 Machinery

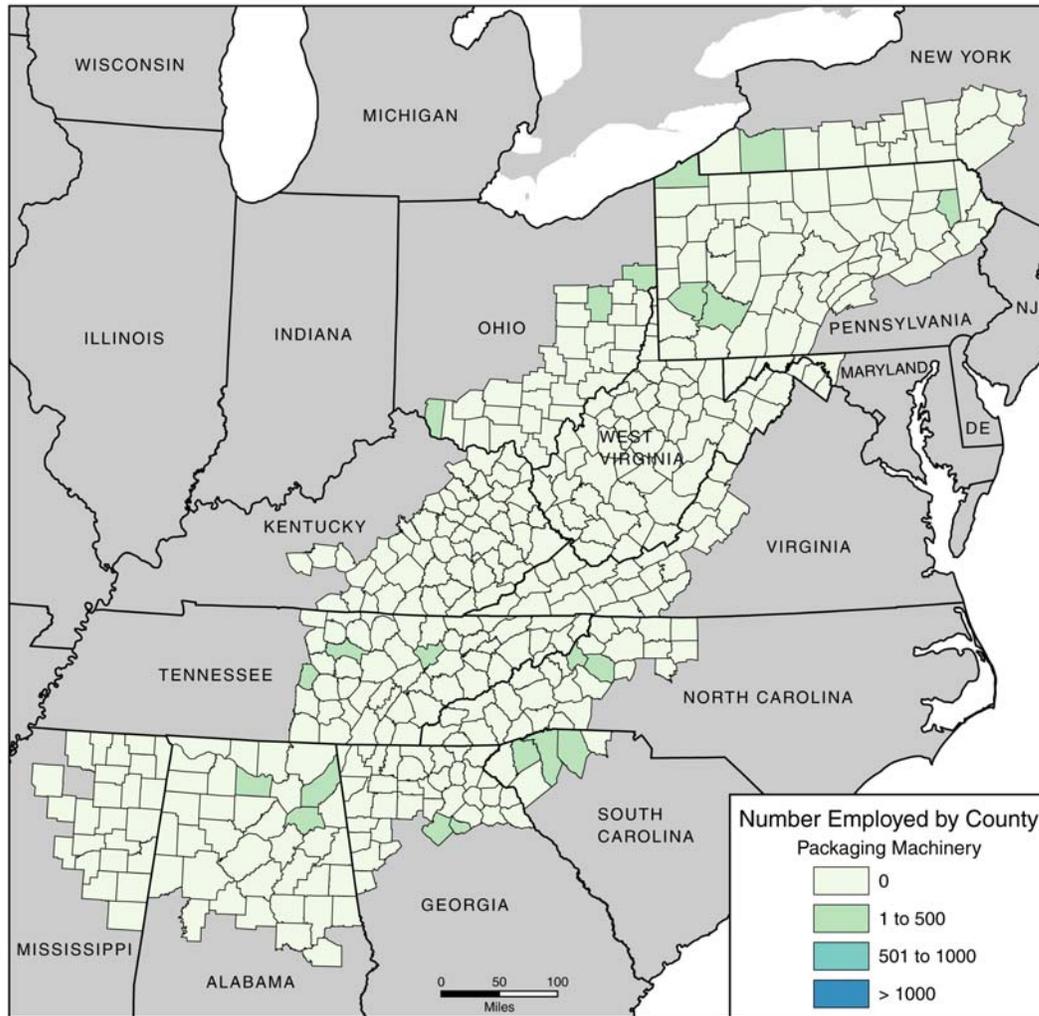
Exhibits 2-3 and 2-4 show that the production of food processing machinery and packaging machinery takes place in New York, Pennsylvania and Ohio, and along a corridor between southern Virginia and Alabama. Both clusters are fairly large, unevenly distributed and contain small pockets where production takes place.

**Exhibit 2-3: Employment by County in Food Processing Machinery Industry, 2000**



Data Source: Minnesota IMPLAN Group's (MIG) Regional Input-Output Modeling System. Food Processing Machinery Industry data from SIC 3556.

**Exhibit 2-4: Employment by County in Packaging Machinery Industry, 2000**

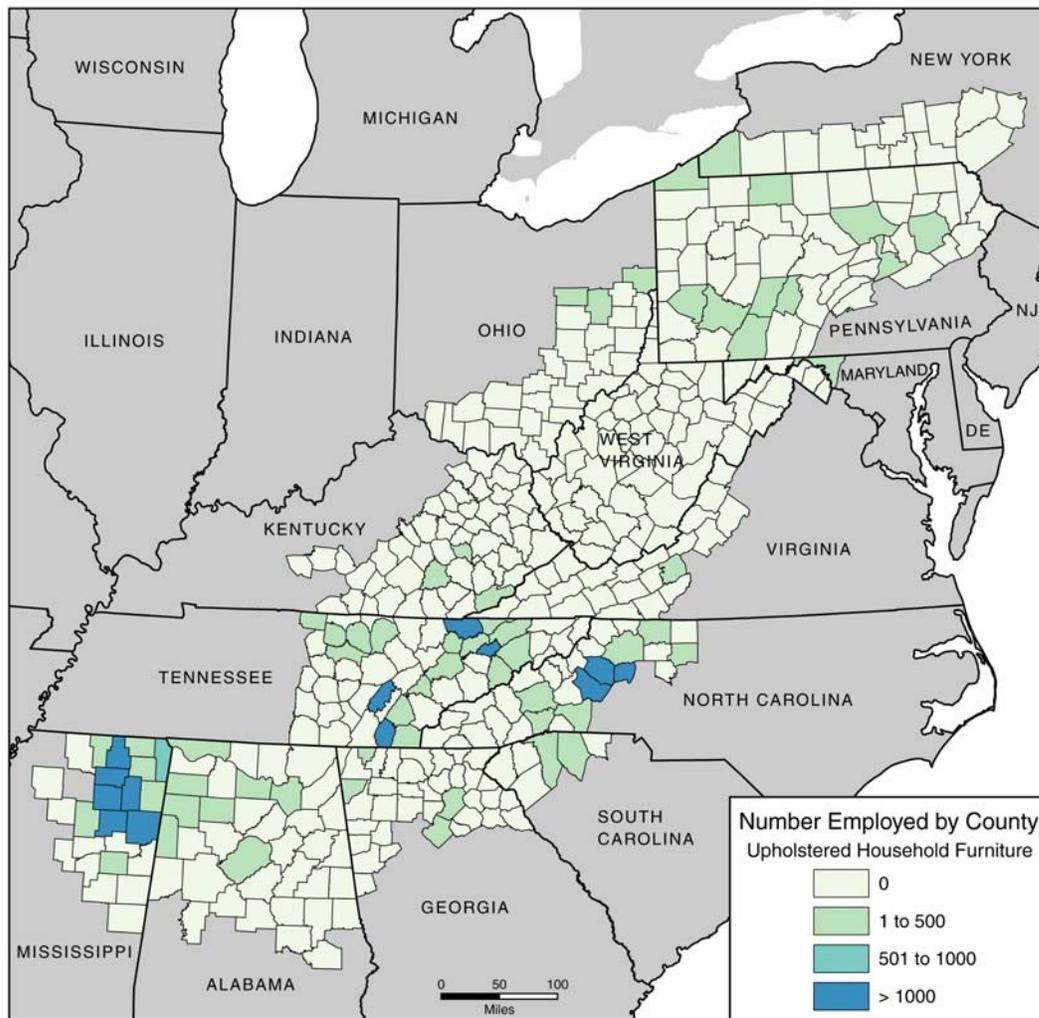


Data Source: Minnesota IMPLAN Group's (MIG) Regional Input-Output Modeling System. Packaging Machinery Industry data from SIC 3565.

### 2.1.4 Household Furniture

As shown in Exhibit 2-5, production of upholstered household furniture is concentrated in the northern and southern regions of Appalachia, with little production taking place in the central region. Three large clusters can be distinguished: one comprising the production locations in Mississippi and Alabama, one comprising production locations in Tennessee, North Carolina, Georgia, South Carolina, Kentucky, and Virginia; and one comprising production locations in Pennsylvania, New York and Ohio.

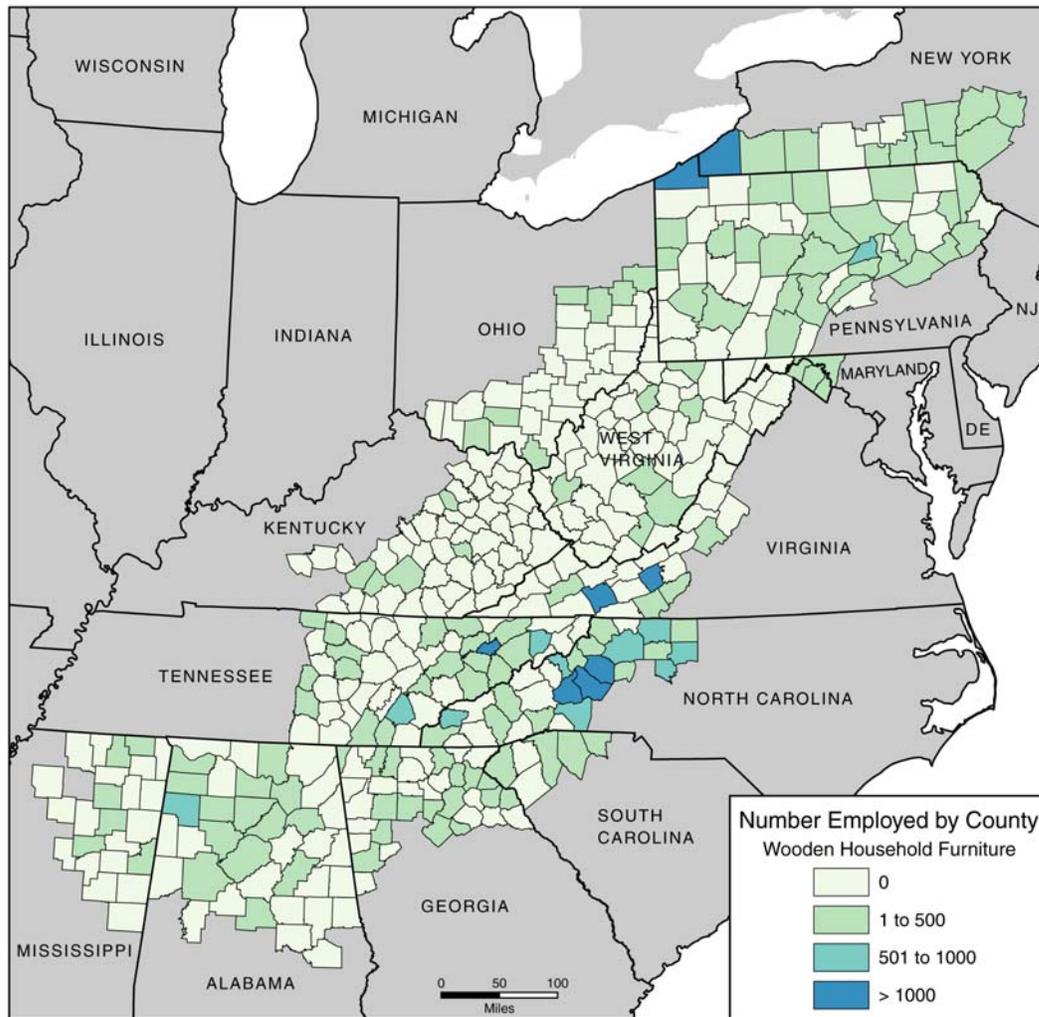
**Exhibit 2-5: Employment by County in Upholstered Household Furniture Industry, 2000**



Data Source: Minnesota IMPLAN Group's (MIG) Regional Input-Output Modeling System. Upholstered Furniture Industry data from SIC 2512.

The geographic distribution of wooden household furniture is somewhat similar to that of upholstered household furniture. Exhibit 2-6 reveals three large production clusters, two in the southern region and one in the northern region.

**Exhibit 2-6: Employment by County in Wooden Household Furniture Industry, 2000**



Source: Minnesota IMPLAN Group's (MIG) Regional Input-Output Modeling System. Wood furniture industry data from SIC 2511.

## 2.2 Labor Costs

Labor costs can be defined as the expenses on worker compensation and benefits. It is usually the single largest component of production costs. The cost of labor as a percentage of shipments refers to the share of labor costs in the value of produced goods. Appalachian industry clusters with higher labor costs as a percentage of shipments may be faced with higher production costs, lower profits, and pressure to raise prices. This directly affects their local and foreign competitiveness. Table 2-1 compares the share of labor costs as a percentage of shipments in Appalachian states to that of the entire U.S. A ratio greater than one suggests that local industry labor costs are higher than the national average.

**Table 2-1. Labor Costs**

Cost of Labor as a Percentage of Shipments (Ratio of State Shares to US Shares)						
State	Food Processing Machinery	Packaging Machinery	Electronic Components	Motor Vehicle Parts	Upholstered Household Furniture	Wooden Household Furniture
Alabama	1.59	1.83	0.66	0.94	NA	0.92
Georgia	0.81	0.76	0.75	0.67	0.86	0.75
Kentucky	NA	0.98	0.87	0.54	1.01	1.13
Maryland	NA	1.20	1.43	NA	0.99	1.26
Mississippi	NA	NA	0.50	0.55	1.01	0.64
New York	0.91	0.99	0.86	0.74	1.38	1.03
North Carolina	1.23	1.08	0.57	0.58	1.00	1.07
Ohio	0.91	1.03	0.71	0.73	1.25	0.71
Pennsylvania	1.21	0.82	0.54	0.86	1.07	1.14
South Carolina	NA	0.96	0.97	0.52	NA	0.90
Tennessee	NA	NA	0.84	0.57	1.06	1.13
Virginia	1.05	1.23	1.02	0.63	0.95	1.05
West Virginia	NA	NA	NA	0.78	NA	1.02
US	1.00	1.00	1.00	1.00	1.00	1.00

Source: U.S. Census Bureau, Department of Commerce. Calculations by JFA.

The food processing machinery and packaging machinery industries had the highest incidence of relatively higher local labor costs. For the food processing machinery industry, labor costs were particularly higher than the national average in Alabama, North Carolina and South Carolina. In Alabama for example, labor costs were 59 percent higher than the food processing machinery industry's national average. While in North Carolina it was 23 percent higher than the national average. One factor underlying this observed trend is the effect of relatively high hourly wages. Table 2-2 compares the hourly wages of Appalachian production workers to the national average. Hourly wages in the food processing machinery industry in Alabama was 32 percent higher than the national average. In North Carolina, hourly wages in the food processing machinery industry were 74 percent higher than the national average.

**Table 2-2. Hourly Wages**

Hourly Wages for Production Workers (Ratio of Average State Wage to US Average Wage)						
State	Food Processing Machinery	Packaging Machinery	Electronic Components	Motor Vehicle Parts	Upholstered Household Furniture	Wooden Household Furniture
Alabama	1.32	1.36	1.24	2.39	NA	0.76
Georgia	1.64	1.57	1.01	1.25	0.81	0.89
Kentucky	NA	1.92	0.95	1.33	0.77	0.93
Maryland	NA	1.81	1.15	NA	1.24	0.95
Mississippi	NA	NA	0.84	1.14	1.15	0.70
New York	1.63	1.46	1.27	2.33	1.29	1.15
North Carolina	1.74	1.57	1.41	1.44	1.15	1.04
Ohio	1.46	1.42	1.28	2.08	1.40	0.94
Pennsylvania	1.41	1.70	1.41	1.77	1.10	1.04
South Carolina	NA	2.08	1.27	1.33	NA	0.97
Tennessee	NA	NA	1.24	1.37	1.03	0.97
Virginia	1.44	1.62	1.64	1.40	0.95	0.92
West Virginia	NA	NA	NA	1.52	NA	0.94
US	1.00	1.00	1.00	1.00	1.00	1.00

Source: U.S. Census Bureau, Department of Commerce. Calculations by JFA.

The auto parts industry is the only Appalachian industry where labor costs were lower than the national average despite much higher local hourly wages. To explain this observed trend, we would have to consider the effect of labor productivity. Differences in labor productivity are a key determinant of wage differences between regional industry clusters. A higher level of labor productivity would explain why despite higher hourly wages, labor costs still accounted for a lower share of auto parts industry shipments when compared to the national average.

The wooden household furniture industry in most Appalachian states had relatively lower labor costs than the national average. This trend can also be partly explained by the fact that hourly wages in most of Appalachia's wooden household furniture industries were much lower than the national average.

## 2.3 Labor Productivity

Labor productivity measures the quantity of output produced for a given hour of labor input. For a particular industry within Appalachia or the U.S., labor productivity is the output per person employed in that industry. Table 2-3 compares average state productivity to average national productivity for select industries. A ratio higher than one implies that labor productivity in the state industry is higher than the national industry. A ratio lower than one would suggest that the local industry is less productive. These ratios have important ramifications for Appalachian industry clusters because productivity gains are the main determinants of improvements in material standard of living. More productive workers and/or regions tend to command higher wages and salaries than less productive workers/regions.

**Table 2-3. Labor Productivity**

Labor Productivity: Dollars of Value Added Per Production Worker Hour (Ratio of Average State Productivity to US Average Productivity)						
State	Food Processing Machinery	Packaging Machinery	Electronic Components	Motor Vehicle Parts	Upholstered Household Furniture	Wooden Household Furniture
Alabama	1.12	1.09	1.83	2.19	NA	0.74
Georgia	3.21	5.48	1.95	1.68	0.73	1.05
Kentucky	NA	3.70	1.53	2.05	0.65	0.84
Maryland	NA	1.87	1.38	NA	1.11	0.93
Mississippi	NA	NA	1.44	1.64	1.02	1.11
New York	2.75	2.87	2.30	2.34	0.91	1.50
North Carolina	1.90	2.27	3.53	2.52	1.08	0.99
Ohio	2.98	3.47	2.23	2.03	1.37	1.96
Pennsylvania	1.96	3.99	5.07	2.18	1.01	1.01
South Carolina	NA	3.16	1.75	2.42	NA	0.93
Tennessee	NA	NA	1.79	2.10	0.97	0.78
Virginia	1.72	?	2.46	2.03	0.94	0.86
West Virginia	NA	NA	NA	1.71	NA	0.92
US	1.00	1.00	1.00	1.00	1.00	1.00

Source: U.S. Census Bureau, Department of Commerce. Calculations by JFA.

Labor productivity in a number of Appalachian states' wooden household furniture industries was much lower than the national average. Wooden household furniture industries in Alabama, Kentucky, Tennessee and Virginia recorded particularly lower levels of labor productivity. Since hourly wages tend to equate labor productivity under competitive conditions, it is not surprising that the wooden household furniture industry in Appalachia had lower hourly wages than the national average (see Table 2-3 above). Lower labor and consequently production costs help the furniture industry's competitiveness in the short-run. However, in order to compete effectively in the long run and especially in foreign markets with much lower labor costs, Appalachian states with lower labor productivities than the national average would need to improve on the productivity of their laborers.

Appalachian state industries such as food processing machinery, packaging machinery, auto parts and electronic components were earlier observed to have higher hourly wages and labor costs than the national average. These industries also have higher levels of labor productivity than their national counterparts. A good example cited earlier is the auto parts industry. For each Appalachian state, labor productivity in the auto parts industry exceeded the national average. Since differences in labor productivity are a key determinant of wage differences between industries, the higher level of labor productivity explains why labor costs and hourly wages were higher in these industries. Advances in technology and improvements in education and training are key factors that affect labor productivity. Given the technology intensive nature of the food processing machinery, packaging machinery, auto parts and electronic components industries, Appalachian states could further enhance labor productivity by investing more in training and new technologies.

## 2.4 Capital Investment

Capital investment measures additions to an industry's fixed productive assets. Table 2-4 compares capital investment by Appalachian states to the national average. A ratio higher than one suggests a higher level of capital investment by the state industry while a ratio lower than one suggests that the state industry is lagging behind the national industry in capital investments. Increases in capital investment tend to enhance labor productivity, lower production costs and improve the industry's overall level of competitiveness.

**Table 2-4. Capital Investment**

Capital Investment: Dollars of Investment Per Dollar of Output (Ratio of State Investment Share to US Investment Share)						
State	Food Processing Machinery	Packaging Machinery	Electronic Components	Motor Vehicle Parts	Upholstered Household Furniture	Wooden Household Furniture
Alabama	1.08	0.92	1.51	1.60	NA	0.81
Georgia	1.65	0.56	NA	2.02	0.98	0.70
Kentucky	NA	0.77	NA	NA	0.94	0.78
Maryland	NA	1.45	4.20	NA	0.29	1.13
Mississippi	NA	NA	NA	0.88	0.37	0.93
New York	0.57	0.93	1.49	1.40	0.71	2.49
North Carolina	0.95	0.57	1.43	1.51	0.51	0.72
Ohio	1.23	1.11	2.26	2.43	NA	1.45
Pennsylvania	NA	0.61	1.77	1.63	0.49	1.00
South Carolina	NA	1.52	2.65	1.80	NA	0.73
Tennessee	NA	NA	1.70	1.86	0.67	0.74
Virginia	1.46	1.29	13.10	1.86	0.51	1.23
West Virginia	NA	NA	NA	NA	NA	1.23
US	1.00	1.00	1.00	1.00	1.00	1.00

Source: U.S. Census Bureau, Department of Commerce. Calculations by JFA.

Capital investment in the electronic components and auto parts industries exceeded the national average in most Appalachian states. For example, in Virginia, capital investment in the electronic components industry was 13 times greater than the national average. With the exception of Mississippi, capital investment in the auto parts industry was anywhere from 40 percent to more than 100 percent higher than the national average. The electronic components industry in some Appalachian states is backed by a strong research and development base which includes a number of federal and state funded research and development facilities. The higher level of capital investment enhances the productivity of these industries in Appalachia and their level of competitiveness. The upholstered and wooden household furniture industries in a number of Appalachian states had lower gross expenditures on capital investment than the national industry. An industry representative with the Alleghany Hardwoods Utilization Group in Pennsylvania cited the increase in the number of domestic firms relocating to foreign countries with lower labor costs as the prime reason for the observed decline in the level of capital investment in the furniture industry within the area.

## 2.5 Capacity Utilization

Table 2-5 and the subsequent graphs show trends in capacity utilization for the selected industries. The data are not available at the regional level and are therefore reported only for the entire U.S. The figures reflect the percentage of full production that is currently being produced. As such, they are used for a number of purposes: to denote the amount of slack in the economy, to forecast changes in investment, to reflect the amount of demand relative to supply, and to serve as an indicator for changes in inflation or deflation. Although measurement difficulties lessen the usefulness of a single figure, the trends in the statistics are valuable for assessing changes in an industry or the economy over time.

Declines in utilization can be brought about by a number of things, including reduced demand, increased foreign competition, and technological change. Increases can result from output expansions or the demise of marginal firms.

Many economists consider a capacity utilization rate of 84 percent to be a threshold value, and rates above that are believed to be associated with inflationary risks. As can be seen, many of the selected industries were above or close to that threshold in the early to mid 1990s. In the year 2000, only upholstered furniture and electronic components had values above 80 percent, with the rate for electronic components falling precipitously the following year in 2001.

It can also be seen that the selected industries tend to follow the same trend exhibited for the entire manufacturing sector. This observation is corroborated in the following table which quantifies and compares the trends in the utilization ratios over time.<sup>1</sup> It is important to note the relatively sharp declines seen in the food processing machinery industry and the packaging machinery industry. As industries that produce capital investment goods, both are relatively more sensitive to economic downturns when cash flow is tight in industries that use their products.

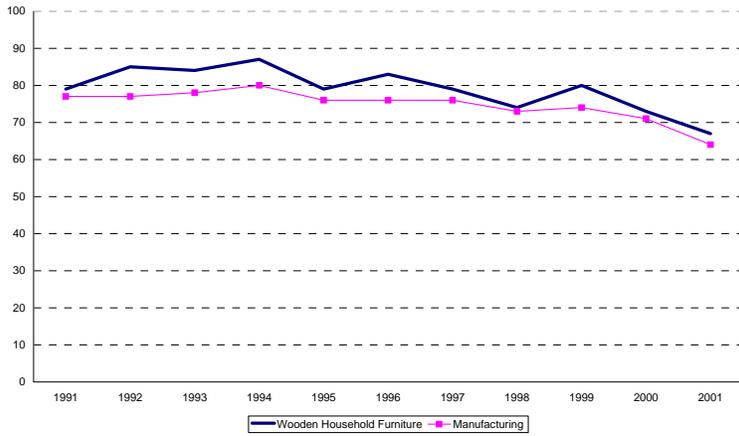
**Table 2-5. Capacity Utilization for Selected Appalachian Industries**

Trend-line Statistics for Capacity Utilization Ratios				
Industry	Beta	R2	Average Ratio	
			1991-2001	1999-2001
Food Processing Machinery	-1.9	0.85	73.6	67.0
Packaging Machinery	-2.69	0.94	75.5	63.0
Electronic Components	-1.03	0.19	77.1	73.0
Motor Vehicle Parts	-0.52	0.25	78.1	75.7
Upholstered Household Furniture	-0.88	0.42	82.4	80.7
Wooden Household Furniture	-1.33	0.56	79.1	73.3
<b>Total Manufacturing</b>	<b>-1.05</b>	<b>0.65</b>	<b>74.1</b>	<b>69.7</b>

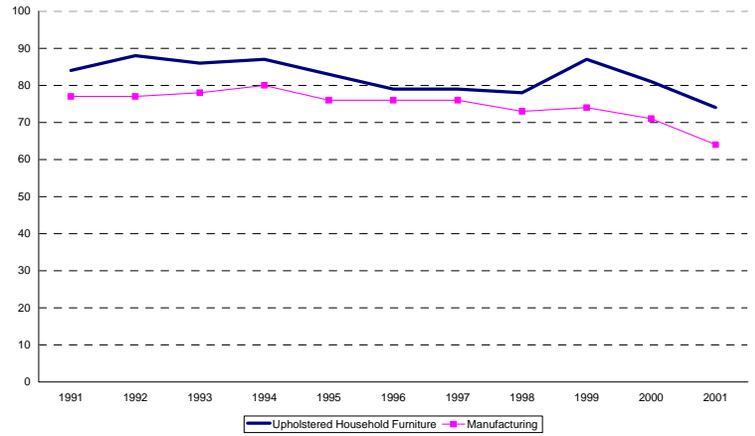
Source: Survey of Plant Capacity Current Industrial Reports, U.S. Census Bureau.

<sup>1</sup> The beta coefficients associated with the slopes of all of the respective linear trend lines are negative. Capacity utilization rates for food processing machinery, packaging machinery and wooden household furniture declined faster over the period than what was seen for total manufacturing, while the rates of the other selected industries declined at a relatively slower pace. With the exception of wooden household furniture, the R<sup>2</sup> values reveal a similar finding.

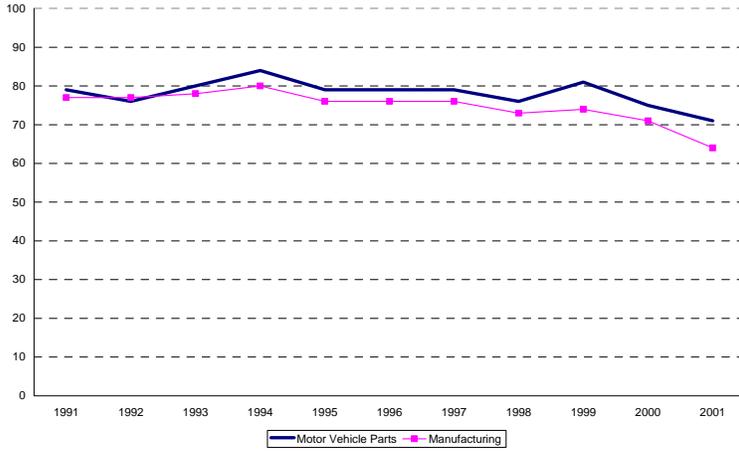
**Capacity Utilization  
Household Furniture: Wooden**



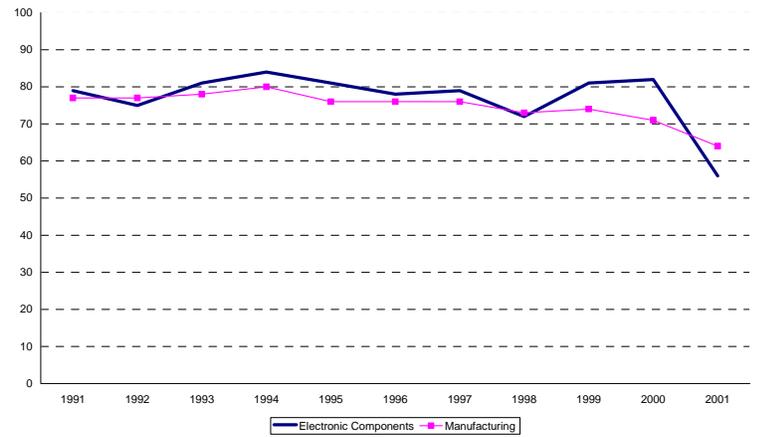
**Capacity Utilization  
Household Furniture: Upholstered**



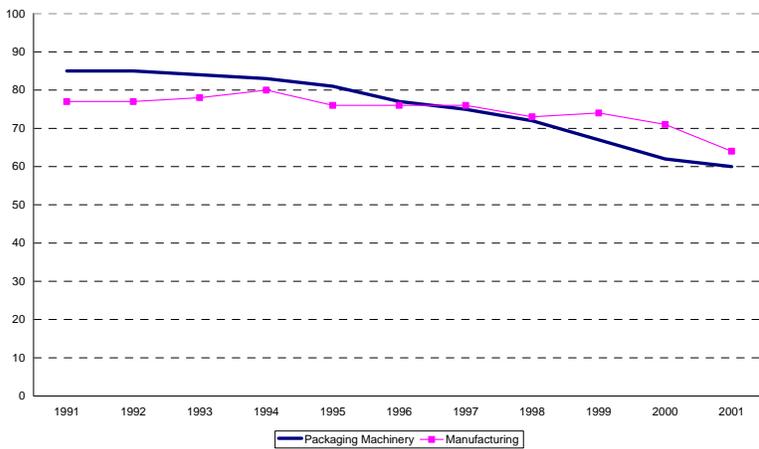
**Capacity Utilization  
Automotive Parts**



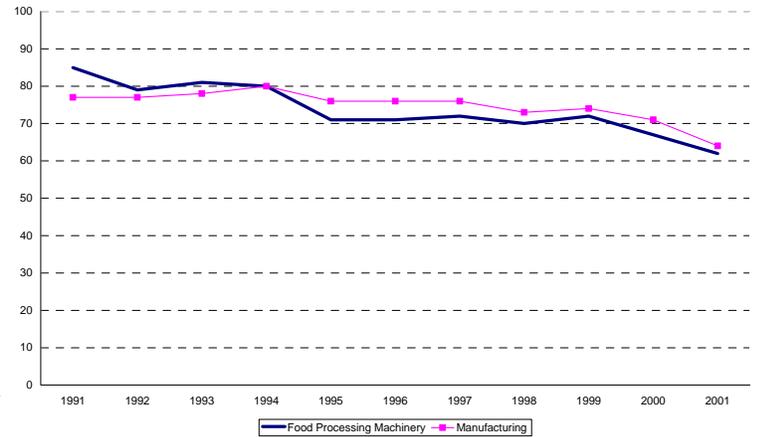
**Capacity Utilization  
Electronic Components**



**Capacity Utilization  
Packaging Machinery**



**Capacity Utilization  
Food Processing Machinery**



## 2.6 Industry Concentration

The Herfindahl-Hirschman Index (HHI) provides a good assessment of industry concentration. In measuring the level of concentration, the HHI uses the market shares of all firms in the industry but places more weight on the larger firms. Table 2-6 presents the industry concentration ratios for select Appalachian industry clusters.

Within Appalachia, of the six industry clusters considered, the auto vehicle parts industry had the highest HHI (659). Of the 4,767 firms in the auto parts industry, the four largest auto parts companies accounted for more than 41 percent of auto parts shipments. The largest fifty firms represent a little over one percent of the total number in the industry. Yet, they account for more than 70 percent of total auto parts industry shipments.

**Table 2-6. Industry Concentration**

Industry Concentration						
Industry	Number of Companies	Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Comp				Herfindahl-Herschmann Index for 50 Largest Companies
		(Percent)				
		4	8	20	50	
Food Processing Machinery	573	19.1%	27.1%	41.0%	60.0%	140
Packaging Machinery	644	16.6%	26.2%	44.3%	63.1%	145
Electronic Components	5,652	34.3%	42.8%	54.2%	65.5%	414
Motor Vehicle Parts	4,767	41.6%	49.3%	61.0%	70.7%	659
Upholstered Household Furniture	1,566	31.5%	39.1%	53.7%	68.7%	301
Wooden Household Furniture	3,677	25.7%	36.5%	50.5%	64.3%	238

Source: U.S. Census Bureau, Department of Commerce. Calculations by JFA.

The high tech electronic components industry cluster also recorded a relatively high HHI, with the four largest firms accounting for over 34 percent of total industry shipments. For each industry, Tables 2-7 to 2-12 present more information on establishment sizes by number of employees.

**Table 2-7. Establishment Size: Electronic Components**

Distribution of Establishments by Size Class: Electronic Components				
State	Total Establishments	Percent of Establishments by Number of Employees		
		<100	100-499	500+
Alabama	57	78.95%	17.54%	3.51%
Georgia	53	84.91%	11.32%	3.77%
Kentucky	23	73.91%	26.09%	0.00%
Maryland	63	90.48%	9.52%	0.00%
Mississippi	11	72.73%	18.18%	9.09%
New York	286	81.47%	15.38%	3.15%
North Carolina	116	68.97%	23.28%	7.76%
Ohio	169	85.80%	11.83%	2.37%
Pennsylvania	279	80.29%	14.70%	5.02%
South Carolina	30	50.00%	36.67%	13.33%
Tennessee	39	79.49%	17.95%	2.56%
Virginia	72	72.22%	23.61%	4.17%
West Virginia	5	80.00%	20.00%	0.00%
United States	5,973	80.76%	15.37%	3.87%

Source: U.S. Census Bureau, Department of Commerce.

**Table 2-8. Establishment Size: Motor Vehicle Parts**

Distribution of Establishments by Size Class: Motor Vehicle Parts				
State	Total Establishments	Percent of Establishments by Number of Employees		
		<100	100-499	500+
Alabama	73	73.97%	21.92%	4.11%
Georgia	109	73.39%	22.94%	3.67%
Kentucky	132	43.94%	46.21%	9.85%
Maryland	36	80.56%	19.44%	0.00%
Mississippi	52	53.85%	36.54%	9.62%
New York	185	84.86%	9.19%	5.95%
North Carolina	148	68.92%	22.97%	8.11%
Ohio	462	60.61%	29.65%	9.74%
Pennsylvania	160	80.00%	16.25%	3.75%
South Carolina	90	48.89%	40.00%	11.11%
Tennessee	172	62.79%	27.33%	9.88%
Virginia	77	67.53%	25.97%	6.49%
West Virginia	12	58.33%	25.00%	16.67%
United States	5,526	73.56%	20.68%	5.75%

Source: U.S. Census Bureau, Department of Commerce.

**Table 2-9. Establishment Size: Food Processing Machinery**

Distribution of Establishments by Size Class: Food Processing Machinery				
State	Total Establishments	Percent of Establishments by Number of Employees		
		<50	50-99	100+
Alabama	1	100.00%	0.00%	0.00%
Georgia	21	76.19%	4.76%	19.05%
Kentucky	5	60.00%	0.00%	40.00%
Maryland	6	100.00%	0.00%	0.00%
Mississippi	3	66.67%	33.33%	0.00%
New York	29	93.10%	6.90%	0.00%
North Carolina	11	36.36%	36.36%	27.27%
Ohio	26	73.08%	3.85%	23.08%
Pennsylvania	18	88.89%	5.56%	5.56%
South Carolina	3	100.00%	0.00%	0.00%
Tennessee	5	100.00%	0.00%	0.00%
Virginia	9	66.67%	22.22%	11.11%
West Virginia	0	NA	NA	NA
United States	577	82.84%	9.36%	7.80%

Source: U.S. Census Bureau, Department of Commerce.

**Table 2-10. Establishment Size: Packaging Machinery**

Distribution of Establishments by Size Class: Packaging Machinery				
State	Total Establishments	Percent of Establishments by Number of Employees		
		<50	50-99	100+
Alabama	7	71.43%	14.29%	14.29%
Georgia	19	84.21%	5.26%	10.53%
Kentucky	7	42.86%	14.29%	42.86%
Maryland	6	66.67%	16.67%	16.67%
Mississippi	1	100.00%	0.00%	0.00%
New York	30	80.00%	13.33%	6.67%
North Carolina	20	85.00%	15.00%	0.00%
Ohio	40	75.00%	10.00%	15.00%
Pennsylvania	36	75.00%	16.67%	8.33%
South Carolina	5	40.00%	20.00%	40.00%
Tennessee	3	100.00%	0.00%	0.00%
Virginia	7	42.86%	28.57%	28.57%
West Virginia	1	100.00%	0.00%	0.00%
United States	643	77.29%	12.91%	9.80%

Source: U.S. Census Bureau, Department of Commerce.

**Table 2-11. Establishment Size: Upholstered Household Furniture**

Distribution of Establishments by Size Class: Upholstered Household Furniture				
State	Total Establishments	Percent of Establishments by Number of Employees		
		<50	50-99	100+
Alabama	16	87.50%	0.00%	12.50%
Georgia	37	89.19%	2.70%	8.11%
Kentucky	11	81.82%	0.00%	18.18%
Maryland	7	71.43%	14.29%	14.29%
Mississippi	103	50.49%	8.74%	40.78%
New York	82	97.56%	1.22%	1.22%
North Carolina	266	57.52%	14.29%	28.20%
Ohio	36	88.89%	5.56%	5.56%
Pennsylvania	56	92.86%	0.00%	7.14%
South Carolina	13	92.31%	0.00%	7.69%
Tennessee	45	66.67%	17.78%	15.56%
Virginia	27	74.07%	3.70%	22.22%
West Virginia	0	NA	NA	NA
United States	1,585	80.44%	6.69%	12.87%

Source: U.S. Census Bureau, Department of Commerce.

**Table 2-12. Establishment Size: Wooden Household Furniture**

Distribution of Establishments by Size Class: Wooden Household Furniture				
State	Total Establishments	Percent of Establishments by Number of Employees		
		<50	50-99	100+
Alabama	65	78.46%	13.85%	7.69%
Georgia	90	90.00%	5.56%	4.44%
Kentucky	38	92.11%	5.26%	2.63%
Maryland	46	91.30%	4.35%	4.35%
Mississippi	34	85.29%	2.94%	11.76%
New York	252	90.08%	5.56%	4.37%
North Carolina	212	69.81%	5.19%	25.00%
Ohio	153	97.39%	0.65%	1.96%
Pennsylvania	193	93.26%	4.66%	2.07%
South Carolina	35	88.57%	0.00%	11.43%
Tennessee	78	82.05%	5.13%	12.82%
Virginia	109	70.64%	4.59%	24.77%
West Virginia	11	90.91%	0.00%	9.09%
United States	3,913	89.83%	4.27%	5.90%

Source: U.S. Census Bureau, Department of Commerce.

## 2.7 Regional Transactions

Table 2-13 shows the percentage of industry inputs and outputs that are purchased and sold within Appalachia. The upholstered household and wood furniture industries are the most integrated industry clusters within the Appalachian region. Over 50 percent of their inputs are purchased from Appalachian establishments, while more than 80 percent of their outputs are sold within Appalachia. According to a furniture industry representative, this trend can be attributed to the industry's proximity to raw materials and the fact that many of the household furniture establishments in Appalachia are quite specialized and tend to serve specific niche markets within the region.

**Table 2-13. Regional Transactions**

Regional Economic Impact Statistics			
Industry	Percentage of Intermediate Inputs Purchased from Appalachian Establishments	Employee Compensation as a Percent of Industry Output	Percent of Industry Output Sold Within Appalachia
Motor Vehicle Parts	43.9%	20.9%	45.7%
Food Processing Machinery	50.7%	40.3%	68.9%
Packaging Machinery	57.1%	27.3%	66.2%
Electronic Components	49.0%	21.1%	40.1%
Upholstered Household Furniture	53.2%	31.3%	85.9%
Wooden Household Furniture	58.7%	29.0%	91.0%

Data Source: Appalachian Regional Commission.

The electronic components and auto parts industries are the least integrated within the Appalachian region. Both of these industries are high tech industry clusters that require a variety of high tech inputs that may not be available within Appalachia. Also, given the nature of their outputs, they tend to cater to a much broader market outside Appalachia.

## 2.8 Economic Impact Multipliers

Economic Impact Multipliers estimate the total impact of an initial change in spending in a particular sector of the economy. It measures changes that occur in the level of local employment, income, output, sales and wealth. Table 2-14 presents economic impact multipliers for various industries within the Appalachian region. The economic impact multipliers were generated from a model of 410 Appalachian counties. The model takes into account forward and backward linkages between industries. Industries with higher multipliers generate more economic benefits within the Appalachian region.

Table 2-14. Economic Impact Multiplier

Industry	Employment	Output	Personal Income	Industry	Employment	Output	Personal Income
Agriculture	1.45	1.89	1.96	Leather Products Mfg	2.25	1.83	2.24
Metal Mining	2.47	1.62	2.20	Non-metallic Mineral Products Mfg	2.52	1.82	1.84
Coal Mining	3.86	1.93	2.00	Primary Metal Mfg	3.37	1.81	2.25
Petroleum Mining	2.98	1.90	2.89	Fabricated Metal Products Mfg	2.27	1.72	1.93
Non-metallic Minerals Mining	2.10	1.80	1.72	Other Machinery MFG	2.79	1.93	2.23
Construction	2.33	2.00	2.12	Food Products Machinery	2.05	1.93	1.78
Food Mfg	3.57	1.81	2.90	Packaging Machinery	2.88	1.98	2.20
Tobacco Products Mfg	17.51	1.75	5.46	Other Electrical Equipment Mfg	2.68	1.79	2.07
Textile Products Mfg	2.52	2.07	2.42	Micro Electronic Components Mfg	2.72	1.91	2.41
Apparel Products Mfg	2.44	2.15	2.82	Other Transportation Equipment Mfg	3.26	1.80	2.38
Wood Products Mfg	2.57	2.14	2.46	Motor Vehicle Parts and Accessories	3.00	1.81	2.24
Wood Household Furniture	2.06	2.02	2.15	Instruments Mfg	2.89	1.96	2.20
Upholstered Household Furniture	2.00	1.99	2.02	Miscellaneous Mfg	1.86	1.70	1.83
Other Furniture Mfg	2.45	1.94	2.30	Transportation Services	2.27	2.05	2.04
Paper Products Mfg	3.15	1.78	2.38	Communications and Utilities	3.60	1.79	2.25
Printing and Publishing	2.14	1.83	1.94	Wholesale Trade	2.10	1.84	1.73
Chemical Products Mfg	4.66	2.03	2.56	Retail Trade	1.39	1.81	1.62
Petroleum Products Mfg	11.73	1.99	6.76	Finance, Insurance and Real Estate	2.23	1.58	2.09
Rubber and Plastic Products Mfg	2.73	2.01	2.40	Services	1.74	2.07	1.73

Data Source: Appalachian Regional Commission

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## 2.9 Environmental Regulatory Costs

In 1991, a U.S. Senator from Oklahoma (David Boren) introduced the International Pollution Deterrence Act, legislation that would have used import tariffs to counteract the supposedly higher environmental compliance costs faced by U.S. industry. It was assumed that U.S. environmental regulations significantly impinged upon U.S. competitiveness, and in particular, with respect to developing countries.<sup>2</sup> However, some studies have found little impact, noting that most U.S. trade is with other developed countries that impose similar levels of environmental regulation. In addition, there is a theoretical proposition known as the Porter Hypothesis which posits that environmental regulation promotes innovation and therefore competitiveness. The issue continues to be debated and the empirical studies that have attempted to bolster or detract from the argument have not had much success. In fact, there is not a clear cut answer to any of these competing positions in the academic literature. Two of the main reasons for this are the lack of data and the inability to adequately measure compliance costs incurred by businesses.

The empirical problems make it difficult to accurately gauge the state-to-state differences in regulatory impacts. Such comparisons are important to be able to efficiently isolate and address areas that could improve competitiveness. Below, we report some of the mixed results that have been reported in the literature: these should be taken with a grain of salt.

Table 2-15 presents the results of calculations developed using data from the 1999 Pollution Abatement Costs and Expenditures report published by the U.S. Department of Commerce. The numbers represent the per-unit cost for each state divided by the per-unit cost for the U.S. as a whole. With the exception of Georgia, similar patterns can be seen for both investment outlays and operating expenses: in other words, Maryland, New York, North Carolina and Virginia show per-unit expenditures below those of the U.S. while the remaining Appalachian states reveal figures that are above the corresponding U.S. values. Note that the ratios for South Carolina and West Virginia are significantly greater than the ratios presented for the other states.

One problem with the numbers in the table is that they don't take into account industry mix and therefore don't accurately reflect a state's regulatory stringency. For example, states that have relatively higher concentrations of polluting industries will have relatively higher numbers. This does not mean that for a given industry one state's environmental regulations are more stringent than another state's. Ideally, one would like to do cross-state comparisons for each industry and then aggregate the results into a single cross-state comparison.

Arik Levinson at Georgetown University has attempted to address this issue by developing a regulatory stringency index that takes into account differences in industry mix across states.<sup>3</sup> The index is developed using data on pollution abatement costs, which are assumed to be related to environmental regulatory stringency when other factors are taken into account. The index is reproduced below in Table 2-16. Relatively higher numbers are associated with relatively higher regulatory compliance costs on businesses. Eight of the thirteen Appalachian states fall above the median index (0.945) while five fall below it. West Virginia and Mississippi both have indexes that are in the fourth quadrant and are ranked third and seventh respectively. Keep in mind that the data used to develop the index are somewhat dated, 1977 to 1994, and may not accurately reflect the state of affairs that exists today. For example, note that California has an index below the median score and is ranked 29<sup>th</sup> in terms of regulatory stringency: a conclusion that would seem to be somewhat questionable.

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<sup>2</sup> The flip-side of the coin is also being hotly debated: i.e., that international trade causes environmental degradation.

<sup>3</sup> Levinson, Arik. "Pollution Abatement Costs and Foreign Direct Investment Inflows to U.S. States," Georgetown University, May 20, 2001.

**Table 2-15: Pollution Abatement Costs and Expenditures**

State	Capital Cost Per			Operating Cost Per			Other Costs Per			Total Cost Per		
	Est.	Emp.	GSP	Est.	Emp.	GSP	Est.	Emp.	GSP	Est.	Emp.	GSP
Alabama	1.93	1.88	2.23	1.60	1.56	1.85	1.88	1.83	2.17	1.74	1.69	2.00
Georgia	1.25	1.16	1.18	0.76	0.70	0.72	0.83	0.77	0.78	0.87	0.81	0.83
Kentucky	2.01	1.94	2.13	1.74	1.68	1.85	1.30	1.25	1.38	1.69	1.64	1.80
Maryland	0.80	0.81	0.78	0.53	0.54	0.52	0.16	0.17	0.16	0.50	0.51	0.49
Mississippi	1.48	1.47	1.81	1.59	1.59	1.95	1.79	1.78	2.18	1.61	1.61	1.97
New York	0.40	0.43	0.35	0.47	0.51	0.40	0.49	0.53	0.42	0.46	0.50	0.40
North Carolina	0.38	0.37	0.39	0.87	0.83	0.98	0.63	0.60	0.64	0.71	0.68	0.73
Ohio	1.27	1.12	1.28	2.18	1.91	2.19	0.99	0.87	1.00	1.72	1.51	1.73
Pennsylvania	1.66	1.54	1.68	1.21	1.12	1.23	0.95	0.88	0.96	1.24	1.15	1.26
South Carolina	4.50	4.39	5.36	1.29	1.26	1.54	4.80	4.68	5.71	2.76	2.70	3.29
Tennessee	1.43	1.27	1.46	1.51	1.33	1.54	1.14	1.01	1.16	1.41	1.25	1.43
Virginia	0.76	0.74	0.72	1.18	1.16	1.13	0.52	0.51	0.49	0.94	0.92	0.90
West Virginia	3.01	3.62	4.07	2.78	3.34	3.76	2.48	2.97	3.35	2.76	3.31	3.73

Source: Levinson, Arik. "Pollution Abatement Costs and Foreign Direct Investment Inflows to U.S. States," Georgetown University, May 20, 2001.

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**Table 2-16. Regulatory Stringency Index**

	1977 - 1994		
	Index	Rank	Quartile
AL	1.19	14	3
AR	1.17	15	3
AZ	1.39	8	4
CA	0.9	29	2
CO	1.01	19	3
CT	0.67	43	1
DE	1.3	11	4
FL	1.21	13	3
GA	0.91	26	2
IA	0.96	23	3
ID	1.66	1	4
IL	0.91	26	2
IN	1.14	17	3
KS	0.76	38	1
KY	0.99	21	3
LA	1.51	5	4
MA	0.67	43	1
MD	1.17	15	3
ME	1.55	4	4
MI	1.01	19	3
MN	0.66	45	1
MO	0.79	35	2
MS	1.47	7	4
MT	1.49	6	4
NC	0.82	32	2
ND	0.77	36	2
NE	0.83	31	2
NH	0.75	39	1
NJ	0.82	32	2
NM	1.64	2	4
NV	0.63	47	1
NY	0.77	36	2
OH	0.82	32	2
OK	0.58	48	1
OR	1.22	12	4
PA	0.91	26	2
RI	0.72	40	1
SC	0.99	21	3
SD	0.68	42	1
TN	1.1	18	3
TX	1.39	8	4
UT	0.93	25	2
VA	0.96	23	3
VT	0.66	45	1
WA	1.37	10	4
WI	0.89	30	2
WV	1.58	3	4
WY	0.72	40	1

Levinson used this index to assess the impact of environmental regulations on the distribution of foreign direct investment across U.S. states. The study is interesting because it contributes to the understanding of business location decisions in general. The findings are used to produce Table 2-17, which shows the impact on foreign direct investment that can be attributed each state's environmental regulatory climate holding all other things constant. The numbers reflect the percentage change in foreign direct investment due to the change in regulatory climate (as defined by the industry adjusted index described above) and are based upon a comparison with the median industry adjusted index of pollution abatement. As can be seen, West Virginia's foreign direct investment was estimated to be over 5 percent lower than it would have been in a regulatory climate comparable to the median state.

**Table 2-17. Impact of State's Environmental Regulatory Climate on Foreign Direct Investment**

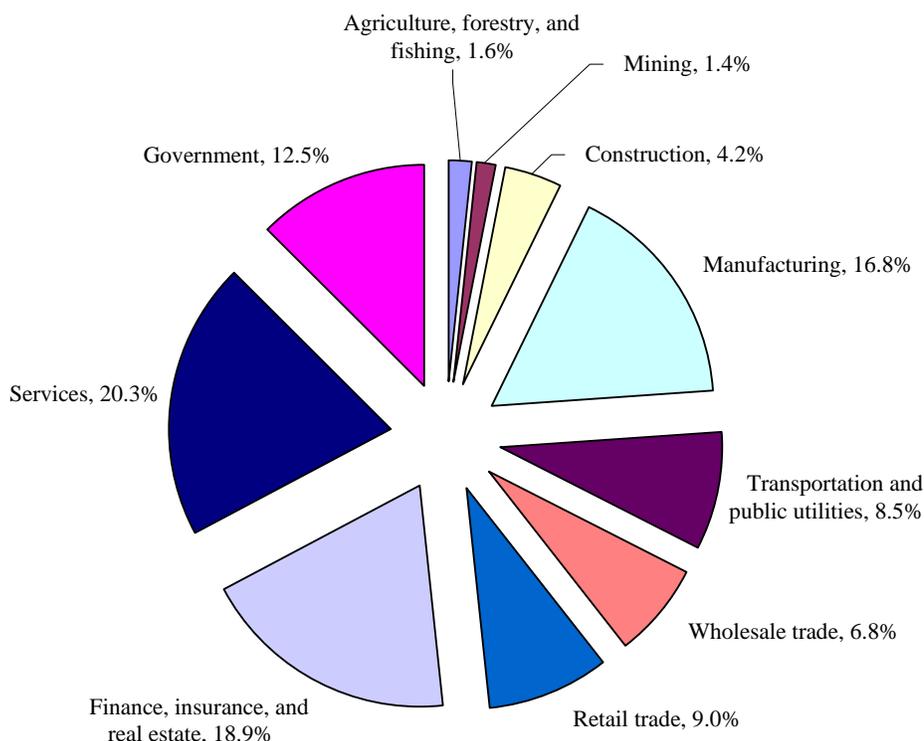
State	Change in Foreign Direct Investment
NY	1.46%
NC	1.04%
OH	1.04%
GA	0.29%
PA	0.29%
VA	-0.13%
KY	-0.38%
SC	-0.38%
TN	-1.30%
MD	-1.88%
AL	-2.05%
MS	-4.39%
WV	-5.31%

Source (for both tables): Levinson, Arik. "Pollution Abatement Costs and Foreign Direct Investment Inflows to U.S. States", Georgetown University, May 20, 2001.

## 2B The Services Industry

The services sector is the largest component of the U.S. economy, accounting for 20.3 percent of all economic activity (See Exhibit 2-7 below). The United States is also the world's leading producer and exporter of services. U.S. services exports more than doubled over the last decade—increasing from \$155.6 billion in 1990 to \$323.4 billion in 2003. U.S. services exports also consistently exceeded services imports, contributing to a favorable trade balance (see Table 2-18 below). With advances in information systems and technology making U.S. services more readily available to the rest of the world, U.S. services exports are projected to grow well into the future.

**Exhibit 2-7: Average Share of U.S. GDP by Industry (1990 - 2001)**



Source: U.S. Bureau of Economic Analysis.

**Table 2-18. Exports and Imports of U.S. Services (US \$ billions)**

Year	1990	1991	1992	1993	1994	1995	1996
Services Exports	155.7	173.3	187.4	195.9	210.8	228.9	250.2
Services Imports	122.3	123.6	123.6	128.1	137.7	146.1	157.4
Difference	33.4	49.7	63.8	67.8	73.1	82.8	92.8
Year	1997	1998	1999	2000	2001	2002	2003
Services Exports	267.6	275.1	294	311.9	303.6	309.1	323.4
Services Imports	171.5	186.9	206.3	232.3	233.6	242.7	260.5
Difference	96.1	88.2	87.7	79.6	70	66.4	62.9

Source: U.S. Bureau of Economic Analysis.

Education and training services are areas where U.S. expertise remains largely unparalleled. The educational services sector comprises establishments that provide instruction and training in a wide variety of subjects and is the fifth largest U.S. service sector export. During the 2001 to 2002 academic year, the 583,000 international students who studied in the U.S. contributed nearly \$12 billion to the U.S. economy.<sup>4</sup> This figure is based on tuition figures from the College Board, enrollment figures from the Institute of International Education's Open Doors 2002 report, and living expenses calculated from College Board figures.<sup>5</sup> These contributions flow through the community as wages and purchases of goods and services. Table 2-19 details the contribution to the U.S. economy by foreign students.

**Table 2-19. Contribution to U.S. Economy by International Students in 2001 to 2002**

Number of Foreign Students	582,996
Contribution from Tuition and Fees to U.S. Economy	\$6,755,000,000
Contribution from Living Expenses	\$9,498,000,000
Total Contribution by Foreign Students	\$16,253,000,000
Less U.S. Support (29.1%)	- \$4,727,000,000
Plus Dependents' Living Expenses	+ \$425,000,000
<b>Net Contribution to U.S. Economy by Foreign Students and their Families:</b>	<b>\$11,952,000,000</b>

Source: NAFSA; Association of International Educators 2001-2002.

Given the importance of the educational services sector, this section of the study focuses on the export of higher education services in Appalachia. The main goal is to highlight *Best Practices in International Student Recruitment Programs within Higher Education Institutions in Appalachia*. To accomplish this, the later part of this section examines and details the marketing efforts of eight different types of higher educational institutions within Appalachia to attract students from other countries. These representative institutions were selected based on inputs from industry experts and higher education professionals within the Appalachian region. The sample was also chosen to represent institutions in the northern, central and southern subregions of Appalachia.

## 2.10 The United States Educational Exports Sector

In the 2001 to 2002 academic year, institutions around the United States hosted nearly 550,000 international students from over a hundred countries. From Table 2-20, it can be determined that international students chose to study at universities located in a variety of areas, not solely in large metropolitan areas. International students studying in the 2001 to 2002 academic year primarily came from Asian countries, with India as the lead country of origin. Asian countries and developing countries have been the leading countries of origin over the past ten years, and U.S. higher education institutions have targeted these countries to market their educational programs. Students from European countries and other countries with established higher education systems are less inclined to study in the U.S. due to lower educational costs, government educational subsidies, and availability of quality education in their home countries.<sup>6</sup> Table 2-21 lists the fifteen leading countries of origin for international students.

<sup>4</sup> NAFSA Association of International Educators. *The Economic Benefits of International Education to the United States of America: A Statistical Analysis*. (2002).

<sup>5</sup> NAFSA Association of International Educators. *The Economic Benefits of International Education to the United States of America: A Statistical Analysis*. (2002).

<sup>6</sup> Dr. Stephen Dunnett, SUNY Buffalo, interview by Krute Singa, telephone, 8 August 2003.

**Table 2-20. Top 10 Institutions with the Highest Number of International Students, 2001-2002 Academic Year**

Rank	Institution	City	State	International Student Enrollment	Total Enrollment
1	University of Southern California	Los Angeles	CA	5,950	29,813
2	New York University	New York	NY	5,504	37,134
3	Columbia University	New York	NY	5,116	22,425
4	Purdue University Main Campus	West Lafayette	IN	4,695	37,871
5	University of Texas at Austin	Austin	TX	4,673	50,616
6	Boston University	Boston	MA	4,412	27,767
7	Ohio State University Main Campus	Columbus	OH	4,302	48,477
8	University of Illinois at Urbana-Champaign	Champaign	IL	4,287	37,684
9	University of Michigan - Ann Arbor	Ann Arbor	MI	4,149	38,248
10	University of Florida	Gainesville	FL	3,884	45,937

Source: *Open Doors*, Institute of International Education 2002.

**Table 2-21. Leading Countries of Origin for International Students, 2001 to 2002**

Rank	Place of Origin	2000/2001	2001/2002	2000/2001 % Change	% of U.S. Foreign Student Total
1	India	54,664	66,836	22.3	11.5
2	China	59,939	63,211	5.5	10.8
3	Korea, Republic of	45,685	49,046	7.4	8.4
4	Japan	46,497	46,810	0.7	8.0
5	Taiwan	28,566	28,930	1.3	5.0
6	Canada	25,279	26,514	4.9	4.5
7	Mexico	10,670	12,518	17.3	2.1
8	Turkey	10,983	12,091	10.1	2.1
9	Indonesia	11,625	11,614	-0.1	2.0
10	Thailand	11,187	11,606	3.7	2.0
11	Germany	10,128	9,613	-5.1	1.6
12	Brazil	8,846	8,972	1.4	1.5
13	Pakistan	6,948	8,644	24.4	1.5
14	United Kingdom	8,139	8,414	3.4	1.4
15	Colombia	6,765	8,068	19.3	1.4

Source: *Open Doors*, Institute of International Education 2002.

A large percentage of international students come to the U.S. to major in the business, engineering, and computer science fields. Table 2-22 details the fields of study for international students in the 2001 to 2002 academic year.

**Table 2-22. Fields of Study Among Foreign Students, in 2001 to 2002**

Field of Study	2001/2001 Foreign Students	2001/2002 Foreign Students	% of Total	% Change
TOTAL	547,867	582,996	100.0	6.4
Business & Management	106,043	114,885	19.7	8.3
Engineering	83,186	88,181	15.1	6.0
Mathematics & Computer Sciences	67,825	76,736	13.2	13.1
Other	57,235	59,785	10.3	4.5
Social Sciences	42,367	44,667	7.7	5.4
Physical & Life Sciences	38,396	41,417	7.1	7.9
Undeclared	35,779	36,048	6.2	0.8
Fine & Applied Arts	34,220	33,978	5.8	-0.7
Health Professions	22,430	24,037	4.1	7.2
Intensive English Language	23,011	21,237	3.6	-7.7
Humanities	16,123	18,367	3.2	13.9
Education	14,053	15,709	2.7	11.8
Agriculture	7,200	7,950	1.4	10.4

Source: *Open Doors*, Institute of International Education 2002.

## 2.11 U.S. Losing Educational Export Market Share to Other Countries

U.S. market share is steadily declining in international student market. The number of all international students who selected the U.S. for study decreased by approximately ten percent between 1982 and 1995. This is reflective of the United States' hesitation to consider the international student market an asset to the economy. Other countries including the United Kingdom, Canada, Australia, and New Zealand have launched aggressive recruitment strategies to attract foreign students, reaping the foreign policy, economic, and educational benefits that international students bring.<sup>7</sup>

Australia, Canada and the United Kingdom, have developed national priorities and comprehensive strategies to attract larger numbers of international students. Countries in which English is not a primary language, including Germany, Japan, and France are establishing programs to attract international students with some classes taught in English. Other nations have taken on a broader internationalization orientation that involves a mix of long and short-term study by international students on campus, satellite campuses and joint programs abroad, and distance education.<sup>8</sup>

The decline in U.S. market share does not reflect decline in international demand for U.S. higher education. Demand does exist as many foreign students prefer a U.S. education. Rather, the decline is a result of government imposed barriers to studying in the U.S., the high costs to finance an U.S. education, and the complexity of the U.S. higher education system. Due to the attacks on September 11, 2001, strict

<sup>7</sup> NAFSA Association of International Educators. In *America's Interest: Welcoming International Students: Report of the Strategic Task Force on International Student Access*. (2003), 6.

<sup>8</sup> Schneider, Michael. *Others' Open Doors: How Other Nations Attract International Students. Implications for U.S. Educational Exchange*. (2000), 3.

security and visa procedures have affected the rate of international students.<sup>9</sup> Though more stringent security measures are necessary for U.S. security, creating difficulties for international students to enter the country for study may produce more U.S. animosity in the future. International students are foreign policy assets; the more international students are hindered from attending higher education institutions in the U.S., the less political allies the U.S. may have in the future.

## 2.12 Appalachian International Student Facts

The Appalachian region higher education network consists of over 250 universities, colleges, and community colleges. There are approximately 220 higher education institutions in Appalachia with international student enrollment. Table 2-23 lists the higher education institutions in the area under the jurisdiction of the Appalachian Regional Commission with the highest numbers of enrolled international students.

**Table 2-23. Institutions in the Appalachian Region with the Highest Number of International Student Enrollment in 2001 and 2002 (Top 20)**

Institution	City	State	International Student Enrollment 2001	International Student Enrollment 2002	Total Enrollment
Cornell University	Ithaca	NY	3,024	3,181	19,420
Carnegie Mellon University	Pittsburgh	PA	2,118	2,395	8,588
Virginia Polytechnic Institute & State University	Blacksburg	VA	1,592	2,087	25,000
West Virginia University	Morgantown	WV	1,133	1,207	22,774
Ohio University Main Campus	Athens	OH	1,189	1,168	19,661
SUNY - Binghamton University	Binghamton	NY	966	1,028	12,820
Mississippi State University	MS State	MS	1,004	1,022	
University of Tennessee, Knoxville	Knoxville	TN	959	972	26,000
University of Alabama at Birmingham	Birmingham	AL	815	910	16,542
University of Alabama	Tuscaloosa	AL	882	885	19,171
Clemson University	Clemson	SC	833	847	17,101
Duquesne University	Pittsburgh	PA	713	654	9,555
Indiana University of PA	Indiana	PA	467	624	13,410
University of Alabama in Huntsville	Huntsville	AL	448	479	6,754
Hocking Technical College	Nelsonville	OH	267	340	5,051
Lock Haven University of Pennsylvania	Lock Haven	PA	414	338	4,125
La Roche College	Pittsburgh	PA	267	293	1,908
Jefferson State Community College	Birmingham	AL	390	239	8,076
Gadsden State Community College	Gadsden	AL	238	231	5,192
Edinboro University of Pennsylvania	Edinboro	PA	187	230	7,498

Source: *Open Doors*, Institute of International Education 2002.

Similar to the international student profile of the United States, the leading country of origin for international students studying in Appalachian states, in the 2001 to 2002 academic year was India, followed by China, the Republic of Korea, and Japan. Table 2-24 details the leading countries of origin

<sup>9</sup> NAFSA Association of International Educators. In *America's Interest: Welcoming International Students: Report of the Strategic Task Force on International Student Access*. (2003), 6.

for foreign students studying in the Appalachian Region states. Recruitment in Asian states is a high priority though some higher education institutions are actively recruiting students from developing countries through the development of research exchanges and joint degree programs between a U.S. university and a university in the developing country. Examples of these relationships are provided in Section 2.13, Best Practices in International Programs at Higher Education Institutions. Table 2-25 ranks the primary fields of study among international students in Appalachian higher education institutions.

**Table 2-24. Leading Country of Origin for Foreign Students in Appalachian Region States, 2001 to 2002**

Country of Origin	% of Total Foreign Students <sup>A</sup>	Total Number
India	12.7%	22,598
China	11.7%	20,889
Republic of Korea	9%	16,097
Japan	6%	10,938
Canada	4%	6,795
Taiwan	1.5%	2,627
<b>Total</b>	<b>44.9%</b>	<b>79,944</b>

<sup>A</sup> Total Number of Foreign Students in Appalachian States, 177,865, from Table 2-26. Source: *Open Doors*, Institute of International Education, 2002.

**Table 2-25. Primary Fields of Study Among Foreign Students in Appalachian Region States**

Rank	Field of Study
1	Business and Management
2	Engineering
3	Math and Computer Science
4	Physical and Life Sciences
5	Other
6	Undeclared

Source: *Open Doors*, Institute of International Education, 2002.

The net contribution by international students studying in the states comprising the Appalachian region amounted to \$3.6 billion in the 2001 to 2002 academic year all of which translated to pure profit by Appalachian higher education institutions and businesses. On average, an international student studying in Appalachia contributed \$20,500 to the region, mainly from funds generated in their country of origin.

## 2.13 Best Practices in International Programs at Higher Education Institutions

Several universities and colleges in the Appalachian region have successfully implemented an international program to recruit, foster, and assist a foreign student population on campus. To promote the establishment of international student programs in additional higher education institutions in Appalachia, eight international program coordinators from colleges and universities in and around the Appalachian region were interviewed. The interviews provided information on how to establish an international program, how to recruit students, services to provide international applicants and accepted students, and how to promote economic liaisons between the international population and the local community and state.

**Table 2-26. Contribution to State Economies in the Appalachian Region by International Students 2001-2002**

State	Number of Foreign Students	Contribution from Tuition and Fees	Contribution from Living Expenses	Total Contribution by Foreign Students	Less U.S. Support	Plus Dependents Living Expenses	Net Contribution to State Economy by Foreign Students and their Families:
Alabama	6,040	\$46,544,000	\$81,796,000	\$128,340,000	(\$34,495,000)	\$3,442,000	\$97,288,000
Georgia	11,991	\$140,786,000	\$186,714,000	\$327,501,000	(\$102,792,000)	\$8,716,000	\$233,425,000
Kentucky	4,789	\$39,731,000	\$61,180,000	\$100,911,000	(\$28,048,000)	\$2,799,000	\$75,662,000
Maryland	13,947	\$150,281,000	\$219,398,000	\$369,678,000	(\$83,288,000)	\$8,763,000	\$295,154,000
Mississippi	2,381	\$18,109,000	\$36,986,000	\$55,095,000	(\$11,643,000)	\$1,213,000	\$44,665,000
New York	62,053	\$850,626,000	\$1,080,522,000	\$1,931,148,000	(\$619,296,000)	\$51,495,000	\$1,363,347,000
N.Carolina	8,960	\$109,463,000	\$141,185,000	\$250,648,000	(\$86,481,000)	\$7,080,000	\$171,248,000
Ohio	19,384	\$243,934,000	\$317,707,000	\$561,641,000	(\$198,773,000)	\$16,703,000	\$379,571,000
Penn.	24,014	\$389,135,000	\$393,713,000	\$782,848,000	(\$253,435,000)	\$18,025,000	\$547,437,000
S.Carolina	3,731	\$35,825,000	\$61,923,000	\$97,748,000	(\$33,380,000)	\$2,947,000	\$67,315,000
Tennessee	5,867	\$69,991,000	\$88,462,000	\$158,453,000	(\$40,952,000)	\$3,357,000	\$120,857,000
Virginia	12,600	\$136,345,000	\$196,356,000	\$332,701,000	(\$79,507,000)	\$7,990,000	\$261,184,000
W Virginia	2,108	\$17,724,000	\$33,201,000	\$50,926,000	(\$17,993,000)	\$1,477,000	\$34,410,000
<b>Total</b>	<b>177,865</b>	<b>\$2,248,494,000</b>	<b>\$2,899,143,000</b>	<b>\$5,147,638,000</b>	<b>(\$1,590,083,000)</b>	<b>\$ 134,007,000</b>	<b>\$3,657,187,410</b>

Source: NAFSA: Association of International Educators 2001-2002.

The eight international programs were picked based on the following criteria:

- undergraduate and graduate level foreign student admissions
- number of foreign students in attendance
- scale and method of recruiting efforts
- size of institution
- cost of tuition
- affiliation (religious)
- local economic development involvement

International program coordinators were interviewed by telephone for the following universities and colleges:

Marshall University, WV  
 Clemson University, SC  
 Carnegie Mellon University, PA  
 Lee University, TN  
 University of Scranton, PA  
 Jefferson State Community College, AL  
 Troy State University, AL  
 State University of New York (SUNY)  
     SUNY Fredonia  
     SUNY Buffalo

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### 2.13.1 Marshall University, WV

**Size of Institution:**

12,000 undergraduate and 4,000 graduate students total between the main campus, medical center, South Charleston campus, and online

**Location:**

Huntington, West Virginia

**Degrees Offered:**

Bachelors and Masters

**Type of Institution:**

Public Regional University with accreditations

**Size of International Program:**

400 international students, undergraduate and graduate, from 50 countries

**Interviewee:**

Dr. Will Edwards, Director, Marshall Center for International Studies<sup>10</sup>

Marshall University is located in the Appalachian region. It hosts an average of 400 international students a year from 50 countries, mainly those in Asia, the Middle East, Europe and South America. On average, international students stay for 3 years, though there are students who participate in the one year exchange programs available at Marshall. Many students commence their education at Marshall in Learning English for Academic Purposes (L.E.A.P.), an intensive English language program, and then transfer to an undergraduate or graduate program. International student enrollment numbers depend on world conditions. Marshall's international program suffered low enrollment levels from Asian countries during the Asian stock market crash, the period immediately following September 11, 2001, and the Severe Acute Respiratory Syndrome (SARS) outbreak.

The most popular major for international students is business as Marshall has a national accreditation for its business school through the Association to Advance Collegiate Schools of Business (AACSB). The Information Systems major is the second most popular major, followed by the sciences and liberal arts. The L.E.A.P. program has averaged 40 to 60 students total per semester in all three levels, beginner, intermediate, and advanced.

The objectives of Marshall University's international program are both cultural and economic. The Marshall community is enriched by the presence of a variety of cultures. The university benefits economically from the international students ability to pay full tuition as no financial aid is given to the students.

#### **Marshall Center for International Studies Recruitment Strategy**

The Marshall Center for International Studies engages in a variety of activities to recruit international students. The Center has cultivated and established several relationships with embassies, recruitment agents, and foreign universities to promote the University. The strategies successful in attracting international students to Marshall include:

1. *Web-based marketing.* Web based marketing sites exist; for example, English-as-a-Second-Language websites charge a fee of \$100 per year, per page. Listing through these types of websites has proven successful for Marshall.

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<sup>10</sup> Dr. Will Edwards, interview by Krute Singa, telephone, 9 September 2003.

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2. *Recruiting Agents.* Countries like Thailand and Vietnam only work with agents. Agents are affiliated with Fulbright, IEE, and provide private counseling and application assistance.
  3. *Recruitment Fairs.* Recruitment fairs are established through a private enterprise. To participate in the fair, there is a fee to set up a booth.
  4. *Market share data and research.* The market data provided by the Institute of International Education, Open Doors database is analyzed to determine the leading countries of origin and academic programs for international students.
  5. *Department of Commerce.* Marshall coordinates with the Department of Commerce in targeting similar areas and countries.
  6. *Southern Growth Policy Board, Global Strategies Advisory Council.* Marshall is associated with the Council to study export data, including educational exports. The Council involves thirteen states, some from Appalachia.
  7. *Embassies.* Marshall recruits students by forming a relationship with a country's embassy.
  8. *Foreign Universities.* Creating a relationship and establishing programs with a foreign university allows for students and faculty from both universities to take advantage of educational opportunities without difficulty.
  9. *Word of Mouth.* International students who have completed study at Marshall provide the best form of advertisement, informing their friends and relatives of the programs at Marshall.

Establishing a relationship with a foreign university is most effectively undertaken when faculty and the faculty's department are involved in the negotiations and program details. The Center for International Studies initiates the process, recruiting the appropriate faculty to aid in designing the program.

Dr. Edwards emphasized the importance of establishing relationships with embassies, foreign universities, private businesses, and recruitment agents. These relationships require substantial investments of time and resources during the initial years, though once established, yield great benefits and results. For example, the Business Department at Marshall sought to create a business exchange program with China. It worked with a private corporation in China for seven years before the program became established. At present, the program is successful in attracting mid-level Chinese business professionals to engage in the English language program and business classes offered by Marshall. This example demonstrates the level of persistence and time investment required to create successful programs. Once the program is established, time and commitment are necessary to maintain the relationship.

The success of Marshall's international program is also due to the relative ease with which international students can acquire information about Marshall and the international program. Marshall University's main webpage has a link to an international page where international students can discover more information about admission requirements, international student services and support, multi-cultural affairs and events, and L.E.A.P., the intensive English program. It is beneficial to have clear, quick, and informative links for international students as it implies that the University is a place where they feel welcomed.

Basically, there are no costs involved in running the Center. The web based fees for web-based marketing are negligible and the costs of traveling to recruitment fairs are recovered when two students are recruited from the fair, though the number of students recruited from the fairs is far more than two. Essentially, the program pays for itself and the local community earns money as well from foreign student spending on food, cars, and activities.

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## 2.13.2 Clemson University, SC

**Size of Institution:**

Undergraduate 13,750, graduate 3,100

**Location:**

Clemson, South Carolina

**Degrees Offered:**

Bachelors, Masters, and Doctorate

**Type of Institution:**

Public University

**Size of International Program:**

870 international students, undergraduate and graduate, from 73 countries

**Interviewee:**

Bonnie Holaday, Dean of the Graduate School and Associate Vice Provost for Research<sup>11</sup>

Clemson University is classified by the Carnegie Foundation as a Doctoral/Research University-Extensive, a category comprising less than four percent of all universities in the United States. The University is committed to internationalizing as can be seen by the level of faculty involvement in international programs, the international activities database, and the attendance of approximately 850 international students per year from over seventy countries to attend both undergraduate and graduate programs.

International Service and Diversity Programs (ISDP) is generally the office with which prospective international students and visitors have their first contact with Clemson. The ISDP acts as liaison between the INS (Immigration and Naturalization Services) and all international students on the campus, whether they are undergraduate or graduate students, faculty, staff or exchange visitors. ISDP creates and coordinates program development by student affairs units and works co-operatively with all offices involved in developing international programs or services at Clemson University. ISDP advises students and refers them as needed to other services on campus. ISDP staff are members of NAFSA, the Association of International Educators.

The development of international programs is mainly administered by faculty members and their departments. The international students are hosted by departments. Faculty members at Clemson are heavily involved in the international program, lending their expertise and knowledge about a particular country or region to help establish and manage the programs. They attend national meetings, including the European Council of Graduate Education, as well as professional meetings. Faculty members develop relationships with foreign universities and their relationships with foreign professors allow for recruitment of qualified international students.

In an effort to promote internationalization of the university, the International Initiatives Committee has developed a data bank of international activities at Clemson University. The purpose of this data bank is to facilitate strategies for promoting internationalization and to provide faculty and students with an avenue for exploring existing international programs and areas of expertise within the university. The Database includes:

- over 400 Clemson University professors who have international experience and connections;
- over 500 international programs in 66 countries on six continents; and
- over 400 international projects.

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<sup>11</sup> Bonnie Holaday, interview by Krute Singa, telephone, 9 June 2003.

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The Faculty Database is formatted to allow for an easy search of international activities of a particular faculty member. The Regional Database lists the Clemson University international activities occurring in particular countries and regions. The data is primarily sorted by six major regions of the world: Europe, Asia (including Russia), the Middle East and North Africa, Sub-Saharan Africa, the Americas, and Oceania.

The College Database provides information on international activities conducted by a particular college or department. The data are primarily sorted by the following colleges or programs:

- Agriculture, Forestry, and Life Sciences
- Arts, Architecture, and Humanities
- Business and Behavioral Science
- Engineering and Science
- Health, Education, and Human Development
- Miscellaneous programs (Graduate School, Asian Studies)

Clemson differentiates between international programs and projects. International Programs are international activities occurring continuously with other faculty members or units at Clemson University. These activities exist independent of any particular faculty member. International Projects are individual international activities, often of relatively short duration that are dependent on involvement of a particular faculty member.

In addition to the database, the main Clemson University webpage provides an accessible link for prospective students to an international page with information on applications, life at Clemson, and other background information on the university.

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### 2.13.3 Carnegie Mellon, PA

**Size of Institution:**

Undergraduate 5,400, graduate 2800, doctoral 1300

**Location:**

Pittsburgh, Pennsylvania

**Degrees Offered:**

Bachelors, Masters, and Doctorate

**Type of Institution:**

Private Research University

**Size of International Program:**

2300 total international students: undergraduate 580, graduate 1000, doctoral 750, from over 95 countries

**Interviewee:**

Trevor Rusert<sup>12</sup>

Carnegie Mellon is a national research university of about 8,000 students and 3,000 faculty, research and administrative staff. The University is committed to providing a global education for its students, expanding its international offerings and increasing its presence on a global scale. Increasing diversity, in all aspects of university life and fostering the economic development of southwestern Pennsylvania, are top priorities.

Carnegie Mellon is highly ranked in the fields of computer science, engineering, and business. The University attracts many international students who pay attention to rankings and are drawn to those programs as a result. As international students do not receive any financial aid or scholarships, the strength of Carnegie Mellon's academic programs generates international student enthusiasm.

Even though Carnegie Mellon attracts many international students by the ranking of its academic departments, the University actively recruits foreign students through a number of activities. It purchases names through SAT services, recruiting American and international students with scores over 1350. Faculty and staff attend recruitment fairs, traveling in the fall throughout countries in Asia and South America. In addition, Carnegie Mellon has established several relationships with councilors at foreign high schools to inform students about the University's programs and aid in the recruiting process.

Prospective and newly admitted international students have the opportunity to participate in online chat sessions to be able to communicate instantly with administrative staff, faculty, and U.S. students majoring in computer science, engineering, and business.

Faculty and their academic departments are highly involved in establishing and maintaining international programs and also recruiting students, especially for the graduate and doctoral levels. Faculty members and administrative staff who are familiar with international education systems form an international committee to review international applications. Admission is based on SAT scores, high school background, academic records, resumes, and recommendations.

International students at Carnegie Mellon come from over 95 countries. Singapore is the top international feeder, followed by Hong Kong, India, Malaysia, Korea, Canada, and Japan. As recruitment efforts are mainly focused on Asian countries, the majority of international students are from Asia. Due to the particular circumstances and requirements faced by Asian students, Carnegie Mellon allows deferments up to 3 years to counteract visa problems, global issues, and military commitments.

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<sup>12</sup> Trevor Rusert, interview by Krute Singa, telephone, 9 June 2003.

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## 2.13.4 Lee University, TN

**Size of Institution:**

Undergraduate 3,400, graduate 230

**Location:**

Cleveland, Tennessee

**Degrees Offered:**

Bachelors and Masters

**Type of Institution:**

Private Christian Liberal Arts University

**Size of International Program:**

160 international students, undergraduate and graduate, from 37 countries

**Interviewee:**

Renee Williams, International Admissions Coordinator<sup>13</sup>

Lee is the largest church-related institution in Tennessee, and the second largest private school, behind Vanderbilt University. Lee University is owned and operated by the Church of God which is headquartered in Cleveland, Tennessee.

Lee engages in limited recruitment activities. The majority of international students apply after learning about the University through family members and friends who have or are attending Lee. International students are also attracted to Lee's Christian affiliation.

Lee University's website is another tool effective in attracting prospective students. The main Lee University webpage provides an accessible link for prospective students to an international page with information on applications procedures, tuition costs, housing, visa applications, and other background information on the university.

Lee recruits students through fairs and Christian youth rallies. International admissions staff regularly travel to the Bahamas, Caribbean, and Canada to attend the youth rallies to inform prospective students about the academics and services Lee offers.

The main countries of origin for foreign students at Lee differ from most higher education institutions in the U.S. as Lee specifically recruits Christian students. The countries represented in the 2002 to 2003 academic year ranked as follows:

1. Bahamas
2. Korea
3. Haiti / Japan
4. Jamaica / Trinidad
5. Canada
6. China / Kenya / Nigeria / South Africa

Lee University is a good example of a small university that is able to maintain an international student population from countries like the Bahamas, Haiti, and Kenya. These countries are not generally or actively recruited by many institutions as they contain few students who are able to afford education in the United States. Lee University also demonstrates that an international program does not have to be large or have to recruit from Asian or European countries to be successful. Maintaining a small program and targeting students from select countries will enrich the campus and local communities as long as the international students receive quality education and support.

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<sup>13</sup> Renee Williams, interview by Krute Singa, telephone, 10 June 2003.

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### 2.13.5 University of Scranton, PA

**Size of Institution:**

Undergraduate 3,700, graduate 1000

**Location:**

Scranton, Pennsylvania

**Degrees offered:**

Bachelors, Masters, and Associates

**Type of Institution:**

Private Catholic and Jesuit Liberal Arts University

**Size of International Program:**

25 international students, undergraduate and graduate, from 12 countries

**Interviewee:**

James Goonan, Director of Graduate Admissions<sup>14</sup>

The University of Scranton is the oldest and largest university in Northeastern Pennsylvania and is committed to serving the region's professional, political, religious, cultural and business communities. Part of this commitment is manifested in Scranton's international program. In order to expand the population of Northeastern Pennsylvania and to enrich the area's cultural and economic outlook, the University has welcomed international students since 1940.

The international student population at Scranton is small, averaging twenty to twenty-five students per year from twelve countries. The main countries of origin are China, India, Taiwan, and Thailand. The majority of students are interested pursuing degrees in business administration, software engineering, and chemistry.

The international students receive personalized guidance and assistance throughout their stay at Scranton. The international program is successful as it considers the needs of potential students, conducting market research to learn what is important to foreign students. These needs have to be satisfied to create a successful international program that will endure and grow over time. For example, to attract Middle Eastern students, Scranton converted a property near campus into a mosque to satisfy the students' demands for a prayer space. The addition of the mosque increased the application rate by Middle Eastern students. This example illustrates that not only is it important to understand and listen to foreign student needs, it is equally as important to understand their cultures and remain flexible to best create an environment comfortable to foreign students.

Scranton actively recruits international students. Staff members analyze market data provided by the Institute of International Education, Open Doors database to determine the leading countries of origin and academic programs for international students. They travel internationally, visiting cities to speak to government, schools, and students and participate in international education fairs. There is established communication with advisors in foreign embassies responsible for educational advising, and with international alumni who will meet with and answer questions from prospective students. Scranton also utilizes the SAT and GRE databases to disseminate information to interested students. The information is available translated into the students' native languages.

International students at Scranton mainly come from Asian countries as the University has focused most of its recruitment efforts there. Scranton is currently establishing relationships with Latin American countries to recruit students. There are a few European students who study at Scranton; the limited numbers are mainly due to the fact that Europeans have access to quality education for negligible cost.

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<sup>14</sup> James Goonan, interview by Krute Singa, telephone, 11 June 2003.

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Being a Jesuit Universities, Scranton has agreements with other Jesuit Universities worldwide to exchange students and faculty.

Developing personal relations with foreign advisors, school officials, and alumni, as well as traveling to the same countries every year, are important methods by which to develop an international program. Building personal relations requires time and dedication, and is a long process, sometimes taking years before results show and programs established. However, once some relationships and programs are secured, the process becomes easier and new relationships are developed with increased ease.

The educational export market is facing increased growth and fierce competition. According to Goonan, it is becoming difficult to compete aggressively with schools from Australia, New Zealand, Canada, and the United Kingdom. These governments have recognized the rewards from the market and are consequently offering financial aid and have created straightforward visa application procedures. The U.S. government has not promoted the sector as openly, offering few financial incentives and creating difficult and confusing visa procedures for foreign students. Education is the strongest export product that the U.S. can currently promote. It brings in billions of dollars in revenue and enhances U.S. community and student life.

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### 2.13.6 Jefferson State Community College, AL

**Size of Institution:**

8,100 students

**Location:**

Birmingham, Alabama

**Degrees offered:**

Associates

**Type of Institution:**

2 Year Community College

**Size of International Program:**

500 international students, undergraduate and graduate, from 10 countries

**Interviewee:**

Alesha Kegler, Office Assistant, International Student Program<sup>15</sup>

Jefferson State is a two year community college, accredited by the Commission on Colleges of the Southern Association of Colleges and Schools. The College offers more than 120 University Transfer Programs, 40 Career Programs and numerous Certificate Programs. These programs are offered during the day, evening, weekends and via the Internet.

Staff members of the International Student Program do not actively recruit students. The College is listed in international school directories but foreign students mainly learn about Jefferson State through their family members, friends, and other alumni. Of the 500 students enrolled, over half are from East and West Africa, particularly Kenya and Tanzania. Other countries of origin include China, Pakistan, and Nepal. Most international students obtain a 2 year degree and then transfer to another college to acquire their bachelor's degree.

The Jefferson State main webpage has an accessible and noticeable link to the International Student Program page that relays information on admission requirements, application procedures, English proficiency, forms, costs, and placement testing.

Jefferson State's successful international program illustrates the integral role community colleges play in the educational exports sector. Judith T. Irwin, Director of International Programs and Services at the American Association of Community Colleges, highlights the importance of community colleges in educating and training individuals to behave successfully in a multicultural and technologically global environment.

Community colleges constitute the largest segment of higher education in the United States. They include nearly 1,200 institutions with an enrollment of 11 million students, 6 million of whom are seeking a degree or certificate. Most community colleges provide open access, enabling both U.S. and international students to take high-quality courses at low-cost.<sup>16</sup> Foreign students are more aggressively seeking a degree from two-year institutions, taking advantage of the short-term specialized training, ESL programs, and the opportunity to transfer into a four-year college or university.<sup>17</sup>

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<sup>15</sup> Alesha Kegler, interview by Krute Singa, telephone, 20 June 2003.

<sup>16</sup> Irwin, Judith T. *Community Colleges: Changing Individuals, Meeting Global Needs*.

<sup>17</sup> Chase, Audree. *Community Colleges' Role in Recruiting International Students*. 1998.

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There is a common misconception that international students only apply to specific metropolitan areas in the United States. However, the enrollment rates at community colleges around the U.S. indicate differently. For example, a large number of two-year institutions in Texas, such as Tarrant County Junior College in Forth Worth, attract Mexican students but currently enroll more students from Africa, India, Sweden, Greece, Canada and the Philippines. As in the case of Jefferson State, Tarrant County estimates that most of these students learn about their institution by word-of-mouth advertising, though it does advertise in various study abroad magazines.<sup>18</sup>

As part of its effort to enhance global education, the American Association of Community Colleges (AACC) has launched a Community College International Recruitment initiative to assist institutions with their international recruiting efforts and to elevate the profile of community colleges in global education and exchange. This will be accomplished primarily through a series of international recruitment fairs designed solely for two-year institutions. The recruitment fairs will be available on-line as well, thus extending their reach to students worldwide at no cost. In addition, AACC is developing both an International Student Study Guide to inform international students about American community colleges and a Web site to specifically address the questions and interests of international students. Information on these community college international recruitment services is available at [www.aacc.nche.edu /internationalrecruitment](http://www.aacc.nche.edu/internationalrecruitment).<sup>19</sup>

The Tidewater Community College presents a good example in their internationalization efforts. The College is comprised of four campuses in Virginia, located in the cities of Chesapeake, Norfolk, Portsmouth, and Virginia Beach. Its internationalization effort focused on faculty ownership and curriculum development. A group of core faculty worked cooperatively to secure state funding to develop an international curriculum. The state funds were utilized to send faculty abroad to pursue own development and to prepare updated modules of curriculum that would bring students into personal contact with events around the world. This process also established relationships with foreign institutions. Faculty from all disciplines were encouraged to take advantage of the international opportunities, even faculty in fields that are traditionally left out of internationalization efforts, including accounting, math, horticulture, and nutrition. The result is awareness throughout the college that all courses have potential for including international content and focus.<sup>20</sup>

The grants and funds secured by the Tidewater Community College for its international education program include the following:<sup>21</sup>

- State Council of Higher Education for Virginia, Funds for Excellence (for faculty/curriculum development seminars for one-month study with selected experts)
- U.S. Department of Education, Fulbright-Hays Group Projects Abroad (for faculty/curriculum development seminars for four to six weeks in a country)
- U.S. Department of Education, Title VI-A for language and international projects
- U.S. Department of Education, Fund for the Improvement of Postsecondary Education (FIPSE) Disseminating Proven Reforms

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<sup>18</sup> Chase, Audree. *Community Colleges' Role in Recruiting International Students*. 1998.

<sup>19</sup> Irwin, Judith T. *Community Colleges: Changing Individuals, Meeting Global Needs*.

<sup>20</sup> Global Community College. *Tidewater Community College's Internationalization Effort: Focusing on Faculty Ownership and Curriculum Development*.

<sup>21</sup> Global Community College. *Tidewater Community College's Internationalization Effort: Focusing on Faculty Ownership and Curriculum Development*.

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## 2.13.7 Troy State University, AL

**Size of Institution:**

5,100 students at Troy campus, 25,000 worldwide

**Location:**

Troy, Alabama

**Degrees offered:**

Bachelors and Masters

**Type of Institution:**

Public University

**Size of International Program:**

400 international students, undergraduate and graduate, from 50 countries

**Interviewee:**

Dr. Susan Aldridge, Vice President<sup>22</sup>

Troy State University (TSU) is comprised of five geographic regions with approximately 50 branches and teaching sites located in five countries and fourteen states. The campus located in Troy, Alabama is the main campus. The branches and sites are primarily based on or near military installations and serve military and civilian personnel and their dependents stationed on the bases. However, native populations are also welcomed to attend the branch schools or any school within the network. Campuses are located in the following areas:

- Atlantic Region: Norfolk Naval Station, Virginia; Washington, D.C.
- Florida/Western Region: Davis-Monthan AFB, AZ; Ft. Carson, CO; Ft. Lewis, WA; Ft. Walton Beach, FL; Holloman AFB, NM; MacDill AFB, Tampa, FL; Malmstrom AFB, MT; New Orleans, LA; Pensacola Naval Air Station, Orlando, FL.
- Pacific Region: Anderson AFB, Guam; Camp Zama, Japan; Camp Henry, Hikam AFB, Hawaii; Kadena, Japan; Misawa AB, Japan; Osan AB, Korea; Fleet Activities Sasebo, Japan; Yokota, Japan; Yokosuka, Japan; Yongsan Army Garrison, Korea.
- Southeast Region: Ft. Benning, GA; Albany, GA; Augusta, GA; Atlanta, GA; Brunswick, GA; Ft. Bragg, NC.

The international branches are located in Hong Kong, India, Malaysia, Taiwan, Thailand, and Vietnam. Bangkok, Mumbai, and Hanoi, are new locations while campuses and branches in Japan and Korea have existed for over ten years. The campuses overseas vary in size, and are sometimes located on campuses of foreign universities. Troy State is seeking to add more locations while maintaining quality control by assessing degree programs, market competition, and demand for campuses.

Troy State retains a long history in the commitment to internationalization. Most of the international students are full time undergraduate and graduate students, some of which receive scholarships. These scholarships include the following:

- *International Student Exchange Scholarship*: This scholarship, worth \$1,000.00 per year is given to ten first time undergraduate students for one academic year. It entails a service requirement including participation in the International Student Cultural Organization (ISCO) annual festival and Community Service Projects that involve international awareness.
- *Honor's Student Scholarship*: This scholarship is for international undergraduate students who have completed 30 semester hours of credit at TSU and have a GPA of 3.0 or higher. It is \$2,000 per year and is applicable as long as the student maintains a 3.0 GPA.

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<sup>22</sup> Dr. Susan Aldridge, interview by Krute Singa, telephone, 27 July 2003.

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- *Graduate Assistantships & Fellowships*: Graduate Assistantships up to \$9,500.00 per year are available through the Major Departments.

Troy State actively recruits international students. Staff from the Center for International Programs as well as faculty and administrative staff travel to foreign universities and attend education fairs. There exists a sophisticated network of people familiar with Troy State and many international students learn of Troy State through word of mouth. Though the University has campuses in some of the countries targeted for recruitment, Troy State encourages prospective students to attend school in the United States. This allows international students opportunity to experience life in the U.S., enhance the local culture, and promote local economic development. Troy has an easily accessible webpage for international students, relaying information on application procedures, costs, tuition, financial aid, English proficiency, and admissions criteria.

### **Local Economic Development**

TSU is dynamically involved in the development of the local economy through international relations and coordination. The University is committed to bringing economic activities to Alabama by encouraging partnerships between international and U.S. firms. Troy State only establishes initial contact between the firms. It does not assume a managerial role once the partnership has been instituted. For example, if a former international student is looking to set up an office in Alabama, the University connects the student with banks and the economic development office, to facilitate the process. Troy State is committed to determining the right partnerships that will connect international students and foreign companies with jobs, the import and export market, key individuals in state and overseas, and U.S. businesses. The right partnerships are found through industry research, consulting the Chamber of Commerce, and market studies to ascertain the types of businesses located in the area and gain familiarity with small business owners.

Most of the international-U.S. business relationships are facilitated by the College of Business at Troy State. The Business Departments also maintains programs that train foreign corporate executives in U.S. business practices. The executives are brought to Alabama where they meet with top officials and Troy State students, and gain familiarity with the economic climate of Alabama. This has proven to be a successful program, forming many business alliances. The executives usually attend one class at Troy State before returning to their home country.

Establishing an economic development policy requires time and commitment as it takes many years to build relationships. Establishing campuses overseas necessitates up front work, involving talks with the education ministry of the country, deciding whether to set up the campus as a joint venture with a local institution or as a foreign organization, and discerning how to set up infrastructure necessary to meet academic standards without spending taxpayer money. Most importantly, the internationalization requires the commitment and support of the top officials of the University. The Chancellor, Board of Trustees, and staff and faculty throughout the system endorse the international focus. Dr. Aldridge emphasized that the international program could not subsist if top level encouragement did not exist. Internationalization is a concept and mindset that must permeate throughout the institution.

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## 2.13.8 State University of New York (SUNY)

**Size of Institution:**

403,000 on 64 campuses

**Location:**

New York State

**Degrees offered:**

Bachelors, Masters, and Associates

**Type of Institution:**

Public

**Size of International Program:**

10,000 international students, undergraduate and graduate, from 170 countries

**Interviewees:**

Dr. John Rider

Lori Thompson, Director for International Partnerships, Office of International Programs<sup>23</sup>

The State University of New York's 64 campuses are divided into four categories, based on educational mission, the kinds of academic opportunities available, and degrees offered. The State University offers students a wide diversity of educational options, short-term vocational/technical courses, certificate programs, baccalaureate degrees, graduate degrees, and post-doctoral studies. The University offers access to almost every field of academic or professional study within the system offering 6,400 courses of study overall.

Not all of the SUNY campuses have an international program. SUNY Binghamton has the largest international student population. The average length of stay for the international students is two to four years, depending on the school attended. Approximately half of the SUNY institutions are community colleges.

Dr. Rider and Ms. Thompson are the system administrators for international programs campus wide. The main Office of International Programs initiates some programs with foreign universities campuses and coordinates with the campuses as well as providing overall information and facts about the international program. The individual campuses maintain their international programs and admissions.

### Dual Diploma Programs

One of the recent programs the central Office of International Programs instigated is the Dual Diploma International Joint Program between select SUNY campuses and Turkish universities. The program allows undergraduate Turkish students to study in both the U.S. and Turkey, develop English language skills, and earn two undergraduate degrees from both SUNY and a Turkish University. The areas of study offered are economics, business, and global affairs. The SUNY campuses involved in the program are SUNY Binghamton, SUNY New Paltz, and SUNY Maritime College, while in Turkey, there are five universities involved. Turkish students pay tuition at home university and pay SUNY out of state tuition fees though they are eligible for financial aid from SUNY. The program was initiated in fall of 2003 in Turkey and the students will attend one of the three SUNY campuses in winter or spring 2004. For now, the program is available only for Turkish students but it may be opened to U.S. students as well, especially Turkish American students, once the program is more firmly established. The program is only for matriculating students.

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<sup>23</sup> Dr. John Rider and Lori Thompson, joint interview by Krute Singa, telephone, 25 July 2003

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The development and establishment of the program required two years. The program was first promoted in 2000 when SUNY submitted and was awarded the New York State Linkages Grant for \$125,000 to be utilized only for the travel expenses generated for the development of the program. The grant allowed SUNY officials to travel to Turkey for conferences and negotiations to decide on the subject areas and program details. A nine-member advisory committee was also established, involving the University Chancellor, Vice Chancellor of International Programs, Provosts at the three SUNY campuses, and directors for international programs from the campuses. On the Turkish side, the President for the Higher Educational Council and vice presidents from the universities participated. The establishment of the dual degree program was successfully facilitated as the Turkish university system is organized under a central office that coordinates all universities. Therefore, SUNY negotiated only with the central office to set up the program with the five universities. To aid in recruitment for the program, two Turkish agents were hired to provide information and application assistance.

As a result of the efforts placed in this program, other joint research projects have developed:

- Turkey will be sending funded PhD students to develop research in the U.S.;
- Istanbul Technical University is negotiating with SUNY Buffalo to establish a joint program in earthquake research; and
- A Dual Diploma program with Russia. Currently, there is a faculty and student exchange program between SUNY and Moscow State University. Preliminary talks have occurred for a dual diploma program as well. However, difficulties in organization have been encountered as there is no central education office in Russia with which SUNY can coordinate as there was in Turkey.

### **SUNY Campus Best Practices**

Though the central office is responsible for infusing the international commitment throughout the SUNY campuses, they are not responsible for institutionalizing international programs at the campus level. Many of the campuses have high commitment to internationalization through innovative programs for international students and involvement in local economic development through coordination with foreign businesses. Examples of two campuses involved in such activities are SUNY Fredonia and SUNY Buffalo.

### **SUNY Fredonia**

**Size of Institution:**

Undergraduate 4,900, graduates 400

**Location:**

Fredonia, New York

**Degrees offered:**

Bachelors and Masters

**Type of Institution:**

Public University

**Size of International Program:**

40 international students, undergraduate and graduate, from 15 - 20 countries

**Interviewee:**

Dr. Richard Goodman, Director of International Programs<sup>24</sup>

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<sup>24</sup> Dr. Richard Goodman, interview by Krute Singa, telephone, 30 July 2003.

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The State University of New York at Fredonia is located in a rural region, halfway between New York City and Chicago. It offers a wide variety of majors in the arts, humanities, and the natural and social sciences, as well as professional programs in many areas. SUNY Fredonia is known for its business and music schools as well as speech therapy certificate programs.

SUNY Fredonia is a relatively small school, averaging 5,000 students total, undergraduate and graduate. Its international student population is proportionate to the size of the institution, averaging 40 students per year. Most students pursue a bachelor's degree, though the international graduate student population is increasing. SUNY Fredonia's location is appealing to many foreign students as the rural area provides a safe and friendly environment.

While the majority of international students are from Japan, there is a diversity of countries represented at SUNY Fredonia. The countries of origin include:

- Bahamas
- Canada
- France
- Germany
- Ghana
- Haiti
- Hong Kong
- Japan
- Pakistan
- Russia
- South Korea
- Switzerland
- Turkey

### **Recruitment and Admission Criteria**

Though SUNY Fredonia actively recruits students by sending faculty and staff to foreign countries to attend international education fairs, its reputation and international connections through alumni and business partners are primarily the reason why the international program continues to be successful. For example, Fredonia has established numerous business partnerships in Japan and other countries in Asia. These business partners send their children and family members to study at Fredonia. The University does not print brochures or advertise its international program due to the costs, though it is listed through SUNY in an international school directory. The Internet is also a valuable tool for prospective students, and Fredonia maintains an accessible link to its International Education Center webpage from the main University page, communicating information on applications, life on campus, support services, immigration application and information, and visa application procedure.

International students are admitted based on the following criteria:

- Test of English as a Foreign Language exam (TOEFL) score
- Past academic performance in high school or college
- Ability of students to meet financial requirements

### **Financial Aid and Exchange Programs**

Fredonia does not offer financial aid to international students, though a small number of scholarships are available. Foreign students are required to pay the out of state tuition fee. In an effort to make education at SUNY Fredonia more financially accessible, several exchange agreements have been or in the process

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of being developed. The agreements are primarily with countries that are economically underdeveloped or have government subsidized education. The exchanges will allow international students and U.S. students to study for one semester or year at SUNY Fredonia and the partnering foreign institution respectively. The program is a joint venture, designed to ensure that both international and U.S. students receive the best possible education and care.

Developing the exchange programs required time and commitment. Communication is essential in the negotiating process. SUNY Fredonia initiated contact by visiting foreign institutions and exchanging information about academic programs. Fredonia faculty were enlisted in evaluating the academic programs offered by the foreign institutions. Fredonia will only partner with foreign universities of which it has personal knowledge and interaction with university officials. It is important to understand and be familiar with all universities on a firsthand basis. Several exchange programs have been established following these criteria, including one with an American University in Bulgaria, which started 8 years ago, and another with Aichi University of Education in Japan, a national university subsidized by the government.

Dr. Goodman emphasized that exchange programs require patience and time. Relationships evolve naturally and slowly, but once a few have been established, setting up additional programs will become easier. As Fredonia's reputation in international education has become recognized, foreign universities have also approached Fredonia to create exchange partnerships.

### **Economics**

SUNY Fredonia has an Office of International Programs. The "programs" aspect is important as it indicates that the office not only is concerned with education, but also other factors associated with internationalization, including economic activity. Fredonia is personally involved with the economic vitality of local region, working with local businesses and industry leaders to expand their operations abroad, and acting as a liaison between local community and foreign markets.

SUNY Fredonia's economic assistance has proven successful; several local companies have conducted business with foreign companies. Dr. Goodman, Director of the Office of International Programs, maintains close contact with local community, continually striving to convince local businesses to think internationally. He and his staff have given numerous free presentations and seminars for the local business community. These seminars inform the community of the business opportunities available abroad, proper business conduct and custom according to country, and who to contact at the University to receive assistance in initiating international business relationships. Universities are well respected in both domestic and foreign business communities and local companies who are linked to universities have more credibility.

Throughout his thirty-three year tenure at the Office of International Programs, Dr. Goodman has developed and maintained partnerships with business leaders throughout the world, especially in Japan. As his international focus is Japan, he has traveled there extensively, meeting with education officials as well as business executives. Once he has established partnerships, he makes it a point to meet with the officials and executives every time he travels to Japan. This way, Dr. Goodman maintains the connection and also demonstrates an understanding of Japanese business culture which places great importance on communication and personal interaction. He has also maintained contact with alumni from Hong Kong who have provided business connections, contacts and opportunities. One student who studied at SUNY Fredonia in 1970 is a finance director of the Hong Kong Airport and generously established a fund for the School of Business to promote international business. Business relationships were established with Hong Kong before the island was economically successful. Relationships with economically developing countries are important as they will be helpful in the future. One relationship leads to another, expanding the number of opportunities, if these relationships are properly maintained.

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As Fredonia is a rural area, the food processing industry is the strongest sector and has the highest potential to be involved in the international market. In the 1980's, it was not common for local businesses to be involved in international markets. To promote internationalization, the Office of International Programs coordinated with U.S. and foreign government agencies to facilitate three international trade fairs, taking local businesses to:

1. The International Wine Trade Show in Japan,
2. The Seoul American Food Fair in Korea for agricultural meetings, and
3. Furniture trade shows in various locations in Asia.

As a result of the International Wine Trade Show in Japan, local wineries export locally produced wine to Japan. This relationship has further been enhanced as the Japanese wine importers have sent their children to study at SUNY Fredonia.

The trade fairs are one example of the activities that SUNY Fredonia has coordinated with local and international businesses. Other activities include a High Tech Mission with Japan. Japanese business professionals were invited to meet local businesses, resulting in strong partnerships with Japan that continually produces more contacts and relationships. These partnerships not only enhance the business community, but the University as well.

SUNY Fredonia and Dr. Goodman's commitment to economic development is an example of how Appalachian institutions, many of which are similar in size and location to SUNY Fredonia can become involved in international programs. Dr. Goodman has helped create a remarkable program that has led to international investment and local business partnerships with foreign firms in a region that is mainly rural. He has assessed the market strengths of the region and relayed the information to businesses abroad. His commitment to keeping in touch with alumni is also providing good business opportunities. His belief that each relationship is real and personal has brought and continues to generate rewarding results.

### **How to Establish International Economic Linkages to the Local Community**

To become involved in local and international market alliances requires commitment to community outreach. Institutions contain most of the resources required to establish international relationships and foster local economic development. Resources that can be tapped include the following:

- cataloguing the foreign experiences and backgrounds of faculty and staff,
- assigning one person or office to act as outreach officer and talk to local and international businesses,
- enlisting the help of the Business School, and
- inventorying the resources available at the institution.

Along with gathering the available resources, there has to be a change in the institution's mindset. International student programs at institutions can do more than just process students. The role of the international program can be expanded to encompass a variety of international activities to create an atmosphere of cultural diversity on and off campus, including catalyzing contact with local businesses, launching informational seminars on what types of international opportunities exist for the local business community, and teaching intercultural communication to establish understanding of different business practices. Institutions have the resources and the ability to connect people from various backgrounds economically, politically, and culturally.

If institutions are not able to undertake the level of commitment to local economic development as SUNY Fredonia, there are still many activities they can engage in to assist their local region in globalizing. Institutions have enough resources to convey helpful economic information. It is useful to inventory these

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resources so that when local businesses do enlist an institution's aid, they can be guided to the most appropriate resource and contact.

SUNY Fredonia and its local community has benefited from the international programs. Students and the community have been culturally enriched and have become increasingly educated about foreign cultures. Local business has been stimulated through international student spending and alliances formed with foreign businesses. The University strongly believes that its role, especially since it is a state funded institution, is to assist the local community and its students achieve global awareness while maintaining ties to the region and values.

## **SUNY Buffalo**

### **Size of Institution:**

Undergraduate 17,290, graduate and professional 8,600

### **Location:**

Buffalo, New York

### **Degrees offered:**

Bachelors, Masters, Doctoral, Professional

### **Type of Institution:**

Public University

### **Size of International Program:**

3,700 international students, undergraduate and graduate

### **Interviewee:**

Dr. Stephen Dunnett, Vice Provost for International Education<sup>25</sup>

SUNY Buffalo is the largest of the SUNY campuses. It is a member of the Association of American Universities, and is among the nation's top research-intensive public universities. The University offers strong medical, engineering, and computer science research and educational opportunities, and has a university wide commitment to public service and outreach to both local and global communities. SUNY Buffalo is primarily a graduate campus though it is attracting an increasing number of undergraduate students.

The international student program averages 3,700 students per year, with two-thirds pursuing a graduate degree. Most students are matriculating, though there are approximately 100-150 students on one year exchange programs. Of the international students, 65 percent are from Asian countries. Latin American and African students tend not to apply to New York State or Appalachia as they are unable to afford the education. European student enrollments are declining as the European higher education institutions are of high quality and there is little value added to study at a U.S. institution. Therefore, Asian students comprise the majority of the international student population as they have the financial means and are high quality students. In 2003, the top 11 countries of origin for international graduate students were:

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<sup>25</sup> Dr. Stephen Dunnett, interview by Krute Singa, telephone, 8 August 2003.

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1. India
  2. China
  3. Korea
  4. Taiwan
  5. Canada
  6. Japan
  7. Singapore
  8. Malaysia
  9. Romania
  10. Germany
  11. Turkey

The top 10 countries of origin for international undergraduate students are:

1. Korea
2. Malaysia
3. India
4. Japan
5. China
6. Taiwan
7. Canada
8. Indonesia
9. Pakistan
10. Singapore

SUNY Buffalo offers some financial assistance to international students, the bulk of the aid going to graduate students for research assistantships or teaching assistantships. Fifteen to 20 percent of graduate students are supported by assistantships which give a stipend and waive tuition fees. Other graduate students study on fellowships or tuition scholarship programs, such as the Fulbright. There is some financial aid for undergraduate students as well. Approximately forty merit scholarships and a few tuition scholarships are handed out to students from countries the University is trying to attract. It is important to have a scholarship program to attract international students as the cost of education in the United States is too expensive for students of developing countries to afford. As building economic, political and cultural relationships with developing countries will be beneficial to the U.S. in the future, it is important to establish these relationships through hosting the students from these countries.

### **Recruitment**

SUNY Buffalo actively recruits students through college fairs and recruitment fairs. However, most of the international students learn about the University through alumni and through their home universities for research opportunities. The Internet has also proven a useful tool and the SUNY Buffalo website provides an accessible link to an international student page from the main page.

The University also contracts with Linden Educational Services, a non-profit company that arranges overseas recruitment fairs and trips. Linden Educational Services assists regionally accredited U.S. universities in their efforts to recruit, enroll, and serve international students. Linden staff members are professionals in international education, experienced overseas travelers and active members of NAFSA: Association of International Educators. The Linden Tours travel to Asia, Latin America and the Middle East to provide opportunities for admissions officials to meet international students who are interested in studying in the United States. The Linden webpage offers valuable information for international students about the U.S. education system, types of degrees offered, definitions of community college, college, and university, and testing requirements. Their website is found at [www.lindentours.com](http://www.lindentours.com).

SUNY Buffalo has established numerous exchange relationships with institutions all around the world. Most of these exchanges were built with the assistance and foreign experience of faculty and staff. The relationships are based on a commonality of interest; the foreign university should be a good fit in terms of academics, atmosphere, and dedication. The exchanges that have been established resulted from a variety of demands, including:

- *Academic interests.* For example, researchers in the earthquake engineering department wanted links and research exchange partnerships to be set up with other centers around the world.
- *Cultural interests.* The exchange program with the Maharaja Sayajirao University of Baroda in India resulted from the desire of Indian American students to learn more about their culture and

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have the opportunity to study abroad to learn about their heritage. To comply with their request, SUNY Buffalo solicited suggestions from the Indian community of Buffalo and also researched websites of higher education institutions in India. The University's criteria for picking the potential exchange institution were based on 1) whether the institution's goals and standards fit with that of SUNY Buffalo, 2) a location near an international point of entry but not in a large city, and 3) a strong humanities and social science program. After extensive research, the University selected the Maharaja Sayajirao University of Baroda (MSUB), initiating negotiations by sending a delegation. MSUB also benefited from the exchange through the medical educational options available at SUNY Buffalo. Currently, the SUNY-Baroda program is growing. Those in medicine and sciences at SUNY Buffalo go to Baroda to study abroad, signifying a growing appreciation for Indian education.

- *Staff interests.* Many staff members at SUNY Buffalo are immigrants who provided links and contacts to their home country and institutions to set up exchange programs.
- *Faculty interests.* For example, faculty from Romania established exchange programs with institutions in Poland and Romania.

Once exchange programs are established, the contacts and ties that result between the foreign institutions and SUNY Buffalo are extended to the community to aid in the building of business partnerships. Over time, the relationships that form between faculty, cities, and students on the exchange lead to economic development.

### **Goals of SUNY Buffalo's International Program**

The main goals of having an international student program for SUNY Buffalo are the cultural, financial, and economic benefits gained through interaction with foreign students, institutions, and businesses.

#### ***Cultural***

Having an international presence globalizes the mindset and environment not only of the university, but the surrounding communities as well. Presently, U.S. students are not globally minded. Many do not even learn a second language. The goal of the international program at SUNY Buffalo is therefore to improve the global competitiveness of graduates and to instill an understanding of the rest of the world's geography, language, and culture. The program seeks to break down barriers between cultures.

The program is an educational tool for U.S. students as well as foreign students. The more foreigners who come to the U.S. take an appreciation of U.S. customs and products back to their home countries. They become U.S. allies and supporters of U.S. goods and services, and connect with the U.S. when they would like to engage in business opportunities. With each foreign student who embraces the U.S. lifestyle, the U.S. gains an ally and friend.

#### ***Financial***

The financial gains of hosting an international student population are substantial and apparent. The SUNY Buffalo out-of-state tuition fee is \$10,000 per year while in-state tuition is \$4,000 per year. Foreign students pay the out-of-state tuition and the \$6,000 differential is entirely kept by the University. As the University attracts approximately 4,000 students per year, each paying \$10,000, it generates \$40 million, nearly half of which stays on campus. This amount does not count incidentals and recreational spending by the international students that benefits the economies of the surrounding communities. When counting incidentals, nearly \$60 million flows into Western New York from international students.

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## *Economic*

With the relationships established through the international program, SUNY has and continues to promote and assist in improving the global competitiveness of businesses in New York State. The problem that SUNY Buffalo is faced with is the reluctance of local companies to compete globally as there is little knowledge of foreign markets and companies.

The University has engaged in numerous activities to help local businesses participate in the global market, including:

- Providing consultation services and training in language, culture, and geography, as well as foreign market risk analysis.
- Receiving and sending trade delegations to foreign countries.
- Fostering partnerships between local and foreign companies. The Business and Management Departments at SUNY Buffalo helps connect U.S. business people with foreign companies, sometimes enlisting foreign alumni to receive the U.S. professionals in their home country.
- Supplying educated labor. International students bring linguistic and specialized skills and have strong work ethics. Additionally, the University produces students skilled in science and technology, management, computer science, and engineering who are recruited not only by U.S. firms, but by foreign businesses as well.
- Coordinating between local and state governments and foreign governments.

Overall, the goal of the University is to break down misconceptions of foreign people and cultures through its extensive educational, outreach, recruitment and economic development efforts. As Dr. Dunnitt states, the U.S. is becoming increasingly globalized in all aspects including culture, politics, and economics. It is therefore crucial for U.S. students to be exposed to international ideas and customs to develop an understanding of the world and to be able to compete effectively on a global scale.

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## 2.14 Recommendations for Developing an International Program

A comprehensively internationalized campus can foster an invaluable learning environment and effectively provide global experiences for both U.S. and foreign students.<sup>26</sup> Institutions should promote diversity and cultural learning. Even if the institution is not diverse, it can be successful in convincing its students to understand other lifestyles and in broadening mindsets.<sup>27</sup>

It is important to remember that not all international students want to study in a large metropolitan area in the United States. Small towns provide a sense of community and provide a way for foreigners to see a U.S. lifestyle that is not normally encountered in a big city. As their view is already distorted by American sitcoms and political climate, small towns can improve an international student's perspective to understand that there is more to the U.S. than fast cars and a big economy. These students then take back a positive image of the U.S..<sup>28</sup>

To establish an international program or to enhance an existing program, it is recommended to engage in the following:

- Establish clear **commitment** to internationalization and publicize this commitment so that international students feel safe in applying.
- Clearly **articulate the goals** of the international program.<sup>29</sup>
- **Imbed internationalization** in the co-curriculum, through international events, festivals, lectures, and films.<sup>30</sup> International students should be encouraged to contribute to the internationalization by giving presentations on their culture and countries.
- Form an international **project team**, led by a senior administrator to institute the international program.<sup>31</sup>
- Enlist support and involvement from **top officials** in the institution, including the president and chief academic officers. Time commitment and interest from leadership is essential.<sup>32</sup>
- Obtain **faculty buy-in** by:<sup>33</sup>
  - providing opportunities for faculty to travel and teach in foreign universities and conduct research abroad.
  - funding faculty international development
- Enlist the assistance of **academic departments** with recruiting and establishing international programs.<sup>34</sup>

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<sup>26</sup> Connell, Christopher. *Internationalizing the Campus: Profiles of Success at Colleges and Universities*. (2003), 11.

<sup>27</sup> Connell, Christopher. *Internationalizing the Campus: Profiles of Success at Colleges and Universities*. (2003), 22.

<sup>28</sup> Connell, Christopher. *Internationalizing the Campus: Profiles of Success at Colleges and Universities*. (2003), 32.

<sup>29</sup> Engberg, David and Green, Madeleine F. *Promising Practices: Spotlighting Excellence in Comprehensive Internationalization*. (2002), 16.

<sup>30</sup> Engberg, David and Green, Madeleine F. *Promising Practices: Spotlighting Excellence in Comprehensive Internationalization*. (2002), 16.

<sup>31</sup> Engberg, David and Green, Madeleine F. *Promising Practices: Spotlighting Excellence in Comprehensive Internationalization*. (2002), 16.

<sup>32</sup> Engberg, David and Green, Madeleine F. *Promising Practices: Spotlighting Excellence in Comprehensive Internationalization*. (2002), 11.

<sup>33</sup> Engberg, David and Green, Madeleine F. *Promising Practices: Spotlighting Excellence in Comprehensive Internationalization*. (2002), 13.

<sup>34</sup> Engberg, David and Green, Madeleine F. *Promising Practices: Spotlighting Excellence in Comprehensive Internationalization*. (2002), 14.

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- Provide a **venue for interaction between international and U.S. students**. For example, Kapi'olani Community College in Hawaii has an International Café that provides a comfortable venue for international and UC student to congregate and learn from one another. Students give presentations about their culture and history at the café.<sup>35</sup>
  - Take special measures to ensure that international students are **integrated** in the campus.<sup>36</sup>
  - Show **personal attention** to prospective students by answering emails and questions. Keep communication open throughout the application process and once the student is admitted and attending.<sup>37</sup>
  - Provide **support services** for international students
  - Acquire **funding** through:
    - Federal and state grants<sup>38</sup>
    - Private fund raising<sup>39</sup>
    - Partnerships with business<sup>40</sup>
    - Funding sources: grants are given by the National Endowment for the Humanities, U.S. Department of Education's Title VI funding for international education programs, the Freeman Foundation which supports Asian studies on U.S. campuses, among many others. Grants can be used to pay for faculty exchanges, enrichment programs, visiting scholars, and library acquisitions to purchase more international books and journals.<sup>41</sup>
  - Offer **financial aid incentives** to attract more diverse students and provide an easy mechanism to find out about these opportunities.<sup>42</sup> There exist a number of ways international students can acquire financial aid:
    - Private loans to foreign students and families, particularly loans that permit co-signers from abroad.
    - Private funding: For example, Citi-Assist International Loans and Citi-Assist International Loans are both offered by Citibank. These loans have been operating successfully for years and only require that the student be enrolled at a participating school.
    - Institution and private cooperative loans. For example, the Duke MBA Opportunity Loan allows international students attending the Fuqua School of Business at Duke University in North Carolina, to borrow up to \$30,000 per academic year with a 5 percent disbursement fee and interest rate of prime plus 2 percent. The partnership is a good example of the type of cooperation between institutions and the business community, in this case, Duke's business school, SLM Corporation, and HEMAR Insurance Corporation.

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<sup>35</sup> Engberg, David and Green, Madeleine F. *Promising Practices: Spotlighting Excellence in Comprehensive Internationalization*. (2002), 15.

<sup>36</sup> Engberg, David and Green, Madeleine F. *Promising Practices: Spotlighting Excellence in Comprehensive Internationalization*. (2002), 17.

<sup>37</sup> Connell, Christopher. *Internationalizing the Campus: Profiles of Success at Colleges and Universities*. (2003), 22.

<sup>38</sup> Engberg, David and Green, Madeleine F. *Promising Practices: Spotlighting Excellence in Comprehensive Internationalization*. (2002).

<sup>39</sup> Engberg, David and Green, Madeleine F. *Promising Practices: Spotlighting Excellence in Comprehensive Internationalization*. (2002).

<sup>40</sup> Engberg, David and Green, Madeleine F. *Promising Practices: Spotlighting Excellence in Comprehensive Internationalization*. (2002).

<sup>41</sup> Connell, Christopher. *Internationalizing the Campus: Profiles of Success at Colleges and Universities*. (2003), 7.

<sup>42</sup> NAFSA Association of International Educators. *In America's Interest: Welcoming International Students: Report of the Strategic Task Force on International Student Access*. (2003), 20.

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- Tuition scholarships. The University of Oregon system offers out of state tuition remission to internationals if in return they provide services to the campus and local community including provision of translation services for local businesses and talks and presentations at local elementary schools about their countries and cultures.<sup>43</sup>
    - Publicly funded scholarship programs should be directed at countries or regions where they would serve a strong U.S. foreign policy interest. Areas including Africa where citizens are not able to afford a U.S. education and the country's economic development is important to U.S. interests.<sup>44</sup>
  - Design an accessible, user friendly, and understandable international admissions **webpage** located on the main webpage of the institution. International students usually look for the “prospective students” link on the main page. At a minimum, international students should be provided clear and easy access to:<sup>45</sup>
    - School description with costs and housing information
    - International undergraduate and graduate admissions
    - Proportion of international students at that university and class profiles
    - Quotes from international students
    - Requirements and documents that apply to international students
    - Current information on visa with new SEVIS regulations.

## 2.15 Recruitment strategies

- Establish relationships with overseas **education agents and brokers**, American schools and other institutions abroad.<sup>46</sup>
- Host or attend higher **education fairs abroad**.<sup>47</sup>
- Use alumni to provide information about programs and application materials.<sup>48</sup>
- Recruit students in **new and emerging markets** where economies are growing (such as South Africa).<sup>49</sup>
- Promote **community colleges**. Over the past few years, the number of international students attending community colleges has grown by 9 percent compared with a 2 percent decrease in the number of international students attending four year institutions. Community colleges can be a solution to the problem of decreasing numbers of internationals coming to the United States.<sup>50</sup>

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<sup>43</sup> NAFSA Association of International Educators. *In America's Interest: Welcoming International Students: Report of the Strategic Task Force on International Student Access*. (2003), 21.

<sup>44</sup> NAFSA Association of International Educators. *In America's Interest: Welcoming International Students: Report of the Strategic Task Force on International Student Access*. (2003), 21.

<sup>45</sup> Education USA. *How to Create an Internationally Friendly Website*.

<sup>46</sup> Wolanin, Thomas R. *Strategies for Increasing the Enrollments of International Students in U.S. Postsecondary Education*. (2000).

<sup>47</sup> Wolanin, Thomas R. *Strategies for Increasing the Enrollments of International Students in U.S. Postsecondary Education*. (2000).

<sup>48</sup> Wolanin, Thomas R. *Strategies for Increasing the Enrollments of International Students in U.S. Postsecondary Education*. (2000).

<sup>49</sup> United States Information Agency and Educational Testing Service. *U.S. Leadership in International Education: The Lost Edge*. (1998).

<sup>50</sup> United States Information Agency and Educational Testing Service. *U.S. Leadership in International Education: The Lost Edge*. (1998).

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Interests of students, universities and colleges would benefit by the creation of a more coordinated, disciplined, and focused marketing of U.S. higher education. It could be a self-sustaining entity or managed by the Appalachian Regional Commission and would provide products and services including marketing, management, training, and information on the higher education institutions in the Appalachian region. The entity can be funded by the member institutions, Federal and state governments, and businesses.<sup>51</sup>

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<sup>51</sup> United States Information Agency and Educational Testing Service. *U.S. Leadership in International Education: The Lost Edge*. (1998).