Indiana’s Hardwood Industry:

It’s Economic Impact

Indiana Department of Natural Resources

Division of Forestry

Indiana's Forest and Hardwood Industry Highlights

- Total Economic Impact: $17 billion
    - Every board foot of timber processed had $51 of economic impact.

- There are 4,654,495 acres of forest land in Indiana;
    - Total acreage is larger than Connecticut and Rhode Island combined
    - 85 percent is privately owned
    - 96 percent is hardwoods.
    - Managed Forests, "Quality stands," received a higher grade of timber.
    - "Quality" stand forests historically receive a 35 percent premium over "Average" stands.

- $8 billion of Total Value of Shipments or 3 percent of Indiana's Gross Domestic Product.
    - 84 percent of the logs processed were from Indiana.

- $147,042,438 was paid to land owners for timber. For every $1 paid to the landowner for timber, $26.43 of value was added to the final product.

- Direct employment of 38,401 people. Indirect employment accounted for 91,745 additional jobs.

- Annual wages paid were $1.2 billion, generating an estimated $43 million in state and $12.7 million in local payroll taxes.

- Each acre of forest annually supports $259 of hardwood industry wages paid.

- Indiana's forest area continues to grow by 100,000 acres in 3 years.

- Total forest growth is 1.5 times faster than timber harvest.

- Indiana ranks first nationally in the production of:
    - Wood office furniture
    - Manufactured homes
    - Wood stock line kitchen cabinets
    - Wooden caskets and coffins
    - Hardwood plywood type products

Overview

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The intent of this report is to outline the economic impact and structure of Indiana's hardwood industry, from the forest owner through the primary manufacturing sector to the secondary manufacturing structure. The hardwood industry consists of the following levels:

Forest and Forest Owners: There are 4.65 million acres of forestland, which is about 20 percent of the state or a greater area than Connecticut and Rhode Island combined. There are approximately 2.2 billion trees in the state. Of the 4.65 million acres, 86 percent are owned by private citizens or corporations, and 96 percent of the standing timber volume is hardwood. Also, according to the U.S. Forest Service, current tree growth is estimated at 1.5 times faster than the current rate of tree harvest.

Primary Hardwood Industry: The Primary industry in 2005 was composed of 459 firms and 8,212 employees that harvest, transport, and perform the initial processing of logs. They were paid $230.4 million in wages annually. This would include:

- Logging: 96 businesses with 452 employees earning total wages of $11 million in 2005.
- Sawmills: 106 businesses with 1,563 employees earning total wages of $46 million in 2005. (The U.S. Forest Service's 2005 Timber Product Output report listed 236 businesses engaged in sawmill activities, but only 106 reported to the U.S. Bureau of Economic Analysis (BEA) that sawmill was their primary activity.
- Wood Preservation: 10 businesses with 293 employees earning $9.4 million in annual wages.
- Hardwood Veneer and Plywood Manufacturing: 32 businesses with 2,153 employees earning $69.5 million in annual wages.
- Wood Container and Pallet Manufacturing: 142 businesses with 2,657 employees earning $63.4 million in annual wages.
- All other Miscellaneous Wood Product Manufacturing: 73 businesses with 1,094 employees earning $31.1 million in annual wages.

(All data from the U.S. Bureau of Economic Analysis and reported at the NAICS 6 digit level.)

Secondary Wood Manufacturing: These are businesses that dry, plane, cut and assemble wood products into parts or finished products. In 2005 there were 663 such businesses with 29,798 employees who were paid $964.2 million in total wages. This would include:

- Wood Kitchen Cabinet and Countertop Manufacturing: 273 businesses with 9,487 employees earning $318.7 million in annual wages.
- Upholstered Household Furniture Manufacturing: 21 businesses with 1,991 employees earning $59.6 in annual wages.
- Non-upholstered Wood Household Furniture Manufacturing: 99 businesses with 2,681 employees earning $78.9 million in annual wages.
- Institutional Furniture Manufacturing: 12 businesses with 570 employees earning $20.3 million in annual wages.
- Wood Office Furniture Manufacturing: 35 businesses with 4,582 employees earning $143.5 million in annual wages.

- Custom Architectural Woodwork and Millwork Manufacturing: 21 businesses with 264 employees earning $8.2 million in annual wages.
- Showcase, Partition, Shelving and Locker Manufacturing: 39 businesses with 3,308 employees earning $120.1 million in annual wages.
- Blind and Shade Manufacturing: 10 businesses with 1,157 employees earning $28.8 million in annual wages.
- Truss Manufacturing: 32 businesses with 1,473 employees earning $46.6 million in annual wages.
- Wood Window and Door Manufacturing: 39 businesses with 1,799 employees earning $61 million in annual wages.
- Cut Stock, Re-sawing Lumber and Planing: 17 firms with 523 employees earning $14.4 million in annual wages.
- Other Millwork (including flooring): 65 businesses with 1,963 employees earning $64.1 million in annual wages.

(All data from United States Bureau of Economic Analysis ("BEA") and reported at the NAICS 6 digit level.)

Ancillary industries: These firms are related to the hardwood industry but not directly a part of the sector, based on NAICS codes. They include:

- Sawmill and Woodworking Machinery Manufacturing: 14 firms with 611 employees earning $26.5 million in annual wages.
- Lumber, Plywood, Millwork, and Wood Panel Merchant Wholesalers: 271 businesses with 3,112 employees paying $129.8 million in annual wages.
- Household Furniture (except Wood and Metal) Manufacturing: 9 businesses with 1,348 employees earning $44.6 million in annual wages.
- Office Furniture (except wood) Manufacturing: 8 businesses with 732 employees earning $28.3 million in annual wages.

Hardwood Industry Exports: According to the U.S. Census Department, Indiana had $253 million in exports in 2006, a 21 percent increase over 2005 exports of $208 million. Since 2001, exports of wood products originating from Indiana have grown by 42 percent.

Economic Impact:

The Bureau of Economic Analysis reported the Indiana Hardwood Industry in 2005 had a total value of shipments of $8 billion and employed 38,401 Hoosiers. The $8 billion is 3 percent of Indiana's Gross Domestic Product. In addition, the industry generated $43 million in state income taxes and $12.7 million in county income taxes on the $1.2 billion in wages paid. Each acre of forest supported $259 in wages paid.

Based on the 2005 Total Value of Shipments and employment figures, the estimated total economic impact of the hardwood industry is $17 billion and generates 130,146 jobs related to and supporting the hardwood industry. There is a $51 economic impact from every board foot of timber harvested and processed.

There was $3,885,851,000 of value added from stump to product sold, paying $147,042,438 to forest owners. That figure is determined by multiplying the price for an average stand of trees ($447 per 1,000 board feet) by the amount of round wood receipts of 328,954,000 board feet. For every $1 of stumpage paid to the landowner, $26.43 of value is created. (Log receipts of 328,954,000 board feet and $0.447 per board foot paid to landowner.) This is about $11.81 per board foot. This does not to imply that all landowners received this price. The prices are obtained via survey annually and reported in the Indiana Forest Products Price Report and Trend Analysis.

> **"Total Value of Shipments is the net selling value of products shipped from a manufacturing plant to its next destination."**
>
> **"Value Added is derived from the value of shipments minus the cost of the materials, supplies, fuel, power, containers, contract work used to make the product."**

The $17 billion economic impact is based on multiplying the total output of the industry ($8 billion) by the multiplier for the industry obtained from the U.S. Bureau of Economic Analysis called the RIMS II multiplier.

The economic impact was calculated by using Regional Multipliers obtained from the U.S. Bureau of Economic Analysis. The multipliers are developed from the Regional Input-Output Modeling System (RIMS II). This is an Input-Output economic model, which measures total impact of employment and total output impact.

It is one of the most widely used models by the Department of Defense to determine base closure impact, state Departments of Transportation to estimate the impact of airport construction or road projects. It also was used to analyze the economic impact of Hurricane Katrina and prior to that the impacts of Hurricane Andrew in 1992 and Hurricane Charley in 2004.

Sector	Final-demand Output /1/ (dollars)	Final-demand Employment /3/ (number of jobs)
8. Wood product manufacturing	2.0338	15.0400
17. Furniture and related product manufacturing	2.1515	16.4968

Above are the multipliers for output and employment based on the Total Value of Shipments. The Final-Demand Output is the financial impact an industry has on the economy. The Final-Demand Employment is the number of jobs based on $1 million change in Final-Demand. The total economic impact or Final-Demand Output is based on direct multiplication of the Total Value of Shipments by the factor above.

Economic Impact:
Wood Mfg. Sector Total Value: $1,283,841,000 X Multiplier 2.0338 = $2,611,075,000
Furn. & Related Total Value: $6,719,257,000 X multiplier 2.1515 = $14,456,481,000
Total $17,067,556,000

Employment Impact:
Wood Mfg. Sector Total Value $1,283 X multiplier 15.04 = 19,296
Furn. & Related Total Value $6,719 X multiplier 16.498 = 110,850

Total jobs 130,146

Specific Sector Data

The industry participates in the U.S. Census Bureau's Annual Survey of Manufacturers. The Census Bureau collects information on employment – both production and total employment – wages paid at both levels along with the number of annual production hours. The Census Bureau also tracks annual Capital Expenditures, Total Value of Shipments and Total Cost of Materials along with Total Value Added to Shipments. This data is tracked based on the North American Industry Classification System (NAICS), previously called SIC codes. NAICS codes contain 6 digits; however, it is only reported at the 4 digit level for confidentiality purposes. The employment and wage data is shared with the Bureau of Economic Analysis ("BEA") and is the basis of data in this report. This data was obtained using the database and by request of the Indiana University Business Research Center. This covers any business engaged in these manufacturing activities.

I. Forests of Indiana

a. According to the U.S. Forest Service's Forest Inventory Analysis (FIA) tables, there were 4,654,495 acres of forest land in Indiana in 2006. Compared to 2003 numbers from the Forest Service, forest land has increased by almost 100,000 acres. The 2005 numbers for other states show that Illinois had 4.5 million acres, Michigan had 19 million acres, though primarily softwood, and Ohio had 7.8 million acres.

b. Ownership of Indiana forest land is split between federal, state, county, and municipal governments, and family or private. Below is a table showing 1998, 2003 and 2006 percentages of ownership.

USDA FIA Data

	Federal Ownership	State	County, Municipal	Family or Private
2006	8.27 percent	5.40 percent	.68 percent	85.65 percent
2003	9.19 percent	4.54 percent	.60 percent	85.67 percent
1998	8.59 percent	5.48 percent	.29 percent	85.64 percent

c. The Net Volume of Growing Stock of timberland in Indiana has had steady growth in all categories of ownership. There are currently 8.5 billion cubic feet of growing stock in accessible forests in Indiana amongst all owners. The FIA report shows about 4 percent annual tree growth. This is estimated to be about 1.5 times the removal amounts.

d. According to the U.S. Forest Service's Timber Product Output and Use report for 2005, Indiana mills had industrial roundwood log receipts (purchased) of 328,954,000 (Doyle rule) board feet. Of this amount, 84 percent was grown in Indiana, 2.5 percent was from Illinois, 4 percent from Kentucky, 4 percent from

Michigan, 2 percent from Ohio, and the balance (4.5 percent) from 19 other states.
Of those roundwood log receipts, 89.7 percent were used for saw logs and general processing, 6.4 percent were veneer logs, and 3.9 percent for other products such as pulp mills handles, cabin log mills, etc. According to the Indiana Timber Industry Timber Output and Use Report for 2005, only 35 percent of the veneer log receipts came from Indiana forests. Thus, higher value logs which are required for veneer plants had to be supplied from outside of Indiana.

e. **Timber Prices and Forest Quality**: Logs are delivered to mills, and their value is based on the quality of the log using a grading system. Log grades vary depending on the individual mill, but for the most part each grade is based on appearance – the fewer defects in the wood the higher the grade.
Dr. William Hoover of Purdue University's Department of Forestry and Natural Resources and Greg Preston, State Statistician for the Indiana Agricultural Statistics Service annually publish the Indiana Forest Products Price Report and Trend Analysis, which tracks timber stand prices. There are two categories of timber stands quoted, Quality and Average. It is implied by the authors in the report and confirmed after consultation with Hoover that a Quality stand is most likely part of a managed forest program.

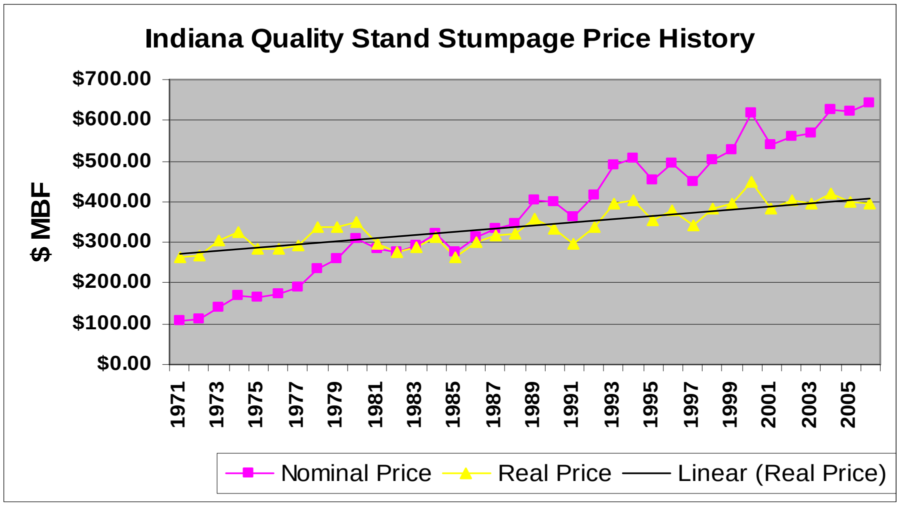
According to the 2006 report, an Average stand had a weighted average price of \$447.5 per thousand board feet (MBF). A Quality stand had a price of \$642.7 per thousand board feet or a 43 percent premium on average. Hoover and Preston have published this report since 1971. Since then, Quality stands have averaged 35 percent higher than Average stands. In 1973 there was only a 23 percent premium for Quality stands, and in 1980 there was a 48 percent premium. The trend line continues to be positive for both Average and Quality stands.

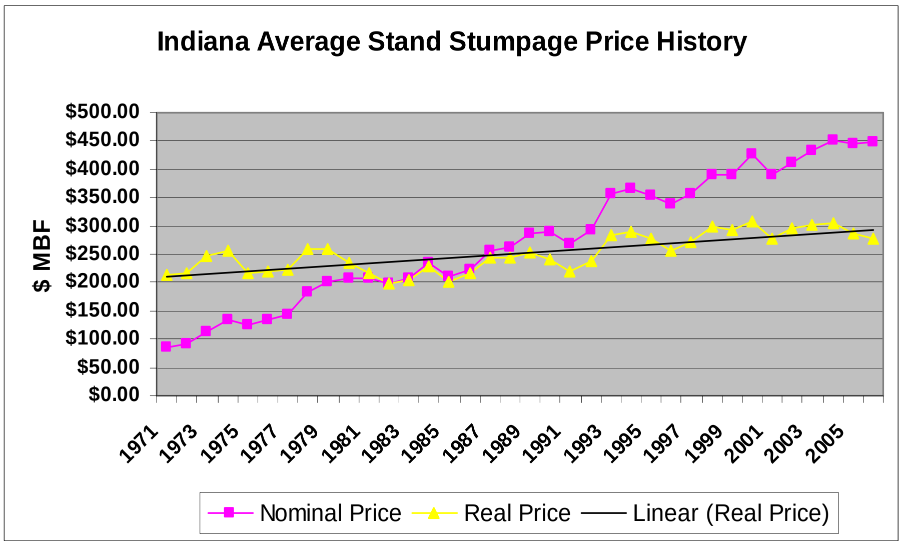
This data shows the economic advantage of actively managing forest land from an economic perspective. There are various types of cost share programs available to landowners to assist them in managing their forests. These programs are offered through the Indiana Division of Forestry as well as the U.S. Forest Service.

These programs include:

- Tree planting,
- Timber stand improvement/vine control in consultation with your forester, and
- Invasive species management.

Below are two charts showing Quality stand timber prices and Average stand timber prices reported in the "2006 Indiana Forest Products Price Report and Trend Analysis" published by Purdue University. The charts also show the prices have been adjusted for inflation and the trend line.

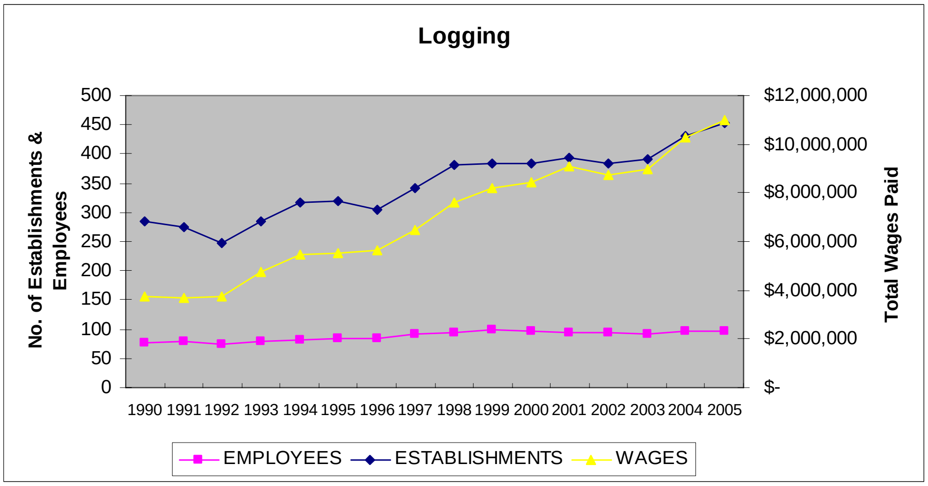




f. Using the ownership data in section b and the above price for average standing timber, we can estimate the value of the standing timber in each of the ownership categories. With this calculation it could be estimated that standing timber in Indiana is worth about $9.46 billion or $2,090 per acre. This is not practical because it does not take into account tree varieties, the age of the forest or future price risk**.** Dr. William Hoover at Purdue University has calculated the value based on a capital or appraisal model. Assuming an annual cash flow of timber harvests would be $151 million and a capital rate of 4.5 percent, Hoover estimates the value would be closer to $4 billion.

(Millions)	**Federal Ownership**	**State**	**County, Municipal**	**Family or Private**	**Total**
2006	$865.1	$504.5	$82.2	$7,756	$9,458.5

II. **Logging:** These forests are harvested by the logging industry. There were approximately 450 people in Indiana that classified themselves as loggers, spread among 96 different firms. According to Bureau of Economic Analysis data, the 450 loggers represented an increase of more than 90 percent since 1990 or 6 percent growth per year. The 96 firms represented a 25 percent increase from 77 firms in 1990. The average size firm employs 4.7 people, an increase of one employee per firm since 1990. Average wages over the same period increased from $13,183 to $24,260. Thus, total wages paid were $10,965,675 annually. The U.S. Forest Service's TPO report shows 212 firms involved in sawmill activity. However, some of the sawmills reporting this type of activity may not classify sawmills as their primary business activity, which is the classification used by Bureau of Economic Analysis. Below is a chart showing the growth in Employees, Firms and Total Wages Paid.



III. **Sector Overview:**

The industry typically is classified in two manufacturing sectors, Primary and Secondary based on the products made at each level and the value chain created by the industry. Below is an overview of the two sectors and the logging sector discussed in the previous section.

2005 Bureau of Economic Analysis Data (Dollar Value in Millions of Dollars)

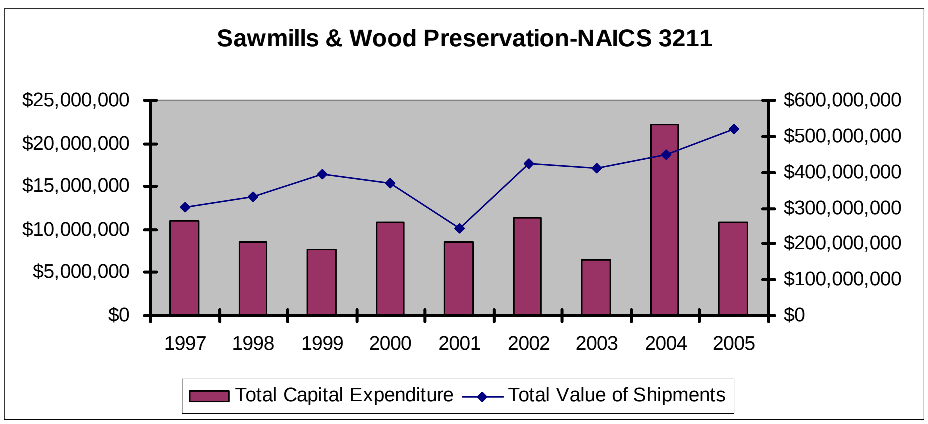
Sector	No. of Firms	No. of Employees	Total Wages Paid*	Annual Capital Expenditures *	Total Value of Shipments*
Logging	96	452	$10,965	Not available	Not available
Sawmills, etc.	116	1,856	$55,313	$10,915	$520,322
Veneer, plywood, etc	247	5,814	$163,963	$18,760	$763,519
Cabinet, Furniture, etc.	405	14,729	$477,477	$30,695	$2,723,378
Misc. wood mfg.	261	15,550	$500,785	$80,629	$3,995,879
Total	1,125	38,401	$1,208,505	$140,999	$8,003,098

(Because of reporting requirements by the U.S. Census Bureau, this table is a combination of individual sectors.)

IV. **Primary Wood Industry:**

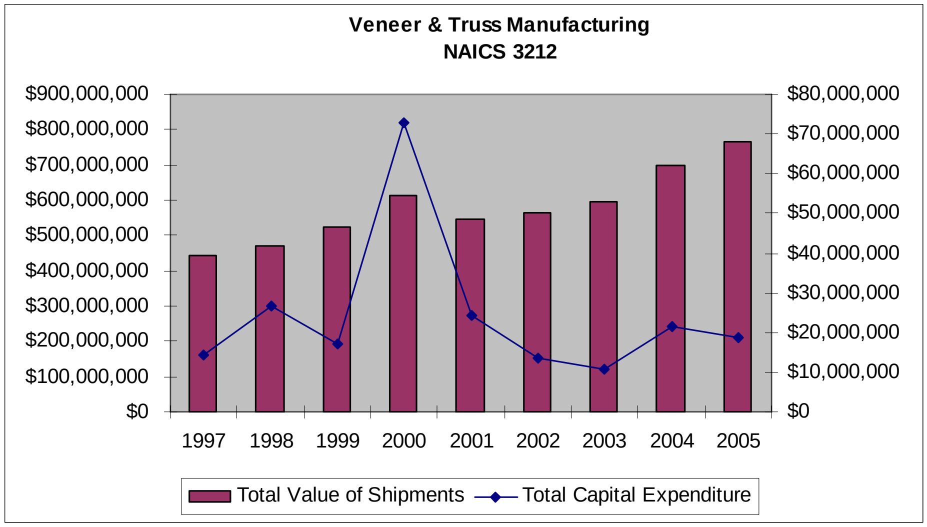
Sawmills, Wood Preservation are the front line of the Primary Wood Industry. This part of the hardwood sector is closest to the land owner and determines the quality of wood used by the secondary industry to make world class furniture and other hardwood products. This sector had $520 million of Total Value of Shipments according to the U.S. Census Bureau's Annual Survey of Manufacturers. With the exception of 2001, this trend line has been steadily increasing. The industry continues to reinvest in itself with Capital Expenditures averaging 2.6 percent of Total Value of Shipments, which matches the average for the United States. Kentucky had a 4 percent reinvestment in 2005, while Illinois and Michigan were at 2.6 percent, and Ohio at 2 percent.

NAICS Code	Sector	Firms	Employees	Wages Paid
321113	Sawmills	106	1,563	$45,954,521
321114	Wood Preservation	10	293	$9,358,985
321211	Hardwood Veneer and Plywood Manufacturing	32	2,153	$69,512,818
321212	Softwood Veneer and Plywood Manufacturing	2	0	$0
321213	Engineered Wood Member (except Truss) Manufacturing	3	481	$14,115,922
321920	Wood Container and Pallet Manufacturing	142	2,567	$63,353,755
321999	All Other Miscellaneous Wood Product Manufacturing	73	1,094	$31,097,132

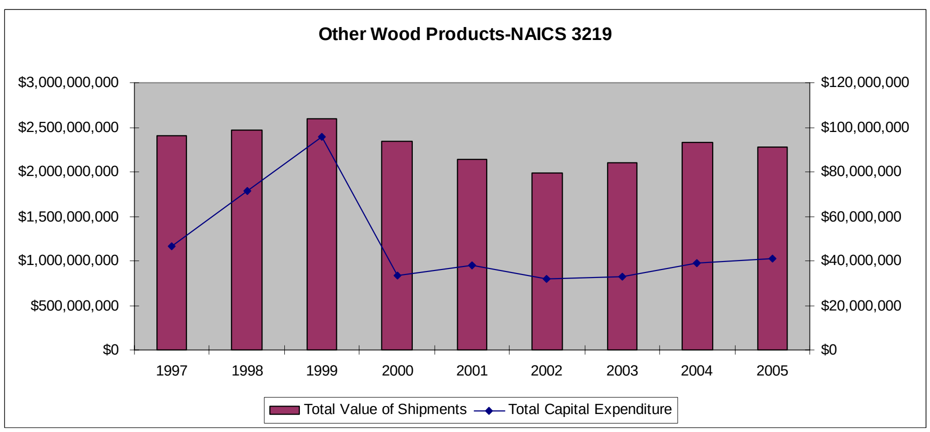


**Includes Truss Manufacturing, Wood Window & Door, Cut Stock, Resawing and Planing, and Other Millwork due to NAICS categorization of data.*

The **Hardwood Veneer Group** had Total Value of Shipments in 2005 of $763 million. This is part of a trend that has seen growth since 1997 when the data list begins. In 2000, the group had increased to $613.6 million, but then reverted back to the trend. The group does reinvest at a strong rate of 4.4 percent, including 2000 when it reinvested at the rate of 11 percent.

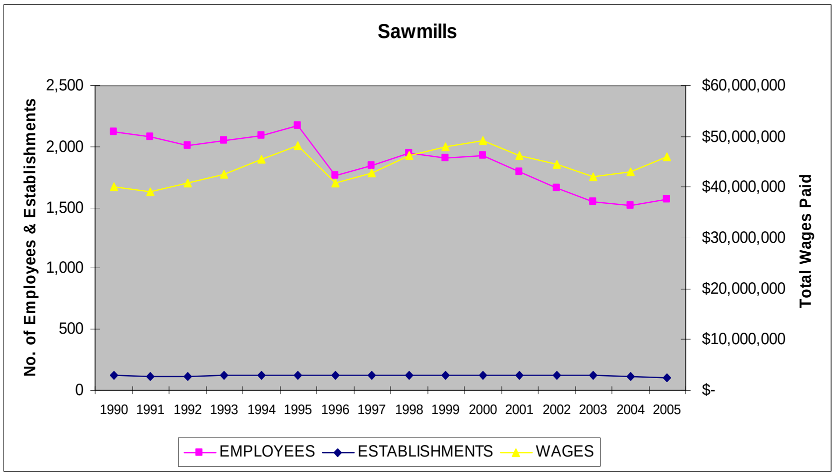


The **Miscellaneous Products/Components Group** had Total Value of Shipments of $2.3 billion. As you can see below, this is down somewhat from the late 1990s when the Total Value of Shipments was almost $2.6 billion. The group reinvests at a rate of 2 percent of Total Value of Shipments, or $40 million annually.

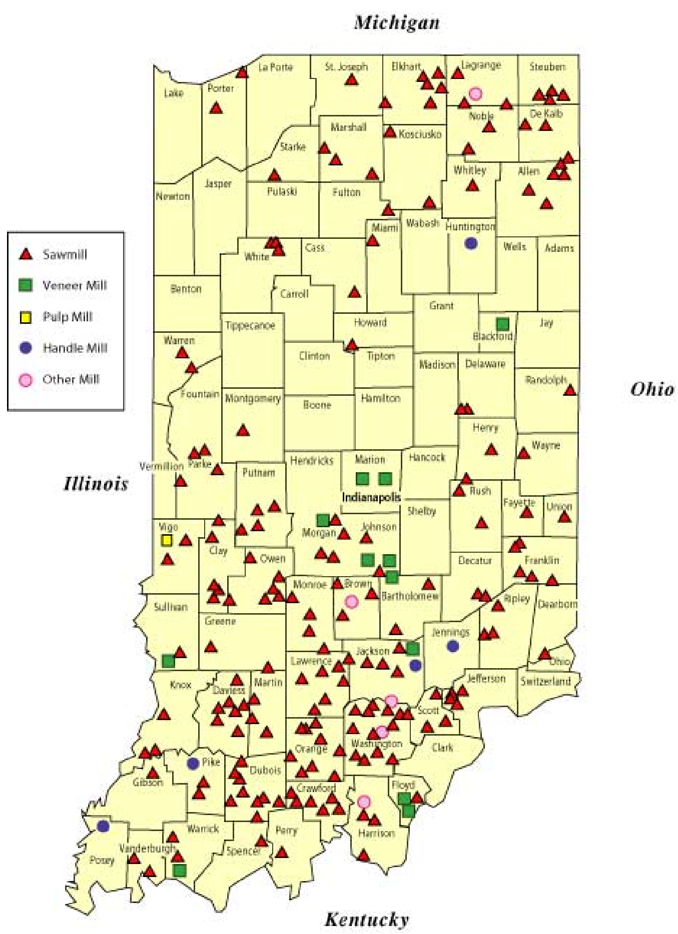


Individual Sectors of the Primary Hardwood Industry:

i. The **Sawmill Industry** is NAICS code 321113. Sawmills are a critical lynch pin in the hardwood industry in Indiana. It comprises establishments primarily engaged in the production of grade lumber, pallet lumber, dimension lumber, boards, beams, timbers, poles, ties, shingles, shakes, siding, and wood chips from logs or bolts. Sawmills may plane the rough lumber they make with a planing machine to achieve smoothness and uniformity of size. Sawmills also produce wood residues such as sawdust, chips, and bark, which are used in other products and industries such as wood pellets, animal bedding, landscaping and energy production. In 1990 there were 2,118 people employed in 118 firms. According to the Bureau of Economic Analysis, in 2005 there were only 106 firms with 1,563 employees, a consolidation of 26 percent. While the average wage increased 35 percent over this period of time, the actual total wages grew only 14 percent due to the reduction of employees. Growth over the 15-year period went from $40,112,870 to $45,954,521.

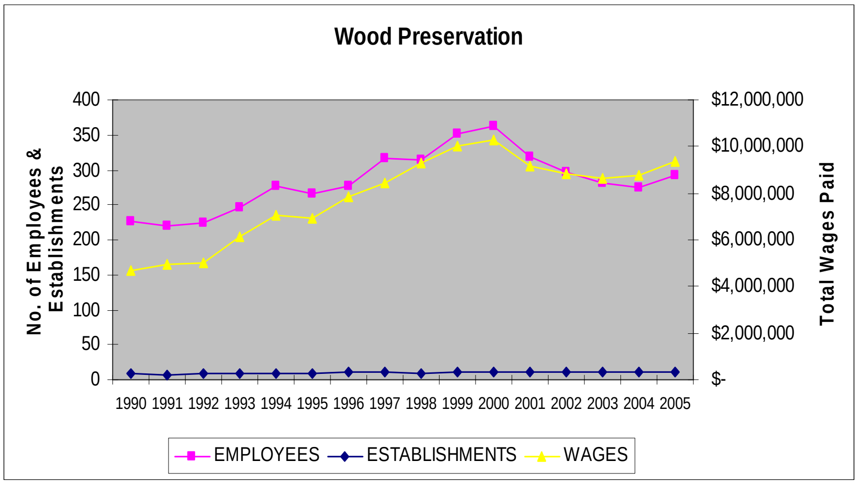


Below is a map of sawmills in Indiana and their locations.



Primary wood-using mills in Indiana are concentrated in the southern part of the State near large blocks of forestland (8).

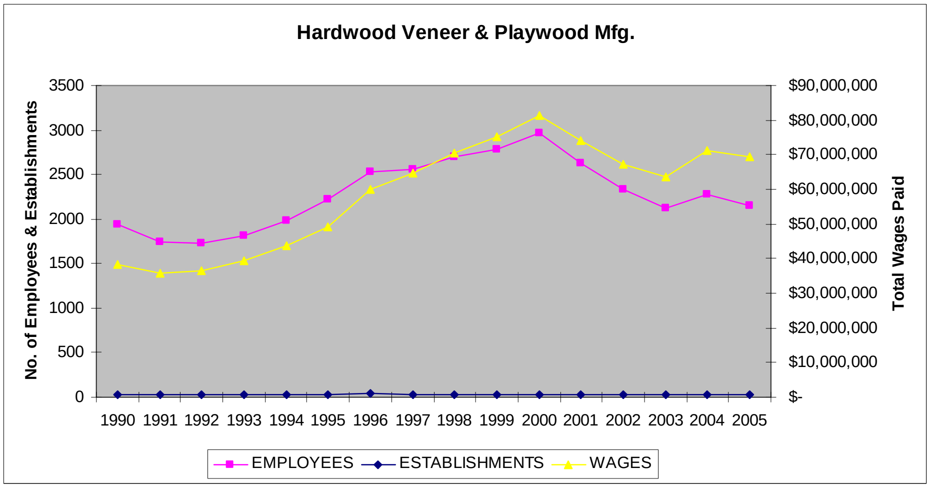
ii. **Wood Preservation** is NAICS code 321114. This U.S. industry comprises establishments primarily engaged in (1) treating wood sawed, planed, or shaped in other establishments with creosote or other preservatives, such as alkaline copper quat, copper azole, and sodium borates, to prevent decay and to protect against fire and insects, and/or (2) sawing round wood poles, pilings, and posts and treating them with preservatives. Wood Preservation employed 293 people, an increase from 226 in 1990. However, there have been fluctuations in that data. In 2000, 362 people were employed, but in 1992 only 220 were employed. Total wages have grown from $4.7 million annually to $9.4 million. Total wages paid also fluctuated from a high of $10.3 million in 2000 to a low of $4.7 in 1990.



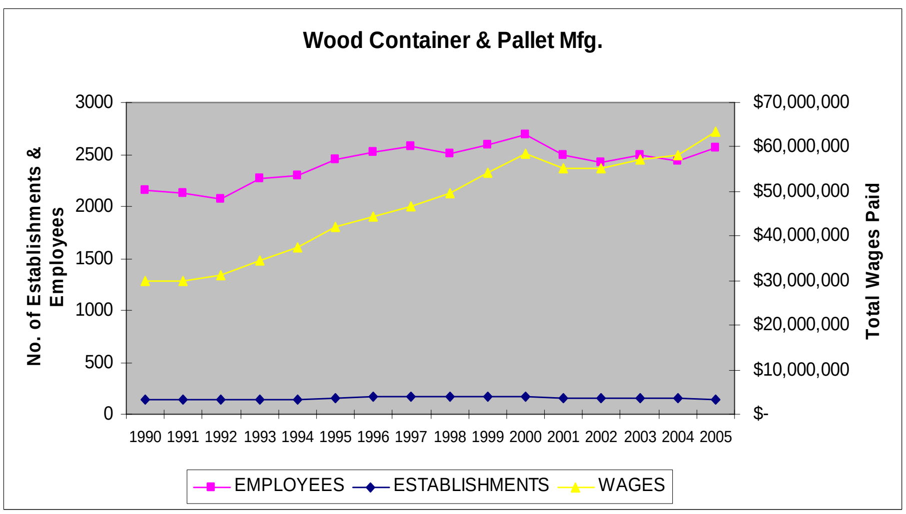
b. **Hardwood Veneer, Wood Container and other miscellaneous manufacturing:** This sector is the second part of the Primary Wood Industry. It is divided into two groups, Hardwood Veneer and more wood manufactured component industry. The NAICS Codes begin with 321 – 321211 for Hardwood Veneer and Plywood manufacturing; 321920 for Wood Container and Pallet; and 321999 for all other miscellaneous wood product manufacturing.

i. **Hardwood Veneer and Plywood manufacturing** is transforming a log into paper thin sheets of wood for furniture manufacturing. The veneer sector has been relatively stable in terms of establishments. In 2005 there were 32 firms, the same as in 1990. During this 16-year period there were no fewer than 31 and no more than 36 establishments. In 2005 there were 2,153 employees compared with 1,938 in 1990. The low point in employment was in 1992 with 1,732, and the high point was 2000 with 2,961.

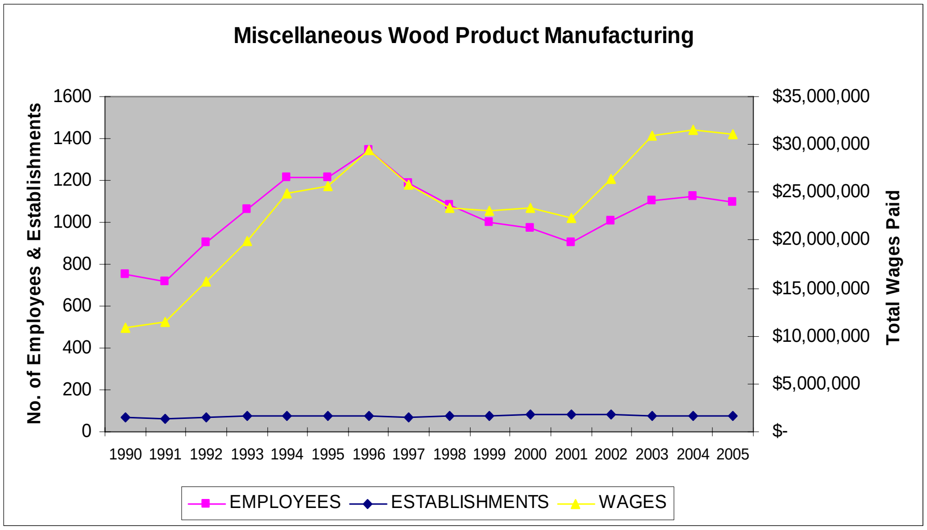
The sector paid $69.5 million in wages in 2005, for an average wage of $32,286. The average wage grew by 39 percent from $19,689 to the current level. Total wages grew 81 percent from $38.2 million to the current level.



ii. **Wood Container and Pallet manufacturing** is the sector that engaged in manufacturing wood pallets, wood box shook, wood boxes, other wood containers, and wood parts for pallets and containers. This sector grew to a high of 2,686 employees in 2000, retracted to 2,428 in 2002 and has regained its growth pattern to 2,567 in 2005. The number of firms involved started at 143, grew to 168 in 1997, and has been contracting since. Total wages in 2005 were $63.4 million, an increase of $33.6 million over 1990 when total wages paid were $29.8 million.



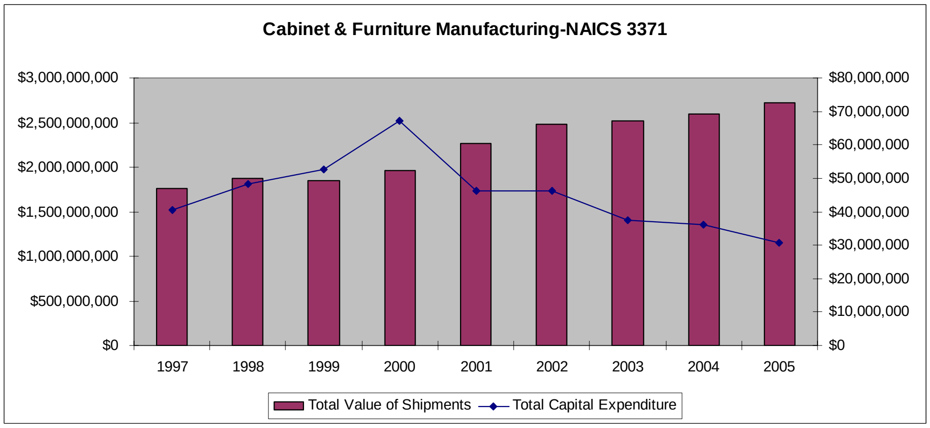
iii. **All other Miscellaneous Wood Product Manufacturing** is the category for firms not classified elsewhere in the Primary Wood Industry. These are firms manufacturing items such as cork products (except gaskets), handles (e.g., broom, handtool, mop), kiln drying lumber, kitchenware, shoe trees, stepladders, dowels, toilet seats, extension ladders, and toothpicks. There were 73 firms with 1,094 employees earning $31.1 million in total wages. The high point for employment was 1996 at 1,345. The total wages paid has grown by 188 percent or 12.5 percent annually since 1990.



V. The **Secondary Wood Industry** is the sector that takes component parts manufactured or processed in the Primary Sector to make finished goods, such as cabinets and furniture. The NAICS codes begin with 337, and the industry descriptions and codes are Wood Kitchen and Countertop Manufacturing (337110); Upholstered Household Furniture Manufacturing (337121); Non-upholstered Wood Household Furniture Manufacturing (337122); Household furniture except wood and metal furniture (337125); Institutional Furniture Manufacturing (337127); Wood Office Furniture (337211); Custom Architectural Woodwork and Millwork Manufacturing (337212); Office Furniture except wood Manufacturing (337214); Showcase, Partition, Shelving, and Locker Manufacturing (337215); Blind and Shade Manufacturing (337920). Also included in this section based on its end product and not by NAICS code are Truss Manufacturing (321214); Wood Window and Door Manufacturing (321912); and Other Millwork, including Flooring (321918).

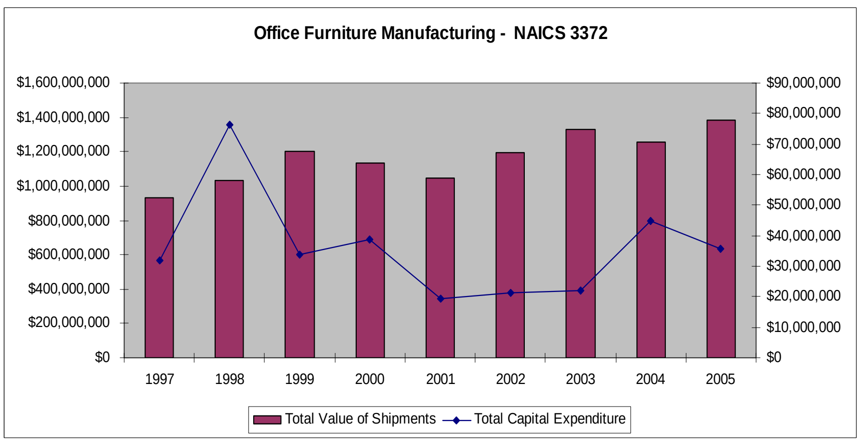
NAICS Code	Sector	Firms	Employees	Wages Paid
321214	Truss Manufacturing	32	1,473	$46,641,167
321911	Wood Window and Door Manufacturing	39	1,799	$61,013,818
321912	Cut Stock, Resawing Lumber, and Planing	17	523	$14,364,170
321918	Other Millwork (including Flooring)	65	1,963	$64,075,542
337110	Wood Kitchen Cabinet and Countertop Manufacturing	273	9,487	$318,749,096
337121	Upholstered Household Furniture Manufacturing	21	1,991	$59,610,476
337122	Non-upholstered Wood Household Furniture Manufacturing	99	2,681	$78,863,737
337127	Institutional Furniture Manufacturing	12	570	$20,253,914
337211	Wood Office Furniture Manufacturing	35	4,582	$143,498,065
337212	Custom Architectural Woodwork and Millwork Manufacturing	21	264	$8,211,572
337215	Showcase, Partition, Shelving, and Locker Manufacturing	39	3,308	$120,065,767
337920	Blind and Shade Manufacturing	10	1,157	$28,799,343

The first part of the sector is the cabinet and furniture manufacturing. This group had Total Value of Shipments trending upwards to a high in 2005 of $2.7 billion. This sector is reinvesting at an average annual rate of 2.2 percent.



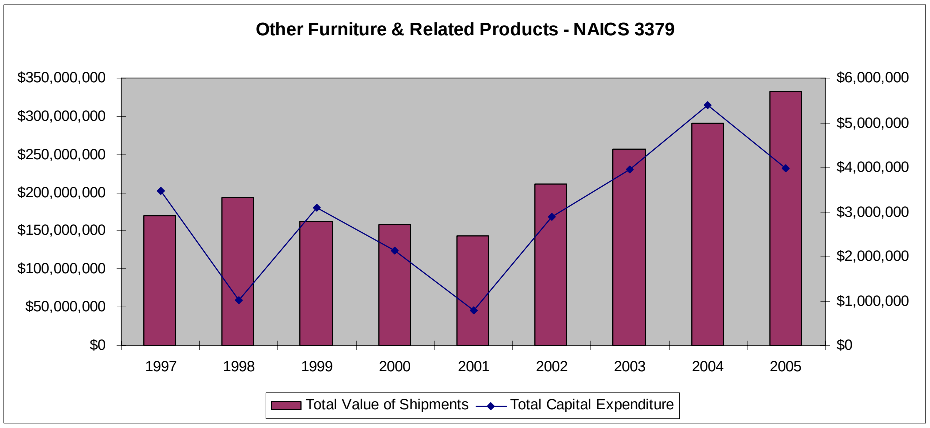
**Includes Household Furniture Manufacturing, except wood and metal due to NAICS data disclosure*

The **Office Furniture Manufacturing** sector had Total Value of Shipments of about $1.4 billion in 2005. Although it has been uneven from year to year, the overall trend has been positive since 1997. This sector continues to reinvests in itself at an average rate of 2.5 percent or more than $30 million annually, with the exception of 1998 when over 7 percent of the Value of Shipments ($76 million) was spent.

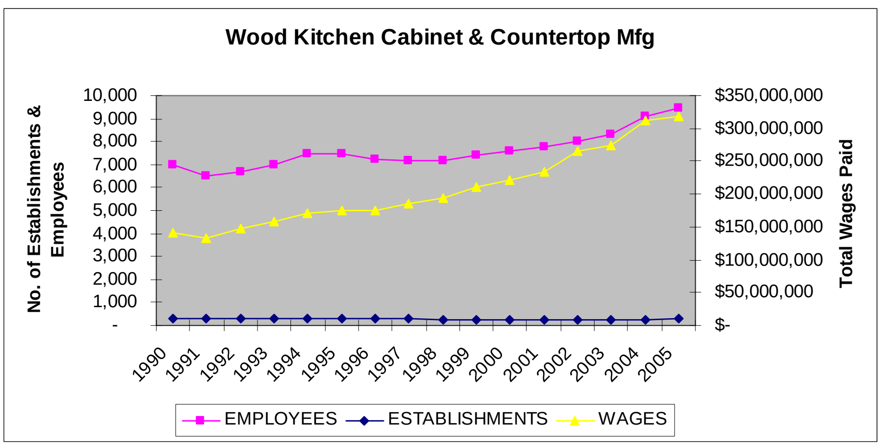


**Includes Office Furniture Manufacturing, except wood and metal due to NAICS data disclosure.*

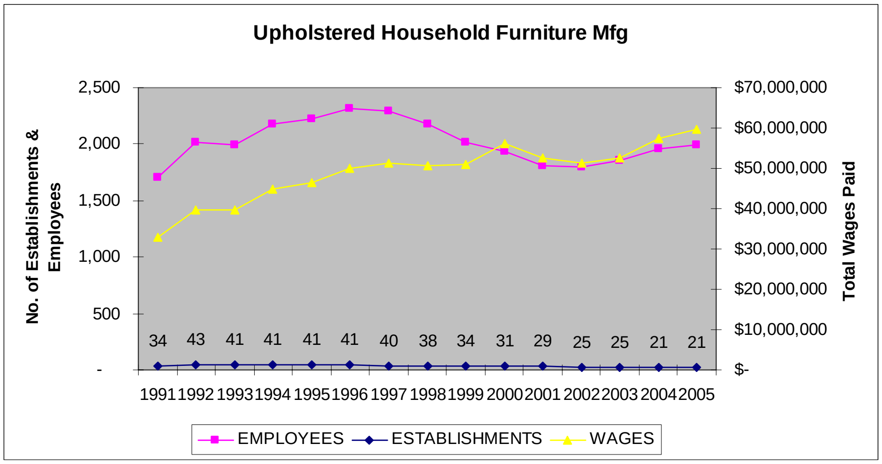
The final sector of the Secondary group is **Other Furniture and Related Products**. It had Total Value of Shipments of $331.9 million in 2005. Growth has been good over the period of time, but Capital Expenditure has been uneven as a percentage of Total Value of Shipments. However, the latest two years have seen investment of $3.9 million each.



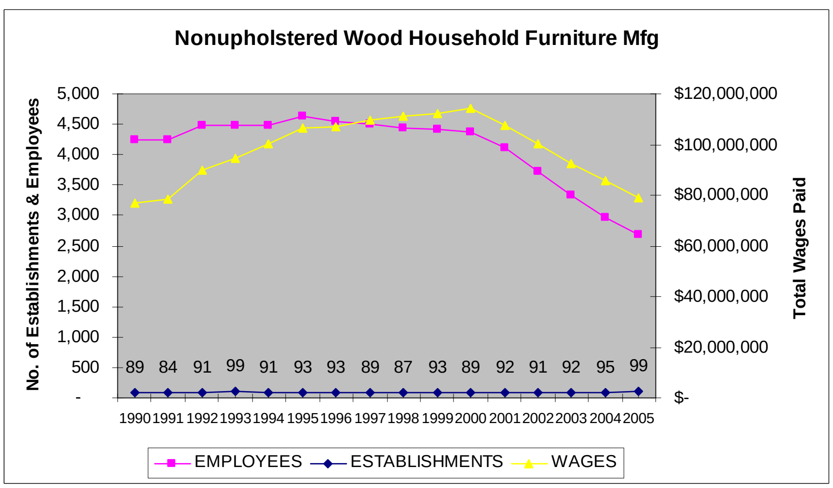
i. The **Wood Kitchen Cabinet and Countertop Manufacturing** sector includes businesses engaged in wood or plastics laminated on wood kitchen cabinets, bathroom vanities, and countertops (except freestanding). The cabinets and counters may be made on a stock or custom basis. The BEA reported that in 2005 this sector had 9,487 employees, the highest over the 16-year period reviewed. The 273 firms engaged in this sector are about at the midpoint over the 15 years. The high point was in 1995 at 302 and the low point was 2000 with 249. Total Wages paid was at its highest point in 2005 with $318,749,000, a 125 percent increase over the 16-year period or an 8 percent average annual increase. The average wage was $33,599.



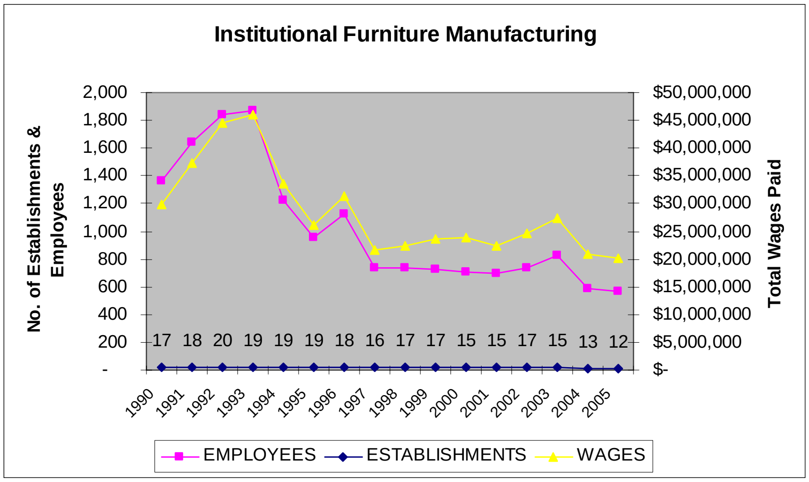
ii. The **Upholstered Household Furniture Manufacturing** is the sector that manufactures custom or stock upholstered furniture. The employment in this sector was 1,991 people in 2005. In 1990 there were 1,703 employed and it grew to its highpoint in 1996 when it was 2,313. This employment then decreased to 1800 people in 2002. In 1996 there were 43 firms engaged in this sector. The number has been consistently trending downward to 21 in 2005. The Total Wages paid in 2005 was $59,610,476 which was an 82 percent increase over 15 years.



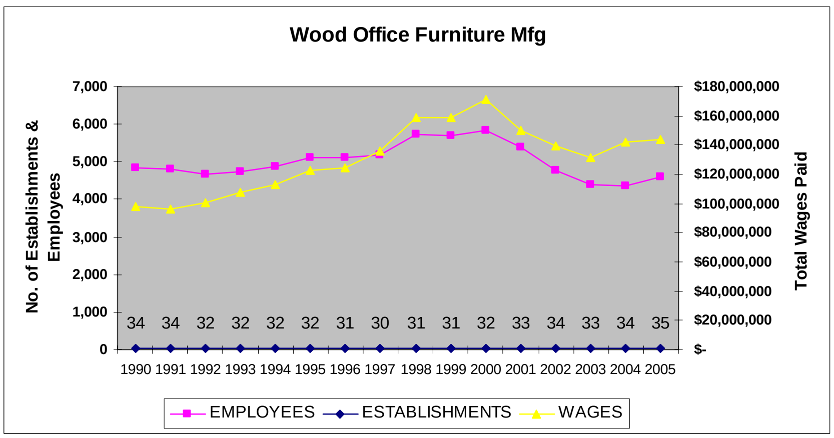
iii. **Non-upholstered Wood Household Furniture Manufacturing** is establishments primarily engaged in manufacturing non-upholstered wood household-type furniture and freestanding cabinets (except television, radio, and sewing machine cabinets). The furniture may be made on a stock or custom basis and may be assembled or unassembled (i.e., knockdown). This sector grew to 4,634 in 1995, since that time this sector has consistently lost employment to 2,681 in 2005 or 42 percent contraction. Interestingly, this growth in number of firms, 99, is at its high point in 2005. The Total Wages paid in 2005 was $78.9 million versus the high point in 2000 of $114.1 million, which was a reduction of 30 percent.



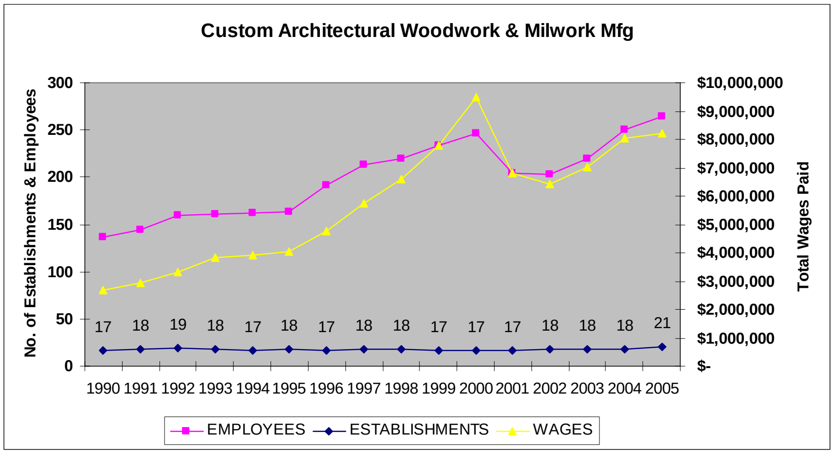
iv. **Institutional Furniture Manufacturing** is establishments primarily engaged in manufacturing institutional-type furniture (e.g., library, school, theater, and church furniture). This sector has been contracting almost on a consistent annual basis since 1994 when there were 1886 employed and now there are only 570 in 2005. Total Wages has dropped from a high in 1994 of $46 million to the 2005 level of $20.3 million. This contraction in both total wages and employment has increased the average wage paid to $35,533 in 2005 from its high point in 1994 of $24,642.



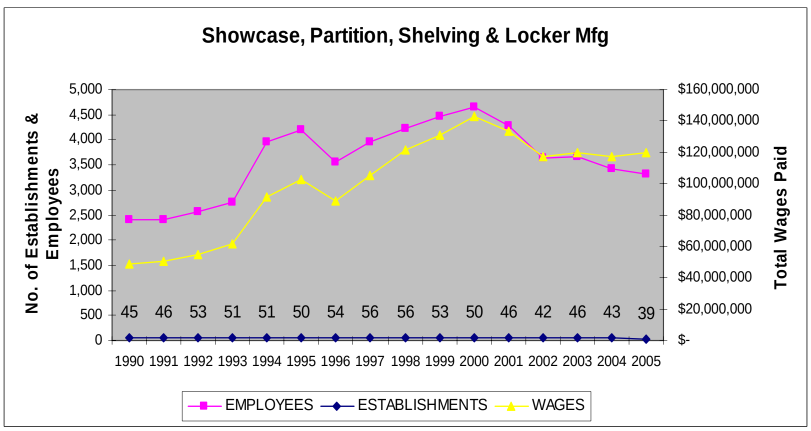
v. **Wood office Furniture Manufacturing** is establishments primarily engaged in manufacturing wood office-type furniture. The Total Employment has been up and down from a high of 5,842 in 2000 to a low of 4,361 in 2004. The current 2005 level is 4,582. However, the number of firms, 35, was at a high in 2005, which was an increase since the low point at 30 in 1997. Total Wages paid in 2005 was $143.5 million. This is down from it high point in 2000 when wages paid were $170.9 million, 1991 was the low point with $96.4 million.



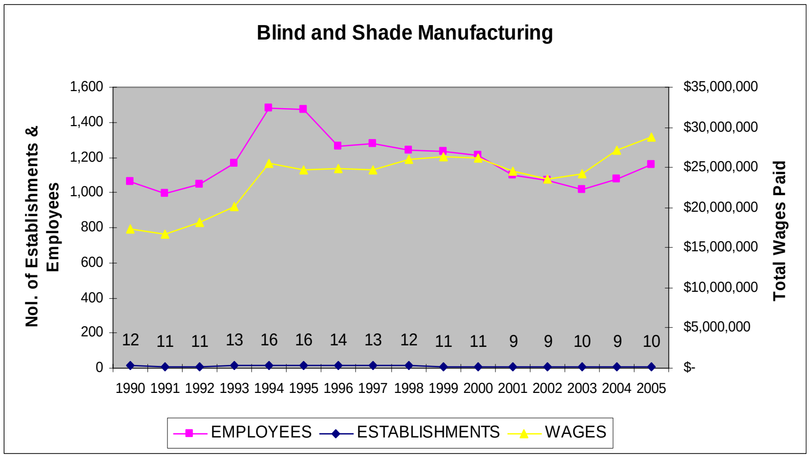
vi. **Custom Architectural Woodwork and Millwork Manufacturing** comprises businesses primarily engaged in manufacturing custom designed interiors that consist of architectural woodwork and fixtures using wood, wood products, and plastics laminates. All of the industry output is made to individual order on a job shop basis and requires skilled craftsmen as a labor input. A job might include custom manufacturing of display fixtures, gondolas, wall shelving units, entrance and window architectural detail, sales and reception counters, wall paneling, and matching furniture. Because of this customization, this area tends to be smaller employers. In 2005 there were 264 people, a 93 percent increase since 1990 when it was 137. Total wages paid in 2005 were $8.2 million, down from $9.5 million in 2000. Otherwise, this has been a steady positive growth trend.



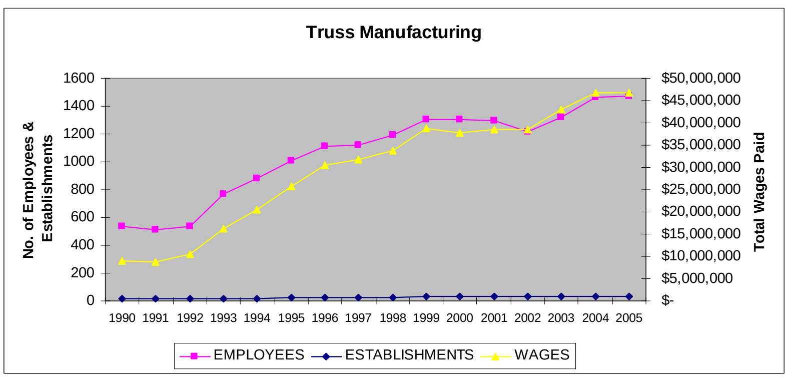
vii. The **Showcase, Partition, Shelving, and Locker Manufacturing** sector includes businesses primarily engaged in manufacturing wood and non-wood office and store fixtures, shelving, lockers, frames, partitions, and related fabricated products of wood and non-wood materials, including plastics laminated fixture tops. This sector had 3,308 employees in 2005, which was part of a downward trend from its high employment point of 4,643 in 2000. Total wages in 2005 were $120.1 million, which is part of an uneven trend.



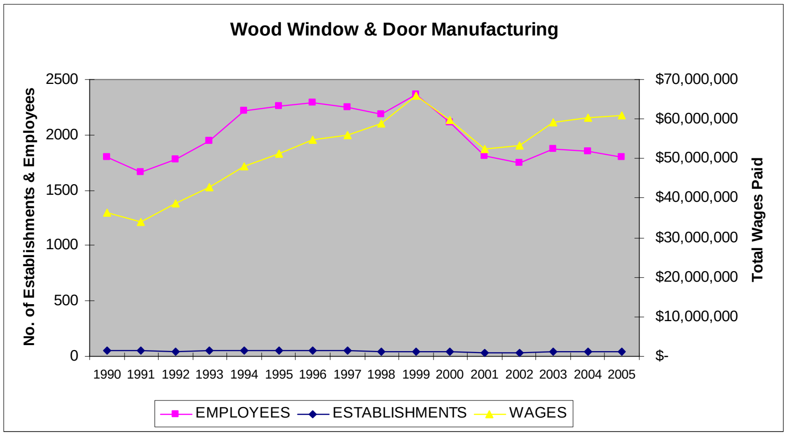
viii. **Blind and Shade Manufacturing** includes businesses primarily engaged in manufacturing one or more of the following: Venetian blinds, other window blinds, and shades; curtain and drapery rods, poles; and/or curtain and drapery fixtures. This sector is not directly related to the Indiana hardwood industry but is classified in this sector. Total wages paid in 2005 were $28.8 million, which was part of a positive growth trend despite an uneven trend over the 16 years reviewed in total employment. Only 10 firms were engaged in this sector for 2005.



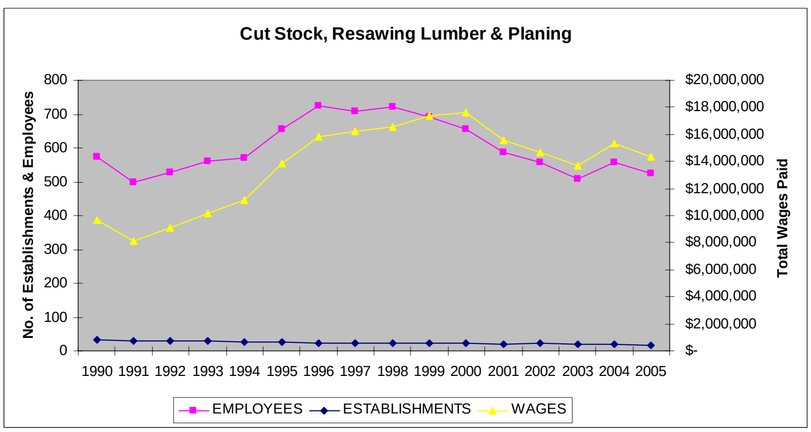
ix. **Truss Manufacturing** is the sector primarily engaged in manufacturing laminated or fabricated wood roof and floor trusses. This sector has grown over the 16 years by 88 percent in number of firms involved. There were 32 firms in 2005 with 1,473 employees who were paid $46.6 million in annual wages. Total employees have grown by 175 percent from 536 in 1990. Annual wages grew by 418 percent. In 1990 only $9 million in wages were paid. Despite the overall increase in wages, the average wage has grown by only 89 percent, or 6 percent annually.



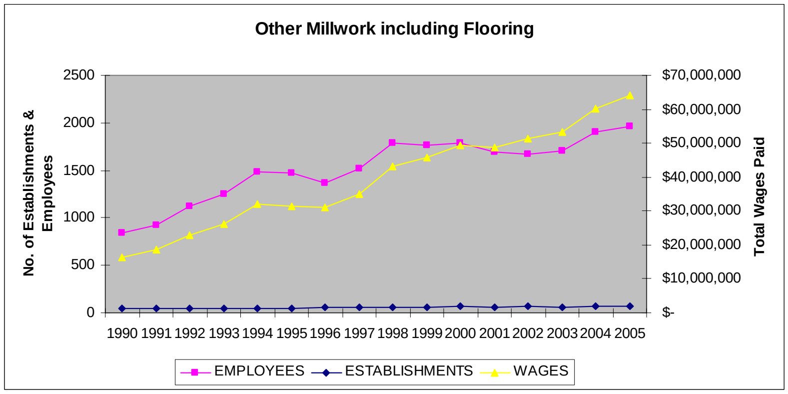
x. **Wood Window and Door Manufacturing** includes businesses primarily engaged in manufacturing window and door units, sash, window and door frames, and doors from wood or wood clad with metal or plastics. In Indiana, this sector declined from 48 firms in 1990 to 39 in 2005. However, the number of employees has ebbed. There were 1,796 employees in 1990, growing to 2,368 in 1999 before dropping to the current level of 1,799. During this same time, total wages paid went from $36.4 million to a high of $66 million in 1999. Wages then dropped to $52 million within two years. Employment at that time was 1,810. Total wages increased to $61 million in 2005. Over the 16-year period total wage growth was 68 percent, and 4.5 percent annually.



xi. **Cut Stock, Resawing Lumber and Planing** is the sector with businesses primarily engaged in one or more of the following: (1) manufacturing dimension lumber from purchased lumber; (2) manufacturing dimension stock (i.e., shapes) or cut stock; (3) resawing the output of sawmills; and (4) planing of purchased lumber. This sector also has contracted. In 1990 there were 34 firms, but by 2005 there were only 17. However, employment numbers on the surface appear steady over this period. There were 574 employees in 1990 and 523 in 2005. The high employment point was 726 in 1996 and the low point was 499 in 1991. Total wages paid in 2005 were $14.4 million, down from $17.7 million in 2000.



xii. **Other Millwork including Flooring** is the sector primarily engaged in manufacturing millwork. This includes clear and finger joint wood moldings manufacturing, stair work (e.g., newel posts, railings, stairs, staircases), wood manufacturing decorative wood moldings (e.g., base, chair rail, crown, shoe), manufacturing wood flooring, manufacturing ornamental woodwork (e.g., cornices, mantel), manufacturing wood shutters, manufacturing planing mills, and millwork. In 2005 this sector paid its employees $64.1 million in wages, which was a 290 percent increase over the $16.4 million in 1990. Average wage paid was $32,642. Growth has been steady. Employment was 837 in 1990 and increased to 1,963 in 2005, a growth rate of 134 percent. The firms involved in this sector number 65, which has been steady over the past eight years. In 1990 there were 48 firms.



VI. Exports

Exports of Indiana products are tracked by the U.S. Census Bureau and the U.S. Department of Commerce. According to the Census Bureau, Indiana had $253 million of forestry, furniture and wood component product exports in 2006, which is 3 percent of the total similar exports of the United States.

The primary products exported from Indiana include: veneer, rough-sawn planks in various lengths, and furniture or furniture parts. The average annual growth has averaged about 7.5 percent, with a jump in growth from 2005 to 2006 of 21.5 percent. A full listing of exported products and the amounts for the past five years is attached.

(millions)	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
Total Annual Exports	$178.4	$175.4	$186.1	$199.6	$208.7	$253.7

Major Export Categories for 2006 (65 percent of total exports)

Item	Amount	percentage of Total Wood Exports
Veneer sheets & sheets for plywood not over 6MM thickness, hardwood	$82,607,968	32.57 percent
Oak wood sawn or chipped lengthwise over 6MM thickness	21,657,420	8.54 percent
Other wood sawn or chipped lengthwise over 6 MM thickness	18,522,753	7.30 percent
Prefabricated buildings	16,174,508	6.38 percent
Veneer sheets and sheets for plywood not over 6MM thickness, coniferous	14,029,270	5.53 percent

Non-coniferous wood in the rough, NESOI, whether or not stripped of bark or sapwood or roughly squared, not treated	12,669,057	4.99 percent

Below is a chart showing the top 10 countries that purchase Indiana hardwood products. Numbers have increased over the last six years and were expected to grown in 2007 due to weakness of the U.S. dollar.

Country (millions)	2001	2002	2003	2004	2005	2006
Canada Total	$82,633	$87,372	$79,196	$87,713	$97,615	$122,084
Germany Total	$21,249	$12,076	$13,575	$13,651	$15,871	$23,110
Spain Total	$ 8,101	$11,350	$13,863	$14,899	$14,146	$13,938
Mexico Total	$ 7,658	$ 5,748	$ 2,033	$ 2,426	$ 7,379	$13,640
China Total	$ 3,650	$ 8,401	$ 8,110	$11,582	$11,481	$12,956
Hong Kong Total	$ 5,844	$ 6,502	$ 9,085	$ 9,442	$ 9,135	$ 8,709
Japan Total	$ 7,683	$ 9,134	$12,377	$ 8,242	$ 7,642	$ 7,642
United Kingdom Total	$ 8,701	$ 5,280	$ 5,476	$ 6,429	$ 6,622	$ 6,726
Italy Total	$ 2,560	$ 4,211	$ 3,542	$ 2,985	$ 4,511	$ 4,956
Belgium Total	$ 3,272	$ 1,876	$ 2,099	$ 3,648	$ 2,600	$ 4,144
percentage of Total Exports	84 percent	85 percent	80 percent	80 percent	83 percent	85 percent

United States Department of Agriculture, Foreign Agriculture Services

Data Sources and Resources:

(1) U.S. Department of Agriculture

- U.S. Forest Service
- 2006 Forest Inventory and Analysis Report
- Indiana Timber Industry: An Assessment of Timber Product Output and Use (2005)
- Foreign Agriculture Services, Historical Export Data

(2) U.S. Census Bureau

- Bureau of Economic Analysis data reports, 1990 to 2005
- RIMS II multipliers for Wood Industry specifically formulated for Indiana
- Annual Survey of Manufacturers (2005)
- Indiana Export Data, 2001 to 2006.

(3) 2006 Indiana Forest Products Price Report and Trend Analysis, Purdue University Cooperative Extension Service, West Lafayette, Indiana, pages 9, 11, 12.
(4) Indiana University Business Research Center, Carol Rogers, Deputy Director data collection.
(5) www.statsdata.com/Indiana. The economic database supported by the Indiana Economic Development Corporation and linked to the U.S. Census Bureau's Economic Analysis data and to the Annual Survey of Manufacturing.
(6) Indiana Department of Natural Resources, Forestry Division, Jeff Settle, Forest Resources Information.