

# U.S. Agricultural Equipment: Powering Jobs and Dollars

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## ***Did you know these facts about the U.S. agricultural equipment industry?***

- *It has a broad foothold throughout the U.S. economy, and its **sales represent over \$82.0 billion** worth of business.*
- *With **U.S. exports of \$6.2 billion**, it is an enormous source of foreign revenue and a major contributor toward balancing U.S. trade.*
- *It is responsible for **nearly 250,000 U.S. jobs** in all 50 states and provides major support to both rural and urban communities.*
- *The industry supports a highly skilled labor force and is responsible for a **payroll over \$8.5 billion**.*
- *The industry **carries a tremendous regional economic influence** in states like Iowa, Illinois, Wisconsin, California, Texas, Nebraska, Minnesota, North Carolina, Florida, and many others.*



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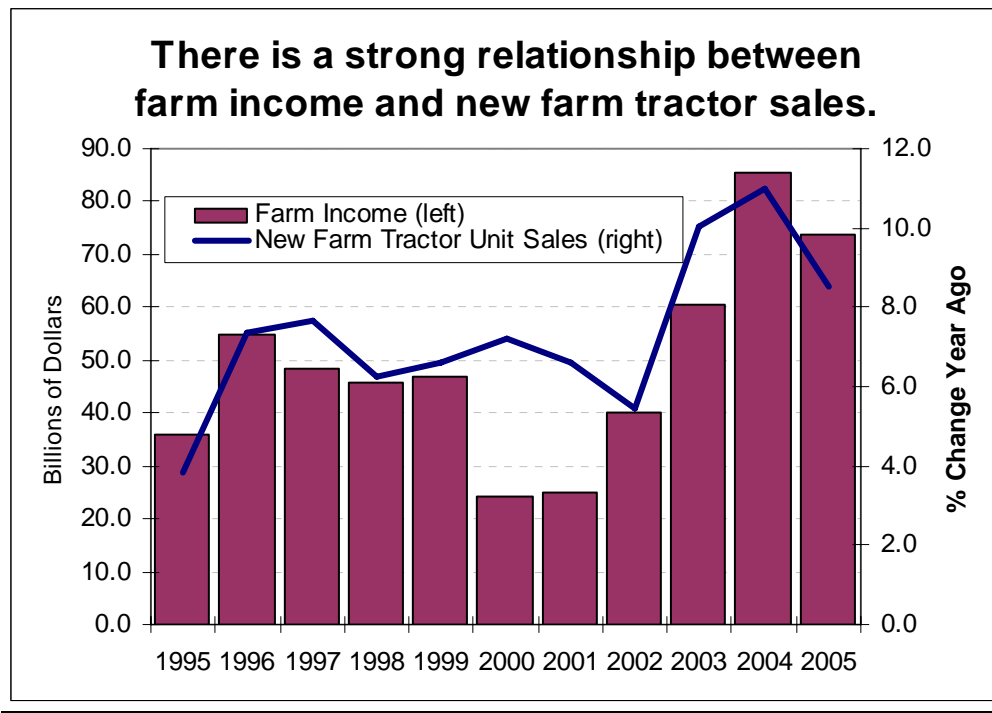
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## Executive Summary

Farm income and U.S. agricultural equipment sales are closely related. In years where farm incomes have been strong, so have the sales of agricultural equipment. During lean income years, sales of farm equipment have plunged. A combination of sound governmental policy, strong cash receipts, and limited cost shocks will maintain a healthy farm bottom line. Doing this will also maintain a healthy agricultural equipment sector.

**Figure 1.1**



The U.S. agricultural equipment industry is a relatively unknown sector of the U.S. economy. However, after investigating what the agricultural equipment industry encompasses, this notion disappears. The U.S. agricultural equipment industry is so much more than making equipment to be used on farms.

This study demonstrates that in addition to agricultural equipment manufacturing, the industry has a broad and extensive dealer/wholesale merchandising system. Therefore, the total agricultural sector is actually comprised of two major industries: farm machinery and equipment manufacturing (NAICS Code 333111) and farm and garden machinery and equipment merchant wholesalers (NAICS Code 42382).

By incorporating both the manufacturing side and the dealer/wholesale distribution side, the total agricultural equipment industry is directly responsible for over \$63.0 billion (\$20.1 billion from manufacturing, \$43.0 billion from dealer/wholesale merchandising). However, the complete impact of the agricultural equipment industry must also take into account the materials, services, and supplies the sector purchases. These indirect effects

are estimated to add another \$19.1 billion (\$12.8 billion from manufacturing, \$6.3 billion from dealer/wholesale merchandising), for a **total revenue steam that is \$82.2 billion**. This is approximately the entire gross domestic product (GDP) of the island of Puerto Rico.

Employment can also be greatly underestimated by just initially looking at only people directly employed in the manufacture of farm machinery. In 2005, nearly 60,000 people were employed in the U.S. manufacture of farm equipment. Including the dealer/wholesale distribution network adds another 101,500 jobs to the total, but the 71,900 jobs (43,900 from manufacturing, 28,000 from dealer/wholesale merchandising) indirectly related to agricultural equipment must also be considered to gain a total perspective. Also estimating payroll spin-off and a second round of indirect supplier employment, it could be stated that **the agricultural equipment industry is responsible for nearly 250,000 jobs**. This is roughly half the population of Washington, DC.

Employees of the agricultural equipment industry are highly skilled, both from a manufacturing and a dealer/wholesale merchandising perspective. Employees in the manufacturing process are paid \$2.480 billion, or an average of \$41,900 per worker yearly. Employees of the dealer/wholesale merchandising network are paid \$3.402 billion, or an average of \$33,500 per worker yearly. However, when indirect payroll is considered, **total compensation by the agricultural equipment industry is \$8.53 billion**.

The U.S. agricultural equipment industry is also a great source of foreign revenue. At \$6.2 billion in 2005, it represented over 30% of the revenue in agricultural equipment manufacturing. Additionally, over the past four years, it has grown by an average annual rate of 12.2%. Export growth for overall U.S. manufacturing was less than half that rate. **Out of 452 major industries that export U.S. products, agricultural equipment is ranked 28<sup>th</sup>**. This ranks in the top 94% percentile.

Finally, the U.S. agricultural equipment industry has one perspective on a national level, but another perspective on a state-by-state basis. In terms of employment and payroll, **the industry carries a tremendous economic influence in Iowa, Wisconsin, Illinois, California, Texas, Nebraska, Kansas, and Minnesota**. Some eastern states, like Pennsylvania, North Carolina, Florida, and Georgia also have strong economic ties.

In summary, the U.S. agricultural equipment industry plays a large role in supporting the U.S. economy and U.S. jobs. It is also a product with a great source of export potential, adding much-needed help to the trade deficit. This reports uncovers these hidden facts and shows a new perspective.

# U.S. Agricultural Equipment Revenues

## Industry Direct Revenues

The agricultural equipment industry represents a major part of the U.S. economy. With direct revenues of approximately \$20.1 billion from manufacturing and nearly \$43.0 billion from dealers/wholesalers, the total industry contributed \$63.1 billion in direct revenues to the U.S. economy in 2005. While this figure is small relative to the total U.S. gross domestic product (\$58,151.2 billion), it still represents a sizable contribution from a comparative point of view.

Out of 234 individual U.S. manufacturing industries, agricultural machinery and equipment manufacturing is ranked 33<sup>rd</sup> largest in terms of revenues. Its revenues are just slightly under major industries like aircraft engine and parts manufacturing (\$25.8 billion) and paperboard mills (\$20.9 billion). However, the sector has larger revenues than manufacturing sectors like electronic medical apparatus (\$19.6 billion), carpet and rug mills (\$17.3 billion), or shipbuilding and repairing (\$14.2 billion).

**Summary Table 1.1**  
*U.S. Manufacturing Revenues, 2005*

<b>Ranking</b>	<b>Industry</b>	<b>000 \$</b>
1)	Petroleum refineries	\$445,910,030
2)	Light truck & utility vehicle	147,633,579
3)	Pharmaceutical preparation	133,668,095
4)	Automobile	86,760,627
5)	Semiconductor & related device	75,490,730
6)	Plastics material & resin	74,327,971
7)	Aircraft	65,413,359
8)	Petrochemical	51,414,665
9)	Poultry processing	47,819,049
10)	Electronic computer	43,531,376
:	.....	.....
32)	Other animal food	20,169,532
<b>33)</b>	<b>Farm machinery &amp; equipment</b>	<b>\$20,090,963</b>
34)	Electromedical & electrotherapeutic apparatus	19,628
35)	Telephone apparatus	19,059

\*\*\* For a comprehensive list see Appendix Table 1.1

When the dealer/wholesale distribution network is included, from a revenue perspective, the entire agricultural equipment industry moves considerably higher than other sectors in the U.S. economy. The agricultural equipment industry has a broad and diverse dealer/wholesale distribution network that supports its manufacturing base extremely well. With revenues of \$43.0 billion, generated from the dealer/wholesale distribution network, dealer sales are 2.14 times its manufacturing base. Few other manufacturing sectors can claim a spin-off support system as extensive. Even the construction

equipment industry, a close peer of agricultural equipment, has a relatively smaller dealer/wholesale distribution network. It is only 1.75 times its manufacturing base.

## Industry Indirect Revenues

Direct revenues in the agricultural equipment industry only represent a part of the sector's contribution to the U.S. economy. Manufacturers of agricultural equipment purchase a wide spectrum of products, such as fluid power equipment, fabricated metal parts, bearings and transmission equipment, steel, engines, plastics and rubber, and many other manufactured materials. In 2005, out of \$20.1 billion in revenues for farm equipment manufacturing, sales of manufactured materials to the industry were \$10.2 billion. Additionally, farm equipment manufacturers purchase, fuel and electricity, communication, legal and accounting services, as well as refuse removal. These purchased services and supplies represented another \$2.6 billion in additional revenue. Therefore, the total indirect revenue (purchased materials and services) of agricultural equipment manufacturing was approximately \$12.8 billion. This brings the U.S. revenue of agricultural equipment manufacturing from both direct and indirect sources to \$32.9 billion in 2005. This figure is substantially higher than when the direct revenue amount is solely considered.

Indirect revenue from the farm equipment dealer/wholesale distribution industry also makes a significant contribution to the U.S economy. While the amount of manufactured materials purchased are already included in the farm equipment manufacturing sector, the amount of services and other supplies purchased is over \$19.1 billion. This brings the total revenue impact on the agricultural equipment dealer/wholesale distribution network from both direct and indirect sources to \$49.3 billion.

**Summary Table 1.2**

**2005 Revenue Estimates, '000**

**U.S. Agricultural Equipment Industry**

	<i>Mfg</i>	<i>Dealer \ Wholesale</i>	<i>Total</i>
<b>Direct Revenues, Market Size</b>	<b>\$20,084,039</b>	<b>\$42,982,343</b>	<b>\$63,066,382</b>
<b>Materials &amp; Services Purch, Indirect Revenues</b>	<b>\$12,795,796</b>	<b>\$6,332,549</b>	<b>\$19,128,345</b>
Services Purchased	\$1,031,896	\$5,438,673	\$6,470,569
Cost of Supplies, Depreciation & Rent	\$1,554,775	\$893,876	\$2,448,651
Manufactured Materials Purchased	\$10,209,125	-----	\$10,209,125
<b>Total Revenue Direct &amp; Indirect</b>	<b>\$32,879,835</b>	<b>\$49,314,892</b>	<b>\$82,194,727</b>

\*\*\* For a comprehensive calculation of revenues see Appendix Tables 1.2 & 1.3

## Industry Total Revenues

A quick glance at revenues in the agricultural equipment industry can be easily underestimated. An investigation into the U.S. Census Bureau reveals agricultural equipment manufacturing revenues were approximately \$20.1 billion in 2005, but this is

a huge underestimate of the actual revenue contribution to the U.S. economy. Considering the impact of the dealer/wholesaler distribution network and the indirect impact of materials and services purchased, the contribution increases by \$62.1 billion; therefore, the total contribution of revenues to the U.S. economy by the agricultural equipment industry is approximately \$82.2 billion. To put this into perspective, the agricultural equipment industry's revenues are about the same as the GDP of the entire island of Puerto Rico.



## U.S. Agricultural Equipment Exports

While the domestic market continues to be the driving force, exports represent a major source of revenue for U.S. manufacturers of agricultural machinery and equipment. In 2005, U.S. agricultural machinery and equipment manufacturing revenues totaled about \$20.1 billion, with domestic market revenues at \$13.9 billion and exports at \$6.2 billion, or over 30% of the total. Canada remains the major foreign market for U.S.-manufactured agricultural machinery and equipment, with sales of \$1.6 billion, or 25.8% of total exports. Other major markets include Australia, \$575.5 million (9.3%); Mexico, \$450.0 million (7.3%); Germany, \$339.2 million (5.5%); France, \$335.4 million (5.4%); and the United Kingdom, \$269.3 million (4.3%).

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### **Summary Table 2.1**

#### *U.S. Agricultural Equipment Exports, 2005*

<b><u>Ranking</u></b>	<b><u>Industry</u></b>	<b><u>000 \$</u></b>
1)	Canada	\$1,603,160
2)	Australia	575,487
3)	Mexico	450,038
4)	Germany	339,224
5)	France	335,433
6)	United Kingdom	269,251
7)	Russia	166,667
8)	Netherlands	151,559
9)	Belgium	146,017
10)	Brazil	138,691
11)	Japan	116,385
12)	China	97,479
13)	Turkmenistan	97,048
14)	Sweden	94,261
15)	Italy	89,872
16)	South Africa	85,851
17)	Argentina	85,618
18)	Spain	76,591
19)	Kazakhstan	73,330
20)	New Zealand	61,119
	Other 170 Countries	1,153,821
	<b>Total</b>	<b>\$6,206,905</b>

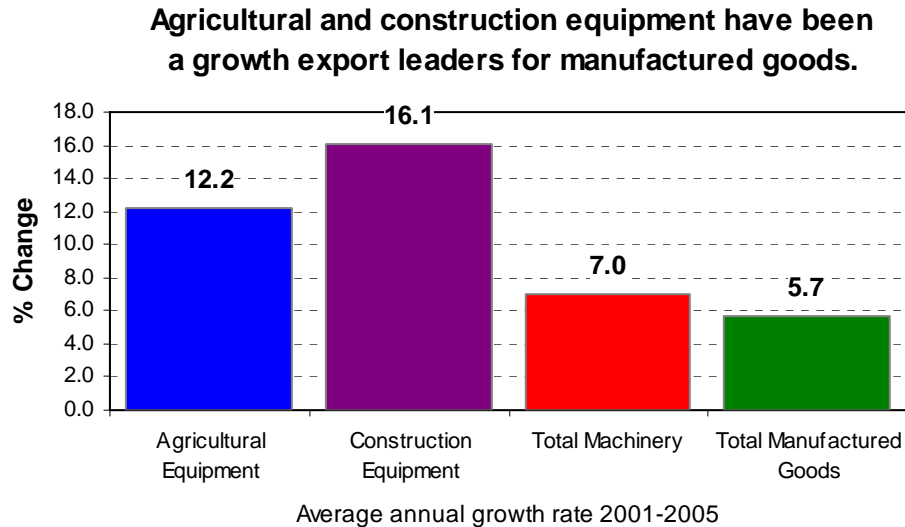
\*\*\* For a comprehensive list see Appendix Table 2.1

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U.S. exports of agricultural machinery and equipment have exhibited considerable strength in recent years, rising from \$4.18 billion in 2001 to \$6.21 billion in 2005, an increase of 48.6%. Putting this stellar performance into perspective, over the 2001-05

period, exports of agricultural machinery and equipment grew faster than foreign sales of total U.S.-produced machinery (+28.1%) and total U.S.-manufactured goods (+23.3%).

**Figure 2.1**



U.S. exports of manufactured goods totaled \$806.0 billion in 2005. Still, out of 452 industries, including such giants in the export arena as semiconductors, aircraft and parts, chemicals, and motor vehicles and parts, agricultural machinery and equipment ranks 28<sup>th</sup>. In addition, with the U.S. trade deficit at record levels, the contribution of the trade surplus in agricultural machinery and equipment should not be overlooked.

Exports prospects for U.S. agricultural machinery and equipment remain bright. The dollar has declined in value by well over 20% in recent years, making U.S.-produced machinery and equipment more attractive from a pricing perspective in overseas markets. Equally important, U.S.-produced agricultural machinery and equipment is second to none when it comes to performance and reputation. Finally, the pressure in the developed and, more importantly, the developing world to improve the output, productivity, and efficiency of agricultural sectors will only intensify in the years ahead, and this can only be accomplished through investment in the kind of state-of-the-art machinery and equipment that comes from U.S. manufacturers.

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**Summary Table 2.2****U.S. Goods Exports, 2005**

<b>Ranking</b>	<b>Industry</b>	<b>000 \$</b>
1)	SEMICONDUCTORS & RELATED DEVICES	\$34,305,641
2)	AIRCRAFT	30,495,966
3)	AUTOMOBILES & LIGHT DUTY MOTOR VEHICLES	24,238,423
4)	ALL OTHER BASIC ORGANIC CHEMICALS	23,018,277
5)	MOTOR VEHICLE PARTS	19,876,039
6)	OTHER COMPUTER EQUIPMENT	19,577,052
7)	PLASTICS MATERIALS & RESINS	18,874,984
8)	PETROLEUM REFINERY PRODUCTS	17,505,949
9)	AIRCRAFT PARTS & AUXILIARY EQUIPMENT	16,772,500
10)	PHARMACEUTICAL PREPARATIONS	16,746,001
:	.....	.....
27)	INSTRUMENTS FOR MEASURING & TESTING ELECTRICITY	6,243,355
<b>28)</b>	<b>FARM MACHINERY &amp; EQUIPMENT</b>	<b>\$6,206,905</b>
29)	MEAT PRODUCTS (EXCEPT POULTRY)	6,077,051
30)	RADIO, TELEVISION BROADCAST & WIRELESS COMM EQUIP	6,077,051

\*\*\* For a comprehensive list see Appendix Table 2.2

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# U.S. Agricultural Equipment Employment

## Industry Direct Employment

From an employment perspective, the U.S. agricultural equipment industry is typically unknown in its strength and importance. With manufacturing employment of just over 59,200 and nearly 101,500 of employment in the dealer/wholesale distribution network the industry was directly responsible for nearly 161,000 U.S. jobs in 2005. While this is only a part of the year's total U.S. employment (144.5 million) or even manufacturing employment (14.2 million), the details of the farm equipment industry's employment contribution will show that the industry is not a small player when it comes to jobs.

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### Summary Table 3.1

#### U.S. Manufacturing Employment, 2005

<u>Ranking</u>	<u>Industry</u>	<u>000 Persons</u>
1)	Poultry Processing	235.358
2)	Pharmaceutical Preparation Mfg	226.342
3)	Semiconductor & Related Device Mfg	222.975
4)	Aircraft Mfg	210.525
5)	Search, Detection, Navigation, Guidance, Aeronautical, & Nautical S	156.817
6)	Motor Vehicle Parts Mfg	156.118
7)	Animal (except Poultry) Slaughtering	146.892
8)	Frozen Cakes, Pies, & Other Pastries Mfg	141.517
9)	Automobile Mfg	141.467
10)	Other Commercial Printing	129.633
:	.....	.....
56)	Instruments & Related Products Mfg for Measuring	59.283
<b>57)</b>	<b>Farm Machinery &amp; Equipment Mfg</b>	<b>59.217</b>
58)	Metal Stamping	57.450
59)	Frozen Specialty Food Mfg	56.900
*** For a comprehensive list see Appendix Table 3.1		

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Out of 234 individual U.S. manufacturing industries, agricultural machinery and equipment manufacturing is ranked 56th in terms of employment. However, when the dealer/wholesale distribution network is included, from an employment perspective, the entire agricultural equipment industry moves considerably higher relative to other sectors within the U.S. economy. The agricultural equipment industry has a very strong dealer/wholesale distribution network that supports its manufacturing base. In fact, employment in the dealer/wholesale distribution network (101,500) is 1.71 times its manufacturing base. Few other manufacturing sectors can claim a spin-off support system as extensive. Even the construction equipment industry, a close peer of the agricultural equipment, has a relatively smaller dealer/wholesale distribution network. Its dealer/wholesale employment is only 1.18 times its manufacturing base.

Out of 43 individual U.S. dealer/wholesale industries, agricultural machinery and equipment dealers are ranked the 15th in terms of employment. Its employment levels are just below chemical products supply and distribution (107,475) or farm supply and distribution (106,492). However, the sector has larger employment than other wholesale distribution sectors like recyclable material (100,242), plumbing and heating equipment (92,233), or beer and wine distribution (87,842).

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### **Summary Table 3.2**

#### ***U.S. Dealer \ Wholesale Distribution Employment, 2005***

<b><u>Ranking</u></b>	<b><u>Industry</u></b>	<b><u>000 Persons</u></b>
1)	Industrial Machinery & Equipment	304.150
2)	Computer & Computer Peripheral Equipment & Software	240.317
3)	General Line Grocery	216.042
4)	Other Electronic Parts & Equipment	201.583
5)	Motor Vehicle Supplies & New Parts	173.150
6)	Medical, Dental, & Hospital Equipment & Supplies	172.933
7)	Electrical Apparatus & Equipment, Wiring Supplies, & Related Equip	143.825
8)	Lumber, Plywood, Millwork, & Wood Panel	135.933
9)	Automobile & Other Motor Vehicle	125.992
10)	Other Miscellaneous Nondurable Goods	114.350
:	.....	.....
14)	Farm Supplies	106.492
<b>15)</b>	<b>Farm &amp; Garden Machinery &amp; Equipment</b>	<b>101.517</b>
16)	Recyclable Material	100.242
17)	Plumbing & Heating Equipment & Supplies (Hydronics) Merchant	92.233
*** For a comprehensive list see Appendix Table 3.2		

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### **Industry Indirect Employment**

Direct employment in the agricultural equipment industry represents a part of the sector's contribution to the U.S. economy. Manufacturers of agricultural equipment purchase materials and parts such as fluid power equipment, fabricated metal parts, bearings and power transmission equipment, steel, engines, plastics and rubber, and many other manufactured materials. All of these supplier industries have a significant amount of employment. In 2005, out of 59,200 people directly employed in U.S. farm equipment manufacturing, another 33,400 were indirectly employed in manufacturing to support materials and parts to the industry. Additionally, farm equipment manufacturers purchase fuel and electricity, legal, accounting and communication services, as well as refuse removal. These purchased services and supplies represented another 10,500 indirect jobs, bringing total indirect employment (purchased materials and services) of agricultural equipment manufacturing to 43,900. This brings the U.S. employment of agricultural equipment manufacturing from both direct and indirect impact to 103,100 in 2005. This figure is nearly double the initial direct agricultural equipment manufacturing figures.

Indirect employment from the farm equipment dealer/wholesale distribution industry also contributes significantly to the U.S economy. While the number of jobs related to supporting services and supplies in wholesale industry it not as large as the farm equipment manufacturing sector, it still accounts for another 28,000 indirect jobs. This brings the total employment impact on the agricultural equipment dealer/wholesale distribution network to 129,500 direct and indirect jobs.

**Summary Table 3.3**

**2005 Employment Estimates, Persons**

*U.S. Agricultural Equipment Industry*

	<i>Mfg</i>	<i>Dealer \ Wholesale</i>	<i>Total</i>
<b>Direct Employment</b>	<b>59,217</b>	<b>101,517</b>	<b>160,734</b>
<b>Indirect Employment, Materials &amp; Services</b>	<b>43,896</b>	<b>28,001</b>	<b>71,897</b>
Indirect Service Employment	5,888	26,876	32,764
Indirect Supplies, Depreciation & Rent Employment	4,618	1,125	5,743
Indirect Manufactured Materials Employment	33,391	-----	33,391
<b>Total Employment Direct &amp; Indirect</b>	<b>103,113</b>	<b>129,518</b>	<b>232,631</b>

\*\*\* For a comprehensive calculation of employment see Appendix Tables 3.3 & 3.4

**Industry Total Employment**

An initial assessment about employment in the agricultural equipment industry can quickly be underestimated. Data from the Bureau of Labor Statistics (BLS) show that employment in agricultural equipment manufacturing was 59,217 in 2005, but this figure does not consider the dealer/wholesale distribution network or the indirect employment from purchased materials and services. Considering these additional effects, the employment contribution in the agricultural machinery industry increases another 173,400 jobs. Therefore, the total employment contribution to the U.S. economy by the agricultural equipment industry is approximately 232,600. However, if a third round of indirect jobs is considered, the total employment impact could approach 250,000. To put this into perspective, this is about half the population of Washington, DC.



# U.S. Agricultural Equipment Payroll

## Industry Direct Payroll

Agricultural machinery and equipment manufacturers employed a total of 59,217 individuals in 2005 and generated payroll of \$2.48 billion. The payroll for all workers employed in manufacturing totaled \$236.0 billion in 2005. Still, out of 127 manufacturing industries, including such giants as motor vehicles, pharmaceuticals, aircraft and parts, chemicals, and motor vehicles and parts, agricultural machinery and equipment ranks 25<sup>th</sup>. This exceeds the payroll of industries like electronic computer manufacturing or relay and industrial control manufacturing. Furthermore, the agricultural machinery and equipment manufacturing industry employs highly trained, highly skilled workers, and their average salary in 2005 was reported at \$41,900.

**Summary Table 4.1**  
*U.S. Manufacturing Payroll, 2005*

<u>Ranking</u>	<u>Industry</u>	<u>'000 \$</u>
1)	Pharmaceutical preparation mfg	\$11,049,326
2)	Aircraft mfg	10,919,009
3)	Search, detection, navigation, & guidance instrument mfg	9,706,904
4)	Semiconductor & related device mfg	9,132,807
5)	Light truck & utility vehicle mfg	7,432,378
6)	All other vehicle parts mfg	5,377,100
7)	Poultry processing	5,328,010
8)	Other aircraft part & auxiliary equipment mfg	5,245,719
9)	Automobile mfg	5,221,652
10)	Surgical appliance & supplies	5,062,567
:	.....	.....
24)	Other electronic component	2,500,889
<b>25)</b>	<b>Farm machinery &amp; equipment mfg</b>	<b>2,479,797</b>
26)	Upholstered household furniture mfg	2,363,460
27)	Electronic computer mfg	2,349,060

\*\*\* For a comprehensive list see Appendix Table 4.1

When the dealer/wholesale distribution network is included, from a payroll point of view, the agricultural equipment industry moves significantly higher relative to other sectors within the U.S. economy. The agricultural equipment industry, with its strong dealer/wholesale network, also has a substantial payroll supporting the distribution base. In fact, payroll in the dealer/wholesale distribution network, at \$3.40 billion, is 1.37 times its manufacturing base. This implies that the average annual farm equipment dealer/wholesale employee salary is slightly over \$33,500.

Out of 31 individual U.S. dealer/wholesale industries, agricultural machinery and equipment dealers are ranked 15th highest in terms of payroll. Its employment levels are just below chemical products supply or plumbing and heating equipment distribution.

However, the sector has larger employment than other wholesale distribution sectors like farm supplies or beer and wine distribution.

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### **Summary Table 4.2**

#### *U.S. Dealer \ Wholesale Distribution Payroll, 2005*

<b><u>Ranking</u></b>	<b><u>Industry</u></b>	<b><u>'000 \$</u></b>
1)	Computer & Computer Peripheral Equipment & Software	\$15,299,987
2)	Industrial Machinery & Equipment	13,583,760
3)	Other Electronic Parts & Equipment	10,569,587
4)	Medical, Dental, & Hospital Equipment & Supplies	8,052,404
5)	General Line Grocery	8,031,195
6)	Electrical Apparatus & Equipment, Wiring Supplies, & Related Equip	6,601,342
7)	Motor Vehicle Supplies & New Parts	6,183,516
8)	Lumber, Plywood, Millwork, & Wood Panel	5,173,182
9)	Other Chemical & Allied Products	5,010,207
10)	Office Equipment	4,873,054
:	.....	.....
14)	Plumbing & Heating Equipment & Supplies (Hydronics)	3,616,752
<b>15)</b>	<b>Farm &amp; Garden Machinery &amp; Equipment</b>	<b>3,402,296</b>
16)	Farm Supplies	3,337,934
17)	Other Miscellaneous Nondurable Goods	3,218,171

\*\*\* For a comprehensive list see Appendix Table 4.2

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### **Industry Indirect Payroll**

Direct payroll in the agricultural equipment industry represents only a part of the sector's total contribution to the U.S. economy. Manufacturers of agricultural equipment purchase a broad range of materials and parts. All of these supplier industries have a significant amount of employment and supporting payroll. In 2005, out of a direct payroll of \$2.48 billion in U.S. farm equipment manufacturing, another \$1.34 billion was indirectly paid to workers in manufacturing for materials and parts. Additionally, farm equipment manufacturers purchase supplies like fuel and electricity and a wide range of services from accounting to refuse removal. These purchased services and other supplies represented another \$308.2 million in payroll, bringing total indirect payroll (purchased materials and services) of agricultural equipment manufacturing to \$1.65 billion. This brings the U.S. payroll of agricultural equipment manufacturing from both the direct and indirect impact to \$4.13 billion in 2005. This figure is nearly 70% higher than what was seen in the initial direct farm equipment manufacturing figures.

Indirect payroll from the farm equipment dealer/wholesale distribution industry also provides a significant contribution to the U.S economy. While the economic spin-off related to supporting services and supplies in the wholesale industry it not as large as the farm equipment manufacturing sector, it still accounts for another indirect payroll of \$1.0 billion. This brings the total payroll impact on the agricultural equipment

dealer/wholesale distribution network from both a direct and indirect perspective to \$4.4 billion.

**Summary Table 4.3**

**2005 Payroll Estimates, '000**

*U.S. Agricultural Equipment Industry*

	<i>Mfg</i>	<i>Dealer \ Wholesale</i>	<i>Total</i>
<b>Direct Payroll</b>	<b>2,479,797</b>	<b>3,402,296</b>	<b>5,882,093</b>
<b>Indirect Payroll, Materials &amp; Services</b>	<b>1,648,247</b>	<b>1,002,035</b>	<b>2,650,282</b>
Indirect Service Payroll	150,412	958,151	1,108,563
Indirect Supplies, Depreciation & Rent Payroll	157,830	43,884	201,714
Indirect Manufactured Materials Payroll	1,340,005	-----	1,340,005
<b>Total Payroll Direct &amp; Indirect</b>	<b>4,128,044</b>	<b>4,404,331</b>	<b>8,532,375</b>

\*\*\* For a comprehensive calculation of payroll see Appendix Tables 4.3 & 4.4

**Industry Total Payroll**

An initial assessment about the payroll in the agricultural equipment industry can easily be underestimated. Data from the Annual Survey of Manufactures (ASM) can quickly show the payroll in agricultural equipment manufacturing was only \$2.48 billion 2005. However, this figure does not consider the payroll of the dealer/wholesale distribution network or the indirect payroll from purchased materials and services. Considering these additional effects, the payroll impact from the agricultural machinery industry increases another \$6.05 billion. Therefore, the total payroll contribution to the U.S. economy by the agricultural equipment industry is approximately \$8.53 billion. However, if additional spending power from this payroll is considered, the complete payroll contribution could approach \$11.0 billion.



# An Agricultural Equipment Perspective by State

## Agricultural Equipment Manufacturing

Manufacturers of agricultural machinery and equipment employed a total of 59,200 workers in 2005. The lion's share of U.S. agricultural machinery and equipment manufacturing facilities are located in major agricultural centers. The top-10 states—Iowa, Wisconsin, Illinois, Nebraska, Kansas, Minnesota, Georgia, Ohio, Texas, and Tennessee—employed 42,400 individuals in the manufacture of agricultural machinery and equipment, or about 71.6% of total industry employment. The importance of the agricultural machinery and equipment industry to overall employment varies dramatically from state to state.

**Summary Table 5.1**

**Top 10 States, Employment Agricultural Equipment Manufacturing**

	<u>Employment</u>	<u>% of US</u>	<u>State</u>	<u>% of State Total Emp</u>	<u>% of State Mfg Emp</u>	<u>% of State Machinery Mfg Emp</u>
1	8,648	14.60%	Iowa	0.71%	3.77%	24.34%
2	5,907	9.98%	Wisconsin	0.25%	1.17%	8.60%
3	5,520	9.32%	Illinois	0.11%	0.80%	6.09%
4	4,360	7.36%	Nebraska	0.59%	4.30%	45.56%
5	3,975	6.71%	Kansas	0.37%	2.21%	23.69%
6	3,733	6.30%	Minnesota	0.16%	1.08%	10.84%
7	3,219	5.44%	Georgia	0.10%	0.72%	13.39%
8	2,536	4.28%	Ohio	0.06%	0.31%	3.01%
9	2,348	3.97%	Texas	0.03%	0.26%	2.94%
10	2,162	3.65%	Tennessee	0.09%	0.53%	6.38%
	16,809	28.39%	Other States			
	<b>59,217</b>	<b>100.0%</b>	<b>Total</b>			

\*\*\* For a comprehensive list see Appendix Table 5.1

### The Top 10

**Iowa:** Agricultural machinery and equipment manufacturing employment totaled 8,648 in 2005, representing 14.60% of industry employment at the national level. For Iowa, employment in the manufacture of agricultural machinery and equipment accounted for 0.70% of total statewide employment, 3.80% of statewide manufacturing employment, and 24.30% of statewide durable goods manufacturing employment.

**Wisconsin:** Agricultural machinery and equipment manufacturing employment totaled 5,907 in 2005, representing 9.98% of industry employment at the national level. For Wisconsin, employment in the manufacture of agricultural machinery and equipment accounted for 0.25% of total statewide employment, 1.17% of statewide manufacturing employment, and 8.60% of statewide durable goods manufacturing employment.

**Illinois:** Agricultural machinery and equipment manufacturing employment totaled 5,520 in 2005, representing 9.32% of industry employment at the national level. For the state, employment in the manufacture of agricultural machinery and equipment accounted for 0.11% of total statewide employment, 0.80% of statewide manufacturing employment, and 6.09% of statewide durable goods manufacturing employment.

**Nebraska:** Agricultural machinery and equipment manufacturing employment totaled 4,360 in 2005, which was 7.36% of industry employment at the national level. For Nebraska, employment in the manufacture of agricultural machinery and equipment accounted for 0.59% of total statewide employment, 4.30% of statewide manufacturing employment, and 45.56% of statewide durable goods manufacturing employment.

**Kansas:** Agricultural machinery and equipment manufacturing employment totaled 3,975 in 2005, representing 6.71% of industry employment at the national level. For the state of Kansas, employment in the manufacture of agricultural machinery and equipment accounted for 0.37% of total statewide employment, 2.21% of statewide manufacturing employment, and 23.69% of statewide durable goods manufacturing employment.

**Minnesota:** Agricultural machinery and equipment manufacturing employment totaled 3,733 in 2005, representing 6.30% of industry employment at the national level. For the state, employment in the manufacture of agricultural machinery and equipment accounted for 0.16% of total statewide employment, 1.08% of statewide manufacturing employment, and 10.84% of statewide durable goods manufacturing employment.

**Georgia:** Agricultural machinery and equipment manufacturing employment totaled 3,733 in 2005, which was 5.44% of industry employment at the national level. For the state of Georgia, employment in the manufacture of agricultural machinery and equipment accounted for 0.10% of total statewide employment, 0.72% of statewide manufacturing employment, and 13.39% of statewide durable goods manufacturing employment.

**Ohio:** Agricultural machinery and equipment manufacturing employment totaled 2,536 in 2005, representing 4.28% of industry employment at the national level. For Ohio, employment in the manufacture of agricultural machinery and equipment accounted for 0.06% of total statewide employment, 0.31% of statewide manufacturing employment, and 3.01% of statewide durable goods manufacturing employment.

**Texas:** Agricultural machinery and equipment manufacturing employment totaled 2,348 in 2005, representing 3.97% of industry employment at the national level. For the state of Texas, employment in the manufacture of agricultural machinery and equipment accounted for 0.03% of total statewide employment, 0.26% of statewide manufacturing employment, and 2.94% of statewide durable goods manufacturing employment.

**Tennessee:** Agricultural machinery and equipment manufacturing employment totaled 2,162 in 2005, representing 3.65 of industry employment at the national level. For Tennessee, employment in the manufacture of agricultural machinery and equipment

accounted for 0.09% of total statewide employment, 0.53% of statewide manufacturing employment, and 6.38% of statewide durable goods manufacturing employment.

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### **Summary Table 5.2**

#### **Top Ten States, Wages Agricultural Equipment Manufacturing**

	<u>Wages '000</u>	<u>% of US</u>	<u>State</u>	<u>% of State Total Wages</u>	<u>% of State Mfg Wages</u>	<u>% of State Machinery Mfg Wages</u>
1	453,766	19.30%	Iowa	1.14%	4.60%	24.80%
2	284,641	12.11%	Illinois	0.13%	0.82%	5.13%
3	266,768	11.35%	Wisconsin	0.32%	1.19%	7.68%
4	183,567	7.81%	Minnesota	0.20%	1.08%	10.07%
5	167,046	7.11%	Nebraska	0.71%	4.51%	43.00%
6	135,473	5.76%	Kansas	0.37%	1.70%	19.84%
7	99,296	4.22%	Georgia	0.08%	0.52%	9.92%
8	85,487	3.64%	Pennsylvania	0.05%	0.26%	3.02%
9	85,017	3.62%	Ohio	0.05%	0.22%	2.06%
10	73,971	3.15%	Texas	0.02%	0.15%	1.57%
	515,721	21.94%	Other States			
	<b>2,350,755</b>	<b>100.0%</b>	<b>Total</b>			

\*\*\* For a comprehensive list see Appendix Table 5.2

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### **Agricultural Equipment Dealer/Wholesaler Network**

Dealers/wholesalers of agricultural machinery and equipment employed a total of 101,517 workers in 2005. Dealers/wholesalers not only sell machinery and equipment and parts, but also provide maintenance and repair services. Not surprisingly, agricultural machinery and equipment distribution facilities tend to be located in, or near, major agricultural centers. The top-10 states—Illinois, California, Texas, Iowa, Minnesota, Wisconsin, North Carolina, Nebraska, Ohio, and Florida—employed 48,504 individuals in the distribution of agricultural machinery and equipment, or about 47.8% of total industry employment. The importance of agricultural machinery and equipment distribution to overall employment varies dramatically from state to state.

#### **The Top 10**

**Illinois:** Agricultural machinery and equipment dealer/wholesaler employment totaled 7,104 in 2005, representing 7.00% of industry employment at the national level. For the state of Illinois, employment in the wholesale distribution of agricultural machinery and equipment accounted for 0.14% of total statewide employment, 2.35% of statewide wholesale distribution employment, and 4.30% of statewide durable goods wholesale distribution employment.

**California:** Agricultural machinery and equipment dealer/wholesaler employment totaled 6,655 in 2005, or 6.56% of industry employment at the national level. For California, employment in the wholesale distribution of agricultural machinery and equipment accounted for 0.05% of total statewide employment, 0.99% of statewide

wholesale distribution employment, and 1.94% of statewide durable goods wholesale distribution employment.

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### Summary Table 5.3

#### Top 10 States, Employment Agricultural Equipment Dealer \ Wholesale Network

	<u>Employment</u>	<u>% of US</u>	<u>State</u>	<u>% of State Total Emp</u>	<u>% of State Wholesale Emp</u>	<u>% of State Durable Wholesale Emp</u>
1	7,104	7.00%	Illinois	0.14%	2.35%	4.30%
2	6,655	6.56%	California	0.05%	0.99%	1.94%
3	6,236	6.14%	Texas	0.08%	1.31%	2.30%
4	5,028	4.95%	Iowa	0.41%	7.44%	16.99%
5	4,509	4.44%	Minnesota	0.20%	3.44%	7.01%
6	4,408	4.34%	Wisconsin	0.19%	3.75%	6.66%
7	4,205	4.14%	North Carolina	0.13%	2.47%	4.67%
8	3,508	3.46%	Nebraska	0.47%	8.64%	17.98%
9	3,469	3.42%	Ohio	0.08%	1.47%	2.65%
10	3,382	3.33%	Florida	0.05%	1.00%	1.87%
	53,012	52.22%	Other States			
	<b>101,517</b>	<b>100.0%</b>	<b>Total</b>			

\*\*\* For a comprehensive list see Appendix Table 5.3

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**Texas:** Agricultural machinery and equipment dealer/wholesaler employment totaled 6,236 in 2005, representing 6.14% of industry employment at the national level. For the state, employment in the wholesale distribution of agricultural machinery and equipment accounted for 0.08% of total statewide employment, 1.31% of statewide wholesale distribution employment, and 2.30% of statewide durable goods wholesale distribution employment.

**Iowa:** Agricultural machinery and equipment dealer/wholesaler employment totaled 5,028 in 2005, representing 4.95% of industry employment at the national level. For Iowa, employment in the wholesale distribution of agricultural machinery and equipment accounted for 0.41% of total statewide employment, 7.44% of statewide wholesale distribution employment, and 16.99% of statewide durable goods wholesale distribution employment.

**Minnesota:** Agricultural machinery and equipment dealer/wholesaler employment totaled 4,509 in 2005, which was 4.44% of industry employment at the national level. For the state of Minnesota, employment in the wholesale distribution of agricultural machinery and equipment accounted for 0.20% of total statewide employment, 3.44% of statewide wholesale distribution employment, and 7.01% of statewide durable goods wholesale distribution employment.

**Wisconsin:** Agricultural machinery and equipment dealer/wholesaler employment totaled 4,408 in 2005, representing 4.34% of industry employment at the national level. For Wisconsin, employment in the wholesale distribution of agricultural machinery and equipment accounted for 0.19% of total statewide employment, 3.75% of statewide

wholesale distribution employment, and 6.66% of statewide durable goods wholesale distribution employment.

**North Carolina:** Agricultural machinery and equipment dealer/wholesaler employment totaled 4,205 in 2005, or 4.14% of industry employment at the national level. For the state, employment in the wholesale distribution of agricultural machinery and equipment accounted for 0.13% of total statewide employment, 2.47% of statewide wholesale distribution employment, and 4.67% of statewide durable goods wholesale distribution employment.

**Nebraska:** Agricultural machinery and equipment dealer/wholesaler employment totaled 3,508 in 2005, representing 3.46% of industry employment at the national level. For Nebraska, employment in the wholesale distribution of agricultural machinery and equipment accounted for 0.47% of total statewide employment, 8.64% of statewide wholesale distribution employment, and 17.98% of statewide durable goods wholesale distribution employment.

**Ohio:** Agricultural machinery and equipment dealer/wholesaler employment totaled 3,469 in 2005, or 3.42% of industry employment at the national level. For the state of Ohio, employment in the wholesale distribution of agricultural machinery and equipment accounted for 0.08% of total statewide employment, 1.47% of statewide wholesale distribution employment, and 2.65% of statewide durable goods wholesale distribution employment.

**Florida:** Agricultural machinery and equipment dealer/wholesaler employment totaled 3,382 in 2005, representing 3.33% of industry employment at the national level. For the state of Florida, employment in the wholesale distribution of agricultural machinery and equipment accounted for 0.05% of total statewide employment, 1.00% of statewide wholesale distribution employment, and 1.87% of statewide durable goods wholesale distribution employment.

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### **Summary Table 5.4**

#### **Top Ten States, Wages Agricultural Equipment Dealer \ Wholesale Network**

	<u>Wages '000</u>	<u>% of US</u>	<u>State</u>	<u>% of State</u> <u>Total Wages</u>	<u>% of State</u> <u>Wholesale Wages</u>	<u>% of State</u> <u>Durable Wholesale Wages</u>
1	263,279	8.16%	Illinois	0.12%	1.47%	2.63%
2	247,402	7.67%	California	0.04%	0.65%	1.20%
3	198,449	6.15%	Texas	0.06%	0.71%	1.19%
4	163,990	5.08%	North Carolina	0.14%	1.88%	3.52%
5	152,170	4.72%	Iowa	0.38%	5.19%	12.02%
6	142,463	4.42%	Minnesota	0.15%	1.82%	3.84%
7	136,919	4.25%	Wisconsin	0.16%	2.41%	4.14%
8	109,999	3.41%	Ohio	0.07%	0.91%	1.67%
9	107,000	3.32%	Florida	0.04%	0.60%	1.10%
10	101,663	3.15%	Nebraska	0.43%	5.89%	11.93%
	1,601,916	49.67%	Other States			
	<b>3,225,249</b>	<b>100.0%</b>	<b>Total</b>			

\*\*\* For a comprehensive list see Appendix Table 5.4

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## Appendix

### Methodology: A Snapshot of the Agricultural Equipment Industry

The design of this study is to provide an economic snapshot of the agricultural equipment industry and compare that with other sectors of the economy and across various geographical states. In order to construct such a snapshot, Global Insight primarily used three data sources: the 2002 Economic Census Manufacturing Industry Series published by the U.S. Census Bureau, the Census of Employment and Wages published by the Bureau of Labor Statistics, and the Annual Survey of Manufactures (ASM).

#### Data Sources

The U.S. Census Bureau's Economic Census is produced every five years, with the most recent detailed information available for 2002. The data are based on the economic census performed during the reference year and contains detailed information about the revenue, employment, and production process input requirements for nearly 500 U.S. industries. The agricultural equipment manufacturing industry defined by NAICS Code 333111 and the agricultural equipment merchant wholesale (dealers) industry defined by NAICS Code 42382 are the two sectors in which the 2002 Economic Census information was investigated in detail to create the snapshot of the entire U.S. agricultural equipment industry. We used this information to construct detailed cost structures for labor, manufactured materials, services, and supplies to determine the indirect or spin-off effects of the agricultural equipment industry from both a manufacturing and a dealer/wholesale merchant perspective.

The BLS's Quarterly Census of Employment and Wages provides detailed data on average pay in NAICS sectors by state. The 2005 state information on employment and payroll for agricultural equipment manufacturing (NAICS 333111) and dealer/wholesale merchants (NAICS 42382) was used from this source for the report's Agricultural Equipment Perspective by State section. The BLS also supplied the latest 2005 data for national employment in agricultural equipment manufacturing, dealer/wholesale merchandising, as well as 27 individual supporting manufacturing, energy, and service industries.

Data from the ASM was used to compare individual manufacturing industries with respect to payroll and shipments (which we interpret as revenues) for 2005. Revisions in the 2005 ASM shipments data were also revised using information from the U.S. Census Bureau's Manufactures' Shipments, Inventories, and Orders (M3) database.

Export information for agricultural equipment and other detailed industries for 2005 came from the U.S. International Trade Commission. This is also originally cited as coming from the U.S. Census Bureau.

## ***Estimating Indirect Industries***

Using three data sources—the 2002 Economic Census, the BLS's employment and producer price index (PPI) data, and ASM shipments data—we carried forward from 2002 to 2005 estimates for revenues, employment, and payroll for sectors affected by the agricultural equipment industry. We call these the indirect effects of agricultural equipment manufacturing and dealer/wholesale distribution.

### **First Step**

Our estimation process starts by summarizing the 2002 census cost structure for agricultural equipment manufacturing, NAICS 333111, (Appendix Table 1.2, first column) and agricultural equipment dealer/wholesale distribution, NAICS 42382, (Appendix Table 1.3, first column). In the case of manufacturing, this includes over 50 individual, supplies, services, and material sectors.

### **Second Step**

After the cost summary is completed, the figures are adjusted for a measurement of volume from 2002 to 2005 for the amount of agricultural equipment manufactured (Appendix Table 1.2, second column) or amount of agricultural equipment distributed by the dealer/wholesaler (Appendix Table 1.3, second column).

### **Third Step**

After the adjustment for volume, price estimates (in PPI form) are used to estimate the change in price from 2002 to 2005 for each to the major supply, service, and material industries used to manufacture (Appendix Table 1.2, 3<sup>rd</sup> and 4<sup>th</sup> columns) or distribute (Appendix Table 1.3, third and fourth columns) agricultural equipment.

### **Fourth Step**

The estimated new industry cost structure for 2005 is the final calculation. This is processed by taking the major sector cost adjustments for volume (second column) and increasing it by the corresponding price change from 2002 to 2005 (third and fourth columns). These estimated costs are the indirect revenues for manufacturing (Appendix Table 1.2, fifth column) and distribution (Appendix Table 1.3, fifth column) for agricultural equipment. A synopsis of these numbers, as well as the direct revenue numbers, can be found in Summary Table 1.2.

### **Fifth Step**

The estimate of indirect employment is calculated by utilizing the indirect revenue (calculated in Step 4, Appendix Tables 3.3 and 3.4, first columns) and comparing it to the total national revenue (Appendix Tables 3.3 and 3.4, second columns) for each of the major sectors supporting the agricultural equipment industry. The ratio of indirect revenue (Appendix Tables 3.3 and 3.4, third columns) multiplied by the total national employment for the supporting industries (Appendix Tables 3.3 and 3.4, fourth columns) is our estimate for indirect employment (Appendix Tables 3.3 and 3.4, fifth columns). A

summary of these indirect employment estimates, as well as the direct employment numbers, can be found in Summary Table 3.3.

### **Sixth Step**

Our estimate of the indirect payroll generated by the agricultural equipment industry is a straightforward calculation. Extrapolating the supporting industry employment information in the fifth step to a national basis (Appendix Tables 4.3 and 4.4, first columns) and comparing it to the supporting industry indirect employment (Appendix Tables 4.3 and 4.4, second columns) will generate a percentage of national employment utilized by each supporting sector (Appendix Tables 4.3 and 4.4, third columns). This percentage, multiplied by each individual supporting sector's national payroll, generates an estimate of the indirect payroll stimulated by the agricultural equipment industry (Appendix Tables 4.3, and 4.4, fourth columns). A summary of these indirect payroll estimates, as well as the direct payroll numbers, can be found in Summary Table 4.3.

**Appendix Table 1.1**  
**U.S. Manufacturing Revenues, 2005**

<u>Ranking</u>	<u>Million \$</u>	<u>Industry</u>
1	445,910	Petroleum refineries
2	147,634	Light truck & utility vehicle
3	133,668	Pharmaceutical preparation
4	86,761	Automobile
5	75,491	Semiconductor & related device
6	74,328	Plastics material & resin
7	65,413	Aircraft
8	51,415	Petrochemical
9	47,819	Poultry processing
10	43,531	Electronic computer
11	39,551	Toilet preparation
12	37,997	All other vehicle parts
13	36,875	Search, detection, navigation, & guidance instrument
14	35,654	Radio & TV broadcasting & wireless communications equipment
15	34,615	Motor vehicle transmission & power train parts
16	31,917	Machine shops
17	31,083	Construction machinery
18	29,683	Surgical appliance & supplies
19	28,816	AC & warm air heating commercial/industrial refig equip
20	27,116	Cheese
21	27,109	Other engine equipment
22	27,079	Ready-mix concrete
23	26,821	Surgical & medical instrument
24	26,707	Motor vehicle metal stamping
25	25,794	Aircraft engine & engine parts
26	25,073	Heavy duty truck
27	23,819	Paint & coat
28	22,779	Other aircraft part & auxiliary equipment
29	22,216	Printed circuit assembly (electronic assembly)
30	20,854	Paperboard mills
31	20,795	Breweries
32	20,170	Other animal food
<b>33</b>	<b>20,091</b>	<b>Farm machinery &amp; equipment</b>
34	19,628	Electromedical & electrotherapeutic apparatus
35	19,059	Telephone apparatus
36	19,018	Wood Kitchen Cabinet and Countertop
37	18,249	Motor vehicle seating & interior trim
38	17,435	All other basic inorganic chemical
39	17,284	Carpet & rug mills
40	16,549	Other computer peripheral equipment
41	16,523	All other miscellaneous
42	16,029	Guided missile & space vehicle
43	15,608	Unsupported plastics film & sheet (expected packaging)
44	14,150	Ship building & repairing
45	14,077	Motor vehicle brake system
46	14,074	Pesticide & other agricultural chemical
47	13,170	Dog & cat food
48	12,429	Sporting & athletic goods
49	12,109	Semiconductor machinery
50	11,961	Biological product (except diagnostic)
51	11,539	Motor & generator
52	11,453	Breakfast cereal
53	11,421	Glass product made of purchased glass
54	11,367	Boat building
55	11,226	Electricity measuring & testing instrument
56	10,853	Motor vehicle steering & suspension component (except spring)
57	10,797	Motor Vehicle Body Manufacturing
58	10,697	In-vitro diagnostic substance
59	10,653	Sign mfg
60	10,575	Other concrete product
61	10,530	Nonupholstered wood household furniture
62	10,528	Upholstered household furniture
63	10,453	Wineries
64	10,390	Confectionery from purchased chocolate
65	10,371	Audio & equipment
66	10,303	Hardware
67	10,236	Petroleum lubricating oil & grease
68	9,973	Precision turned product
69	9,903	Cement
70	9,842	Relay & industrial control
71	9,643	Medicinal & botanical
72	9,640	Fats & oils refining & blending
73	9,586	Dry, condensed & evaporated dairy product
74	9,538	Custom compounding of purchased resin
75	9,344	Travel trailer & camper
76	9,291	Wet corn milling
77	9,261	Other electronic component
78	9,256	Showcase, partition, shelving, & locker
79	9,255	Plastics bottle
80	9,205	Railroad rolling stock
81	9,155	Analytical laboratory instrument
82	9,110	Pump & pumping equipment
83	9,013	Ice cream & frozen dessert
84	8,984	Adhesive
85	8,896	Unsupported plastics bag
86	8,874	Asphalt shingle & coating materials
87	8,816	Urethane & other foam product (except polystyrene)
88	8,812	Iron & steel pipes tubes from purchased steel
89	8,672	Bolt, nut, screw, rivet, washer
90	8,592	Broadwoven fabric mills
91	8,552	All other transportation equipment
92	8,546	Sanitary paper product
93	8,470	Asphalt paving mixture & block
94	8,392	Plastics pipe & pipe fitting
95	8,346	Lawn & garden tractor & home lawn & garden equipment
96	8,341	Reconstituted wood product
97	8,128	Computer storage device
98	8,060	Switchgear & switchboard apparatus
99	8,033	Polystyrene foam product
100	8,021	Aluminum extruded product
101 - 234	\$510,074	Remaining Industries 101 to 234

**Appendix Table 1.2**

U.S. Farm Machinery & Equipment Manufacturing Revenue, NAICS 333111 Industrial Production Index 333111	2002	2005 Adjusted for Volume	2002 PPI	2005 PPI	2005 Adjusted for Prices
	100.0	122.9			
	Thousands \$				
<b>Shipments</b>	<b>\$14,781,380</b>	<b>\$18,170,750</b>	149.0	164.7	<b>\$20,084,039</b>
<b>Cost of Materials, Services, Depreciation &amp; Rent</b>	<b>\$8,945,796</b>	<b>\$10,997,067</b>			<b>\$12,795,796</b>
<b>Cost of Supplies, Depreciation &amp; Rent</b>	<b>\$1,154,206</b>	<b>\$1,418,865</b>			<b>\$1,554,775</b>
Resales	601,774	739,761			817,654
Purchased Fuels	39,205	48,194	135.0	232.5	83,001
Purchased Electricity	55,310	67,993	137.5	149.8	74,039
Contract Work	92,272	113,430	91.6	99.2	122,776
Depreciation	272,441	334,911	122.9	123.7	337,047
Rent Buildings	52,343	64,346	1.80	1.95	69,708
Rent Equipment	40,860	50,230	122.9	123.7	50,550
<b>Services &amp; Other Expenses</b>	<b>\$792,122</b>	<b>\$973,755</b>			<b>\$1,031,896</b>
Repair & maintenance of buildings & machinery	116,954	143,771	117.8	120.5	147,141
Communications services	19,663	24,171	99.7	100.5	24,365
Legal services	12,193	14,989	121.7	138.5	17,052
Accounting, auditing & bookkeeping services	14,798	18,191	16.07	17.58	19,900
Advertising & promotion services	58,202	71,547	118.9	122.9	73,972
Expensed computer hardware & supplies	24,909	30,621	35.53	27.45	23,657
Refuse removal	11,980	14,727	100.0	101.5	14,948
Mgt consulting & admin services	14,886	18,300	16.17	17.94	20,303
Taxes & license fees	20,122	24,735	1.80	1.95	26,797
Other expenses	498,416	612,703	1.80	1.95	663,762
<b>Manufactured Materials</b>	<b>\$6,999,468</b>	<b>\$8,604,447</b>			<b>\$10,209,125</b>
<b>Total fluid power equipment (NAICS 333995 &amp; 333996)</b>	<b>487,842</b>	<b>599,704</b>	<b>162.1</b>	<b>179.4</b>	<b>663,949</b>
Fluid power pumps, motors & hydro transmission	181,510	223,131			
Fluid power cylinders	104,165	128,050			
Fluid power filters	26,621	32,725			
Fluid power hose & tube fittings	86,324	106,118			
Fluid power valves	89,221	109,680			
<b>Total fabricated metal parts (NAICS 332)</b>	<b>675,147</b>	<b>829,959</b>	<b>131.7</b>	<b>149.5</b>	<b>942,015</b>
Metal bolts, nuts, screws, rivets & other	155,115	190,683			
Metal stampings	227,867	280,117			
Other fabricated metal products	230,994	283,961			
Wheels, motor vehicles	31,537	38,769			
Shocks, struts & other suspension parts	29,634	36,429			
<b>Total steel (NAICS 3311, 3312, 3315)</b>	<b>1,141,101</b>	<b>1,402,755</b>	<b>114.1</b>	<b>171.1</b>	<b>2,104,748</b>
Iron & steel forgings	64,561	79,365			
Iron & steel castings	257,343	316,352			
Steel bars	192,429	236,553			
Steel sheet & strip	220,981	271,651			
Steel structural shapes	35,820	44,033			
Other steel shapes	369,967	454,801			
<b>Total Nonferrous (NAICS 3313 &amp; 3314)</b>	<b>43,538</b>	<b>53,521</b>	<b>120.3</b>	<b>165.5</b>	<b>73,656</b>
Aluminum & aluminum based alloy castings	28,049	34,481			
Other nonferrous metal castings	3,518	4,324			
Non Ferrous metal shapes	10,924	13,429			
Nonferrous forgings	1,047	1,287			
<b>Engines (NAICS 333618)</b>	<b>566,293</b>	<b>696,144</b>	<b>138.9</b>	<b>143.3</b>	<b>718,254</b>
Diesel engines	329,691	405,289			
Gasoline engines	141,541	173,996			
Engine electrical equipment	95,061	116,858			
<b>Electrical motors &amp; generators (NAICS 335312)</b>	<b>34,041</b>	<b>41,846</b>	<b>142.0</b>	<b>154.4</b>	<b>45,488</b>
<b>Transmission power (NAICS 333612 &amp; 333613)</b>	<b>424,314</b>	<b>521,610</b>	<b>157.8</b>	<b>177.8</b>	<b>587,703</b>
Ball bearings	49,764	61,175			
Roller bearings	29,726	36,542			
Mechanical speed changers	74,403	91,463			
Transmissions & parts	270,422	332,429			
<b>Plastics &amp; rubber (NAICS 326)</b>	<b>376,800</b>	<b>463,201</b>	<b>126.8</b>	<b>143.8</b>	<b>525,172</b>
Pneumatic tires	168,088	206,631			
Rubber & plastic hose & belting	77,661	95,469			
Fabricated plastic products	131,051	161,100			
<b>Paints (NAICS 3255)</b>	<b>47,289</b>	<b>58,133</b>	<b>165.8</b>	<b>187.2</b>	<b>65,621</b>
<b>Other mfg items</b>	<b>3,203,103</b>	<b>3,937,574</b>	<b>135.8</b>	<b>154.6</b>	<b>4,482,518</b>
Cabs Purchased	87,985	108,160			
Other material & parts	2,560,836	3,148,035			
Materials, ingredients, containers & supplies	554,283	681,380			

**Appendix Table 1.3**

**Farm Machinery Dealer \ Wholesale Distribution**  
*Revenue, NAICS 42382*  
 Production Index 42382

	2002	2005	2002	2005	2005
		Adjusted for Volume	PPI	PPI	Adjusted for Prices
	100.0	116.3			
	Thousands \$				
Shipments	<b>\$33,437,376</b>	<b>\$38,887,668</b>	149.0	164.7	<b>\$42,982,343</b>
<b>Cost of Materials, Services, Depreciation &amp; Rent</b>	<b>\$5,226,651</b>	<b>\$6,078,595</b>			<b>\$6,332,549</b>
<b>Cost of Materials &amp; Supplies</b>	<b>\$915,911</b>	<b>\$1,065,205</b>			<b>\$893,876</b>
Utilities	99,017	115,157	137.5	149.8	125,398
Contract Work	100,786	117,214	121.1	129.2	125,042
Expensed computer hardware & supplies	716,108	832,834	35.5	27.5	643,436
<b>Services &amp; Other Expenses</b>	<b>4,310,740</b>	<b>5,013,390</b>			<b>5,438,673</b>
Purchased transportation, shipping & warehousing	265,225	308,457	160.8	189.4	363,387
Purchased repair & maintenance services	106,090	123,383	117.8	120.5	126,275
Printing, advertising & promotional services	159,135	185,074	118.9	122.9	191,347
Purchased legal services	44,204	51,409	121.7	138.5	58,484
Purchased accounting, auditing & bookkeeping services	53,045	61,691	16.07	17.58	67,488
Purchased mgt consulting & admin services	61,886	71,973	16.17	17.94	79,852
Purchased communication services	159,135	185,074	99.7	100.5	186,560
Cost of purchased custom software & web design	26,523	30,846	30.08	33.46	34,312
Cost of other purchased computer services	8,841	10,282	30.08	33.46	11,437
Lease & rental payments	415,520	483,249	1.80	1.95	523,520
Cost of insurance	176,817	205,638	1.09	1.18	222,617
Taxes & licenses & fees	106,090	123,383	1.80	1.95	133,665
Depreciation & amortization	433,201	503,813	122.9	123.7	507,026
Commissions paid to other firms	194,499	226,202	149.0	164.7	250,020
Contract work	17,682	20,564	121.1	129.2	21,937
Other operating expenses	2,082,847	2,422,352	136.3	149.7	2,660,747

**Appendix Table 2.1**  
**U.S. Agricultural Machinery Exports, 2005**

<u>Ranking</u>	<u>'000 \$</u>	<u>Country</u>
	<b>\$6,206,905</b>	<b>TOTAL</b>
1	1,603,160	Canada
2	575,487	Australia
3	450,038	Mexico
4	339,224	Germany
5	335,433	France
6	269,251	United Kingdom
7	166,667	Russia
8	151,559	Netherlands
9	146,017	Belgium
10	138,691	Brazil
11	116,385	Japan
12	97,479	China
13	97,048	Turkmenistan
14	94,261	Sweden
15	89,872	Italy
16	85,851	South Africa
17	85,618	Argentina
18	76,591	Spain
19	73,330	Kazakhstan
20	61,119	New Zealand
21	58,062	Denmark
22	49,384	Venezuela
23	48,258	Korea
24	47,406	Ukraine
25	43,094	Poland
26	42,947	Saudi Arabia
27	40,252	Singapore
28	34,938	United Arab Em
29	33,388	Hungary
30	31,930	Czech Republic
31	31,808	Finland
32	31,187	Dominican Rep
33	30,263	Chile
34	29,364	Peru
35	29,279	Austria
36	28,200	Ireland
37	26,155	Colombia
38	23,546	Hong Kong
39	22,325	Guatemala
40	21,868	Israel
41	20,536	Norway
42	19,404	Costa Rica
43	19,353	Turkey
44	18,871	Egypt
45	16,067	Lithuania
46	15,912	Thailand
47	15,139	Mauritania
48	14,441	Taiwan
49	13,172	Greece
50	12,696	Ecuador
51	12,570	Malaysia
52	11,002	Estonia
53	10,448	Jamaica
54	9,962	Pakistan
55	9,724	Honduras
56	9,611	Panama
57	9,454	Switzerland
58	8,735	India
59	8,538	Slovak Republic
60	8,202	Uruguay
61	8,109	Romania
62	8,026	Nicaragua
63	8,024	Indonesia
64	7,839	Bulgaria
65	7,585	Portugal
66	5,775	Luxembourg
67	5,604	Croatia
68	5,377	Trin & Tobago
69	5,160	Suriname
70	4,816	Philippines
71	4,650	Vietnam
72	4,622	Ghana
73	4,601	Kuwait
74	4,292	Bahamas
75	4,255	Nigeria
76	4,005	Latvia
77	3,634	Guyana
78	3,535	Cameroon
79	3,345	Mali
80	3,324	Kenya
81	3,181	El Salvador
82	2,794	Jordan
83	2,786	Barbados
84	2,770	Zimbabwe
85	2,553	Serbia/Montenegro
86	2,546	Burkina Faso
87	2,402	Tanzania
88	2,208	Guadeloupe
89	2,134	Lebanon
90	1,992	Antigua Barbuda
91	1,978	Zambia
92	1,934	Bermuda
93	1,927	Uzbekistan
94	1,830	Qatar
95	1,814	Bolivia
96	1,786	Libya
97	1,717	Iraq
98	1,704	Belize
99	1,595	Slovenia
100	1,428	Martinique
101 - 190	\$36,674	Remaining Countries 101 to 190

**Appendix Table 2.2**  
**U.S. Goods Exports, 2005**

<b>Ranking</b>	<b>'000 \$</b>	<b>Industry</b>
	<b>\$774,154,273</b>	<b>TOTAL</b>
1	34,305,641	SEMICONDUCTORS & RELATED DEVICES
2	30,495,966	AIRCRAFT
3	24,238,423	AUTOMOBILES & LIGHT DUTY MOTOR VEHICLES
4	23,018,277	ALL OTHER BASIC ORGANIC CHEMICALS
5	19,876,039	MOTOR VEHICLE PARTS
6	19,577,052	OTHER COMPUTER EQUIPMENT
7	18,874,984	PLASTICS MATERIALS & RESINS
8	17,505,949	PETROLEUM REFINERY PRODUCTS
9	16,772,500	AIRCRAFT PARTS & AUXILIARY EQUIPMENT
10	16,746,001	PHARMACEUTICAL PREPARATIONS
11	16,221,753	AIRCRAFT ENGINES & ENGINE PARTS
12	11,760,493	OTHER MISCELLANEOUS GENERAL PURPOSE MACHINERY
13	11,000,020	CONSTRUCTION MACHINERY
14	10,612,603	HEAVY DUTY TRUCKS & CHASSIS
15	10,356,547	WASTE & SCRAP
16	9,583,644	OTHER ENGINE EQUIPMENT
17	9,349,974	IRON & STEEL
18	8,388,787	ALL OTHER PLASTICS PRODUCTS
19	7,959,996	TELEPHONE APPARATUS
20	7,907,956	SURGICAL & MEDICAL INSTRUMENTS
21	7,019,967	MEDICINAL & BOTANICAL DRUGS & VITAMINS
22	7,010,122	PRIMARY SMELTING & REFINING OF NONFERROUS METALS (EXCEPT COPPER & ALUMINUM)
23	6,930,336	OIL & GAS FIELD MACHINERY & EQUIPMENT
24	6,867,083	ELECTRONIC COMPUTERS
25	6,351,176	ALL OTHER BASIC INORGANIC CHEMICALS
26	6,314,528	SOYBEANS
27	6,243,355	INSTRUMENTS FOR MEASURING & TESTING ELECTRICITY
<b>28</b>	<b>6,206,905</b>	<b>FARM MACHINERY &amp; EQUIPMENT</b>
29	6,077,051	MEAT PRODUCTS (EXCEPT POULTRY)
30	5,915,054	RADIO, TELEVISION BROADCAST & WIRELESS COMM EQUIP
31	5,570,023	ELECTROMEDICAL & ELECTROTHERAPEUTIC APPARATUS
32	5,557,799	TURBINES & TURBINE GENERATOR SETS
33	5,549,423	MOTOR VEHICLE GASOLINE ENGINES & ENGINE PARTS
34	5,415,901	PAPER (EXCEPT NEWSPRINT) MILL PRODUCTS
35	5,369,311	SURGICAL APPLIANCES & SUPPLIES
36	5,338,522	BIOLOGICAL PRODUCTS (EXCEPT DIAGNOSTIC)
37	5,135,426	MOTOR VEHICLE TRANSMISSION & POWER TRAIN PARTS
38	5,086,770	SEMICONDUCTOR MACHINERY
39	5,027,106	CORN
40	4,783,676	OPTICAL INSTRUMENTS & LENSES
41	4,772,112	AIR-CONDITIONING, WARM AIR HEATING EQUIP, COMMERCIAL & IND REFRIGERATION EQU
42	4,696,487	INSTRUMENTS, RELATED PROD FOR MEASURING, DISPLAYING & CONTROLLING IND PROCESS
43	4,674,522	MISCELLANEOUS ELECTRICAL EQUIPMENT & COMPONENTS
44	4,444,797	ANALYTICAL LABORATORY INSTRUMENTS
45	4,378,435	WHEAT
46	4,376,133	CYCLIC CRUDE & INTERMEDIATES
47	4,249,282	PERFUMES, MAKEUPS & OTHER TOILETRIES
48	4,071,482	OTHER ELECTRONIC COMPONENTS
49	3,997,252	COTTON
50	3,969,211	OTHER MISCELLANEOUS FABRICATED METAL PRODUCTS
51	3,857,382	MOTORS & GENERATORS
52	3,668,547	SEARCH, DETECTION, NAVIGATION, GUIDANCE, AERONAUTICAL & NAUTICAL SYSTEMS & INST
53	3,537,287	AUDIO & VIDEO EQUIPMENT
54	3,517,688	CRUDE PETROLEUM & NATURAL GAS
55	3,516,479	RELAYS & INDUSTRIAL CONTROLS
56	3,481,592	INDUSTRIAL VALVES
57	3,380,309	PULP MILL PRODUCTS
58	3,366,678	ALL OTHER MISC CHEMICAL PRODUCTS & PREPARATIONS (INCL NATURAL)
59	3,336,045	COAL (EXCEPT ANTHRACITE) & PETROLEUM GASES
60	3,300,404	NOT REINFORCED PLASTIC PLATES, SHEET, ETC (EXCEPT PACKAGING)
61	3,155,958	PRINTED MATTER, NESOI
62	3,009,706	SYNTHETIC RUBBERS
63	2,928,026	NITROGENOUS FERTILIZERS
64	2,804,952	TIRES & TIRE PARTS (EXCEPT RETREADINGS)
65	2,771,900	BROADWOVEN FABRICS
66	2,771,391	JEWELERS' MATERIAL & LAPIDARY WORK
67	2,765,009	FINFISH FRESH, CHILLED OR FROZEN & OTHER FINFISH PRODUCTS
68	2,764,494	JEWELRY (EXCEPT COSTUME)
69	2,757,665	POULTRY, PREPARED OR PRESERVED
70	2,745,578	ALUMINUM SHEETS, PLATES, & FOILS
71	2,742,119	USED OR SECOND-HAND MERCHANDISE
72	2,687,541	IRRADIATION APPARATUS
73	2,579,107	COMMUNICATION & ENERGY WIRE, NESOI
74	2,532,442	COATED & LAMINATED PAPER
75	2,510,285	TREE NUTS
76	2,375,685	PHOTOGRAPHIC FILMS, PAPERS, PLATES, & CHEMICALS
77	2,363,400	OTHER FOODS, NESOI
78	2,361,627	ELECTRONIC CONNECTORS
79	2,346,460	OTHER MEASURING & CONTROLLING DEVICES
80	2,267,207	AIR & GAS COMPRESSORS
81	2,264,206	MOTOR VEHICLE ELECTRICAL & ELECTRONIC EQUIPMENT
82	2,203,989	SAWMILL PRODUCTS
83	2,188,723	COMPUTER STORAGE DEVICES
84	2,181,046	NONFERROUS METALS (EXCEPT COPPER & ALUMINUM) ROLLING, DRAWING, & EXTRUDING
85	2,158,942	SOYBEAN OIL & BY-PRODUCTS
86	2,127,355	PRINTED BOOKS, BROCHURES, LEAFLETS, & SIMILAR PRINTED MATTER
87	2,104,940	HARDWARE
88	2,022,898	CURRENT-CARRYING WIRING DEVICES
89	1,975,765	MOTOR VEHICLE BRAKE SYSTEMS
90	1,970,214	PUMPS & PUMPING EQUIPMENT
91	1,927,150	SPORTING & ATHLETIC GOODS
92	1,919,627	MACHINE TOOLS (METAL CUTTING TYPES)
93	1,914,825	INDUSTRIAL TRUCKS, TRACTORS, TRAILERS, & STACKER MACHINERY
94	1,894,235	BOLTS, NUTS, SCREWS, RIVETS, WASHERS & OTHER TURNED PRODUCTS
95	1,834,109	KNIT FABRICS & LACE
96	1,825,618	OTHER VEGETABLES (EXCEPT POTATOES) & MELONS
97	1,811,524	SOAPS & OTHER DETERGENTS
98	1,780,711	PRINTED CIRCUITS
99	1,779,611	RAILROAD ROLLING STOCK
100	1,731,101	PAINTS & COATINGS
101 - 451	\$160,382,870	Remaining Industries 101 to 451

**Appendix Table 3.1**  
**U.S. Manufacturing Employment, 2005**

'000		
<u>Ranking</u>	<u>Persons</u>	<u>Industry</u>
1	235,358	Poultry Processing
2	226,342	Pharmaceutical Preparation Mfg
3	222,975	Semiconductor & Related Device Mfg
4	210,525	Aircraft Mfg
5	156,817	Search, Detection, Navigation, Guidance, Aeronautical, & Nautical System
6	156,118	Motor Vehicle Parts Mfg
7	146,892	Animal (except Poultry) Slaughtering
8	141,517	Frozen Cakes, Pies, & Other Pastries Mfg
9	141,467	Automobile Mfg
10	129,633	Other Commercial Printing
11	119,225	Rendering & Meat Byproduct Processing
12	116,067	Other Electronic Component Mfg
13	114,242	Corrugated & Solid Fiber Box Mfg
14	112,525	Electronic Computer Mfg
15	110,100	All Other Miscellaneous Fabricated Metal Product Mfg
16	107,233	Surgical & Medical Instrument Mfg
17	104,033	Air-Conditioning, Warm Air Heating Equip, Commercial & Industrial Refrigeration Equip Mfg
18	102,708	Sheet Metal Work Mfg
19	90,092	Fabricated Structural Metal Mfg
20	89,958	Ship Building & Repairing
21	87,775	Surgical Appliance & Supplies Mfg
22	87,675	Other Aircraft Parts & Auxiliary Equipment Mfg
23	86,300	Upholstered Household Furniture Mfg
24	85,942	Other Commercial & Service Industry Machinery Mfg
25	85,225	Metal Window & Door Mfg
26	81,700	Aircraft Engine & Engine Parts Mfg
27	81,350	Other Measuring & Controlling Device Mfg
28	80,283	Other Motor Vehicle Electrical & Electronic Equipment Mfg
29	79,592	Nonupholstered Wood Household Furniture Mfg
30	79,217	Other Millwork (including Flooring)
31	78,342	Wood Window & Door Mfg
32	77,908	Other Engine Equipment Mfg
33	77,658	Special Die & Tool, Die Set, Jig, & Fixture Mfg
34	77,000	Soft Drink Mfg
35	74,492	Electroplating, Plating, Polishing, Anodizing, & Coloring
36	73,033	Specialty Canning
37	71,225	Construction Machinery Mfg
38	71,042	Light Truck & Utility Vehicle Mfg
39	69,233	Metal Coating, Engraving (except Jewelry & Silverware), & Allied Services to Mfg
40	68,000	Women's, Girls', & Infants' Cut & Sew Apparel Contractors
41	67,992	Travel Trailer & Camper Mfg
42	67,925	Quick Printing
43	67,358	Retail Bakeries
44	65,873	Fruit & Vegetable Canning
45	65,733	Motor Vehicle Body Mfg
46	65,600	Other Computer Peripheral Equipment Mfg
47	64,433	Commercial Screen Printing
48	63,217	Showcase, Partition, Shelving, & Locker Mfg
49	62,692	Boat Building
50	62,117	Biological Product (except Diagnostic) Mfg
51	61,708	Plastics Material & Resin Mfg
52	61,400	Iron Foundries
53	60,783	Gasoline Engine & Engine Parts Mfg
54	59,433	Bare Printed Circuit Board Mfg
55	59,342	Truss Mfg
56	59,283	Instruments & Related Products Mfg for Measuring
<b>57</b>	<b>59,217</b>	<b>Farm Machinery &amp; Equipment Mfg</b>
58	57,450	Metal Stamping
59	56,900	Frozen Specialty Food Mfg
60	55,067	Fluid Milk Mfg
61	53,217	Glass Product Mfg Made of Purchased Glass
62	52,592	Printed Circuit Assembly (Electronic Assembly) Mfg
63	50,050	Unlaminated Plastics Film & Sheet (except Packaging) Mfg
64	49,700	Motor & Generator Mfg
65	49,667	Coated & Laminated Paper Mfg
66	49,508	Dental Laboratories
67	46,983	Plate Work Mfg
68	46,450	Other Metal Valve & Pipe Fitting Mfg
69	45,775	Rubber Product Mfg for Mechanical Use
70	45,742	Manufactured Home (Mobile Home) Mfg
71	44,883	Instrument Mfg for Measuring & Testing Electricity & Electrical Signals
72	44,525	Wood Television, Radio, & Sewing Machine Cabinet Mfg
73	44,233	Precision Turned Product Mfg
74	44,050	Relay & Industrial Control Mfg
75	43,925	Softwood Veneer & Plywood Mfg
76	42,358	Bolt, Nut, Screw, Rivet, & Washer Mfg
77	42,058	Other Ordnance & Accessories Mfg
78	41,808	Industrial Mold Mfg
79	41,408	Other Metalworking Machinery Mfg
80	41,325	Machine Tool (Metal Forming Types) Mfg
81	40,583	Custom Architectural Woodwork & Millwork Mfg
82	40,358	Commercial Flexographic Printing
83	39,717	Current-Carrying Wiring Device Mfg
84	38,533	Ornamental & Architectural Metal Work Mfg
85	37,217	Other Pressed & Blown Glass & Glassware Mfg
86	37,050	Manifold Business Forms Printing
87	36,850	Truck Trailer Mfg
88	36,467	Fluid Power Valve & Hose Fitting Mfg
89	35,858	Hand & Edge Tool Mfg
90	35,517	Folding Paperboard Box Mfg
91	34,467	Ball & Roller Bearing Mfg
92	33,100	Steel Foundries (except Investment)
93	32,492	Frozen Fruit, Juice, & Vegetable Mfg
94	32,217	Prefabricated Metal Building & Component Mfg
95	32,117	Surface Active Agent Mfg
96	31,908	Switchgear & Switchboard Apparatus Mfg
97	31,850	Plastics Pipe & Pipe Fitting Mfg
98	31,508	Nonfolding Sanitary Food Container Mfg
99	30,600	Computer Storage Device Mfg
100	30,233	Measuring & Dispensing Pump Mfg
101 - 128	528,080	Remaining Industries 101 to 128

**Appendix Table 3.2**  
**U.S. Dealer \ Wholesale Distribution Employment, 2005**

<u>'000</u>		
<u>Ranking</u>	<u>Persons</u>	<u>Industry</u>
1	304.150	Industrial Machinery & Equipment
2	240.317	Computer & Computer Peripheral Equipment & Software
3	216.042	General Line Grocery
4	201.583	Other Electronic Parts & Equipment
5	173.150	Motor Vehicle Supplies & New Parts
6	172.933	Medical, Dental, & Hospital Equipment & Supplies
7	143.825	Electrical Apparatus & Equipment, Wiring Supplies, & Related Equip
8	135.933	Lumber, Plywood, Millwork, & Wood Panel
9	125.992	Automobile & Other Motor Vehicle
10	114.350	Other Miscellaneous Nondurable Goods
11	112.767	Office Equipment
12	109.583	Other Professional Equipment & Supplies
13	107.475	Other Chemical & Allied Products
14	106.492	Farm Supplies
<b>15</b>	<b>101.517</b>	<b>Farm &amp; Garden Machinery &amp; Equipment</b>
16	100.242	Recyclable Material
17	92.233	Plumbing & Heating Equipment & Supplies (Hydronics) Merchant
18	87.842	Beer & Ale
19	85.483	Other Miscellaneous Durable Goods
20	84.742	Stationary & Office Supplies
21	83.883	Construction & Mining (except Oil Well) Machinery & Equip Merchant
22	79.200	Hardware
23	78.167	Fresh Fruit & Vegetable
24	73.458	Industrial Supplies
25	70.633	Refrigeration Equipment & Supplies
26	67.242	Home Furnishing
27	66.475	Industrial & Personal Service Paper
28	63.967	Service Establishment Equipment & Supplies
29	63.042	Women's, Children's, & Infants' Clothing & Accessories
30	58.767	Other Construction Material
31	58.583	Wine & Distilled Alcoholic Beverage
32	57.733	Brick, Stone, & Related Construction Material
33	57.442	Business to Business Electronic Markets
34	56.117	Book, Periodical, & Newspaper
35	52.158	Flower, Nursery Stock, & Florists' Supplies Merchant
36	48.767	Sporting & Recreational Goods & Supplies
37	46.050	Furniture
38	43.650	Jewelry, Watch, Precious Stone, & Precious Metal
39	42.633	Grain & Field Bean
40	32.008	Transportation Equip & Supplies (except Motor Vehicle) Merchant
41	31.833	Men's & Boys' Clothing & Furnishings
42	30.275	Packaged Frozen Food
43	27.442	Tobacco & Tobacco Product

**Appendix Table 3.3**

**U.S. Farm Machinery & Equipment Manufacturing**  
Employment, 2005, NAICS 333111

	Thousands \$ Farm Machine Revenue	Thousands \$ Total Industry Revenue	Percent Consumed By Ag Equip	Direct Total Industry Employment	Indirect Industry Employment
<b>Farm Machinery Mfg</b>	<b>\$20,084,039</b>	<b>\$ 20,084,039</b>		<b>59,217</b>	
<b>Cost of Materials, Services, Depreciation &amp; Rent</b>	<b>\$12,795,796</b>	<b>\$15,813,387,572</b>		<b>61,155,008</b>	<b>43,896</b>
<b>Cost of Supplies, Depreciation &amp; Rent</b>	<b>\$1,554,775</b>	<b>\$7,520,679,404</b>		<b>21,949,359</b>	<b>4,618</b>
Resales	817,654	2,692,298,814	0.03%	8,609,667	2,615
Purchased Fuels	83,001	375,666,000	0.02%	69,249	15
Purchased Electricity	74,039	302,086,920	0.02%	405,468	99
Contract Work	122,776	1,360,110,000	0.01%	5,573,280	503
Depreciation	337,047	878,651,000	0.04%	2,917,725	1,119
Rent Buildings	69,708	1,033,215,670	0.01%	1,456,245	98
Rent Equipment	50,550	878,651,000	0.01%	2,917,725	168
<b>Services &amp; Other Expenses</b>	<b>\$1,031,896</b>	<b>\$5,600,409,354</b>		<b>30,595,982</b>	<b>5,888</b>
Repair & maintenance of buildings & machinery	147,141	694,680,680	0.02%	5,733,970	1,215
Communications services	24,365	466,313,870	0.01%	998,683	52
Legal services	17,052	247,150,430	0.01%	1,164,053	80
Accounting, auditing & bookkeeping services	19,900	116,440,550	0.02%	839,640	143
Advertising & promotion services	73,972	79,060,520	0.09%	443,663	415
Expensed computer hardware & supplies	23,657	78,263,000	0.03%	54,059	16
Refuse removal	14,948	54,058,740	0.03%	334,231	92
Mgt consulting & admin services	20,303	169,873,940	0.01%	843,637	101
Taxes & license fees	26,797	139,120,136	0.02%	760,037	146
Other expenses	663,762	3,555,447,488	0.02%	19,424,010	3,626
<b>Manufactured Materials</b>	<b>\$10,209,125</b>	<b>\$ 2,692,298,814</b>	<b>0.38%</b>	<b>8,609,667</b>	<b>33,391</b>
Total fluid power equipment (NAICS 333995 & 333996)	663,949	7,192,738	9.23%	29,816	2,752
Total fabricated metal parts (NAICS 332)	942,015	275,624,000	0.34%	1,518,950	5,191
Total steel (NAICS 3311, 3312, 3315)	2,104,748	115,840,000	1.82%	246,260	4,474
Total Nonferrous (NAICS 3313 & 3314)	73,656	78,852,000	0.09%	218,230	204
Engines (NAICS 333618)	718,254	23,504,160	3.06%	77,910	2,381
Electrical motors & generators (NAICS 335312)	45,488	11,539,238	0.39%	49,700	196
Transmission power (NAICS 333612 & 333613)	587,703	5,280,603	11.13%	27,656	3,078
Plastics & rubber (NAICS 326)	525,172	196,491,000	0.27%	800,342	2,139
Paints (NAICS 3255)	65,621	31,330,000	0.21%	68,100	143
Other mfg items	4,482,518	1,946,645,075	0.23%	5,572,703	12,832

**Appendix Table 3.4**

**U.S. Farm Machinery Dealer \ Wholesale Distribution**  
Employment, 2005, NAICS 42382

	Thousands \$ Farm Machine Revenue	Thousands \$ Total Industry Revenue	Percent Consumed By Ag Equip	Direct Total Industry Employment	Indirect Industry Employment
<b>Farm Machinery Distribution &amp; Service</b>	<b>\$42,982,343</b>	<b>\$ 42,982,343</b>		<b>101,517</b>	
<b>Cost of Materials, Services, Depreciation &amp; Rent</b>	<b>\$6,332,549</b>	<b>\$5,112,422,630</b>		<b>21,284,232</b>	<b>28,001</b>
<b>Cost of Materials &amp; Supplies</b>	<b>\$893,876</b>	<b>\$1,740,459,920</b>		<b>6,032,807</b>	<b>1,125</b>
Utilities	125,398	302,086,920	0.04%	405,468	168
Contract Work	125,042	1,360,110,000	0.01%	5,573,280	512
Expensed computer hardware & supplies	643,436	78,263,000	0.82%	54,059	444
<b>Services &amp; Other Expenses</b>	<b>\$5,438,673</b>	<b>\$3,371,962,710</b>		<b>15,251,425</b>	<b>26,876</b>
Purchased transportation, shipping & warehousing	363,387	236,720,470	0.15%	1,392,890	2,138
Purchased repair & maintenance services	126,275	694,680,680	0.02%	5,733,970	1,042
Printing, advertising & promotional services	191,347	79,060,520	0.24%	443,663	1,074
Purchased legal services	58,484	247,150,430	0.02%	1,164,053	275
Purchased accounting, auditing & bookkeeping services	67,488	116,440,550	0.06%	839,640	487
Purchased mgt consulting & admin services	79,852	169,873,940	0.05%	843,637	397
Purchased communication services	186,560	466,313,870	0.04%	998,683	400
Cost of purchased custom software & web design	34,312	164,253,290	0.02%	1,189,322	248
Cost of other purchased computer services	11,437	164,253,290	0.01%	1,189,322	83
Lease & rental payments	523,520	1,033,215,670	0.05%	1,456,245	738
Cost of insurance	222,617	499,639,190	0.04%	2,255,400	1,005
Taxes & licenses & fees	133,665	261,006,656	0.05%	1,475,947	756
Depreciation & amortization	507,026	878,651,000	0.06%	2,917,725	1,684
Commissions paid to other firms	250,020	528,897,120	0.05%	2,990,821	1,414
Contract work	21,937	1,360,110,000	0.00%	5,573,280	90
Other operating expenses	2,660,747	5,628,602,009	0.05%	31,828,764	15,046

**Appendix Table 4.1**  
**U.S. Manufacturing Payroll, 2005**

<b>Ranking</b>	<b>'000 \$</b>	<b>Industry</b>
1	11,049,326	Pharmaceutical preparation mfg
2	10,919,009	Aircraft mfg
3	9,706,904	Search, detection, navigation, & guidance instrument mfg
4	9,132,807	Semiconductor & related device mfg
5	7,432,378	Light truck & utility vehicle mfg
6	5,377,100	All other vehicle parts mfg
7	5,328,010	Poultry processing
8	5,245,719	Other aircraft part & auxiliary equipment mfg
9	5,221,652	Automobile mfg
10	5,062,567	Surgical appliance & supplies
11	5,049,332	Surgical & medical instrument mfg
12	4,250,013	Aircraft engine & engine parts mfg
13	3,937,630	AC & warm air heating commercial/industrial refrig equip mfg
14	3,874,809	Plastics material & resin mfg
15	3,785,684	Ship building & repairing
16	3,629,541	Guided missile & space vehicle mfg
17	3,525,334	All other miscellaneous mfg
18	3,382,242	Printed circuit assembly (electronic assembly) mfg
19	3,154,433	Electricity measuring & testing instrument mfg
20	3,030,848	Precision turned product mfg
21	2,902,291	All other basic inorganic chemical mfg
22	2,865,616	Other computer peripheral equipment mfg
23	2,788,220	Special die & tool, die set, jig & fixture mfg
24	2,500,889	Other electronic component
<b>25</b>	<b>2,479,797</b>	<b>Farm machinery &amp; equipment mfg</b>
26	2,363,460	Upholstered household furniture mfg
27	2,349,060	Electronic computer mfg
28	2,341,066	Other engine equipment mfg
29	2,158,502	Nonupholstered wood household furniture mfg
30	2,075,363	Relay & industrial control mfg
31	2,062,808	Industrial process control instrument mfg
32	2,057,133	Glass product mfg made of purchased glass
33	2,011,516	Showcase, partition, shelving, & locker mfg
34	1,991,875	Unsupported plastics film & sheet (expected packaging) mfg
35	1,967,282	Industrial mold mfg
36	1,957,738	Analytical laboratory instrument mfg
37	1,942,275	Semiconductor machinery mfg
38	1,870,202	In-vitro diagnostic substance mfg
39	1,831,763	Boat building
40	1,831,619	Motor & generator mfg
41	1,805,562	Motor Vehicle Body Manufacturing
42	1,764,169	Bolt, nut, screw, rivet, washer mfg
43	1,746,370	Other measuring & controlling device mfg
44	1,693,788	Dental laboratories mfg
45	1,679,964	Travel trailer & camper mfg
46	1,567,301	All other miscellaneous electrical equipment & component mfg
47	1,493,092	Switchgear & switchboard apparatus mfg
48	1,486,001	Pump & pumping equipment mfg
49	1,447,311	Cutting tool & machinery tool accessory mfg
50	1,436,860	Cheese mfg
51	1,415,008	Manufactured home (mobile home) mfg
52	1,405,206	Gasket, packing, & sealing device mfg
53	1,392,406	Medicinal & botanical mfg
54	1,372,313	Biological product (except diagnostic) mfg
55	1,321,019	Custom architectural woodwork & millwork mfg
56	1,309,938	Bare printed circuit board mfg
57	1,261,129	Irradiation apparatus mfg
58	1,235,360	Unsupported plastics bag mfg
59	1,161,400	Other animal food mfg
60	1,158,583	All other miscellaneous textile product mills
61	1,157,938	Ball & roller bearing mfg
62	1,157,872	Laboratory apparatus & furniture mfg
63	1,133,973	All other miscellaneous wood product mfg
64	1,119,147	Institutional furniture mfg
65	1,062,974	Unsupported plastics profile shape mfg
66	1,051,019	Other guided missile & space vehicle parts & auxiliary equip mfg
67	1,034,728	Unsupported plastics packaging film & sheet mfg
68	1,032,686	Aluminum extruded product mfg
69	1,025,375	Packaging machinery mfg
70	1,022,149	Computer storage device mfg
71	1,012,295	Truck trailer mfg
72	991,098	Air & gas compressor mfg
73	972,143	Custom compounding of purchased resin
74	967,221	Fabricated pipe & pipe fitting mfg
75	941,740	Turbine & turbine generator set unit mfg
76	925,770	Electronic connector mfg
77	910,331	Optical instrument & lens mfg
78	910,133	Machine tool (metal cutting types) mfg
79	907,888	Ophthalmic goods mfg
80	899,532	Reconstituted wood product mfg
81	894,065	Guided missile & space vehicle propulsion unit & parts mfg
82	887,870	Cut stone & stone product mfg
83	886,818	Prefabricated wood building mfg
84	883,912	Mineral wool mfg
85	853,918	Other pressed & blown glass & glassware mfg
86	824,269	Motor vehicle air-conditioning mfg
87	810,157	Prerecorded CD (except software), tape & record reproducing
88	809,126	Heating equipment (except war air furnaces) mfg
89	789,432	Plastics pipe & pipe fitting mfg
90	785,525	Sanitary paper product mfg
91	779,246	Power, distribution, & specialty transformer mfg
92	773,759	Motor home mfg
93	757,899	Dental equipment & supplies
94	738,354	All other converted paper product mfg
95	736,224	All other transportation equipment mfg
96	728,759	Glass container mfg
97	728,416	Totalizing fluid meter & counting device mfg
98	722,823	Custom roll forming
99	714,949	Household refrigerator & home freezer mfg
100	699,578	Storage battery mfg
101 - 127	14,720,686	Remaining Industries 101 to 127

**Appendix Table 4.2**  
**U.S. Dealer \ Wholesale Distribution Payroll, 2005**

<u>Ranking</u>	<u>'000 \$</u>	<u>Industry</u>
1	15,299,987	Computer & Computer Peripheral Equipment & Software
2	13,583,760	Industrial Machinery & Equipment
3	10,569,587	Other Electronic Parts & Equipment
4	8,052,404	Medical, Dental, & Hospital Equipment & Supplies
5	8,031,195	General Line Grocery
6	6,601,342	Electrical Apparatus & Equipment, Wiring Supplies, & Related Equip
7	6,183,516	Motor Vehicle Supplies & New Parts
8	5,173,182	Lumber, Plywood, Millwork, & Wood Panel
9	5,010,207	Other Chemical & Allied Products
10	4,873,054	Office Equipment
11	4,459,846	Other Professional Equipment & Supplies
12	4,060,584	Automobile & Other Motor Vehicle
13	3,995,080	Construction & Mining (except Oil Well) Machinery & Equipment
14	3,616,752	Plumbing & Heating Equipment & Supplies (Hydronics)
<b>15</b>	<b>3,402,296</b>	<b>Farm &amp; Garden Machinery &amp; Equipment</b>
16	3,337,934	Farm Supplies
17	3,218,171	Other Miscellaneous Nondurable Goods
18	3,197,666	Beer & Wine
19	3,111,908	Recyclable Material
20	2,967,110	Other Miscellaneous Durable Goods
21	2,925,652	Industrial Supplies
22	2,744,105	Refrigeration Equipment & Supplies
23	2,731,710	Industrial & Personal Service Paper
24	2,622,599	Fresh Fruit & Vegetable
25	2,532,848	Hardware
26	2,407,904	Other Construction Material
27	2,337,727	Service Establishment Equipment & Supplies
27	2,251,416	Brick, Stone, & Related Construction Material
28	2,218,583	Stationary & Office Supplies
29	2,162,032	Home Furnishing
30	1,982,125	Business to Business Electronic Markets
31	1,409,125	Grain & Field Bean

**Appendix Table 4.3**

**U.S. Farm Machinery & Equipment Manufacturing**

Payroll, 2005, NAICS 333111

	Direct Total Industry Employment	Indirect Industry Employment	Percent Consumed By Ag Equip	Thousands \$ Direct & Indirect Total Industry Payroll
<b>Farm Machinery Mfg</b>	<b>59,217</b>			<b>2,479,797</b>
<b>Cost of Materials, Services, Depreciation &amp; Rent</b>	<b>61,155,008</b>	<b>43,896</b>		<b>1,648,247</b>
<b>Cost of Supplies, Depreciation &amp; Rent</b>	<b>21,949,359</b>	<b>4,618</b>		<b>157,830</b>
Resales	8,609,667	2,615	0.03%	88,449
Purchased Fuels	69,249	15	0.02%	999
Purchased Electricity	405,468	99	0.02%	5,586
Contract Work	5,573,280	503	0.01%	12,751
Depreciation	2,917,725	1,119	0.04%	41,345
Rent Buildings	1,456,245	98	0.01%	2,499
Rent Equipment	2,917,725	168	0.01%	6,201
<b>Services &amp; Other Expenses</b>	<b>30,595,982</b>	<b>5,888</b>		<b>150,412</b>
Repair & maintenance of buildings & machinery	5,733,970	1,215	0.02%	22,646
Communications services	998,683	52	0.01%	2,390
Legal services	1,164,053	80	0.01%	3,243
Accounting, auditing & bookkeeping services	839,640	143	0.02%	4,179
Advertising & promotion services	443,663	415	0.09%	13,992
Expensed computer hardware & supplies	54,059	16	0.03%	905
Refuse removal	334,231	92	0.03%	3,605
Mgt consulting & admin services	843,637	101	0.01%	4,105
Taxes & license fees	760,037	146	0.02%	3,590
Other expenses	19,424,010	3,626	0.02%	91,757
<b>Manufactured Materials</b>	<b>8,609,667</b>	<b>33,391</b>	<b>0.39%</b>	<b>1,340,005</b>
Total fluid power equipment (NAICS 333995 & 333996)	29,816	2,752	9.23%	114,857
Total fabricated metal parts (NAICS 332)	1,518,950	5,191	0.34%	186,184
Total steel (NAICS 3311, 3312, 3315)	246,260	4,474	1.82%	200,118
Total Nonferrous (NAICS 3313 & 3314)	218,230	204	0.09%	8,679
Engines (NAICS 333618)	77,910	2,381	3.06%	112,462
Electrical motors & generators (NAICS 335312)	49,700	196	0.39%	6,507
Transmission power (NAICS 333612 & 333613)	27,656	3,078	11.13%	127,125
Plastics & rubber (NAICS 326)	800,342	2,139	0.27%	36,964
Paints (NAICS 3255)	68,100	143	0.21%	6,252
Other mfg items	5,572,703	12,832	0.23%	540,857

**Appendix Table 4.4**

**U.S. Farm Machinery Dealer \ Wholesale Distribution**  
*Payroll, 2005, NAICS 42382*

	Direct Total Industry Employment	Indirect Industry Employment	Percent Consumed By Ag Equip	Thousands \$ Direct & Indirect Total Industry Payroll
<b>Farm Machinery Distribution &amp; Service</b>	<b>101,517</b>			<b>3,402,296</b>
<b>Cost of Materials, Services, Depreciation &amp; Rent</b>	21,284,232	<b>28,001</b>		<b>1,002,035</b>
<b>Cost of Materials &amp; Supplies</b>	6,032,807	<b>1,125</b>	0.02%	<b>43,884</b>
Utilities	405,468	<b>168</b>	0.04%	<b>9,916</b>
Contract Work	5,573,280	<b>513</b>	0.01%	<b>13,612</b>
Expensed computer hardware & supplies	54,059	<b>445</b>	0.82%	<b>20,356</b>
<b>Services &amp; Other Expenses</b>	15,251,425	<b>26,876</b>	0.18%	<b>958,151</b>
Purchased transportation, shipping & warehousing	1,392,890	<b>2,138</b>	0.15%	<b>76,732</b>
Purchased repair & maintenance services	5,733,970	<b>1,042</b>	0.02%	<b>19,689</b>
Printing, advertising & promotional services	443,663	<b>1,074</b>	0.24%	<b>36,927</b>
Purchased legal services	1,164,053	<b>275</b>	0.02%	<b>12,039</b>
Purchased accounting, auditing & bookkeeping services	839,640	<b>487</b>	0.06%	<b>15,000</b>
Purchased mgt consulting & admin services	843,637	<b>397</b>	0.05%	<b>17,491</b>
Purchased communication services	998,683	<b>400</b>	0.04%	<b>18,369</b>
Cost of purchased custom software & web design	1,189,322	<b>248</b>	0.02%	<b>15,541</b>
Cost of other purchased computer services	1,189,322	<b>83</b>	0.01%	<b>5,180</b>
Lease & rental payments	1,456,245	<b>738</b>	0.05%	<b>18,775</b>
Cost of insurance	2,255,400	<b>1,005</b>	0.04%	<b>40,309</b>
Taxes & licenses & fees	1,475,947	<b>756</b>	0.05%	<b>25,110</b>
Depreciation & amortization	2,917,725	<b>1,684</b>	0.06%	<b>62,216</b>
Commissions paid to other firms	2,990,821	<b>1,414</b>	0.05%	<b>50,883</b>
Contract work	5,573,280	<b>90</b>	0.00%	<b>2,388</b>
Other operating expenses	31,828,764	<b>15,046</b>	0.05%	<b>541,502</b>

**Appendix Table 5.1**

**State Ranking, Employment Agricultural Equipment Manufacturing**

	<u>Employment</u>	<u>% of US</u>	<u>State</u>	<u>% of State Total Emp</u>	<u>% of State Mfg Emp</u>	<u>% of State Machinery Mfg Emp</u>
1	8,648	14.60%	Iowa	0.71%	3.77%	24.34%
2	5,907	9.98%	Wisconsin	0.25%	1.17%	8.60%
3	5,520	9.32%	Illinois	0.11%	0.80%	6.09%
4	4,360	7.36%	Nebraska	0.59%	4.30%	45.56%
5	3,975	6.71%	Kansas	0.37%	2.21%	23.69%
6	3,733	6.30%	Minnesota	0.16%	1.08%	10.84%
7	3,219	5.44%	Georgia	0.10%	0.72%	13.39%
8	2,536	4.28%	Ohio	0.06%	0.31%	3.01%
9	2,348	3.97%	Texas	0.03%	0.26%	2.94%
10	2,162	3.65%	Tennessee	0.09%	0.53%	6.38%
11	2,037	3.44%	Arkansas	0.21%	1.01%	14.48%
12	1,856	3.13%	California	0.01%	0.12%	2.32%
13	1,697	2.87%	Pennsylvania	0.04%	0.25%	3.06%
14	1,599	2.70%	Indiana	0.06%	0.28%	3.55%
15	1,476	2.49%	North Dakota	0.56%	5.70%	23.94%
16	1,426	2.41%	Alabama	0.09%	0.48%	11.15%
17	916	1.55%	Mississippi	0.10%	0.51%	7.37%
18	771	1.30%	Kentucky	0.05%	0.29%	3.68%
19	648	1.09%	Arizona	0.03%	0.36%	8.05%
20	643	1.09%	Louisiana	0.04%	0.42%	5.09%
21	639	1.08%	Missouri	0.03%	0.21%	2.17%
22	557	0.94%	New York	0.01%	0.10%	1.09%
23	530	0.89%	Colorado	0.03%	0.35%	6.06%
24	409	0.69%	Michigan	0.01%	0.06%	0.54%
25	394	0.67%	Washington	0.02%	0.15%	2.98%
26	375	0.63%	Florida	0.01%	0.09%	1.44%
27	324	0.55%	Idaho	0.06%	0.51%	12.43%
28	207	0.35%	Oklahoma	0.02%	0.14%	0.84%
29	189	0.32%	Virginia	0.01%	0.06%	1.01%
30	46	0.08%	New Jersey	0.00%	0.01%	0.27%
31	31	0.05%	New Mexico	0.01%	0.09%	2.43%
32	22	0.04%	Maine	0.00%	0.04%	1.00%
33	16	0.03%	Utah	0.00%	0.01%	0.29%
34	0	0.00%	Connecticut	0.00%	0.00%	0.00%
35	0	0.00%	Hawaii	0.00%	0.00%	0.00%
36	0	0.00%	Massachusetts	0.00%	0.00%	0.00%
37	0	0.00%	Maryland	0.00%	0.00%	0.00%
38	0	0.00%	Montana	0.00%	0.00%	0.00%
39	0	0.00%	North Carolina	0.00%	0.00%	0.00%
40	0	0.00%	New Hampshire	0.00%	0.00%	0.00%
41	0	0.00%	Oregon	0.00%	0.00%	0.00%
42	0	0.00%	South Carolina	0.00%	0.00%	0.00%
43	0	0.00%	South Dakota	0.00%	0.00%	0.00%
44	0	0.00%	Vermont	0.00%	0.00%	0.00%
45	0	0.00%	Wyoming	0.00%	0.00%	0.00%
	<b>59,217</b>	<b>100.0%</b>	<b>Total</b>			

**Appendix Table 5.2**

**State Ranking, Wages Agricultural Equipment Manufacturing**

	<u>Wages '000</u>	<u>% of US</u>	<u>State</u>	<u>% of State Total Wages</u>	<u>% of State Mfg Wages</u>	<u>% of State Machinery Mfg Wages</u>
1	453,766	19.30%	Iowa	1.14%	4.60%	24.80%
2	284,641	12.11%	Illinois	0.13%	0.82%	5.13%
3	266,768	11.35%	Wisconsin	0.32%	1.19%	7.68%
4	183,567	7.81%	Minnesota	0.20%	1.08%	10.07%
5	167,046	7.11%	Nebraska	0.71%	4.51%	43.00%
6	135,473	5.76%	Kansas	0.37%	1.70%	19.84%
7	99,296	4.22%	Georgia	0.08%	0.52%	9.92%
8	85,487	3.64%	Pennsylvania	0.05%	0.26%	3.02%
9	85,017	3.62%	Ohio	0.05%	0.22%	2.06%
10	73,971	3.15%	Texas	0.02%	0.15%	1.57%
11	66,477	2.83%	California	0.01%	0.07%	1.26%
12	64,339	2.74%	Tennessee	0.08%	0.37%	4.58%
13	58,567	2.49%	Indiana	0.07%	0.21%	2.57%
14	47,921	2.04%	Alabama	0.09%	0.40%	9.23%
15	41,837	1.78%	Arkansas	0.14%	0.61%	8.66%
16	28,762	1.22%	Mississippi	0.11%	0.47%	6.32%
17	28,717	1.22%	Arizona	0.04%	0.29%	7.61%
18	25,379	1.08%	Louisiana	0.05%	0.34%	4.48%
19	20,957	0.89%	Kentucky	0.04%	0.18%	2.34%
20	18,777	0.80%	Colorado	0.02%	0.23%	4.22%
21	18,092	0.77%	Michigan	0.01%	0.05%	0.43%
22	17,070	0.73%	New York	0.00%	0.06%	0.59%
23	16,668	0.71%	Washington	0.02%	0.11%	2.66%
24	15,865	0.67%	Missouri	0.02%	0.12%	1.36%
25	13,069	0.56%	North Dakota	0.17%	1.39%	4.74%
26	11,162	0.47%	Florida	0.00%	0.06%	0.93%
27	9,344	0.40%	Idaho	0.06%	0.35%	9.54%
28	6,361	0.27%	Virginia	0.01%	0.05%	0.70%
29	4,138	0.18%	Oklahoma	0.01%	0.07%	0.37%
30	1,751	0.07%	New Jersey	0.00%	0.01%	0.18%
31	343	0.01%	Utah	0.00%	0.01%	0.14%
32	123	0.01%	Maine	0.00%	0.00%	0.12%
33	0	0.00%	Connecticut	0.00%	0.00%	0.00%
34	0	0.00%	Hawaii	0.00%	0.00%	0.00%
35	0	0.00%	Massachusetts	0.00%	0.00%	0.00%
36	0	0.00%	Maryland	0.00%	0.00%	0.00%
37	0	0.00%	Montana	0.00%	0.00%	0.00%
38	0	0.00%	North Carolina	0.00%	0.00%	0.00%
39	0	0.00%	New Hampshire	0.00%	0.00%	0.00%
40	0	0.00%	New Mexico	0.00%	0.00%	0.00%
41	0	0.00%	Oregon	0.00%	0.00%	0.00%
42	0	0.00%	South Carolina	0.00%	0.00%	0.00%
43	0	0.00%	South Dakota	0.00%	0.00%	0.00%
44	0	0.00%	Vermont	0.00%	0.00%	0.00%
45	0	0.00%	Wyoming	0.00%	0.00%	0.00%
	<b>2,350,755</b>	<b>100.0%</b>	<b>Total</b>			

**Appendix Table 5.3**

**State Ranking, Employment Agricultural Equip. Dealer \ Wholesale Distribution**

	<u>Employment</u>	<u>% of US</u>	<u>State</u>	<u>% of State Total Emp</u>	<u>% of State Wholesale Emp</u>	<u>% of State Durable Wholesale Emp</u>
1	7,104	7.00%	Illinois	0.14%	2.35%	4.30%
2	6,655	6.56%	California	0.05%	0.99%	1.94%
3	6,236	6.14%	Texas	0.08%	1.31%	2.30%
4	5,028	4.95%	Iowa	0.41%	7.44%	16.99%
5	4,509	4.44%	Minnesota	0.20%	3.44%	7.01%
6	4,408	4.34%	Wisconsin	0.19%	3.75%	6.66%
7	4,205	4.14%	North Carolina	0.13%	2.47%	4.67%
8	3,508	3.46%	Nebraska	0.47%	8.64%	17.98%
9	3,469	3.42%	Ohio	0.08%	1.47%	2.65%
10	3,382	3.33%	Florida	0.05%	1.00%	1.87%
11	3,363	3.31%	Missouri	0.15%	2.76%	5.56%
12	3,168	3.12%	Kansas	0.30%	5.32%	11.73%
13	3,157	3.11%	Georgia	0.10%	1.49%	2.88%
14	3,082	3.04%	Indiana	0.12%	2.53%	4.09%
15	2,705	2.66%	Pennsylvania	0.06%	1.15%	2.27%
16	2,598	2.56%	Arkansas	0.27%	5.46%	12.02%
17	2,470	2.43%	Alabama	0.16%	3.12%	5.99%
18	2,340	2.30%	Tennessee	0.10%	1.80%	3.48%
19	2,300	2.27%	Michigan	0.06%	1.36%	2.40%
20	2,286	2.25%	North Dakota	0.86%	12.16%	28.01%
21	2,243	2.21%	New York	0.03%	0.64%	1.35%
22	1,773	1.75%	Kentucky	0.12%	2.38%	4.79%
23	1,728	1.70%	Washington	0.08%	1.46%	2.73%
24	1,598	1.57%	Colorado	0.09%	1.70%	3.03%
25	1,568	1.54%	Mississippi	0.18%	4.46%	9.30%
26	1,535	1.51%	Idaho	0.30%	5.72%	12.32%
27	1,527	1.50%	South Dakota	0.50%	8.73%	21.30%
28	1,512	1.49%	Virginia	0.05%	1.29%	2.34%
29	1,502	1.48%	Oregon	0.11%	1.93%	4.28%
30	1,422	1.40%	Louisiana	0.10%	1.92%	3.80%
31	1,142	1.12%	Oklahoma	0.10%	2.01%	4.36%
32	1,096	1.08%	Arizona	0.05%	1.10%	1.89%
33	1,008	0.99%	Montana	0.30%	6.19%	12.14%
34	876	0.86%	Maryland	0.04%	0.93%	1.64%
35	723	0.71%	South Carolina	0.05%	1.08%	2.00%
36	608	0.60%	New Jersey	0.02%	0.26%	0.54%
37	540	0.53%	Massachusetts	0.02%	0.41%	0.86%
38	434	0.43%	Utah	0.05%	1.01%	2.00%
39	433	0.43%	Connecticut	0.03%	0.65%	1.39%
40	393	0.39%	New Mexico	0.07%	1.73%	3.14%
41	329	0.32%	Wyoming	0.17%	4.25%	6.99%
42	315	0.31%	Maine	0.06%	1.47%	3.15%
43	282	0.28%	Vermont	0.11%	2.81%	5.56%
44	259	0.26%	Nevada	0.02%	0.69%	1.28%
45	238	0.23%	West Virginia	0.04%	0.98%	1.85%
46	208	0.20%	Delaware	0.06%	1.39%	3.37%
47	139	0.14%	New Hampshire	0.03%	0.51%	1.15%
48	81	0.08%	Puerto Rico	0.01%	0.24%	0.61%
49	28	0.03%	Rhode Island	0.01%	0.17%	0.32%
50	0	0.00%	Alaska	0.00%	0.00%	0.00%
51	0	0.00%	District Of Columl	0.00%	0.00%	0.00%
52	0	0.00%	Hawaii	0.00%	0.00%	0.00%
	<b>101,517</b>	<b>100.0%</b>	<b>Total</b>			

**Appendix Table 5.4**

**State Ranking, Wages Agricultural Equip. Dealer \ Wholesale Distribution**

	<u>Wages '000</u>	<u>% of US</u>	<u>State</u>	<u>% of State</u> <u>Total Wages</u>	<u>% of State</u> <u>Wholesale Wages</u>	<u>% of State</u> <u>Durable Wholesale Wages</u>
1	263,279	8.16%	Illinois	0.12%	1.47%	2.63%
2	247,402	7.67%	California	0.04%	0.65%	1.20%
3	198,449	6.15%	Texas	0.06%	0.71%	1.19%
4	163,990	5.08%	North Carolina	0.14%	1.88%	3.52%
5	152,170	4.72%	Iowa	0.38%	5.19%	12.02%
6	142,463	4.42%	Minnesota	0.15%	1.82%	3.84%
7	136,919	4.25%	Wisconsin	0.16%	2.41%	4.14%
8	109,999	3.41%	Ohio	0.07%	0.91%	1.67%
9	107,000	3.32%	Florida	0.04%	0.60%	1.10%
10	101,663	3.15%	Nebraska	0.43%	5.89%	11.93%
11	95,668	2.97%	Georgia	0.07%	0.77%	1.47%
12	92,327	2.86%	Missouri	0.11%	1.51%	3.12%
13	91,888	2.85%	Indiana	0.10%	1.59%	2.48%
14	87,891	2.73%	Kansas	0.24%	3.04%	6.89%
15	87,743	2.72%	Alabama	0.17%	2.33%	4.48%
16	78,423	2.43%	Pennsylvania	0.04%	0.60%	1.26%
17	74,528	2.31%	Michigan	0.05%	0.77%	1.30%
18	73,163	2.27%	Arkansas	0.25%	3.38%	8.09%
19	70,735	2.19%	Tennessee	0.09%	1.10%	2.16%
20	70,128	2.17%	North Dakota	0.90%	9.30%	20.08%
21	68,198	2.11%	New York	0.02%	0.31%	0.69%
22	54,520	1.69%	Washington	0.06%	0.86%	1.54%
23	50,381	1.56%	Colorado	0.07%	0.93%	1.58%
24	48,665	1.51%	Oregon	0.10%	1.11%	2.63%
25	47,649	1.48%	South Dakota	0.54%	6.84%	15.21%
26	46,750	1.45%	Arizona	0.06%	0.84%	1.37%
27	46,157	1.43%	Kentucky	0.09%	1.33%	2.62%
28	45,718	1.42%	Mississippi	0.18%	3.09%	6.54%
29	43,820	1.36%	Idaho	0.29%	4.20%	8.32%
30	41,859	1.30%	Virginia	0.03%	0.62%	1.11%
31	37,597	1.17%	Louisiana	0.08%	1.14%	2.26%
32	30,744	0.95%	Oklahoma	0.08%	1.26%	2.61%
33	28,601	0.89%	Montana	0.31%	4.61%	8.65%
34	28,103	0.87%	Maryland	0.03%	0.50%	0.85%
35	24,750	0.77%	New Jersey	0.02%	0.16%	0.33%
36	22,544	0.70%	South Carolina	0.05%	0.72%	1.32%
37	20,947	0.65%	Massachusetts	0.02%	0.23%	0.47%
38	19,825	0.61%	Connecticut	0.03%	0.41%	0.95%
39	11,263	0.35%	Utah	0.04%	0.56%	1.16%
40	10,374	0.32%	Nevada	0.03%	0.52%	1.03%
41	10,160	0.32%	New Mexico	0.05%	1.08%	1.92%
42	8,419	0.26%	Wyoming	0.13%	2.50%	3.87%
43	8,155	0.25%	Vermont	0.10%	1.76%	3.46%
44	8,123	0.25%	Maine	0.05%	0.84%	1.85%
45	7,515	0.23%	Delaware	0.05%	0.79%	2.47%
46	4,511	0.14%	New Hampshire	0.02%	0.25%	0.60%
47	2,056	0.06%	West Virginia	0.01%	0.20%	0.38%
48	1,262	0.04%	Puerto Rico	0.01%	0.12%	0.30%
49	757	0.02%	Rhode Island	0.00%	0.08%	0.16%
50	0	0.00%	Alaska	0.00%	0.00%	0.00%
51	0	0.00%	District Of Columl	0.00%	0.00%	0.00%
52	0	0.00%	Hawaii	0.00%	0.00%	0.00%
	<b>3,225,249</b>	<b>100.0%</b>	<b>Total</b>			