

How Structural Costs Imposed on U.S. Manufacturers Harm Workers and Threaten Competitiveness

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FOREWORD

St. Louis-based Emerson has been a long-time member of the NAM and a supporter of The Manufacturing Institute's work. Emerson (www.gotoemerson.com) is a global leader in bringing technology and engineering together to provide innovative solutions to customers in electronics and telecommunications; process control; industrial automation; heating, ventilating, and air conditioning; appliances and tools. Sales in fiscal 2003 were \$14 billion.

During this period of crisis in our nation's manufacturing sector, Emerson is pleased to sponsor Jeremy Leonard's paper, *How Structural Costs Imposed on U.S. Manufacturers Harm Workers and Threaten Competitiveness*. We believe that this thoughtful study based on fact, not rhetoric, clearly identifies the issues that must be addressed if this country is to stem the decline of its critical industrial base.

By now it is no secret that the United States has lost 2.8 million manufacturing jobs over the past three years and that, unlike previous recessions, job losses have continued long after the bottom was reached and output began growing again. Something has clearly changed.

At Emerson we are concerned with this change because, while we are a global company, over half of our revenues are still in the United States. If the long-term health of this economy is threatened, then so are we. As Joel Popkin pointed out in a companion paper, *Securing America's Future: The Case for a Strong Manufacturing Base*, economies whose manufacturing sectors are not vibrant and growing are doomed to low overall growth. Those who call for a conversion to a service-based economy need only look at Japan and Germany to get a glimpse of the consequences of manufacturing's decline – not a pretty picture, and not one we want to see in this country.

U. S. manufacturing has demonstrated the ability to overcome pure wage differentials with trading partners through innovation, capital investment and productivity. But when the structural cost multipliers Leonard describes in this paper are piled on, the task becomes unmanageable even for best-in-class companies. Concerted effort to get our state and federal legislators to focus on addressing and removing these penalties will yield positive results for the entire economy. It is clear that self-imposed cost penalties are the most important consideration in our competitiveness; it is critical that we move forward and get our own house in order and avoid at all costs the destructive path of protectionist tariff-based responses.



James G. Berges
President



How Structural Costs Imposed on U.S. Manufacturers Harm Workers and Threaten Competitiveness

INTRODUCTION

By Jerry Jasinowski and Tom Duesterberg

It is relatively easy to identify some of the short-term causes of the severe downturn that has hit U.S.-based manufacturing over the past three years. While recent, rising GDP growth signals that general cyclical conditions are improving, manufacturing continues to lag the overall recovery. The lack of export growth and substantial new capital investment until now explains why the manufacturing recovery to date has been the slowest on record. But the more fundamental concern for manufacturers is a set of structural disadvantages that are eroding U.S. competitiveness and offsetting much of the recent productivity gains spawned by innovation and relentless corporate cost cutting.

This report breaks new ground in documenting those underlying structural costs that are slowly eating away at the ability of U.S. manufacturers to compete effectively. ***While manufacturers have many challenges in the current global environment, it is the finding of this report that domestically imposed costs—by omission or commission of federal, state, and local governments—are damaging manufacturing more than any foreign competitor and adding at least 22.4 percent to the cost of doing business from the United States. Such internal costs impose a larger burden on U.S. manufacturers than the strong dollar.***

Why should this nation care about a strong manufacturing base? The main reason is that during the boom of the 1990s, manufacturers in the United States contributed 22 percent of the economic growth and increased its share of total value added in the U.S. economy. Moreover, manufacturing is the source of much of the innovation and productivity growth of the last two decades, which underpins our success in international markets, helps drive productivity growth in the services sector, provides high quality jobs, and raises the standard of living throughout the United States. We should also never lose sight of the importance of the domestic technical prowess and production excellence, which are crucial to our national security. As job creation and strong investment have lagged historical patterns of recovery in the United States during 2003, it is clearer than ever before that getting manufacturing back on its feet is an important part of the formula for a full recovery.

We undertook this report because U.S. manufacturers' position in global trade has deteriorated, despite years of investment and operational streamlining:

- Import penetration of the U.S. market has risen markedly since 1980, advancing from 23 percent of sectoral GDP to over 67 percent in 2002.
- Over the past five years, U.S. export penetration has declined, falling from over 12 percent of global merchandise trade in 1998 to 10.7 percent in 2002.
- This intense global competition means that manufacturers—which account for three quarters of total U.S. trade—cannot raise prices and find themselves caught in a cost-price squeeze, making any new incremental costs nearly impossible to pass on.
- Nearly 2.8 million jobs have been lost in manufacturing over the past 39 months.
- Capital investment outside of information technology remains sluggish.

This report takes a close look at those costs—corporate tax rates, employee benefits, tort litigation, regulatory compliance and energy—and finds that they add a conservatively estimated 22.4 percent to the price of production for U.S. firms, relative to major foreign competitors. Once these underlying cost pressures are understood, it becomes clearer why much of U.S. production is moving offshore.

The study establishes a raw cost index benchmark based on wage compensation relative to total value added in manufacturing, comparing the United States and nine major trading partners including Canada,

China, and Mexico. The analysis demonstrates how even nominally more expensive locations such as Canada or the United Kingdom are, in fact, lower-cost locations for production when these expensive cost factors are weighed. Even more startling is that the added costs in the United States are nearly as high as the total production costs in China.

Moreover, we believe this report significantly understates the costs imposed on U.S.-based manufacturers, especially in assessing the impact of legal and regulatory costs. Reliable data on tort costs and regulatory compliance are not available for many developing countries and this study has not attributed a cost where there is not a good data source. We expect to follow up with additional cost studies that focus on these areas as well as update the data.

These rising domestic cost pressures are even more important at a time when intense global competition and the resulting deflation in producer prices makes growth in top-line income all but impossible. The result has been a steady decline in the cash flow of manufacturing firms. If ever there were a wake-up call for U.S. policymakers about the costs they continue to impose on U.S. manufacturers, this is it.

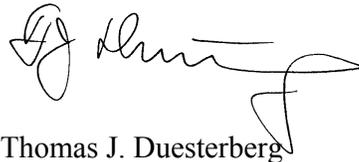
There is a wide range of policy steps that federal and state governments should immediately take to support stronger U.S. manufacturing. This report highlights the policies that would make the most difference. We encourage elected officials to begin shaping a pro-manufacturing agenda for the near future.

The loss of a strong manufacturing base will have unfortunate consequences for the U.S. standard of living as well as national security. We urge all Americans who are concerned about the future of our country to read this report and help foster a new appreciation for manufacturing in Washington, D.C., and all 50 state capitals.

We would like to thank Emerson for supporting this study and providing valuable insights to its analysis. We also commend the author, Jeremy Leonard, economic consultant to the Manufacturers Alliance/MAPI, for his creativity in distilling huge amounts of sometimes disparate data to complete this project.



Jerry J. Jasinowski
President
National Association of Manufacturers



Thomas J. Duesterberg
President and Chief Executive Officer
Manufacturers Alliance/MAPI

How Structural Costs Imposed on U.S. Manufacturers Harm Workers and Threaten Competitiveness

Executive Summary

The U.S. manufacturing sector in the late 1990s was at the top of its game. Two decades of renewal, innovation, capital deepening, and management improvement had borne impressive fruit: A remarkable acceleration in productivity growth and rapid innovation, combined with modest employment growth, returned the manufacturing sector to its historical role as the engine of U.S. economic growth.

In spite of this renaissance, it now finds itself struggling with a painfully sluggish recovery and eroding competitiveness in export markets. The inescapable conclusion is that structural factors outside of manufacturers' direct control are eroding the leadership position that U.S. manufacturers have worked so hard to achieve.

The raw competitive position of U.S. manufacturing relative to its major trading partners (as represented by unit wage costs measured in home currencies) has improved substantially, largely because domestic unit labor costs declined while those of many trading partners rose considerably. As of 2002, unit labor costs in U.S. manufacturing industries were lower than four of the nine largest U.S. trading partners and only marginally higher than three others.

Despite this return to apparent competitive pre-eminence, the position of U.S. manufacturers in global trade has shown a marked deterioration, especially in the last five years. Since 1997, exports as a percent of gross domestic product (GDP) have stagnated, while import penetration has risen sharply, largely due to growing trade with Mexico and China. As a result, the trade deficit ballooned from \$31 billion in 1991 (0.5 percent of GDP) to \$418 billion (5.0 percent of GDP) in 2002. Furthermore, international competition caused producer prices to stagnate (or even decline for some industries). In the context of strong demand, this would normally cause cash flow growth to decelerate somewhat. In fact, aggregate manufacturing cash flow actually *declined* in absolute dollar terms from 1997 to 2000, the three strongest years of the 1990s expansion, indicating that costs were rising more rapidly than revenues.

Against this backdrop, the industry downturn that began in June 2000 was a rude awakening. From June 2000 to December 2001 (the trough month for manufacturing production in the latest recession), manufacturing lost 1.6 million jobs and production declined by

7.2 percent. Both of these declines were mild by post-World War II historical standards; only the 1990-1991 recession was milder.

Had December 2001 been the end of the story, the downturn might have been nothing more than a bump on an otherwise prosperous road. But the ensuing recovery since then has been far short of expectations and significantly weaker than in past recovery periods. Manufacturers have shed nearly 1.2 million additional jobs and production has increased by just 2.1 percent. Such trends immediately following a recession are unprecedented in post-World War II history. Even during the "jobless recovery" from the 1990-1991 recession, manufacturing employment contracted by only 400,000 additional jobs before growing again, and production grew by an average of 4.5 percent per year.

That the U.S. manufacturing sector, which has spent the better part of two decades remaking itself into the envy of the world, now finds itself mired in a slow recovery leads to the inescapable conclusion that cost pressures outside manufacturers' direct control have conspired to threaten the U.S. manufacturing leadership. This report will, to the extent that data permit, quantify the most critical obstacles:

- Excessive corporate taxation.
- Escalating costs of health and pension benefits.
- Escalating costs of actual or threatened tort litigation.
- Escalating compliance costs for regulatory mandates, particularly those related to workplace safety, pollution abatement, and corporate governance.
- Rising energy costs, particularly natural gas.

Table 1 summarizes the quantitative results of this report, which will be developed and discussed in detail in later sections. The first row shows the "raw cost index" of manufacturers, which is simply total wage compensation (excluding employee benefits) divided by value-added in manufacturing. In order to abstract from exchange rate fluctuations during the 1990s, the index for each country is measured from a 1990 benchmark and "inflated" by the growth in unit wage costs in the appropriate home currency from 1990 to 2002. (For more detail on construction of the index, please refer to the Appendix.) This is the most basic measure of the competitive posture of a given manufacturing sector. As explained in a later section, it takes into account international differences in

Table 1
**Effect of Key “Overhead Costs” on Raw Cost Index
of Nine Largest U.S. Trading Partners, 2002**
(U.S. dollars per hour)

Raw cost index	United States	Average of nine partners	Canada	Mexico	Japan	China	Germany	United Kingdom	South Korea	Taiwan	France
	24.30	19.30	27.57	8.11	16.92	5.34	29.60	28.30	23.96	16.41	26.50
<i>Difference relative to U.S. costs in percent</i>											
Corporate tax rate	–	-5.6%	-3.4%	-6.0%	2.0%	-15.0%	-0.4%	-10.0%	-10.3%	-15.0%	-5.7%
Employee benefits	–	-5.5%	-4.8%	-9.4%	-9.4%	-12.6%	3.6%	-5.1%	9.0%	-11.5%	10.7%
Tort costs	–	-3.2%	-3.1%	N/A	-3.3%	N/A	-0.7%	-3.4%	N/A	N/A	-1.3%
Natural gas costs	–	-0.5%	-6.0%	-2.3%	12.5%	-2.3%	0.6%	2.1%	4.1%	15.3%	-4.2%
Pollution abatement	–	-3.5%	-2.8%	N/A	-2.3%	N/A	-2.4%	-3.0%	N/A	N/A	-1.5%
<i>Manufacturing production costs relative to the United States accounting for differences in overhead costs (dollars per hour)</i>											
Effective cost index	24.30	16.02	22.46	6.19	16.64	3.50	29.77	23.14	22.67	12.85	25.77

Source: Author’s calculations based on data in subsequent tables and charts

Note: Data for tort costs and regulatory compliance costs are limited to the industrialized partners. Conservative assumptions have been made in estimating the missing values, as described in later sections. Thus, the absence of these data likely understates the overall cost advantage of U.S. trading partners.

productivity, capital intensity, and raw material costs and thus indirectly measures the efficiency with which manufacturers use their nonlabor inputs in the production process. The United States is fairly well-positioned, with lower costs than in Canada, France, Germany, and the United Kingdom and a bit higher than in Japan and Taiwan. Perhaps surprisingly to some readers, South Korea’s rapid industrialization has pushed up its raw cost index too close to U.S. levels. Finally, as is well-known, lower wages in Mexico and China give those countries a considerable edge in terms of the raw cost index.

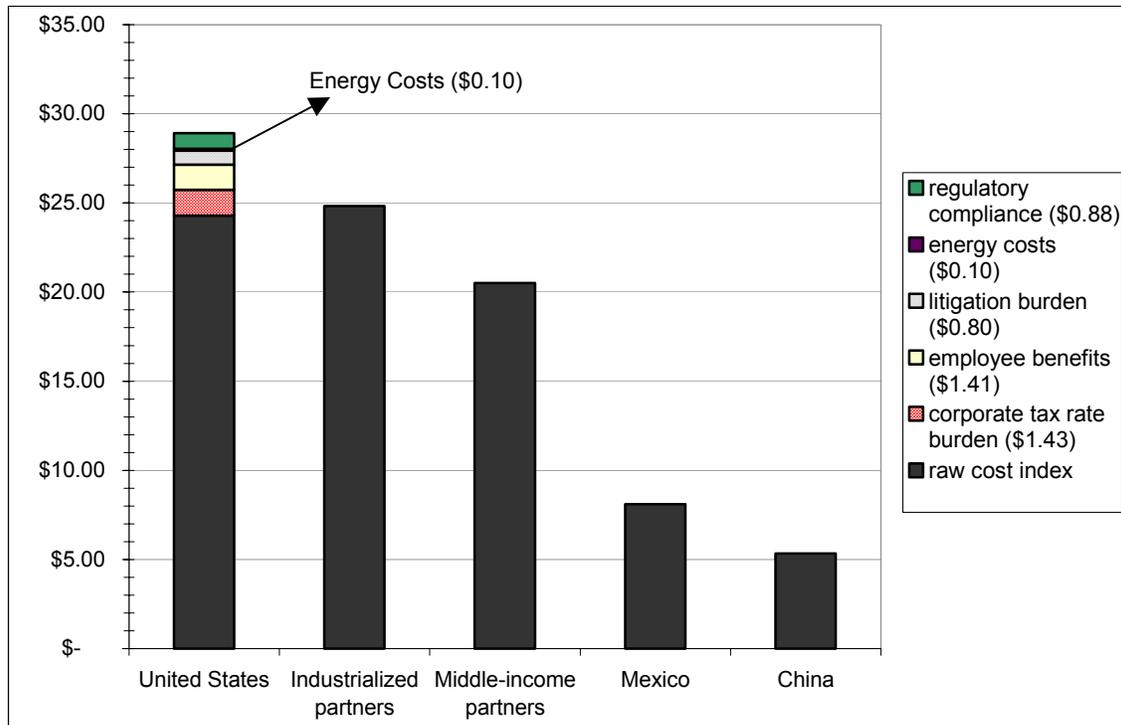
Once the effect of corporate tax differentials, employee benefits, tort costs, energy costs, and regulatory compliance are accounted for, the competitive picture becomes much more ominous for the U.S. manufacturing sector, as the last row of Table 1 demonstrates. Canada (the largest U.S. trading partner) gains a substantial cost advantage, and the U.S. cost advantage relative to the United Kingdom disappears altogether. Furthermore, the relative costs of developing partners—Mexico,

China, South Korea and Taiwan—drop considerably. U.S. manufacturers are at a cost disadvantage nearly across the board with respect to corporate tax rate differentials, employee benefits, and litigation costs. The United States enjoys a large advantage in energy costs with regard to Japan, South Korea, and Taiwan. Nevertheless, recent spikes in natural gas prices have disproportionately affected U.S. manufacturers that have become more reliant on that fuel. As will be discussed later, the United States, should be able to exploit its gas reserves—one of the world’s largest—to give it a competitive edge over other major trading partners.

A different—and perhaps more concise—way to express the country-by-country data in Table 1 is as a burden to U.S. manufacturing costs. This is done in Chart 1 by aggregating the cost *advantages* of the nine largest U.S. trading partners (weighted by their respective trade shares) and “inverting” them into the equivalent U.S. cost *burden*. Chart 1 shows that *external overhead costs add at least 22.4 percent to unit labor costs of U.S. manufacturers (nearly \$5 per*

External overhead costs add at least 22.4 percent to unit labor costs of U.S. manufacturers (nearly \$5 per hour worked) relative to their major foreign competitors.

Chart 1
Excess Burden of “Overhead Costs” on U.S. Manufacturers
Relative to Major Trading Partners, 2002
 (U.S. dollars per hour worked)



Source: Author’s calculations based on data in subsequent tables and charts

Note: In this chart, external costs shared across countries are included in the raw cost index (see footnote 1).

*hour worked) relative to their major foreign competitors.*¹ The largest burden comes from high corporate tax rates and employee benefits, with smaller but substantial burdens caused by litigation costs and regulatory compliance. This excess burden puts the United States at a substantial competitive disadvantage with its largest industrial trading partners (Canada, Japan, Germany, the United Kingdom, and France); absent these extra costs, the United States would compete on an even playing field.

External overhead costs on U.S. manufacturers are almost as large as total manufacturing costs in China.

Of equal, if not greater, concern is the fact that *the absolute value of the excess cost burden on U.S. manufacturers (nearly \$5 per hour) is almost as large as the total raw cost index for China* (see row 1 of Table 1).

Taken together, external overhead costs have offset a large part of the 54 percent increase in productivity wrought since 1990. As a result, U.S. manufacturers are at a serious disadvantage in

global markets, despite being fundamentally competitive in terms of labor costs and value-added.

To prevent further deterioration of the competitive position of U.S. manufacturing in the global economy, policymakers must take immediate and decisive action on a number of fronts (discussed in more detail at the end of the report) to reduce the external overhead costs that have been imposed in the last decade:

- Reduce the corporate tax burden and reform the treatment of foreign-source income.

¹ It is important to emphasize that this summary chart shows the *relative*, not absolute, burden of external “overhead costs.” For instance, the total cost of employee health and pension benefits in U.S. manufacturing industries was about \$3.90 per hour in 2001. The relative burden shown in Chart 1 is \$1.41. This reflects the fact that manufacturers in other countries also face benefit costs, though to a lesser extent than their U.S. counterparts.

- Reduce the burden of rising health coverage costs and encourage greater consumer responsibility for health status and coverage costs.
- Reform rules for funding pension plans to avoid devastating cyclical swings in funding requirements.
- Undertake serious legal reform, such as curtailing frivolous lawsuits, placing large, nationwide class action lawsuits in federal court, and negotiating fair and equitable compensation to legitimate asbestos claims.
- Establish a more objective cost-benefit review process for proposed and existing regulations that takes full account of adverse business impacts.
- Adopt changes in land-use regulations that allow access to undeveloped domestic natural gas reserves.

The Paradox of U.S. Manufacturing: Productivity and Innovation Leadership Amid Deteriorating International Competitiveness

Productivity and Innovation Leadership

Over the past two decades (and especially since 1990), the U.S. manufacturing sector has undergone a startling renaissance characterized by strong capital investment, accelerating productivity growth, and innovation leadership.² During the 1990s expansion, manufacturing output accounted for 22 percent of GDP growth, more than manufacturing's 17 percent share of the overall economy. U.S. manufacturing productivity growth accelerated to 4.5 percent per year from 1995 to 2000, outpacing its industrialized trading partners by a significant margin. In fact, trend productivity growth in the 1990s was higher than in any previous post-World War II expansion.³ This resulted from an investment boom, particularly in information technology equipment. Use of this equipment and associated management improvements began to fan out to other sectors of the economy, more than doubling trend productivity growth in nonmanufacturing industries. As a result, living standards in the United States—already the highest in the world—began to pull away from Western Europe, Canada, and Japan, reversing the tendency towards convergence experienced in prior decades.

² For a detailed analysis of U.S. manufacturing leadership, see Thomas J. Duesterberg and Ernest H. Preeg, eds., *U.S. Manufacturing: The Engine for Growth in a Global Economy* (Westport, CT: Greenwood Press, 2003).

³ Jeremy A. Leonard, "The Productivity Acceleration Is Here To Stay," *Manufacturers Alliance/MAPI*, ER-556e, June 2003.

Manufacturing is the engine of innovation. In addition to generating 90 percent of new patent approvals, it accounted for 90 percent of business research and development (R&D) in the 1980s and more than 75 percent through most of the 1990s (the drop reflected large R&D investments by the wholesale trade, computer system design, and engineering services sectors, all of which are closely aligned with manufacturing). Manufacturing's R&D share has fallen to just over 60 percent since 1997, in large part due to the cost pressures described in this report.

Trends in International Trade

International trade trends have shifted sharply to the detriment of U.S. manufacturers in spite of the productivity renaissance. The U.S. share of world manufactured exports increased from 12.1 percent to 14 percent in the early 1990s, but has declined sharply in the last five years. Over the same period, import penetration has jumped alarmingly. Much of this penetration is by newly industrializing countries, which are rapidly moving into high value-added markets such as transportation equipment, industrial machinery, and electrical and electronic equipment that historically have been dominated by industrialized nations. Increasing global competition also has brought about a soft pricing environment, which has squeezed cash flow and brought the issue of production costs to the forefront.

Since 1980, the value of world trade has more than tripled, reaching \$6.5 trillion in 2002. As of 2001 (the most recent year for which regional data are available), 46 percent of total trade occurred within the three major industrialized regions of the world: North America (excluding Mexico), Western Europe, and Japan. This reflects a decrease from the 49 percent registered in 1993 but an increase from the 42 percent recorded in 1983.

This apparent trade stability hides major changes in U.S. trade patterns over the past two decades, particularly with respect to imports. The trade sector has grown rapidly relative to the rest of the economy, particularly during the strong economic expansion of the 1990s. Over the same period, nations other than Canada, Western Europe, and Japan have become important players in U.S. trade.

Chart 2 shows U.S. imports and exports as a percent of GDP since 1960. In the era of fixed exchange rates prior to 1973, imports and exports each hovered between 4 percent and 6 percent of GDP. After that, the U.S. economy opened up rapidly to world markets, the trade share of GDP doubled by 1980. The 1980s saw a significant dip in exports brought on by the unusually strong U.S. dollar, while imports hovered at around 10 percent of GDP. Strong growth in imports in the 1990s, coupled with erratic export demand, caused a wide trade deficit to develop.

The overall numbers mask startling developments in the manufacturing sector, which accounts for nearly 75 percent of total trade. An important point that cannot be emphasized too strongly is that *the manufacturing sector is responsible for the entire 1990s increase in import penetration*. Chart 3 breaks down total trade into its manufactured goods and service components, each expressed as a percentage of the relevant sectoral GDP. It reveals that import penetration soared to a record 67.3 percent of manufacturing GDP in 2002. This growth far outstripped growth in manufacturing exports, opening a manufacturing trade deficit on the order of 25 percent of manufacturing GDP. Service sector exposure to world markets remains marginal by comparison. By 2002, exports accounted for 3.9 percent of service sector GDP and imports for 3.3 percent, resulting in a small trade surplus in services. Much of service sector trade is connected with tourism to the United States (exports) and U.S. tourism elsewhere in the world (imports).

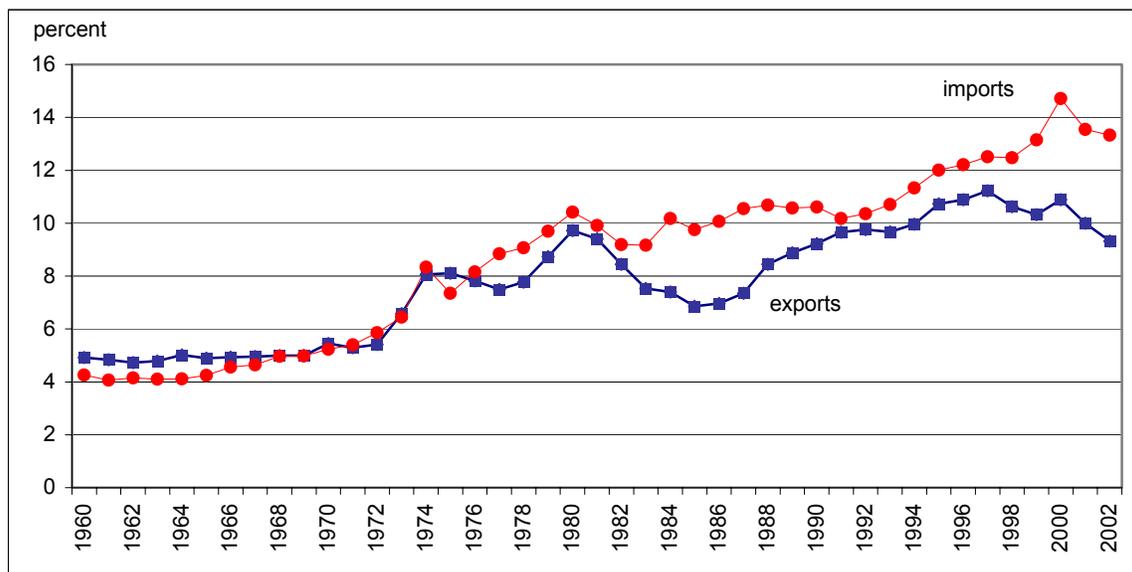
The geographic distribution of U.S. exports and imports also has changed considerably since 1990, as Table 2 shows. Developing nations now account for 37 percent of U.S. exports and 41.7 percent of U.S. imports, each a significantly higher share than in 1990. A vivid illustration of the growing competitive pressures on U.S. manufacturers in the developing world is the explosive growth in imports originating

from Mexico (from 6.0 percent to 12.3 percent of imports) and China (from 3.1 percent to 11.4 percent of imports). In addition, while the import share of Southeast Asian nations declined somewhat, it is now larger than that of Japan.

This report will focus on the nine largest U.S. trading partners, which are shown in Table 3. Canada and Mexico together account for nearly one-third of U.S. trade, due both to geographic proximity and the adoption of the North American Free Trade Agreement in 1994. Other major players include Japan and China (9.4 percent and 8.0 percent of trade, respectively), and the three largest European economies, which account for 11.4 percent.

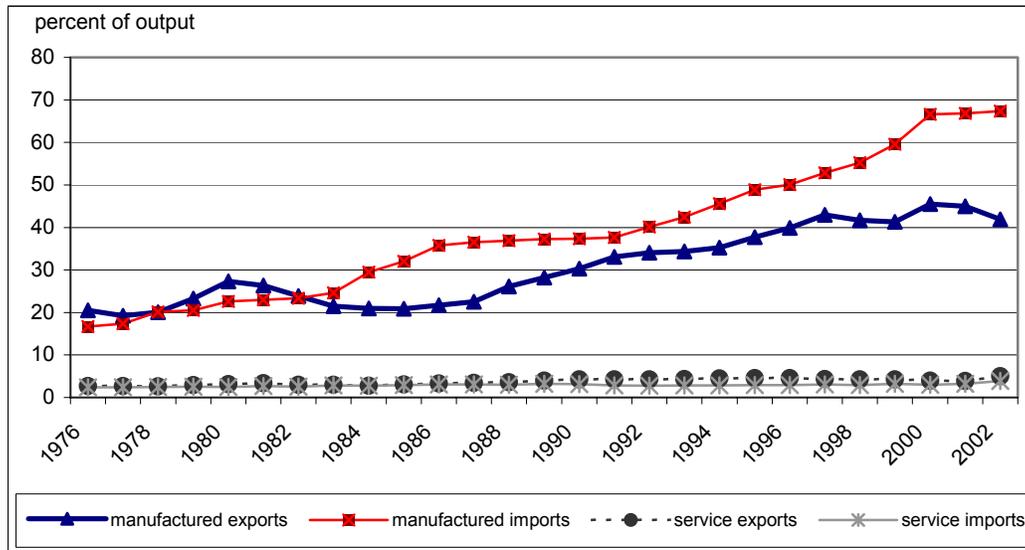
A common misperception is that most of the trade from developing nations is accounted for by textiles, clothing, footwear, and other traditionally labor-intensive products that often do not directly compete with products manufactured by U.S.-based companies (either because their quality is inferior to similar U.S. products or because U.S. producers have exited the relevant markets). While this may have been the case 10 or 20 years ago, nothing could be further from the truth today. As Table 4 demonstrates, all four of the top U.S. developing country traders are orienting themselves toward high-end manufactured goods such as industrial machinery, telecom equipment and office machines, and transportation equipment.

Chart 2
U.S. Exports and Imports, 1960-2002
 (percent of GDP)



Source: U.S. Department of Commerce

Chart 3
U.S. Trade in Manufactured Goods and Services, 1976-2002
 (percent of manufacturing and service sector GDP)



Source: U.S. Department of Commerce, International Trade Administration

Table 2
Geographic Distribution of U.S. Exports and Imports, 1990 and 2002
 (percent of total)

	<i>Exports</i>		<i>Imports</i>	
	1990	2002	1990	2002
Canada	21.1	24.6	18.1	19.1
European Union	26.3	22.0	20.0	20.6
Japan	12.3	7.9	18.2	11.1
Other Advanced Economies	3.4	3.2	2.4	2.0
Total Advanced	63.1	57.6	58.7	52.7
Mexico	7.2	14.9	6.0	12.3
China	1.2	3.4	3.1	11.4
Southeast Asia	9.4	11.1	15.8	13.8
Other Developing Economies	12.0	7.6	11.3	4.3
Total Developing	29.9	37.0	36.1	41.7
Unclassified	7	5.4	5.2	5.6

Source: World Trade Organization (1990) and U.S. Bureau of the Census (2002)

Note: Southeast Asia includes Taiwan, South Korea, Hong Kong, Singapore, Malaysia, Philippines, Thailand, and Indonesia.

Deflationary Pricing Environment Is Squeezing Cash Flow

U.S. manufacturers have faced a soft pricing environment both at home and abroad since the mid-1990s. Domestically, there is considerable excess manufacturing capacity due to high levels of capital investment in the late 1990s; as a result, the produc-

tion base is more than enough to accommodate demand, which itself is growing slowly. In addition, the transition of countries with low labor costs into higher value-added product groups further depresses prices. The inability to raise prices puts greater pressure on manufacturers to improve productivity and cut costs; if they do not, profitability will perform deteriorate.

Chart 4 shows trends in the producer price index for manufacturing production as well as the export price index for industrial supplies. Prices for exported industrial supplies have firmed up somewhat in 2003, but are essentially unchanged relative to 1995. Pro-

ducer prices for manufacturers have fared somewhat better, but have risen by only 7 percent since 1996. The overall price level, as measured by the consumer price index, has risen more than 40 percent since 1990.

Table 3
Top Trading Partners of the United States, 2002
(imports plus exports in billions of dollars and as a percent of total)

	\$Billion	Percent of Total
Canada	371.39	20.1
Mexico	232.26	12.6
Japan	172.93	9.4
China	147.22	8.0
Germany	89.11	4.8
United Kingdom	74.12	4.0
South Korea	58.17	3.2
Taiwan	50.59	2.7
France	47.43	2.6
Total	1,243.22	67.3

Source: U.S. Department of Commerce

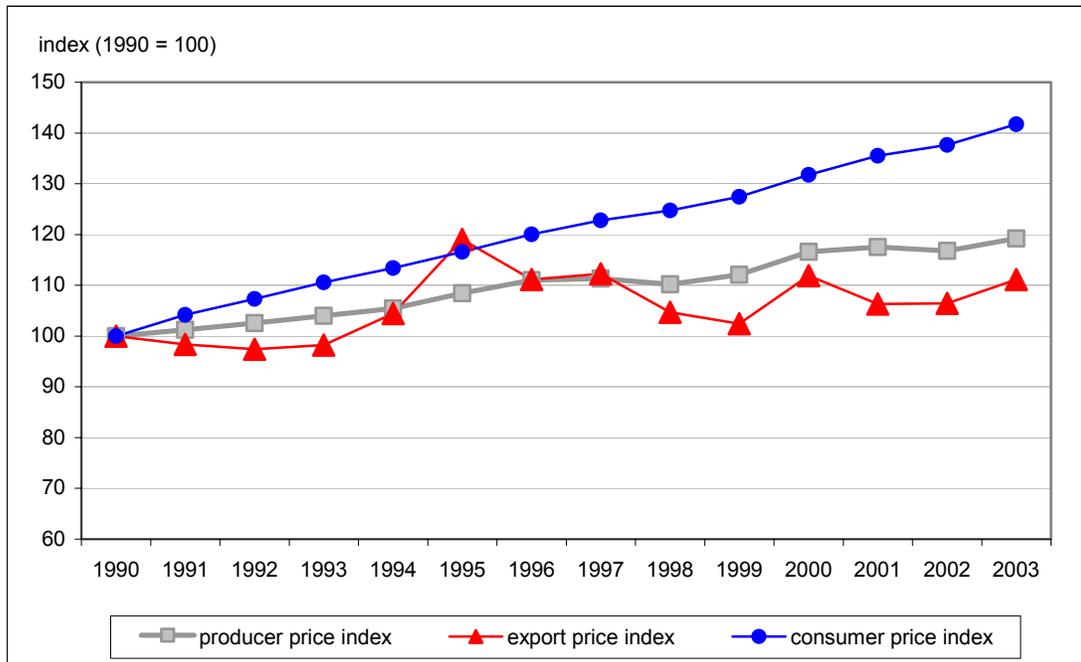
Table 4
U.S. Imports From Major Developing Country Partners by Product Type, 2002
(percent of total merchandise exports)

Product group	Mexico	China	South Korea	Taiwan
Office machines and telecom equipment	17.4	23.6	30.9	33.6
Electrical machinery	12.6	8.2	14.6	16.6
Transportation equipment	19.8	1.5	20.9	4.4
Textiles, apparel, footwear and handbags	7.2	20.0	9.3	7.9
Miscellaneous manufacturing	2.5	18.8	3.0	7.8
Industrial machinery	7.6	3.6	6.0	7.4
Fabricated metal products	3.8	4.7	4.4	8.7
Furniture	2.8	5.6	0.2	2.5
Total	73.6	86.0	89.4	88.9

Source: U.S. Department of Commerce

Note: "Miscellaneous manufacturing" includes toys, sporting goods, and other small articles primarily destined for consumers.

Chart 4
**Producer Price Index for Manufacturing Industries and Export
 Price Index for Industrial Supplies, 1990-2003**



Source: U.S. Bureau of Labor Statistics

Note: 2003 reflects data through September.

The soft pricing environment since the mid-1990s has taken its toll on manufacturing cash flow. As noted in a study by Popkin,⁴ one measure of cash flow is the sum of undistributed profits and depreciation charges. By this measure, manufacturers accounted for more than 35 percent of all corporate cash flow in the United States in 1995. One might have expected that the strong manufacturing boom from 1995 to 2000 would have boosted this share further, but in fact it eased to 30 percent by 2000 and then dipped sharply to 25 percent in the wake of the 2000-2001 manufacturing recession (Table 5). Reduced cash flow constrains resources available to invest in research and development, capital equipment, and other activities that are critical for future gains in productivity.

The inability to raise prices is only part of the reason behind the cash flow paradox. Mathematically speaking, in an environment of strong demand, cash flow will increase even in the context of stagnant producer and export prices, *provided that the costs of production do not increase more rapidly than demand*. It is thus startling that manufacturing cash

flow declined by 10 percent in dollar terms from 1997 to 2000, even though manufacturing production rose by nearly 20 percent—showing clearly that the cash flow crisis is a *structural*, rather than cyclical, problem.⁵ The implication is that the costs of production for U.S. manufacturers have risen dramatically and, as the next sections demonstrate, the culprits are factors that are outside the direct control of manufacturers themselves.

Raw Cost Competitiveness of U.S. Manufacturers

As a starting point to the quantitative analysis of the impact of exchange rates, taxes, regulations, employee benefits, and energy prices on U.S. manufacturing competitiveness, it is useful to ask the question: What would the raw cost position of U.S. manufacturing relative to major U.S. trading partners be in the absence of obstacles outside their direct control? The answer to this question can be found in unit labor costs, which are defined as the ratio of

⁴ Joel Popkin and Company, "Securing America's Future: The Case for a Strong Manufacturing Base," report prepared for the National Association of Manufacturers Council of Manufacturing Associations, June 2003, p. 36.

⁵ In periods of rapid growth, companies typically allot more resources to working capital in order to ramp up production. While this can cause cash flow growth to decelerate, it generally does not cause absolute declines.

employee wage compensation to value added. As a cost measure, they are superior to wage compensation per hour of work, for the reasons described in the text box.

Table 5
U.S. Manufacturing Cash Flow, 1990-2001

	In millions of dollars	As percent of total corporate cash flow	As percent of manufacturing output
1990	169,469	37.2	16.3
1991	152,544	32.2	14.6
1992	156,937	30.7	14.5
1993	166,462	30.9	14.7
1994	205,249	33.8	16.8
1995	234,362	34.7	18.2
1996	241,834	33.9	18.4
1997	257,725	33.3	18.7
1998	225,528	30.9	15.8
1999	245,950	30.4	16.6
2000	231,573	30.0	15.2
2001	198,239	25.3	13.9

Source: U.S. Bureau of Economic Analysis, U.S. Department of Commerce

Note: Cash flow is defined as the sum of undistributed profits and depreciation allowances.

Chart 5 reports hypothetical manufacturing unit wage costs (excluding employee benefits) in 2002 for the United States and its nine largest trading partners based on exchange rates of 1990, a concept which this report will term "raw cost index." (A detailed description of its derivation can be found in the Appendix.) Using 1990 exchange rates for the international comparisons removes the effect of swings in the dollar's value, which have worked to the considerable disadvantage of U.S. manufacturers. The competitive position of U.S. manufacturers exceeded that of their counterparts in Canada, Germany, and the United Kingdom, and France was only slightly inferior to that of South Korea, Japan, and Taiwan. The chart also hints at the analysis to follow by showing the burden of external overhead costs and currency fluctuations on the U.S. competitive position.

A second important point is that growth in unit labor costs for U.S. manufacturing actually *declined* by 0.1 percent over the 1990-2002 period, driven by strong productivity growth. This compares very favorably to Canada, Germany, South Korea, and the United Kingdom, where unit labor costs increased by 10.6 percent, 18.2 percent, 29.3 percent, and 37.1 percent, respectively. Only in France, Japan, and Taiwan did unit labor costs decline. The decline in France deserves special mention, since it is due fundamentally to rigidities in the French labor market.

Unit Labor Costs as a Measure of Competitiveness

Unit labor costs are a fundamental summary measure of a company's cost structure. By scaling wage costs to value added (as opposed to hours worked) they take into account international differences in labor productivity. For example, wage compensation per hour worked in manufacturing is higher in the United States than it is in the United Kingdom. However, that difference is not due to a higher labor cost structure in the United States. Rather, it is explained by the fact that U.S. manufacturing workers are significantly more productive than their British counterparts. By scaling wage compensation to value added, that productivity difference is incorporated into the comparison and the true competitive position of U.S. manufacturing is revealed.

By a similar line of reasoning, differences in capital intensity are also accounted for in unit labor costs. Heavy capital intensity implies that workers can produce more in one hour of work, improving labor productivity and reducing unit labor costs. Thus, factors that affect capital intensity (such as real interest rates, tax policies, and debt and equities markets) are indirectly captured in unit labor costs.

Finally, differences in the cost of raw materials are incorporated into unit labor costs. The costs of raw materials and intermediate goods are subtracted from sales when calculating net value added (it has no effect on total sales). It follows that an increase in raw materials cost reduces value added, thus increasing implied unit labor costs.

Employment laws make it very costly to lay off manufacturing employees, so French companies have compensated by increasing capital investment rather than hiring new employees. While this improves labor productivity and reduces unit labor costs, it does not alter the fact that the cost of labor remains high relative to the United States.

Japan's unit labor costs are only about two-thirds of the U.S. level, due in large part to the decade-long economic slump that began in 1990, during which unemployment increased from 2.1 percent to 5.4 percent. With a soft labor market, Japanese manufacturers have been able to hold hourly compensation costs in check. Productivity grew at about the same rate as in the United States, thus allowing unit labor costs to decline relative to the United States during the 1990s. When (or if) the Japanese economy emerges from the doldrums, this advantage is likely to narrow.

Mexico and China stand out as the two most formidable competitive challenges to U.S. manufacturers in the next 10 years. Each currently has a

considerable advantage over the United States with regard to unit labor costs and is beginning to move into high value-added exports. A silver lining is that anecdotal evidence reveals rapid growth in labor compensation costs. In China, for instance, manufacturing wages have grown on the order of 16 percent per year since 1991, suggesting a cumulative growth rate of well above 100 percent.⁶ Furthermore, there is persuasive evidence that wages for skilled Chinese workers are likely to increase dramatically over the next 10 years, narrowing the wide wage gap that currently exists.⁷ Mexican manufacturing wages also are likely to have risen substantially, although complete historical data are not available.

Trends in South Korea vividly illustrate the effect of industrialization on the cost structure of manufacturing that may foretell developments in Mexico and China. Only 25 years ago, South Korea counted itself among the low wage, low value-added developing economies, with a level of per capita GDP of less than one-sixth that of the United States. However, it is clear from the chart that, if recent trends in unit labor costs continue, the raw competitive position of U.S. manufacturing soon will exceed that of South Korea. This trend is the rule rather than the exception: rapid industrialization invariably brings strong growth in wages and concomitant demands for benefits such as health care and pensions.

If unit labor costs were the only factor influencing a firm's overall cost structure, then U.S. manufacturers would be much more dominant players in global markets than the current trade situation suggests. In reality, numerous elements outside of their control increase production costs and reduce their international competitiveness.

The Cost Squeeze: Obstacles to the Competitive Posture of U.S. Manufacturers

High Corporate Tax Rates

Although it has a reputation as a low tax nation relative to its peers in Europe and Japan, the United States actually taxes *corporate* income at a higher rate (and usually more than once) than its major trading partners. This acts as a drag on competitiveness for three primary reasons: it constrains after-tax cash flow, discourages establishment of foreign manufacturing facilities in the United States, and encourages the migration of U.S. manufacturing facilities to lower-tax jurisdictions.

Chart 6 summarizes trends in statutory corporate tax rates over the past five years for the United States and its major competitors.⁸ The U.S. rate was unchanged at 40 percent (consisting of the 34 percent federal rate and an average state rate of 6 percent). In 1997, Canada, Japan, and Germany each had significantly higher rates, but they all moved aggressively to reduce them. As a result, the United States now is burdened with the second highest rate among its trading peers, only slightly below that of Japan. Manufacturers in the purportedly "high-tax" European countries enjoy a significant tax advantage over their U.S. peers.

China's corporate taxation policy deserves special mention. Currently, it operates a parallel rate structure consisting of a 33 percent rate for state-owned domestic enterprises and an 18 percent rate for foreign-funded enterprises. However, observers are expecting the National Peoples Congress to merge the two systems under a single statutory rate of 25 percent—a figure used in this analysis.⁹

Statutory rates are only part of the tax burden faced by U.S. corporations. Taxation of dividend income reduces the net value of that income from the shareholder's perspective, pushing equity values lower than they otherwise would be. This has adverse implications for capital investment.

Until the passage of the Jobs and Growth Tax Relief Reduction Act (JGTRRA) in May 2003, the United States stood apart from its nine major trading partners by prohibiting full or partial deduction of dividends from taxable personal income. The partial deduction incorporated in JGTRRA is scheduled to sunset in 2008, adding a new level of uncertainty to corporate taxation.

A second and more critical issue is the treatment of income earned by foreign affiliates of U.S. corporations. Since the 1962 adoption of Subpart F to the Internal Revenue Code, the United States has chosen to tax foreign source corporate income at the same rate as domestic income. This is unlike all other major trading partners (except France), whose "territorial" systems allow corporate income to be taxed at the prevailing rate in the jurisdiction in which

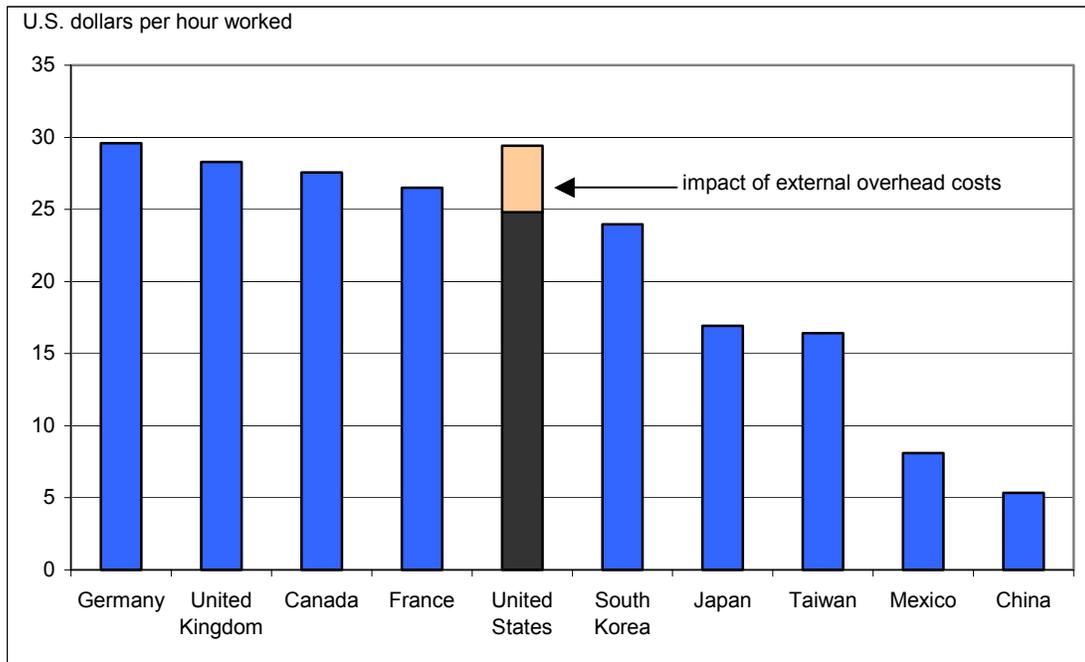
⁶ Yiping Huang, "How Cheap is Chinese Labour?" Citigroup Current Economics, June 2003.

⁷ Cliff Waldman, "The Labor Market Dynamic in Post-Reform China: History, Evidence, and Implications," Manufacturers Alliance/MAPI, ER-561e, September 2003.

⁸ Technically speaking, it is more appropriate to use effective tax rates (which take account of differences in eligible deductions from taxable income) when comparing tax systems. The disadvantage is that comparable data do not exist for many major U.S. competitors. However, differences among countries for which effective tax rates have been calculated are not large enough to affect the results reported here. For a comparative analysis of effective tax rates, see Eric Engen and Kevin J. Hassett, "Does the U.S. Corporate Tax Have a Future," *Tax Notes, 30th Anniversary Issue*, 2002, pp. 15-27.

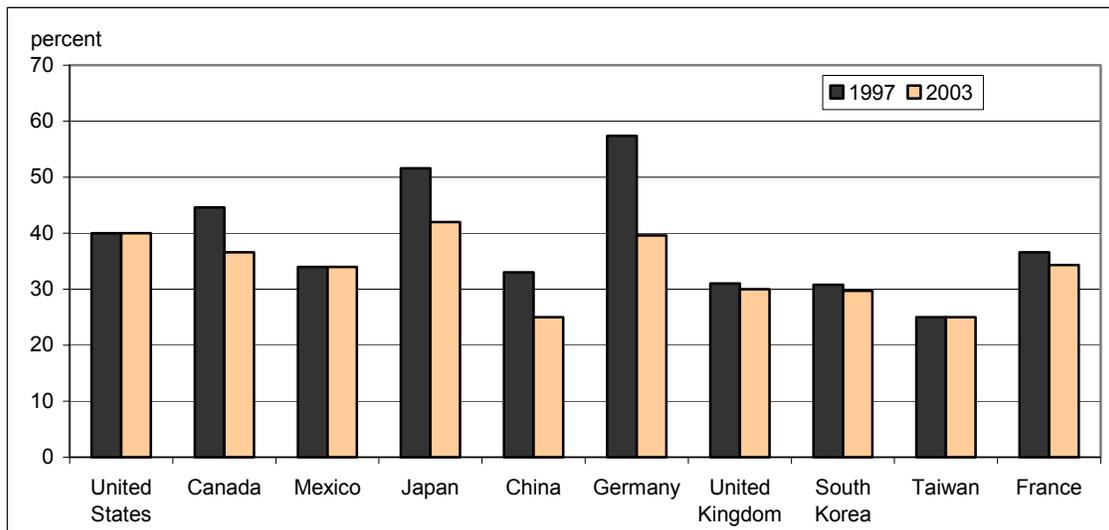
⁹ "Corporate income tax revision expected," *China Daily* online version, July 27, 2003.

Chart 5
Raw Cost Position of the United States and Its Nine Largest Trading Partners, 2002



Source: Organization for Economic Cooperation and Development, U.S. Bureau of Labor Statistics, National Statistics of Taiwan, UN Industrial Development Organization, and author's calculations (see Appendix for details).

Chart 6
Statutory Corporate Tax Rates for the United States and Its Nine Largest Trading Partners, 1997 and 2003



Source: KPMG Corporate Tax Rate Survey

the income is earned. The philosophy behind Subpart F originated in the notion that foreign investment is a substitute for domestic investment and, therefore, companies should not gain a tax advantage for moving production offshore. This principle served U.S. companies fairly well in the 1960s when they enjoyed a huge competitive advantage over their major trading partners and dominated world foreign direct investment; the fact that foreign-source taxation raised their overall cost structure only marginally diminished their competitive dominance.

The world has changed substantially since then. European and Japanese manufacturers became much more cost competitive, the U.S. share of world trade declined substantially, and foreign producers made deep inroads into U.S. industrial product markets. As a result, the marginal U.S. tax burden of the 1960s now has become one of the largest drags on U.S. international competitiveness.

U.S. policymakers have attempted to counteract the tax disadvantage imposed by Subpart F by allowing U.S. multinationals to exclude a certain portion of foreign-source income from U.S. corporate taxes. Beginning in 1971, companies were allowed to create a domestic international sales corporation (DISC), replaced in 1984 by the foreign sales corporation (FSC). Each allowed partial tax deferral of income of a corporate foreign subsidiary derived from handling U.S. export sales. These mechanisms have been challenged successfully by the European Commission before the General Agreement on Tariffs and Trade (GATT) and the World Trade Organization (WTO) as illegal export subsidies.¹⁰

Further complicating the situation is the widespread adoption of value-added taxes (VATs) by major U.S. competitors. VATs are classified for trade purposes as “indirect” taxes (meaning that, while they are statutorily imposed on manufacturers, they can be passed on partially to consumers in the form of higher prices), and as such they can be rebated for exports and imposed on imports. Thus, U.S. exports are subject to both U.S. corporate tax and the VAT of the destination country, while imports to the United States are VAT-free *and* are subject to the usually lower corporate tax rate of the exporting country. Estimates of the tax burden related to VAT adjustments are in

the neighborhood of \$60 billion per year, or about 4 percent of manufacturing value added.¹¹

State and local business taxes are a final component of manufacturers’ tax burden. Although international comparisons are beyond the scope of this paper, it bears noting that in 2002, U.S. businesses paid nearly \$378 billion in taxes of all kinds to states and localities, or 41 percent of total state and local tax revenues.¹²

Table 6 summarizes the tax advantage due to differences in statutory corporate tax rates for the nine largest U.S. trading partners. Expressed as a trade-weighted average, *the U.S. corporate tax burden reduces U.S. cost competitiveness by 5.6 percentage points*. Canada and Mexico, which carry a large trade weight, have a small advantage, while China, the United Kingdom, South Korea, and Taiwan each have much larger advantages.

The U.S. corporate tax burden reduces cost competitiveness by 5.6 percentage points.

Table 6
Burden of the Corporate Tax Rates on U.S. Manufacturing’s Raw Cost Competitiveness Relative to the Nine Largest U.S. Trading Partners, 2003

	Statutory corporate tax rate (percent)	Difference from U.S. (percentage points)
United States	40.0	—
Canada	36.6	-3.4
Mexico	34.0	-6.0
Japan	42.0	2.0
China	25.0	-15.0
Germany	39.6	-0.4
United Kingdom	30.0	-10.0
South Korea	29.7	-10.3
Taiwan	25.0	-15.0
France	34.3	-5.7
Trade-weighted average of above countries		-5.6

Source: Chart 6 and author’s calculations

It is important to note that *the data in Table 6 do not account for the competitive disadvantage caused by either double taxation of dividend income or the*

¹⁰ For a history of the dispute concerning DISCs and FSCs, see Gary Clyde Hufbauer, “The Foreign Sales Corporation Drama: Reaching the Last Act?” Institute for International Economics Policy Brief PB02-10, November 2002.

¹¹ Ernest S. Christian, “Manufacturing Repairs,” *The Washington Times*, October 2, 2003.

¹² Robert Cline, William Fox *et al.*, “A Closer Examination of the Total State and Local Business Tax Burden,” report prepared for the Council on State Taxation, January 2003.

tax treatment of foreign-source income. Comparable international data do not exist to make meaningful quantitative comparisons. Nevertheless, each does impose additional costs on U.S. manufacturers that are not borne by their peers in other countries, implying that their aggregate tax disadvantage is in fact larger than Table 6 suggests. This report errs heavily on the side of conservatism by using the results in Table 6 as a complete measure of the U.S. relative corporate tax burden.

Costs of Employee Benefits

A major area of concern for manufacturing is the escalating cost of providing employee benefits—most notably health care and pensions—to current and retired employees. The United States differs markedly from many of its major trading partners in that businesses play a much bigger role in the financing of health and retirement benefits. In other countries, health care and retirement benefits are funded in large part by governments via general income taxes. The U.S. emphasis on private sector provision of these benefits provides many advantages over publicly funded models, including better quality, more choice, and greater flexibility. However, it also means that the burden of the escalating costs in recent years falls heavily on business.

Table 7 shows the proportion of compensation for manufacturing production workers accounted for by benefits for the nine largest U.S. trading partners, as well as the percentage point difference from the United States. It is a comprehensive measure that includes legally required contributions for government programs such as public pensions, public health plans (Medicare only in the United States), and unemployment insurance, as well as employer contributions for privately funded benefits, the most important of which are retirement plans and, in the United States, health insurance.

U.S. employee benefit costs are higher than most of its major competitors.

Benefits are 20.6 percent of total U.S. compensation, which is substantially higher than for others, except Germany, South Korea, and France. This may seem somewhat surprising, because its competitors (particularly the mature industrial democracies) generally have more generous employer-funded public social programs. On a trade-weighted basis, **U.S. benefit costs amount to 5.5 more percentage points of compensation than its major trade competitors.**

This seemingly paradoxical result stems from the large role that U.S. manufacturers play in funding health insurance and retirement pensions for their

employees. As the next two subsections point out, recent escalations in health care and pension costs are primary factors behind the U.S. competitive disadvantage.

Health care.—As is well-known, the United States spends more on health care (as a percent of GDP) than any other country, and expenditures have outpaced general inflation for years. While a full treatment of the structural problems facing U.S. health care delivery is beyond the scope of this paper,¹³ it is important to focus on the disproportionate financing burden faced by U.S. manufacturers relative to their foreign counterparts.

Table 7
Benefits as a Percentage of Total Compensation for Manufacturing Production Workers, United States and Its Nine Largest Trading Partners, 2001

	Benefits as percent of total compensation	Percentage point difference from U.S.
United States	20.6	
Canada	15.8	-4.8
Mexico	11.2	-9.4
Japan	11.2	-9.4
China	8.0	-12.6
Germany	24.2	3.6
United Kingdom	15.5	-5.1
South Korea	29.6	9.0
Taiwan	9.1	-11.5
France	31.3	10.7
Trade-weighted average of above countries		-5.5

Sources: U.S. Bureau of Labor Statistics and "The Labor Market Dynamic in Post-Reform China: History, Evidence, and Implications," Manufacturers Alliance/MAPI, ER-561e, September 2003

Note: China data include health benefits only.

Chart 7 illustrates the breakdown of health expenditures among the eight major U.S. trading partners for which data are available (only public-sector funding data are available for China). It demonstrates that the United States not only spends more on health care than its major trading partners, but the private-sector share, at 7.7 percent of GDP, also is far larger than in other countries.

¹³ For a more complete discussion of the changing face of U.S. health care, see National Association of Manufacturers, "Health Care at the Crossroads: Manufacturers Agenda for Lower Costs and Higher Quality," September 2002; for more information on the NAM health care agenda, see <http://www.nam.org/healthplan> and recommendations on page 23 of this report.

Health care spending has been rising rapidly in the United States and its major trading partners, as they all cope to varying degrees with the increasing health care requirements of an aging population and rising costs for new diagnostic technologies and treatments. As Table 8 shows, average annual growth in per capita health expenditures from 1989 to 1999 ranged between 3.8 percent and 8.5 percent, with the United States essentially in the middle of the pack. Total expenditures nevertheless remain significantly higher than in other countries.

The decade-long increase in health care expenditures shown in Table 8 is unremarkable in an international context. However, it is of critical importance to U.S. businesses, because they bear such a large part of the financing burden. Over 90 percent of Americans under the age of 65 currently obtain their health insurance through their employer, a proportion that has remained fairly steady over the past 10 years. Ninety-seven percent of the members of the National Association of Manufacturers provide health care coverage for their employees.¹⁴

Furthermore, businesses typically pay 84 percent of single coverage policies and 73 percent of family coverage policies—percentages that actually have *increased* since 1993.¹⁵ In other countries where the public sector finances the majority of spending, the burden is shared more broadly across the economy, because governments often use general tax revenues to supplement payroll taxes.

Thus, the cost increases outlined in Table 8 have hit U.S. manufacturers harder than their international counterparts. Of more concern is that overall cost increases have accelerated since 1999 and now exceed health sector inflation by a wide margin.¹⁶ As a result, data published by the U.S. Bureau of Labor Statistics show that costs to U.S. manufacturers for private employee health insurance premiums (not including Medicare payroll taxes) reached 8.0 percent of total compensation in 2003, up considerably from the 11-year low of 6.9 percent recorded in 1999.

Private pensions.—In addition to health insurance, most U.S. manufacturers provide funding for private pension benefits on behalf of their employees. Sixty percent of employees in goods-producing indus-

tries are covered by a company-sponsored pension plan. The majority of these plans are defined contribution plans, meaning that companies and employees contribute funds during the employee's career, and the employee gains access to the account funds. The only guaranteed benefit is the value of the account at the time of the employee's retirement.

Of concern to manufacturers is the future of "defined benefit" pension plans, which are prevalent in large companies in mature industries.¹⁷ Unlike defined contribution plans, they guarantee a specific benefit for retirees, the level of which is typically based on salary levels and years of service. In order to meet future obligations, companies with defined benefit pension plans must make sure that contribution rates and expected returns on contributions are sufficient to finance promised benefits.

In recent years, the financial health of defined contribution plans has come under a two-pronged attack. First, the baby boom generation has begun retiring during a period of dramatic decline in manufacturing employment. As with Social Security, this changing balance between workers and retirees has put tremendous financial pressure on private pension funds.

Second, the sharp decline in stock market values has dramatically reduced the net present value of corporate pension funds. As a result, many that were healthy just a few years ago now appear severely underfunded. Due to technical regulations about how net present value is calculated with respect to pensions, many manufacturers face the prospect of infusing substantial amounts of cash to return their funds to actuarial balance.¹⁸ Doing so in the current economic circumstances would deal a double blow to U.S. manufacturing competitiveness. It would drastically reduce cash flow (which is already at historical lows), stifling new capital investment that is so critical to a sustained economic recovery. Also, it could add on the order of one to two percentage points to employee benefits costs, further eroding the U.S. competitive posture relative to its major trading partners.

¹⁴ Manufacturing Institute, "The Facts About Modern Manufacturing, 6th edition (Washington, DC: National Association of Manufacturers, 2003), p. 51.

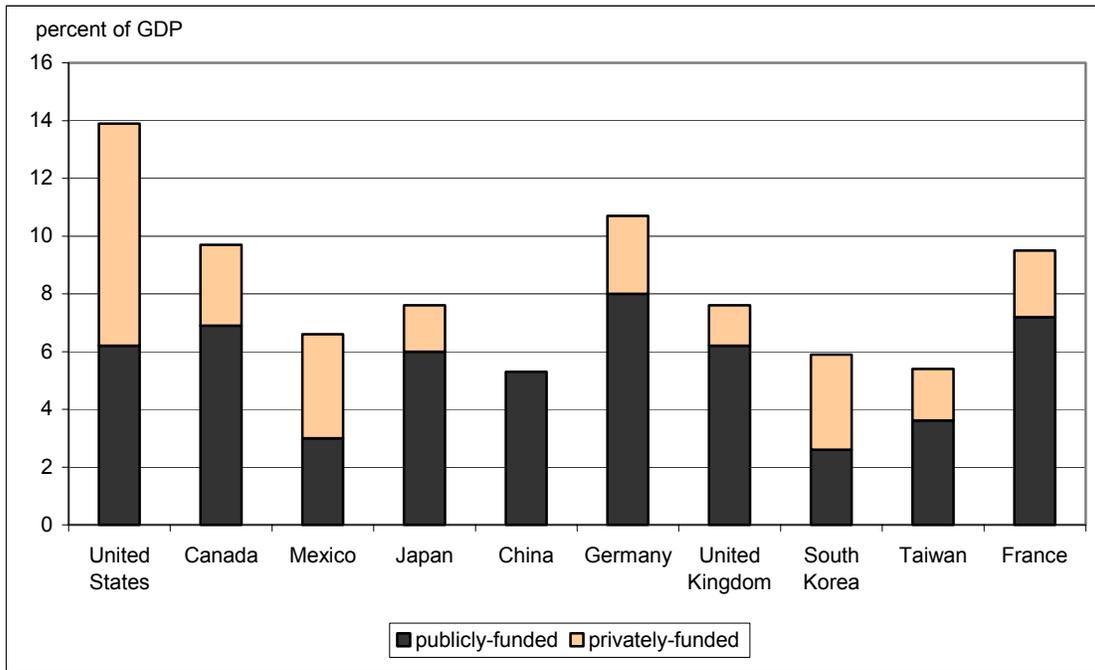
¹⁵ Kaiser Family Foundation, *2002 Survey of Employer Health Benefits*, September 2002. In a recent survey, the National Association of Manufacturers found that nearly one in four of its members paid 100 percent of premiums.

¹⁶ *Ibid.* The gap between growth in premiums and health inflation implies growing claims, which is likely due to the aging of the work force as well as increasing use of "defensive" diagnostic testing to reduce the risk of malpractice suits, among other factors.

¹⁷ According to Wilshire Associates, about 320 companies in the Standard & Poor's 500 index have defined benefit plans.

¹⁸ Current rules link measurement of defined benefit funding levels to the 30-year Treasury bill, a debt instrument that no longer is issued. With interest rates at historical lows, this requirement has undermined the "official" health of many manufacturers' pension plans, increasing calls for a more economically relevant discount rate.

Chart 7
Publicly and Privately Funded Health Care Expenditures in the United States and Its Nine Largest Trading Partners, 2001



Source: Organization for Economic Cooperation and Development and World Bank

Notes: Data for China reflects total health expenditure; no public-private disaggregation is available. Data for Taiwan date from 1996 and are taken from Eva Liu and Joseph Lee, "Health Care Expenditure and Financing in Taiwan," Hong Kong Provisional Legislative Council Secretariat report, June 1998.

Table 8
Average Annual Growth in Per Capita Health Expenditures in the United States and Its Nine Largest Trading Partners, 1989-1999

	1989 level (U.S. dollars)	1999 level (U.S. dollars)	Average annual percentage change
United States	2,475	4,373	5.7%
Canada	1,541	2,428	4.5%
Mexico	260 ¹	462	6.4%
Japan	1,013	1,844	6.0%
China	N/A	N/A	N/A
Germany	1,494	2,451 ²	5.5%
United Kingdom	903	1,666	6.1%
South Korea	316	739	8.5%
Taiwan	N/A	N/A	N/A
France	1,517	2,226	3.8%

Source: Organization for Economic Cooperation and Development

¹ 1990.

² 1998.

Costs of Asbestos and Other Tort Litigation¹⁹

Of paramount concern to U.S. manufacturers are the costs associated with actual or threatened tort litigation, particularly the explosion in new asbestos lawsuits. The U.S. tort system is notorious for its high cost, its inefficiency with regard to compensating plaintiffs who have suffered losses, and its inability to clearly link damage awards to demonstrably negligent behavior. These costs and inefficiencies are nominally shouldered by business (yet another obstacle to the raw competitive position of manufacturers) but are ultimately borne by consumers in the form of higher product prices, by workers in the form of lower wages, and by investors in the form of lower returns.

In its most recent analysis of the U.S. tort system released in February 2003, Tillinghast-Towers Perrin reported that the costs of the U.S. tort system reached \$205 billion in 2001, or just over 2 percent of GDP. In dollar terms, this represents a 14.3 percent jump from 2000. Tort costs actually declined as a share of GDP from the late 1980s to 1999, but since have risen rapidly. At least one-third of this increase has been due to an upward reassessment of liabilities associated with asbestos claims. Other factors driving the increase are class action lawsuits and large claim awards, record awards in medical malpractice cases, and shareholder lawsuits against boards of directors of publicly traded companies. The report concluded that, absent sweeping structural changes in the way tort claims are handled, double-digit growth in costs is likely for the next several years, which could drive the tort cost-to-GDP ratio to an all-time high of 2.33 percent by 2005.

The asbestos crisis merits specific comment because of the sheer magnitude of potential future claims, which some observers have put as high as \$275 billion. This dwarfs the first wave of asbestos litigation in the 1970s, during which some 300 companies that manufactured asbestos products or used asbestos extensively in their operations were sued and ultimately compensated employees for diseases linked to asbestos exposure.

How can future claims of such a magnitude be possible when the majority of victims already have been compensated? The answer is that many asbestos lawsuits today are filed by plaintiffs who show no symptoms of asbestos-related disease. According to the American Insurance Association, such “unimpaired”

Tort costs reduce manufacturing cost competitiveness by at least 3.2 percent.

claimants now account for 75 percent of total lawsuits filed, compared to fewer than 5 percent two decades ago. Furthermore, these claimants are targeting companies across the industrial spectrum. An interim report by the RAND Institute for Civil Justice found that 75 of 83 industrial groups count companies among asbestos defendants. Over 8,400 companies now have been named as defendants in asbestos cases. Today, there is virtually no economic sector that is not affected in some way by asbestos litigation.

Comparable international data on the total cost of tort litigation are limited. The only reliable source is the widely cited Tillinghast-Towers Perrin studies of U.S. tort costs, which compile data for the United States as well as several other industrial democracies. While the data are of excellent quality, they are not available for many of the key U.S. trading partners, such as Mexico, China, and Korea.

The first column of Table 9 reproduces tort costs as a percent of GDP for the United States and its major trading partners for which data exist, and confirms that U.S. costs are more than twice as large in relative terms as all others except Germany.

Because the manufacturing sector bears a disproportionate burden of tort claims, it is inappropriate to use the tort cost-to-GDP ratio when calculating the competitive impact on U.S. manufacturing. The second column of the chart attempts to quantify the impact of tort costs on manufacturers by scaling one-third of total national tort costs (a conservative estimate based on private conversations with tort analysts) to manufacturing output. The results, while admittedly crude, provide a rough barometer of the “tax” that tort costs impose on manufacturing production. Finally, the third column shows the percentage point difference relative to the United States, along with a trade-weighted average.

The problem of data availability severely skews the results, since anecdotal evidence strongly suggests that tort costs are much lower in Mexico, China, Korea, and Taiwan, for the simple reason that fully-developed tort liability laws tend to lag industrialization. One need only examine the history of U.S. manufacturing itself. Even in 1950, when manufacturing in the United States was already a mature industry, tort costs were less than

one-third their current levels as a percent of GDP. To err on the side of conservatism, the trade-weighted average assumes that manufacturing tort costs are equal to 0.55 percent of manufacturing production in Mexico, China, Korea, and Taiwan—half of the lowest value for all countries with available data. In reality, *tort litigation likely reduces U.S. manufacturers cost competitiveness by more than the 3.2 percent reported in Table 9.*

¹⁹ This section draws heavily on Frederick T. Stocker, ed., *I Pay, You Pay, We All Pay: How the Growing Tort Crisis Undermines the U.S. Economy and the American System of Justice* (Arlington, VA: Manufacturers Alliance/MAPI, May 2003).

Table 9
**Cost of Tort Litigation, United States and Its
 Nine Largest Trading Partners, 2000**

	Tort costs as percent of GDP	Manufacturing tort costs as percent of manufacturing output	Percentage point difference from U.S.
United States	2.0	4.5	—
Canada	0.8	1.4	-3.1
Mexico	N/A	0.6*	-3.9*
Japan	0.8	1.2	-3.3
China	N/A	0.6*	-3.9*
Germany	1.3	3.8	-0.7
United Kingdom	0.6	1.1	-3.4
South Korea	N/A	0.6*	-3.9*
Taiwan	N/A	0.6*	-3.9*
France	0.8	3.2	-1.3
Trade-weighted average of above countries			-3.2

Source: Tillinghast-Towers Perrin and author's calculations

* For countries lacking data (Mexico, China, South Korea, and Taiwan), this analysis conservatively assumes that their relative manufacturing tort costs are equal to half that of the United Kingdom, the lowest of all countries with available data.

Costs of Regulatory Compliance

Compliance costs for regulations can be regarded as the “silent killer” of manufacturing competitiveness. Often developed without an objective cost-benefit analysis, regulations have steadily increased in quantity and complexity, regardless of which political party controls the executive branch.

Because of the sheer volume and breadth of regulations affecting manufacturers, it is virtually impossible to estimate total regulatory compliance costs for U.S. manufacturers. Nevertheless, by examining some of the most burdensome regulations, this analysis aims to sketch the outline of trends since 1990.

A useful starting point is the annual report on the federal budget expenditures devoted to writing and enforcing regulations jointly published by the Mercatus Center at George Mason University and the Weidenbaum Center at Washington University.²⁰ It presents historical data on regulatory agency budget outlays for a wide variety of social and economic regulations. Key results are shown in Table 10.

Overall, total federal budget outlays for administering and enforcing regulations nearly doubled from \$13.7 billion to \$26.9 billion from 1990 to 2003 (in

real terms). Some of the increase was caused by the creation of the Transportation Security Administration (TSA) subsequent to the September 11, 2001 terrorist attacks; absent the TSA, regulatory expenditures increased by still over 60 percent. Regulatory budget outlays are highest in the environmental, consumer safety, transportation, and general business (where the largest components are patent approval and corporate financial oversight) regulation sectors.

Of course what matters more to manufacturers is their own compliance costs. The persistent upward trend in *enforcement expenditures* in Table 10 suggests that *compliance costs* also have risen. In terms of compliance, three areas of regulation are hit particularly hard: consumer safety, workplace safety, and environmental protection.

The most complete analysis of the compliance costs of regulations presented in two studies for the U.S. Small Business Administration conducted by W. Mark Crain and Thomas Hopkins.²¹ These studies estimate total costs of complying with three classes of regulations—environmental (including air and water

²⁰ Susan Dudley and Melinda Warren, “Regulatory Spending Soars: An Analysis of the U.S. Budget for Fiscal Years 2003 and 2004,” Mercatus Center and Wiedenbaum Center, July 2003, available at <http://www.mercatus.org/pdf/materials/359.pdf>.

²¹ Thomas D. Hopkins, “The Changing Burden of Regulation, Paperwork and Tax Compliance on Small Business: A Report to Congress,” Office of Advocacy, Small Business Administration, November 1995, and W. Mark Crain and Thomas D. Hopkins, “The Impact of Regulatory Costs on Small Firms,” Office of Advocacy, Small Business Administration, October 2001.

Table 10
**U.S. Federal Budget Outlays for Regulatory
 Activities, 1990-2003**

	Millions of Dollars		Percent Change
	1990	2003	
Social regulation			
Consumer safety	2,205	4,324	96.1
Transportation	1,996	9,034	352.6
TSA	0	4,756	N/A
Transportation excluding TSA	1,996	4,278	114.3
Workplace safety	1,158	1,471	27.0
Environment	4,812	6,493	34.9
Energy	560	677	20.9
Economic regulation			
Finance and banking	1,574	1,792	13.9
Industry-specific regulation	574	813	41.6
General business	859	2,260	163.1
TOTAL	13,739	26,864	95.5
TOTAL excluding TSA	13,739	22,108	60.9

Source: Mercatus Center and Weidenbaum Center

pollution abatement and Superfund cleanup costs); economic (including, for specific industries, barriers to entry, price regulation, tariffs, and other trade barriers); and workplace (including safety and employment regulations)—plus tax compliance.

Table 11 summarizes the key results of and Crain and Hopkins' 2001 study, showing the estimated cost of regulatory compliance among U.S. manufacturers. The largest costs are imposed by environmental regulations, which account for almost 50 percent of the costs reported in Table 11. The slightly different methodology of the 1995 Hopkins study precludes an accurate comparison of each component over time. Nevertheless, it is instructive to note that direct pollution abatement investments by manufacturers **more than doubled** from 1990 to reach \$15 billion in 1998 (the latest year for which data are available).

A second costly class of regulations relates to price supports, entry barriers, tariffs, and other rules affecting specific industries. The costs are twofold. First, economic regulations imply that production of certain goods will be reduced, and other goods may not be developed at all. Second, many of these regulations (particularly those that affect prices) have the effect of transferring income away from affected industries. For instance, restrictions on sugar imports raise the domestic price of sugar, thus transferring wealth away from those industries that use it as a raw material. Taken together, these effects cost U.S. manufacturers \$48 billion annually.

Table 11
**Manufacturing Compliance Costs
 Associated With U.S. Regulations
 Compliance Activities,
 1992 and 1997**

(expressed in constant 2000 dollars)

	Total cost, 1997 (\$billions)	Per-employee cost, 1997
Environmental	69	3,691
Economic	48	2,553
Workplace	16	838
Tax compliance	15	822
Total	147	7,904

Source: W. Mark Crain and Thomas D. Hopkins, "The Impact of Regulatory Costs on Small Firms," Office of Advocacy, Small Business Administration, October 2001, Table 9A.

Current workplace regulations are significantly higher than Table 11 indicates. A recent working paper by the Mercatus Center at George Mason University surveyed, with the support of the National Association of Manufacturers, 100 manufacturing companies and estimated that the total cost of complying with the 25 statutes and executive orders that encompass workplace regulation was about \$32 billion in 2000, double the 1997 estimate by Mark Crain and Thomas Hopkins and equivalent to a 1.6

percent excise tax on manufactured products.²² This burden falls disproportionately on manufacturers employing fewer than 100 workers, which reported average compliance costs of \$2,500 per employee, compared to less than \$1,600 per employee in larger firms. The most onerous regulations relate to safety and employee benefits.

A new concern the regulatory radar screen for U.S. companies is the sweeping changes in corporate financial reporting requirements in the wake of accounting irregularities at large corporations such as Enron and WorldCom. These requirements have been spelled out in the Sarbanes-Oxley Act, signed into law in July 2002.²³ Because the law has been in force for only a short period, compliance costs are not yet known; but executives are worried. A July 2003 survey carried out for PriceWaterhouseCoopers showed that 44 percent of senior executives expressed at least some concern about Sarbanes-Oxley compliance costs. As was the case with workplace regulations, the proportion of small business executives concerned about compliance cost was much higher at 58 percent.

Most compliance costs imposed by Sarbanes-Oxley are internal (in the form of additional labor and capital resources directed toward accounting procedures) and thus are “hidden” from view. The Johnson Group, a Chicago-based corporate accounting consultancy, suggests that a \$3 billion public company will invest between \$2.8 million and \$8 million per year to comply.

The regulatory compliance burden on U.S. manufacturers is the equivalent of a 12 percent excise tax.

Based on the foregoing discussion, a reasonable estimate of *the total compliance burden of environmental, economic, workplace, and tax compliance on the economy is in the order of \$850 billion—with \$160 billion on manufacturers alone, equivalent to a 12 percent excise tax on manufacturing production.* This reflects an increase of about 15 percent over the

²² W. Mark Crain and Joseph M. Johnson, “Compliance Costs of Federal Workplace Regulations: Survey Results for U.S. Manufacturers,” a Mercatus Working Paper, December 2001.

²³ For a general summary of the provisions of the Sarbanes-Oxley Act, see Francis W. Holman, Jr., “House of Representatives Passes H.R. 3763, the Corporate Auditing Accountability, Responsibility, and Transparency Act,” Manufacturers Alliance/MAPI, E-179, April 30, 2002.

last five years. Easing this burden on manufacturers is imperative and also will reduce excessive regulatory costs on other sectors of the economy as well.

Cross-country data on regulatory compliance costs are extremely rare. The only comparable international data of reasonable quality are produced by the Organization for Economic Cooperation and Development (OECD) and pertain only to pollution abatement expenditures.

Pollution abatement comparisons severely understate the threat of U.S. regulatory burdens on international competitiveness. Nevertheless, Table 12 shows pollution abatement expenditures in the United States and its nine major trade competitors. Expressed as a percentage of GDP, the U.S. burden is higher than all countries except (surprisingly) South Korea. Canada, Mexico, and the United Kingdom enjoy a considerably lighter cost burden, and even the so-called “green” European economies spend a smaller share of GDP on pollution abatement.

Pollution abatement alone reduces U.S. cost competitiveness by at least 3.5 percentage points.

As was the case with tort litigation, pollution abatement falls disproportionately on the shoulders of manufacturers. As a benchmark, U.S. manufacturers accounted for 83 percent of total pollution abatement expenditures in 1999. The second column of Table 12 estimates the burden of pollution abatement expenditures on manufacturers by scaling 83 percent of total expenditures to manufacturing output. Due to differences in the relative sizes of manufacturing sectors (as a percent of total GDP, the U.S. manufacturing sector is the smallest of the countries listed), the competitive advantage of other countries is even more pronounced. On a trade-weighted basis, *the burden of pollution abatement expenditures alone reduces U.S. cost competitiveness by at least 3.5 percentage points.* It bears repeating that pollution abatement is the only regulatory area where reliable comparative data exist; by excluding other costly areas of regulation, it substantially understates the total burden to U.S. manufacturers.

A qualitative international survey of regulatory reform reveals that most of the United States major trading partners have embarked on aggressive reform efforts, concentrated in electricity, telecommunications, and general regulatory streamlining. In the context of Table 11 above, these actions will act to alleviate the “economic regulation” component in these countries. The OECD cites Canada, Japan, Korea,

Table 12
**Cost of Pollution Abatement, United States and Its
 Nine Largest Trading Partners, Late 1990s**

	Pollution abatement costs as percent of GDP	Manufacturing pollution abatement costs as percent of manufacturing output	Percentage point difference from U.S.
United States	1.6	7.6	—
Canada	1.1	4.8	-2.8
Mexico	0.8	3.1	-4.5
Japan	1.4	5.3	-2.3
China	N/A	1.6*	6.1*
Germany	1.5	5.2	-2.4
United Kingdom	1.0	4.7	-3.0
South Korea	1.7	4.3	-3.3
Taiwan	N/A	1.6*	6.1*
France	1.4	6.1	-1.5
Trade-weighted average of above countries			-3.5

Source: Organization for Economic Cooperation and Development

Note: As in Table 9, the analysis conservatively assumes that countries with missing data (China and Taiwan) bear a pollution abatement burden equal to half the lowest value of other trading partners (in this case, Mexico).

Table 13
**Natural Gas Prices in the United States and Its Nine
 Largest Trading Partners, 1994–2001**
 (dollars per million British thermal units)

	1994	2001	Percent change
United States	\$2.87	\$4.83	68.3
Canada	1.98	2.74	38.4
Mexico	2.01	4.12	105.0
Japan	11.75	10.24	-12.8
China	N/A	N/A	N/A
Germany	4.65	4.74	1.9
United Kingdom	3.57	3.37	-5.6
South Korea	N/A	N/A	N/A
Taiwan	7.11	7.27	2.3
France	3.57	4.71	31.9

Source: U.S. Energy Information Administration

and the United Kingdom as specific countries of extensive activity. Importantly, the impetus for reform stems heavily from international competitiveness concerns.

Energy Costs

Given the U.S. position as a leading energy producer, it may seem surprising that energy costs are an obstacle to U.S. manufacturing competitiveness. It is even more puzzling that current energy headaches

are due primarily to surging prices for natural gas—a fossil fuel found in abundance in North America. The United States meets 85 percent of its consumption via domestic production and has virtually no dependence on Persian Gulf nations.²⁴

²⁴ The United States imports a negligible amount of liquefied natural gas from Qatar and the United Arab Emirates.

Due to the relatively low capital cost of installing new gas-fired electricity generation and the ease of environmental permissions, U.S. electric utilities and manufacturers have boosted investment in natural gas-based energy generation. Currently, natural gas accounts for 40 percent of U.S. industrial energy consumption, and natural gas use in electricity generation has increased 59 percent in the last 10 years.

In this context, the sharp rise in natural gas prices has come as a rude awakening. From 1994 to 2001, prices rose by nearly 70 percent in the United States, as shown in Table 13. As a result, natural gas prices are now higher in the United States than in all its major competitors for which data are available, except Japan and Taiwan.

The causes of high U.S. natural gas prices are purely political in nature. Current areas of exploration and drilling are just barely sufficient to meet current demand. The result is tight inventories that leave little room to maneuver in the case of unexpected spikes in demand brought about by cold winters and other unpredictable, yet foreseeable, factors. The American Gas Association notes that producers will be able to boost production from existing drilling areas, as they have in the past, for only perhaps 10 to 15 years.²⁵ The Energy Information Administration projects that natural gas demand will increase by over 36 percent by 2020 despite higher gas prices, and existing North American sources may be insufficient for demand as early as 2010.

Total reserves, on the other hand, are more than sufficient to provide cheap natural gas for at least the next generation. Proven North American reserves increased by 30 percent from 1980 to 2000 (1,708 trillion cubic feet to 2,208 trillion cubic feet). Unfortunately, they are located in regions that are currently off limit to development (or so heavily regulated that drilling is not cost-effective): the Atlantic, Pacific, and Gulf of Mexico coastal waters; the Rocky Mountain region; Alaska; and Canada. In the interest of energy independence, environmental protection, and the need to preserve our manufacturing base, action should be taken to allow gas producers access to key deposits.²⁶

The natural gas crisis has offset cost advantages that the United States enjoys for other industrial fossil fuels. Table 14 shows the burden of natural gas prices

on U.S. manufacturing competitiveness. While relatively low prices for refined petroleum and coal more than offset the natural gas burden, a more fundamental question is why the United States, as the holder of one of the world's largest reserve of natural gas, cannot successfully exploit it to the competitive advantage of manufacturers.

Total Effect of Five Cost Pressures

Table 15 sums up the total cost squeeze by aggregating the trade-weighted burden of the five external cost drivers discussed in the preceding sections. Taken together, the aggregate advantage of our nine largest trading partners shaves an average of 18.3 percent from their unit labor costs relative to U.S. manufacturers. This implies that the actual hourly U.S. unit labor costs (\$24.30 in 2002) would need to fall to \$19.85 to offset this burden. Because \$24.30 is 22.4 percent greater than \$19.85, this is equivalent to stating that *domestic cost pressures add 22.4 percent to U.S. unit labor costs in manufacturing relative to its major trading partners.*

Table 14
Burden of High Fossil Fuel Prices on U.S. Manufacturing's Raw Cost Competitiveness Relative to Its Nine Largest Trading Partners, 2003

(percent difference relative to U.S. manufacturers)

	Natural gas	All fossil fuels
Canada	-2.0	-6.0
Mexico	-0.7	-2.3
Japan	3.0	12.5
China	-1.3	-2.3
Germany	-0.1	0.6
United Kingdom	-2.1	2.1
South Korea	N/A	4.1
Taiwan	0.6	15.3
France	0.0	-4.2
Trade-weighted average of above countries	-0.5	0.7

Source: U.S. Energy Information Administration and author's calculations

The Talent Squeeze: Attracting Job Seekers to Manufacturing

As noted earlier in this report, U.S. manufacturers have done their part to remain competitive in international markets by keeping unit labor costs in check. They have been able to do so by improving productivity at rapid rates.

²⁵ "From the Ground Up: America's Natural Gas Supply Challenge," American Gas Association report, December 2002.

²⁶ As the American Gas Association notes, new extraction technologies allow producers to tap reserves with less impact on the surrounding environment than in the past. However, implementation of these techniques requires long lead times, so policy changes must be made sooner rather than later.

A key ingredient to the resurgence of productivity growth has been the quality of the labor force. The cumulative education and work experience contained in the large baby boom generation (whose members began reaching senior management positions starting in the mid-1980s) have contributed incalculable benefits with regard to technology, improved management, and many other innovations; it is a truism to state that all innovations have their origins in human creativity.

Table 15

**Total Burden of Cost Pressures on
U.S. Manufacturing's Raw Cost
Competitiveness**

(percent difference relative to U.S. manufacturers)

Cost pressure	Foreign Advantage
Corporate tax rates	-5.6
Employee benefits	-5.5
Litigation costs	-3.2
Pollution abatement	-3.5
Natural gas prices	-0.5
Total cost advantage of 9 largest trading partners	-18.3
U.S. net cost burden	22.4

Source: Author's calculations based on data in previous tables.

However, baby boomers are beginning to retire and will be almost entirely out of the labor force within 15 to 20 years. As a result, there is likely to be a need for 10 million additional skilled workers by 2020.²⁷ Currently, the only net new source of skilled workers for manufacturers stems from immigration.

This is an ominous trend, because manufacturers already are reporting difficulty in finding qualified job candidates. Even in the midst of the 2000-2001 recession, 80 percent of U.S. manufacturers reported moderate to serious shortages of qualified job candidates.²⁸ The situation is not likely to improve as the recovery strengthens because: (a) many young people have a negative, outdated perception of manufacturing jobs; and (b) there is a misalignment of the education system with the skills needed for the 21st Century. If action is not taken to draw more potential

employees to manufacturing careers, the strong productivity growth of the past decade could be put at risk in the future. Some of the steps needed to address the skills shortage are: first, governors should connect workforce and economic development as a single strategy; second, federal and local governments should provide adequate training funds to enhance technical skills of the current workforce, particularly for employees at smaller companies; and third, the public workforce investment system should be incented to work more closely with the private sector.

**Easing the Burden: Policy Measures
To Reduce Manufacturing
"Overhead" Costs**

To prevent further deterioration of U.S. manufacturing's competitive position in the global economy, policymakers must take immediate and decisive action on a number of fronts to reduce the external overhead costs that have been imposed in the last decade:

Tax Policy

The current tax system is the single largest obstacle to increased economic growth. The long-term solution calls for a new tax system that is simpler and encourages—rather than penalizes—work, investment, and entrepreneurial activity. In the short-term, tax law changes targeted to businesses will spur capital investment, reduce the tax burden faced by companies in a downturn, and make U.S. corporations more competitive in the global marketplace. These tax law changes include—

- Reduce statutory corporate tax rates, as most trading partners have done over the 1990s. The corporate tax burden shouldered by U.S. companies makes it more difficult for them to compete in the global marketplace.
- Repeal the corporate alternative minimum tax, which hits particularly hard when manufacturing profitability is weak.
- Completely eliminate the taxation of after-tax profits distributed as dividends: a practice that nearly all other nations have allowed for years.
- Lower the cost of innovating and investing by making the R&D tax credit permanent and accelerating capital depreciation schedules.
- In the interest of promoting U.S. global competitiveness, it is important for policymakers to simplify and reform the international tax code including changes that minimize the "double tax burden" on corporations by allowing companies to better utilize foreign tax credits and improve rules on taxing global earnings by allowing companies to defer U.S. tax on foreign income until it is paid to the U.S. parent.

²⁷ Anthony P. Carnevale and Richard A. Fry, "The Economic and Demographic Roots of Education and Training," report commissioned by the National Association of Manufacturers, November 2001.

²⁸ National Association of Manufacturers and Deloitte and Touche, "Keeping America Competitive: How a Talent Shortage Threatens U.S. Manufacturing," White Paper, 2003.

Health Reform

- As a general principle, provide a closer connection between level of service received and patient expenditure.
- Encourage greater individual responsibility for coverage costs and health status to reduce the incidence of expensive, but preventable, chronic health conditions such as hypertension, diabetes, and asthma.
- Improve affordability of health coverage for individuals and companies through individual tax credits, group purchasing, and tax-favored savings accounts for consumers.
- Reform medical liability laws to discourage “defensive” diagnostic testing and treatment and reduce costs shifting from medical litigation.

Pension Reform

- Policymakers should work to shore up the current private retirement system and ensure retirement security for America’s workers by supporting changes to current rules to make it easier for businesses to provide pension benefits for employees and easier for employees to plan for their retirement. Specific changes that should be made include modifying funding requirements to reduce the volatility of cash calls on a business, increasing contribution limits and simplifying complex pension rules and requirements.

Legal Reform

- Legislation to discourage and curtail frivolous lawsuits which would include: (1) proportionate liability (eliminating joint and several liability); (2) a statute of repose beyond which the manufacturer cannot be held responsible for product performance; (3) nationwide standards for awarding punitive damages; and (4) limiting the amount of punitive damages.
- Federal class action legislation to place large, nationwide lawsuits in federal courts that would

curtail the current system that allows their filing in plaintiff-friendly venues.

- National asbestos litigation that would limit awards to nonsick claimants, assure that truly sick claimants are compensated, provide for future payments if an exposed individual becomes ill, and provide certainty to the defendant community.

Regulatory Reform

- Establish a more objective cost-benefit review process for all proposed regulations, updated on a periodic basis, which takes full account of adverse impact on business and jobs.
- Carry out third-party cost-benefit reviews for existing regulations pertaining to environmental and workplace safety regulation (the two that are most costly for U.S. manufacturers) and repeal those that are not justified on this basis.
- Express regulatory goals in terms of **results** rather than ways of achieving them, leaving flexibility for manufacturers to develop cost-effective solutions.

Energy Costs

- Adopt changes in land-use regulations and permitting procedures that allow access to the large undeveloped natural gas reserves in the Outer Continental Shelf and Rocky Mountain regions. Tapping only developed reserves is already straining to meet current demand and cannot meet expected growth.
- Remove obstacles to moving north-coast Alaska gas to market in the continental United States.
- Increase regulatory flexibility of tax policies to encourage more electricity generation from coal, nuclear, and renewable energy.
- Promote a variety of energy sources other than natural gas for electricity production and avoid policies that would cause generators to switch to natural gas as a fuel.

APPENDIX

Derivation of Raw Manufacturing Cost Index for the United States and Its Nine Largest Trading Partners

Conceptually, the raw cost index for manufacturing is the ratio of wage compensation (which excludes benefit costs) to value-added in manufacturing.

The basic approach is to estimate benchmark levels using data published by the Organization for Economic Cooperation and Development (OECD) for 1990, and project them to 2002 using a measure of hourly wage compensation growth corrected by increases in manufacturing productivity. These underlying data for the projections are published by the U.S. Bureau of Labor Statistics (BLS).

A simpler way to do the projections would be to use BLS international data on unit labor cost growth in manufacturing, but these data include employee benefits and other nonwage compensation and hence do not strictly measure trends in wage compensation that are of relevance to the raw cost index.

Thus, the raw cost index in 2002 can be expressed as the ratio of the 1990 benchmark for wage compensation to the 1990 benchmark for output, each grown by the respective increase in home-currency hourly wages and productivity from 1990 to 2002 (which removes the effect of currency fluctuations):

$$\frac{(\text{Wage compensation}_{90}) \times (\text{home-currency hourly wage compensation growth}_{90-02})}{(\text{Output}_{90}) \times (\text{output per hour growth}_{90-02})}$$

Data for the above methodology are available for all countries in the report except Mexico, China, and Taiwan. For these three countries, an alternative methodology was used intended to approximate the technique described above.

Taiwan

For Taiwan, OECD and BLS data exist for the growth rates of wage compensation and output per hour growth, but not for the 1990 benchmark. However, the National Statistics of Taiwan publishes historical data on output, monthly earnings, and total employment in industry (which includes manufacturing, construction, and public utilities). From these data it is possible to calculate total earnings as a share of output in industry for 1990, which is the benchmark used in this report.

Mexico

For Mexico, BLS data on manufacturing productivity growth do not exist. However, the United Nations Industrial Development Organization publishes data on the share of wages in manufacturing value added, based on primary unpublished OECD data.

China

China poses the greatest difficulty, since OECD and BLS do not produce any data at all. In addition, the Chinese Statistical Bureau publishes virtually no information on manufacturing output, wages, and productivity.

This paper takes a comparative approach, taking the ratio of manufacturing wages in China to those in the United States and correcting that ratio for differences in productivity levels. According to several sources, hourly wages for manufacturing workers in China's industrial northeast are about 60 cents per hour, or 2.8 percent of U.S. levels. However, China's productivity in key export industries is estimated to have been about 7 percent that of the United States in 1995 and has likely increased to 13 percent today. This implies that the raw cost index in China is just over 20 percent of the U.S. level.