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INTERNATIONAL COMPARISONS OF MANUFACTURING PRODUCTIVITY AND UNIT LABOR COST TRENDS, 2002

In 2002, the increase in manufacturing productivity in the United States, at 6.4 percent, was the fourth largest among 13 economies compared by the U.S. Department of Labor's Bureau of Labor Statistics. (See chart 1.) Korea and Sweden recorded the highest productivity gains, while the Netherlands and the United Kingdom recorded the smallest gains. Of the 13 economies, Italy posted the only productivity decline in manufacturing.

The United States posted its highest annual growth rate in output per hour in 15 years. In 6 of the 13 economies, productivity increases in 2002 were close to or somewhat higher than the average growth rates of the second half of the 1990's, after slowing down in 2001. (Average annual growth rates for selected measures are found in tables A and B. The complete historical index series are shown in tables 1 through 15.)

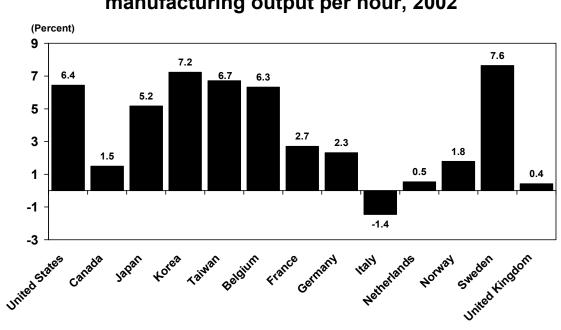


Chart 1. Percent change in manufacturing output per hour, 2002

Unit labor costs in manufacturing, expressed in national currency units, which are available for 14 economies, increased in 9 in 2002. As in 2001, Korea recorded the largest increase in 2002 (5.4 percent), while Japan and Taiwan recorded the largest declines, 6.4 and 6.3 percent, respectively. Unit labor costs decreased as well in the United States (1.3 percent), Sweden (3.6 percent), and Germany (0.1 percent).

Fluctuations in exchange rates must be taken into account in order to assess international competitiveness in manufacturing. The depreciation of the U.S. dollar against most currencies in 2002 increased unit labor costs, expressed in U.S. dollars, in Korea and all nine European countries compared. (See chart 2 and table A.)

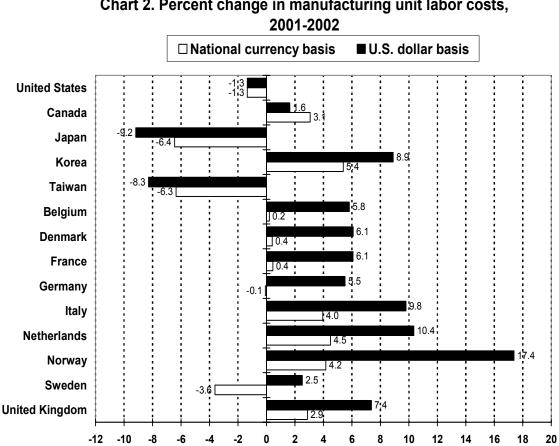


Chart 2. Percent change in manufacturing unit labor costs,

	Output					Total	Hourly	Unit labo	r costs	
Country	per			Employ-	Average	compen-	compen-	National	U.S.	Exchange
or area	hour	Output	Hours	ment	hours	sation	sation	currency	dollars	rate (1)
United States	6.4	- 1.1	- 7.0	- 6.8	- 0.3	- 2.4	5.0	- 1.3	- 1.3	_
Canada	1.5	2.6	1.1	0.7	0.4	5.7	4.6	3.1	1.6	- 1.4
Japan	5.2	- 1.5	- 6.4	- 6.4	0.0	- 7.9	- 1.6	- 6.4	- 9.2	- 2.9
Korea	7.2	6.3	- 0.8	- 0.2	- 0.7	12.0	13.0	5.4	8.9	3.3
Taiwan	6.7	6.6	- 0.1	- 1.8	1.7	- 0.2	- 0.1	- 6.3	- 8.3	- 2.1
Belgium	6.3	0.5	- 5.5	- 3.1	- 2.4	0.7	6.5	0.2	5.8	5.6
Denmark	NA	0.4	NA	- 3.8	NA	0.8	NA	0.4	6.1	5.7
France	2.7	0.1	- 2.6	- 1.7	- 0.9	0.5	3.2	0.4	6.1	5.6
Germany	2.3	- 0.3	- 2.6	- 2.1	- 0.6	- 0.4	2.2	- 0.1	5.5	5.6
Italy	- 1.4	- 0.7	0.7	1.0	- 0.2	3.2	2.5	4.0	9.8	5.6
Netherlands	0.5	- 1.6	- 2.2	- 2.2	0.0	2.8	5.1	4.5	10.4	5.6
Norway	1.8	- 0.6	- 2.4	- 1.1	- 1.3	3.5	6.0	4.2	17.4	12.7
Sweden	7.6	2.9	- 4.4	- 2.8	- 1.6	- 0.8	3.7	- 3.6	2.5	6.4
United Kingdom	0.4	- 4.0	- 4.4	- 5.1	0.7	- 1.2	3.3	2.9	7.4	4.4

Percent change

(1) Value of foreign currency relative to the U.S. dollar.

NA=Not Available

Table A summarizes changes in manufacturing productivity, unit labor costs, and related variables between 2001 and 2002. Output and unit labor cost data are presented for 14 economies. Comparable productivity data are not available for Denmark. (See technical notes.)

This release examines comparative trends in manufacturing output per hour, unit labor costs, and related measures in 2002, the most recent year for which comparative data are available, and for certain selected time periods. Annual indexes of these variables also are estimated for the time period 1950-2002. Because the value added output data for U.S. manufacturing industries are not available prior to 1977, the comparative measures of output, output per hour, and unit labor costs for the United States in this report begin with 1977.

Table B (pages 8-12) shows average annual percent changes for selected periods, beginning in 1979. Annual indexes of the data are in tables 1-15 (pages 19-33).

Historical series are available also at the Bureau of Labor Statistics, Division of Foreign Labor Statistics, website at address http://www.bls.gov/fls/home.htm.

Notes about the measures

The measures in this release are based on data available to BLS as of August 2003. Revisions for 2001 and earlier years were made to the measures for several countries to incorporate data not available at the time of the February 2003 report.

U.S. manufacturing output measure

The output measure for manufacturing in the United States is the chain-weighted index of real gross domestic product by industry (deflated value added), published by the Bureau of Economic Analysis (BEA), U.S. Department of Commerce. This series is based on annually changing price weights. Because this measure is not available for years prior to 1977, U.S. measures of output, output per hour, and unit labor costs begin with 1977.

The United States real output data through 2001 used in this report were released by the BEA in November 2002 and are described in the *Survey of Current Business*, November 2002. The BLS estimate of real U.S. output for 2002 was derived by extrapolating the 2001 number forward, using the annual growth rate of the Federal Reserve Board's Industrial Production Index for Total Manufacturing.

The U.S. output series used for international comparisons differs from the manufacturing series that BLS publishes as part of its major sector productivity and costs measures for the United States. While both series are based on annually-changing price weights, the international comparisons program uses a value added output concept, while the major sector series is on a sectoral output basis and begins with 1949. The U.S. major sector productivity and costs measures can be found at internet address <u>http://www.bls.gov/lpc/</u>. For information on the differences between the value added and the sectoral output measures, see the Technical Notes section of this release.

Germany

From 1991 forward, the estimated growth rates pertain to unified Germany; prior to 1991, the rates pertained to the former West Germany. The two data series were linked in 1991. See technical notes for additional information.

New measures of National Accounts

Member states of the European Union are in the process of implementing the European System of Integrated National Accounts (ESA 95). Some other countries are adopting the System of National Accounts recommended by the United Nations (SNA 93), on which ESA 95 is based. Revisions due to these conversions to new systems are being incorporated into the BLS estimates.

Manufacturing productivity, output, and labor input

Labor productivity (output per hour) in U.S. manufacturing grew 6.4 percent in 2002, the fastest rate of increase since 1987. Labor productivity in 2002 also grew in all other countries compared, except Italy. U.S. growth was surpassed by three economies – Korea (7.2 percent), Sweden (7.6 percent), and Taiwan (6.7 percent). The United Kingdom's productivity gain of 0.4 percent and the Netherlands' 0.5 percent were the weakest gains among the countries compared. The majority of economies compared experienced productivity gains in 2002 after experiencing stagnant or negative growth in 2001. France, Italy, Norway, and the United Kingdom, where labor productivity growth slowed or declined, were exceptions. (See table B.)

Substantial 2002 productivity gains in Belgium, Japan, Sweden, and the United States reflected steep declines in hours worked with moderate to negative output growth. In contrast, productivity gains in Taiwan and Korea reflected steep rises in output and slight declines in hours worked, similar to the productivity growth patterns in both countries and in the United States and Sweden during 1995-2000. (See table B.)

In contrast to the rise in U.S. manufacturing output during 1995-2000, output declined for the second consecutive year in 2002, albeit at a notably slower rate than in 2001. The drop in U.S. output was the fourth largest decline in 2002 among the countries compared. Only Japan, the Netherlands, and the United Kingdom recorded greater declines. Output growth was relatively slow or negative in most European countries compared and in Japan. Korea and Taiwan recorded the highest output growth rates. In all countries except Taiwan and Canada, output growth rates in 2002 were lower than average growth rates during the 1979-2002 period.

Unlike output, total hours worked in manufacturing declined in every country compared, with the exception of Canada and Italy. In the United States, hours worked fell by 7.0 percent in 2002, the largest annual drop in 20 years and the highest among the countries compared. (The 6.4 percent decline in U.S. hours worked in 2001 is a revision from the 5.6 percent decline reported in the February 2003 news release.) Elsewhere, the 2002 declines ranged between 0.1 percent in Taiwan and 6.4 percent in Japan. In six of the countries where labor productivity grew in 2002, both hours worked and manufacturing output declined, but hours declined more.

The reductions in hours worked continued a general trend during the last decades in the manufacturing sectors of these economies. In most of them, hours worked in manufacturing reached their maximum levels in the 1960s and 1970s (the United States in 1979) and have trended downward since then, the decline accelerating in the last few years. In Taiwan and Korea, manufacturing hours have been declining since the late 1980s. The only exception to this general trend is Canada. (See tables B and 4.)

For most countries, reductions in manufacturing hours over the last several decades were the result of declines in both manufacturing employment and average hours worked. The reduction in average hours began earlier, but the decline in employment has been steeper and steadier. In some countries, average hours have risen slightly since 1979. (See tables B, 5, and 6.) In 2002 in Japan, the United Kingdom, and the United States, the large reductions in total hours worked were due mainly to sharp drops in manufacturing employment, while average hours worked changed little. Canada and Italy were the only countries where there was a slight increase in manufacturing employment in 2002, with Canada recording an increase in average hours as well. Manufacturing employment declined in all the other economies, and, except for Taiwan and the United Kingdom, was accompanied by the same or fewer average hours worked. (See table B.)

Manufacturing hourly compensation and unit labor costs

Hourly compensation in manufacturing increased between 2.2 and 6.5 percent in 2002 in most economies, including the United States (5.0 percent). Only Korea posted a double-digit increase (13.0 percent). By contrast, Japan and Taiwan recorded declines in hourly compensation in 2002. For most economies in 2002, hourly compensation increases lagged behind their average annual growth rates of the 1979–2002 period. (See table B.)

Similarly, the growth of manufacturing unit labor costs for most countries, expressed in national currency, lagged behind the average annual increases of 1979–2002. The United States, Japan, Taiwan, Germany, and Sweden recorded declines in unit labor costs because productivity growth was larger than hourly compensation growth. In the other economies, hourly compensation growth outstripped productivity growth. (See tables B and 9.)

To compare changes in competitiveness across economies, the impact of exchange rate fluctuations have to be taken into account by expressing unit labor costs in a common monetary unit. When a foreign currency appreciates against the U.S. dollar, more dollars must be paid in exchange for each national currency unit, leading to a larger increase or a smaller decline in unit labor costs converted from the foreign currency into U.S. dollars. This effectively makes products from that country more expensive and worsens its competitiveness.

In 2002, the U.S. dollar depreciated against the currencies of most countries compared, particularly against the Norwegian krone (12.7 percent). The decline against the euro was 5.6 percent. This depreciation reversed a seven-year trend when the U.S. dollar recorded annual average appreciation against most other currencies. Only the Japanese yen and Canadian and Taiwanese dollars depreciated against the U.S. dollar in 2002. (See table B.)

As a result of the dollar's fall, most countries showed large increases in unit labor costs expressed in U.S. dollars, in particular Norway, the Netherlands, Italy, and Korea. The annual increase in Korean unit labor costs expressed in U.S. dollars was the largest since the Asian financial crisis in 1997. As in 2001, Japan and Taiwan continue to show the largest unit labor cost declines in 2002. The United States was the only other country with lower unit labor costs.

Thus, for most economies in 2002, increases in unit labor costs expressed in national currencies were below their average annual growth rates of the last 30 years, but the

depreciation of the U.S. dollar in 2002 raised dollar-denominated unit labor cost increases above their historical growth rates. (See table B.)

		Average	annual rate	es of chang	je ¹		
Country or area	1979-2002	1979-1985	1985-1990	1990-1995	1995-2000	2000-2001	2001-2002
			Output per l	nour			
United States	3.4	3.5	2.4	3.3	4.5	r 0.4	6.4
Canada	2.1	3.6	0.5	3.8	1.1	-2.0	1.5
Japan	3.6	3.5	4.3	3.3	4.1	-1.6	5.2
Korea	NA	NA	8.2	9.7	r 11.0	r -0.8	7.2
Taiwan	6.0	5.1	7.9	5.3	5.5	6.3	6.7
Belgium	3.8	6.0	2.2	3.2	3.3	1.2	6.3
Denmark	NA	2.4	0.7	NA	NA	NA	NA
France	4.2	5.1	r 3.3	4.0	r 4.7	r 4.1	2.7
Germany ²	2.4	2.1	2.1	3.3	2.4	1.4	2.3
Italy	2.0	3.5	1.9	2.4	0.9	1.7	-1.4
Netherlands	3.0	r 4.6	r 2.2	r 3.5	r 2.5	r -0.3	0.5
Norway	1.5	2.4	1.4	r 0.5	r 1.1	r 2.2	1.8
Sweden	4.5	3.1	1.9	5.7	7.8	r 0.9	7.6
United Kingdom	3.6	4.4	4.6	r 3.6	r 2.5	r 2.6	0.4
-							
			Output				
United States	2.4	2.2	2.5	3.1	4.3	-6.0	-1.1
Canada	2.4	2.0	1.8	2.4	4.5	-3.3	2.6
Japan	2.5	4.7	4.8	0.4	2.0	-4.9	-1.5
Korea	8.8	8.3	12.2	8.4	8.1	r 2.1	6.3
Taiwan	6.0	8.2	7.0	5.0	5.7	-5.7	6.6
Belgium	2.1	2.6	2.5	0.6	3.2	0.3	0.5
Denmark	1.4	2.3	-0.6	1.7	r 1.8	r 4.4	0.4
France	2.1	1.6	2.5	1.1	r 3.5	r 3.0	0.1
Germany ²	0.6	0.2	2.3	-0.7	0.9	0.6	-0.3
Italy	1.5	0.9	3.2	1.5	1.2	r 0.8	-0.7
Netherlands	2.0	r 2.0	r 3.1	r 1.8	r 2.6	r -0.9	-1.6
Norway	0.3	0.6	-1.6	r 1.0 r 1.1	r 2.0	r -0.9 r 0.5	-0.6
Sweden	0.3 3.4	2.2	-1.8	3.7	7.7	r 0.5 r -1.5	-0.8
United Kingdom	0.5	-1.2	3.4	0.4	1.0	-2.4	-4.0
onited Kingdolli	0.5	-1.4	5.4	0.4	1.0	-2.4	-4.0

Average annual rates of change												
Country	1979-2002	1979-1985	1985-1990	1990-1995	1995-2000	2000-2001	2001-2002					
or area												
			Total hou	rs								
United States	-1.0	-1.2	0.0	-0.1	-0.2	r -6.4	-7.0					
Canada	0.3	-1.5	1.3	-1.3	3.4	-1.4	1.1					
Japan	-1.1	1.1	0.5	-2.8	-2.0	-3.4	-6.4					
Korea	NA	NA	3.7	-1.2	r -2.6	r 2.9	-0.8					
Taiwan	0.0	2.9	-0.8	-0.3	0.2	-11.3	-0.1					
Belgium	-1.6	-3.2	0.4	-2.5	-0.1	-1.0	-5.5					
Denmark	NA	-0.1	-1.3	NA	NA	NA	NA					
France	-2.0	-3.3	-0.7	-2.7	r -1.2	r -1.1	-2.6					
Germany ²	-1.8	-1.9	0.2	-3.9	-1.5	-0.8	-2.6					
Italy	-0.5	-2.5	1.3	-0.9	0.3	r -0.9	0.7					
Netherlands	-1.0	-2.5	0.9	-1.7	0.0	r -0.6	-2.2					
Norway	-1.2	-1.8	-2.9	0.6	r -0.1	r -1.7	-2.4					
Sweden	-1.0	-0.8	-0.5	-1.9	-0.1	-2.4	-4.4					
United Kingdom	-3.0	-5.3	-1.2	r -3.0	r -1.4	r -4.8	-4.4					
			Employme	ent								
United States	-1.1	-1.4	-0.1	-0.6	-0.1	r -4.7	-6.8					
Canada	0.2	-1.3	1.2	-1.5	3.0	-0.4	0.7					
Japan	-0.7	1.2	0.8	-1.6	-1.9	-2.6	-6.4					
Korea	NA	NA	5.4	-0.9	-2.5	r 5.2	-0.2					
Taiwan	0.7	4.1	-0.5	-0.3	0.5	-4.5	-1.8					
Belgium	-1.5	-2.6	-0.3	-2.2	-0.7	0.1	-3.1					
Denmark	-0.7	0.2	-0.8	-1.2	r -0.5	r -1.1	-3.8					
France	-1.4	-2.3	r -0.9	-2.5	r -0.3	r 1.1	-1.7					
Germany ²	-1.2	-1.1	1.1	-4.2	-0.8	0.4	-2.1					
Italy	-1.0	-2.3	-0.2	-1.8	0.3	r 0.0	1.0					
Netherlands	-0.8	r -2.3	1.0	-1.6	0.2	r -0.5	-2.2					
Norway	-1.1	-1.8	-2.7	0.3	0.1	r -1.4	-1.1					
Sweden	-1.4	-1.2	-0.8	-3.5	0.0	-1.0	-2.8					
United Kingdom	-2.7	r -4.5	-0.9	r -3.0	r -1.1	r -4.4	-5.1					

Average annual rates of change¹

Average annual rates of change												
Country	1979-2002	1979-1985	1985-1990	1990-1995	1995-2000	2000-2001	2001-2002					
or area												
			Average ho	urs								
United States	0.1	0.2	0.1	0.4	-0.1	r -1.8	-0.3					
Canada	0.1	-0.2	0.1	0.3	0.4	-1.0	0.4					
Japan	-0.4	0.0	-0.3	-1.3	-0.1	-0.8	0.0					
Korea	NA	NA	-1.6	-0.2	-0.1	r -2.1	-0.7					
Taiwan	-0.7	-1.1	-0.4	0.0	-0.3	-7.1	1.7					
Belgium	-0.1	-0.6	0.7	-0.3	0.7	-1.1	-2.4					
Denmark	NA	-0.3	-0.5	NA	NA	NA	NA					
France	-0.6	-1.1	0.1	-0.2	-0.9	-2.2	-0.9					
Germany ²	-0.6	-0.8	-0.9	0.3	-0.6	-1.2	-0.6					
Italy	0.5	-0.1	1.6	0.9	0.0	r -0.9	-0.2					
Netherlands	-0.2	-0.3	-0.2	0.0	-0.2	-0.1	0.0					
Norway	-0.1	0.0	-0.2	0.3	r -0.2	r -0.3	-1.3					
Sweden	0.4	0.4	0.3	1.7	-0.1	-1.4	-1.6					
United Kingdom	-0.3	-0.8	-0.3	r -0.1	-0.3	r -0.4	0.7					
	Total labor co	ompensation	in manufactı	ıring³: Natioı	nal currency	basis						
United States	3.6	5.8	3.9	3.4	3.7	r -4.1	-2.4					
Canada	5.1	7.5	5.6	2.4	4.9	2.1	5.7					
Japan	2.0	5.9	5.1	0.7	-1.1	-2.6	-7.9					
Korea	NA	NA	19.9	16.8	4.1	r 10.2	12.0					
Taiwan	8.2	15.9	10.6	6.8	4.2	-9.4	-0.2					
Belgium	3.0	4.7	4.0	1.3	1.9	4.1	0.7					
Denmark	4.7	9.1	4.8	2.3	3.1	3.2	0.8					
France	3.6	9.0	3.6	1.1	r 0.7	r 3.9	0.5					
Germany ²	3.1	4.0	5.2	2.3	1.6	2.3	-0.4					
Italy	6.9	13.0	8.2	4.0	3.1	2.7	3.2					
Netherlands	3.1	r 2.4	r 3.9	2.8	3.4	r 4.6	2.8					
Norway	5.4	8.0	4.7	4.0	r 5.0	r 3.7	3.5					
Sweden	5.5	8.9	7.9	2.0	4.8	0.9	-0.8					
United Kingdom	4.5	r 6.3	8.1	2.5	3.2	r -0.5	-1.2					

Average annual rates of change¹

		Average	annual rate	es of chang	Je ¹		
Country	1979-2002	1979-1985	1985-1990	1990-1995	1995-2000	2000-2001	2001-2002
or area							
	Ho	ourly compen	sation ³ : Nati	ional currenc	y basis		
United States	4.6	7.2	3.9	3.5	4.0	r 2.4	5.0
Canada	4.7	9.1	4.2	3.7	1.4	3.5	4.6
Japan	3.2	4.7	4.6	3.6	1.0	0.7	-1.6
Korea	NA	NA	15.6	18.2	6.9	r 7.0	13.0
Taiwan	8.2	12.6	11.5	7.1	4.0	2.2	-0.1
Belgium	4.7	8.1	3.7	3.9	2.0	5.2	6.5
Denmark	NA	9.3	6.2	NA	NA	NA	NA
France	5.8	12.7	4.3	3.9	1.9	5.0	3.2
Germany ²	5.0	6.0	5.0	6.4	3.1	3.1	2.2
Italy	7.4	15.9	6.8	4.9	2.8	r 3.6	2.5
Netherlands	4.1	r 5.1	r 3.0	4.5	3.3	r 5.2	5.1
Norway	6.6	10.0	7.8	3.4	r 5.2	r 5.5	6.0
Sweden	6.6	9.8	8.4	4.0	4.8	3.4	3.7
United Kingdom	7.8	12.2	9.4	r 5.7	r 4.7	r 4.6	3.3
		Unit labor co	osts: Nationa	al currency b	asis		
United States	1.2	3.6	1.4	0.2	-0.5	2.0	-1.3
Canada	2.6	5.3	3.7	-0.1	0.4	5.5	3.1
Japan	-0.4	1.1	0.3	0.3	-3.0	2.4	-6.4
Korea	NA	NA	6.9	7.8	-3.7	r 7.9	5.4
Taiwan	2.1	7.1	3.4	1.7	-1.5	-3.9	-6.3
Belgium	0.9	2.0	1.5	0.7	-1.3	3.9	0.2
Denmark	3.3	6.7	5.4	0.6	r 1.2	r -1.1	0.4
France	1.5	7.3	r 1.0	-0.1	r -2.7	r 0.9	0.4
Germany ²	2.5	3.8	2.8	3.1	0.7	1.7	-0.1
Italy	5.3	12.0	4.8	2.4	1.9	r 1.9	4.0
Netherlands	1.1	0.5	r 0.8	r 1.0	r 0.8	r 5.5	4.5
Norway	5.1	7.4	6.4	r 2.9	r 4.0	r 3.2	4.2
Sweden	2.0	6.5	6.4	-1.6	-2.7	r 2.5	-3.6
United Kingdom	4.0	7.5	4.5	2.1	2.2	r 1.9	2.9

Average annual rates of change¹

		Average	annual rate	es of chang	e ¹		
Country	1979-2002	1979-1985	1985-1990	1990-1995	1995-2000	2000-2001	2001-2002
or area							
		Unit labo	or costs: U.S	. dollar basis			
United States	1.2	3.6	1.4	0.2	-0.5	2.0	-1.3
Canada	1.3	2.7	7.0	-3.3	-1.2	1.2	1.6
Japan	2.0	-0.3	10.8	9.4	-5.7	-9.2	-9.2
Korea	NA	NA	11.1	6.0	r -10.7	r -5.6	8.9
Taiwan	2.3	5.3	11.8	2.0	-4.7	-11.2	-8.3
Belgium	-0.7	-9.3	13.8	3.3	-8.8	0.7	5.8
Denmark	1.5	-5.0	17.4	2.7	r -6.0	r -4.0	6.1
France	-0.6	-5.3	r 11.6	1.7	r -9.4	r -2.2	6.1
Germany ²	1.9	-4.1	15.9	5.6	-6.9	-1.4	5.5
Italy	1.2	-2.5	15.1	-3.7	-3.1	r -1.2	9.8
Netherlands	0.4	-7.6	r 13.6	r 3.6	r -6.9	r 2.3	10.4
Norway	3.0	-1.7	13.3	r 2.6	r -2.7	r 1.1	17.4
Sweden	-1.5	-5.2	14.7	-5.2	-7.5	r -9.1	2.5
United Kingdom	2.5	-1.0	11.4	-0.4	1.3	r -3.2	7.4
			Exchange ra	ıtes⁴			
United States	-	_	_	_	_	_	_
Canada	-1.3	-2.5	3.2	-3.2	-1.6	-4.1	-1.4
Japan	2.4	-1.5	10.5	9.1	-2.7	-11.3	-2.9
Korea	-4.0	-9.2	3.9	-1.7	-7.3	-12.5	3.3
Taiwan	0.2	-1.7	8.2	0.3	-3.3	-7.6	-2.1
Belgium	-1.6	-11.1	12.2	2.5	-7.6	-3.0	5.6
Denmark	-1.7	-11.0	11.4	2.0	-7.1	-2.8	5.7
France	-2.1	-11.7	10.5	1.8	-6.8	-3.0	5.6
Germany ²	-0.5	-7.6	12.7	2.5	-7.5	-3.0	5.6
Italy	-3.8	-12.9	9.8	-6.0	-4.9	-3.0	5.6
Netherlands	-0.7	-8.0	12.7	2.6	-7.6	-3.0	5.6
Norway	-2.0	-8.4	6.6	-0.3	-6.4	-2.0	12.7
Sweden	-3.5	-11.0	7.8	-3.7	-4.9	-11.3	6.4
United Kingdom	-1.5	-7.9	6.6	-2.4	-0.8	-5.0	4.4
r = revised				NA = not a			

r = revised

¹Rates of change based on the compound rate method.

²Data for years before 1991 pertain to the former West Germany.

NA = not available

³Adjusted to include employment taxes that are not compensation to employees but are labor costs to employers.

⁴Value of foreign currency relative to the U.S. dollar.

Trade-weighted unit labor costs

BLS constructs indexes of U.S. unit labor cost trends relative to a trade-weighted average of unit labor cost trends in the other economies to take account of differences in the relative importance of foreign economies to U.S. trade in manufactured goods. Chart 3 begins in 1979, a year in which U.S. manufacturing output reached a business cycle peak.

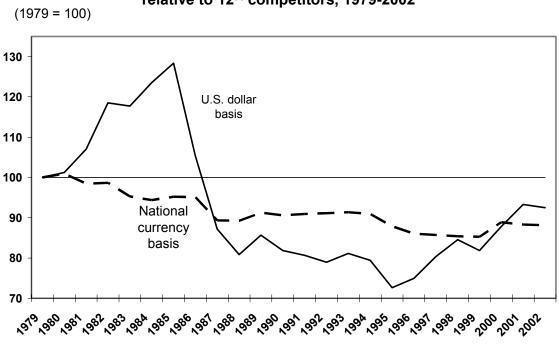


Chart 3. U.S. manufacturing unit labor costs relative to 12⁽¹⁾ competitors, 1979-2002

(1) Korean data begin with 1985 and have been omitted from this chart.

The construction of the trade-weighted indexes is a three-step process. First, the indexes of unit labor costs for all economies are rebased to a common year (in this case, 1979=100). Second, for each year, a "competitors" index is calculated as the weighted geometric mean of the indexes for all competitor economies; the weights reflect each country's importance in terms of U.S. trade in manufactured goods. Finally, the U.S. index number for each year is divided by the "competitors" index number (and multiplied by 100) to obtain a relative ratio of the United States to the competitors. This process is used to calculate the relative trade-weighted unit labor cost indexes on both a national currency and a U.S. dollar basis. In this release, the relative U.S. trade-weighted indexes are estimated against 12 economies for which comparable data are available over this period; the indexes underlying this chart are shown in table C.

In chart 3, the solid line indicates that U.S. unit labor costs rose faster than "competitors" costs from 1979 to 1986 on a U.S. dollar basis. In most years from 1986 to 1995, U.S. costs either rose at a slower rate than the "competitors" costs or fell at a faster rate. From 1996 to 1998, however, the strength of the U.S. dollar caused relative U.S. unit labor costs to rise. After a dip in 1999, the index of relative U.S. unit labor costs rose again in 2000 and 2001, only to dip again in 2002 with a weakening of the U.S. dollar.

	-	Init Labor Cost onal Currency I		-	Init Labor Cos J.S. Dollar Bas	
Year	Own	Competitors'		Own	Competitors'	
	Index	Index	Ratio	Index	Index	Ratio
1979	100.0	100.0	100.0	100.0	100.0	100.0
1980	111.4	110.3	101.0	111.4	110.0	101.2
1981	116.5	118.4	98.4	116.5	108.9	107.0
1982	124.2	125.9	98.7	124.2	104.8	118.5
1983	121.6	127.5	95.3	121.6	103.3	117.7
1984	121.0	128.2	94.4	121.0	97.9	123.6
1985	123.4	129.6	95.2	123.4	96.1	128.4
1986	128.9	135.5	95.1	128.9	122.3	105.4
1987	122.8	137.5	89.3	122.8	140.9	87.2
1988	122.5	137.3	89.2	122.5	151.5	80.9
1989	128.0	140.2	91.3	128.0	149.4	85.7
1990	132.4	146.2	90.6	132.4	161.8	81.8
1991	138.0	151.8	90.9	138.0	171.1	80.7
1992	141.3	155.1	91.1	141.3	179.0	79.0
1993	142.3	155.7	91.4	142.3	175.3	81.1
1994	139.2	153.1	90.9	139.2	175.3	79.4
1995	134.0	152.5	87.9	134.0	184.5	72.6
1996	132.1	153.5	86.1	132.1	176.3	74.9
1997	129.9	151.6	85.7	129.9	161.7	80.4
1998	131.2	153.6	85.4	131.2	155.2	84.5
1999	129.1	151.4	85.3	129.1	157.7	81.9
2000	130.4	146.7	88.9	130.4	148.5	87.8
2001	133.0	150.6	88.3	133.0	142.5	93.3
2002	131.2	148.9	88.1	131.2	141.8	92.5

Table C. U.S. manufacturing unit labor costs relative to 12⁽¹⁾ competitors, 1979-2002

(1) Korean data begin with 1985, and have been omitted from this table.

Technical Notes

Labor productivity is defined as real output per hour worked. Although the labor productivity measure presented in this release relates output to the hours worked of persons employed in manufacturing, it does not measure the specific contributions of labor as a single factor of production. Rather, it reflects the joint effects of many influences, including new technology, capital investment, capacity utilization, energy use, and managerial skills, as well as the skills and efforts of the workforce.

Unit labor costs are defined as the cost of labor input required to produce one unit of output. They are computed as labor compensation in nominal terms divided by real output.

The Bureau of Labor Statistics constructs trend indexes of manufacturing labor productivity, hourly compensation costs, and unit labor costs from three basic aggregate measures – output, total labor hours, and total compensation. The hours and compensation measures refer to employees (wage and salary earners) in Belgium, Denmark, Italy, and Taiwan. For all other countries, the measures refer to all employed persons, including employees, self-employed persons, and unpaid family workers. For all of the countries, the term "hours" refers to hours worked.

In general, the measures relate to total manufacturing as defined by the International Standard Industrial Classification (ISIC). However, the measures for Denmark include mining and exclude manufacturing handicrafts from 1950 to 1966 and the measures for France include parts of mining.

The comparisons in this release make use of data made available to BLS as of August 2003 by the statistical agencies of the individual countries. For some countries, the data for the most recent years are based on the European System of Integrated National Accounts (ESA 95) or on the United Nations System of National Accounts 1993 (SNA 93). For other countries, data were compiled according to previously used systems.

To obtain historical time series, BLS may link together data series which were compiled according to different accounting systems by the countries' statistical agencies.

Output. For most countries, the output measures are real value added in manufacturing from the national accounts. However, output for Japan prior to 1970 and for the Netherlands prior to 1960 are indexes of industrial production. The manufacturing value added measures for the United Kingdom are essentially identical to their indexes of industrial production.

The output measure for manufacturing in the United States is the chain-weighted index of real gross product originating (deflated value added), introduced by the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce in August 1996. U.S. gross product originating is a chain-type annual-weighted series. Because these value added output data for U.S. manufacturing industries are not available for years prior to 1977, the comparative U.S. measures of output, output per hour, and unit labor costs begin with 1977. For more information on the U.S. measure, see Sherlene K.S. Lum, Brian C. Moyer, and Robert E. Yuskavage, "Improved Estimates of Gross Product by Industry for 1947-98," *Survey of Current Business*, June 2000, pp. 24-38.

The U.S. gross product originating series differs from the manufacturing output series that BLS publishes as part of its major sector productivity and costs program. While both series are based on annually-changing price weights, the gross product originating series is on a value added basis rather than the sectoral output basis used in the official U.S. manufacturing productivity series. Sectoral output is gross output less intrasector sales and transfers. For information on sectoral output, see William Gullickson, "Measurement of productivity growth in U.S. manufacturing," *Monthly Labor Review*, July 1995, pp. 13-28.

A value added concept has been used for the international comparisons series because the data are more readily available from the countries' national accounts, whereas sectoral output would require a complex estimation procedure. Also, although BLS has determined that sectoral output is the correct concept for U.S. measures of productivity, there are other considerations that may make value added a better concept for international comparisons of labor productivity, such as differences among countries in the extent of vertical integration of industries.

Estimation of manufacturing real output using changing price weights is becoming prevalent. For example, the output measure for manufacturing in the United States is the chain-weighted index of real gross product originating, based on annually changing price weights. However, many earlier time periods within the historical real output series have been estimated using fixed price weights, with the weights updated periodically (for example, every 5 or 10 years).

Measures of real output also may differ among countries because of different approaches to estimating the prices of high-technology products like computers and, in general, of products that undergo rapid quality change.

Labor Input. For the United States, the hours worked data are taken from the BLS major sector productivity program. The aggregate hours worked series used for France (from 1970 forward), Norway, Sweden, and Canada are series published with the national accounts. For the former West Germany after 1959 and Germany from 1991, BLS uses aggregate hours worked, which were developed by a research institute of the German Ministry of Labor for use with the national accounts employment figures. For the United Kingdom from 1992, an index of total manufacturing hours is used, derived from published quarterly indices of manufacturing hours. For all other countries, the U.K. before 1992, and the former West Germany before 1959, BLS constructs its own estimates of aggregate hours, using employment figures published with the national accounts, or other comprehensive employment series, and estimates of average annual hours worked. Hours measures for Denmark are not available after 1993 due to a lack of comparable data.

Compensation (Labor Cost). The compensation measures are from national accounts data. Compensation includes employer expenditures for legally required insurance programs and contractual and private benefit plans, in addition to all payments made in cash or in kind directly to employees. For Canada, France, and Sweden, compensation is increased to account for important taxes on payroll or employment. For the United Kingdom, compensation is reduced between 1967 and 1991 to account for subsidies. When data for the self-employed are not available, total compensation is estimated by assuming the same hourly compensation for self-employed and employees. Real

compensation for the United States is derived using the Consumer Price Index research series (CPI-U-RS).

Data for Germany. The average annual growth rates for Germany pertain to unified Germany from 1991 forward and to the former West Germany for prior years. The data series are linked in 1991. In the historic data tables, separate index series are shown for unified Germany and for former West Germany. The West German estimates end with 1998, the last year for which the German Statistical Office has published the necessary underlying data. The estimates for West Germany have not been updated or revised by BLS since they were published in the news release USDL 99-235, on Aug. 27, 1999.

Current Indicators. The measures for recent years may be based on current indicators of output (such as industrial production indexes), employment, average hours, and hourly compensation until national accounts and other statistics, normally used for the long-term measures, become available.

Trade-Weighted Measures. The trade weights for Canada, Japan, and the European countries were obtained by re-scaling a series of weights, developed by the International Monetary Fund, based on average trade flows over the 1989-91 period. These weights are based on aggregate trade data for total manufacturing and take account of both bilateral trade and the relative importance of "third country" markets. The 1989-91 weights do not include Taiwan. BLS developed weights for Taiwan by using data from an earlier study from the International Monetary Fund and other sources. The weight used for Germany is based on the trade weight of the former West Germany.

The following weights were used for the entire period for which trade-weighted unit labor cost measures are produced:

Country	Weight	Country	Weight
Canada	25.31	Germany	11.61
Japan	30.57	Italy	4.60
Taiwan	5.79	Netherlands	2.25
Belgium	2.14	Norway	0.48
Denmark	0.48	Sweden	1.89
France	5.90	United Kingdom	8.99

Level Comparisons. The BLS measures are limited to trend comparisons. BLS does not prepare level comparisons of manufacturing productivity and unit labor costs because of data limitations and technical problems in comparing the levels of manufacturing output among countries. Each country measures manufacturing output in its own currency units. To compare outputs among countries, a common unit of measure is needed. Market exchange rates are not suitable as a basis for comparing output levels. What is needed are purchasing power parities, which are the number of foreign currency units required to buy goods and services equivalent to what can be bought with one unit of U.S. currency.

Purchasing power parities are available for total gross domestic product (GDP) from the Organization for Economic Cooperation and Development (OECD). However, these parities are derived for expenditures made by consumers, business, and government for goods and services – not for value added by industry. Therefore, they do not provide purchasing power parities by industry. The parities developed for total GDP are not suitable for each component industry, such as manufacturing.

European exchange rates. On Jan. 1, 1999, 11 European countries joined the European Monetary Union (EMU). Greece joined on Jan. 1, 2001. The euro, the official currency of the EMU, was established at fixed conversion rates to the previous national currencies of EMU members. Data on manufacturing value added and labor compensation for euro-area countries are now reported in euros. Exchange rates between the previous national currencies of euro-area countries and the U.S. dollar are no longer reported; only the exchange rate between the euro and the U.S. dollar is available.

In order to maintain historical continuity of data series, data for euro-area countries for years before 1999 have been linked to the euro-denominated series by applying the fixed euro/national currency conversion rates. For countries and years where output, compensation, and exchange rates are converted from national currency units into euros, the following fixed conversion rates are used:

1 euro equals:	40.3399	Belgian francs	1936.27	Italian lire
	6.55957	French francs	2.20371	Netherlands guilders
	1.95583	German marks		

The currency exchange rates cited in this publication are annual averages of daily buying rates in New York City.

Table 1. Output per hour in manufacturing, 14 countries or areas, 1950-2002
(Indexes: 1992=100)

	United									Former West		Nether-			United
Year	States	Canada	Japan	Korea	Taiwan	Belgium	Denmark	France	Germany**	Germany**	Italy	lands	Norway	Sweden	Kingdon
950	NA	26.0	NA	NA	NA	NA	21.2	12.1	NA	13.2	13.5	11.4	25.1	19.5	24.5
955	NA	31.9	8.6	NA	NA	NA	23.1	15.2	NA	19.7	18.8	14.6	29.2	21.3	26.5
			40.0						NIA			40.0			
960 961	NA NA	37.8 39.8	13.8 15.6	NA NA	NA NA	18.0 18.2	28.1 29.7	19.8 21.1	NA NA	29.2 30.6	23.6 25.5	18.8 19.8	37.6 38.9	27.3 28.7	30.0 30.1
1962	NA	42.7	16.4	NA	NA	19.2	31.2	21.1	NA	32.8	25.5	20.6	38.9	30.9	30.1
1963	NA	44.5	17.7	NA	NA	19.2	32.2	23.6	NA	34.1	29.0	20.0	40.9	30.5	32.4
1964	NA	44.5	20.1	NA	NA	21.2	34.9	25.5	NA	37.1	29.0	23.4	43.2	35.5	34.5
1965	NA	48.6	20.1	NA	NA	22.3	36.6	25.5	NA	39.3	32.6	24.9	45.8	38.2	34.5
1965	NA	49.5	23.0	NA	NA	22.5	38.4	29.5	NA	40.9	35.4	24.5	47.7	39.8	36.7
1966	NA	49.5 50.0	26.0	NA	NA	25.0	30.4 41.4	29.5	NA	40.9	35.4	28.6	49.5	43.2	38.4
1968	NA	50.0	20.0	NA	NA	25.1	44.4	34.6	NA	47.0	40.1	32.1	49.5 52.5	43.2	41.3
	NA					27.3									
969	NA	55.4	33.4	NA	NA	29.9	46.7	36.8	NA	50.4	41.6	35.2	57.4	50.9	42.3
1970	NA	54.9	37.5	NA	NA	32.9	49.4	39.0	NA	52.0	44.3	38.5	59.1	52.2	43.2
1971	NA	58.2	39.8	NA	NA	35.1	52.8	41.2	NA	54.0	45.0	40.8	60.9	54.5	45.4
1972	NA	61.3	43.6	NA	NA	39.2	57.6	43.1	NA	57.4	47.8	44.0	64.0	57.2	47.9
1973	NA	65.2	47.6	NA	33.1	43.5	63.5	46.1	NA	61.1	52.1	48.8	67.9	61.4	51.4
1974	NA	66.2	48.8	NA	32.0	45.8	65.2	47.2	NA	63.2	55.3	52.3	70.5	64.0	52.2
1975	NA	63.4	50.2	NA	33.7	47.6	70.6	48.8	NA	65.9	52.3	51.6	69.9	65.0	51.1
1976	NA	68.8	53.2	NA	36.7	52.4	74.4	51.8	NA	70.6	59.8	57.2	71.5	66.0	53.3
1977	68.3	72.4	55.3	NA	38.5	55.0	77.3	54.9	NA	72.7	61.7	61.9	72.6	65.0	53.8
1978	69.2	73.8	57.5	NA	43.4	58.3	79.6	57.3	NA	75.2	64.9	64.6	73.9	66.8	54.6
1979	70.1	73.9	62.2	NA	45.1	61.4	83.3	59.4	NA	78.4	71.1	67.4	79.3	72.0	55.0
1980	70.5	72.9	63.2	NA	47.7	65.4	86.2	61.5	NA	77.2	74.2	69.1	77.9	73.1	54.3
1981	74.1	76.5	65.2	NA	52.8	70.1	87.3	65.0	NA	78.7	73.8	71.7	77.6	72.7	57.1
1982	76.2	77.1	67.9	NA	54.1	73.5	88.4	69.7	NA	78.8	74.0	72.3	80.9	75.4	60.2
1983	80.0	81.9	68.8	NA	57.5	81.0	93.5	73.3	NA	82.6	75.7	77.5	83.6	80.9	65.0
1984	83.2	88.8	71.2	NA	59.1	85.0	94.3	75.7	NA	85.4	81.9	85.3	88.8	85.2	68.4
1985	86.0	91.1	76.5	54.9	60.9	87.0	95.8	79.8	NA	89.1	87.4	88.5	91.6	86.2	71.1
1986	86.0	87.6	76.1	58.9	66.6	87.8	91.8	82.4	NA	89.6	87.9	89.7	90.3	87.5	73.9
1987	92.9	87.8	80.2	63.2	72.8	88.9	91.5	83.9	NA	88.1	89.3	90.4	94.7	89.2	78.1
1988	96.9	89.6	83.9	68.7	76.4	92.0	94.1	88.4	NA	91.5	93.9	92.3	93.5	90.5	82.6
1989	95.7	92.5	88.6	73.2	83.1	96.9	100.2	92.1	NA	94.6	95.5	96.4	96.0	93.2	86.2
990	96.9	93.4	94.4	81.3	88.9	96.8	99.1	93.8	NA	99.0	95.8	98.7	98.1	94.6	89.2
1991	97.9	95.3	99.0	91.4	96.6	99.1	99.5	97.0	98.3	101.9	95.9	99.0	98.2	95.5	93.8
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1993	102.1	105.8	101.7	108.1	102.9	102.5	99.3	100.7	101.8	100.6	101.4	102.0	99.6	107.3	104.2
1994	107.3	110.8	103.3	118.0	106.7	108.4	NA	108.2	109.6	107.9	104.9	113.1	99.6	117.8	108.4
1995	113.8	112.4	111.0	129.2	115.1	113.2	NA	113.8	112.3	111.2	108.0	117.3	100.7	124.5	106.4
1996	117.0	109.7	116.1	142.5	123.1	117.3	NA	114.5	114.7	115.1	108.1	119.3	102.5	129.5	105.6
1997	121.3	113.5	121.0	163.3	129.2	127.0	NA	121.8	120.4	121.8	109.9	121.4	102.0	141.0	107.0
1998	126.5	113.1	121.2	182.9	135.8	129.4	NA	127.8	122.0	127.1	110.0	124.1	99.9	149.5	108.6
1999	133.7	116.0	126.7	202.3	143.1	128.8	NA	133.0	121.3	NA	109.7	127.0	103.6	162.7	113.4
2000	142.1	118.4	135.9	217.8	150.6	133.2	NA	143.4	126.7	NA	112.7	132.7	106.6	181.0	120.1
	142.7	116.1	133.8	217.0	160.1	134.9	NA	149.3	128.4	NA	114.6	132.3	108.9	182.6	123.2
2001															

Note: The data relate to employees (wage and salary earners) in Belgium, Denmark, Italy, and Taiwan and to all employed persons (employees and self-employed workers) in the other countries.

** See note on Germany in box on page 4.

 Table 2. Output per employed person in manufacturing, 14 countries or areas, 1950-2002

 (Indexes: 1992=100)

<u>(ear</u> 950 955	States NA	Canada	Japan	Korea	Taiwan	Belgium	Demmeral	F	O ++	O	14 - 1	مامير	Mamuali	O	171 1
955	NA				Taiwan	Deigiuili	Denmark	France	Germany**	Germany**	Italy	lands	Norway	Sweden	Kingdom
		28.3	NA	NA	NA	NA	29.9	14.6	NA	19.2	14.2	14.8	32.8	25.3	30.2
	NA	33.4	10.3	NA	NA	NA	31.9	18.3	NA	28.8	20.3	19.0	38.2	27.5	33.0
960	NA	39.3	17.1	NA	NA	22.6	36.9	23.9	NA	38.4	25.7	24.7	47.3	33.3	36.6
961	NA	41.3	19.1	NA	NA	22.9	37.8	25.5	NA	39.6	27.5	25.0	48.3	34.7	36.2
962	NA	44.6	19.6	NA	NA	24.1	40.1	27.1	NA	41.3	29.5	25.8	48.1	37.1	36.6
963	NA	46.6	21.0	NA	NA	25.0	40.7	28.6	NA	42.4	30.4	26.7	50.4	38.9	38.6
964	NA	48.7	23.7	NA	NA	26.5	44.4	30.7	NA	46.1	30.7	28.9	53.5	41.8	41.5
965	NA	51.1	24.3	NA	NA	27.4	46.5	32.5	NA	48.7	33.1	30.8	55.4	44.5	42.1
966	NA	51.6	26.8	NA	NA	29.1	48.0	35.3	NA	50.0	36.4	32.6	57.9	46.4	42.7
967	NA	52.2	30.4	NA	NA	30.3	51.1	37.1	NA	51.7	38.7	34.9	59.5	49.5	44.4
968	NA	55.0	33.9	NA	NA	33.0	53.5	39.9	NA	56.6	41.8	38.5	61.6	52.9	48.1
969	NA	57.5	38.3	NA	NA	35.7	55.7	43.4	NA	60.7	43.0	41.7	65.8	56.1	49.3
970	NA	56.7	42.6	NA	NA	38.3	57.0	45.5	NA	62.4	44.9	44.7	67.3	57.4	49.5
971	NA	59.9	44.5	NA	NA	40.2	60.7	47.7	NA	63.4	44.3	46.9	68.6	59.8	50.8
972	NA	63.1	48.5	NA	NA	43.9	64.7	49.4	NA	66.6	46.8	50.0	71.1	61.1	53.1
973	NA	66.6	52.4	NA	36.9	47.6	67.5	52.1	NA	70.4	51.7	54.3	74.9	64.4	57.7
974	NA	67.1	51.5	NA	34.4	48.7	70.8	52.5	NA	71.4	52.9	56.5	76.7	66.5	56.7
975	NA	63.5	51.8	NA	37.1	48.0	74.2	52.8	NA	72.5	49.1	54.7	75.6	66.2	55.3
976	NA	69.0	56.5	NA	40.5	53.8	78.6	56.2	NA	79.9	56.2	60.5	75.3	66.4	58.2
977	67.1	72.6	58.9	NA	42.6	56.1	80.9	59.0	NA	81.1	57.7	65.1	75.2	64.9	59.2
978	67.9	74.5	61.5	NA	47.5	59.4	82.3	61.1	NA	82.8	60.6	67.3	75.0	64.9	59.8
979	68.4	74.2	67.0	NA	49.2	62.6	86.1	63.2	NA	86.0	65.8	69.4	79.1	69.0	60.0
980	67.9	72.6	68.0	NA	52.1	65.6	89.6	65.4	NA	83.5	68.9	71.6	78.2	69.3	57.6
981	71.4	75.4	69.7	NA	54.9	68.7	89.6	68.2	NA	84.1	68.4	74.6	78.0	69.3	59.3
982	72.1	75.4	72.3	NA	56.2	73.7	92.1	70.3	NA	83.7	68.5	76.0	80.6	72.1	62.9
983	77.8	81.2	73.4	NA	59.8	79.2	98.7	73.6	NA	87.9	70.0	81.7	83.7	78.3	67.8
984	82.0	87.9	76.6	NA	61.9	82.5	99.3	76.0	NA	90.9	75.9	88.6	88.6	84.0	71.4
985	84.9	90.7	82.1	60.7	62.0	85.7	97.5	79.7	NA	93.1	80.2	89.5	91.1	84.4	73.8
986	84.8	87.7	81.2	66.3	69.0	86.5	95.6	82.5	NA	93.0	83.1	90.3	89.9	85.3	76.5
987	92.1	88.6	86.0	70.0	75.4	88.4	93.2	84.5	NA	91.3	86.9	90.6	92.0	88.0	80.9
988	96.9	92.3	90.9	74.2	78.2	93.0	95.9	89.4	NA	94.4	92.0	93.2	91.6	89.1	85.9
989	95.7	93.2	94.8	76.0	83.8	97.5	100.8	93.1	NA	96.2	94.7	96.8	94.6	91.5	89.0
990	96.3	93.6	99.7	83.2	88.8	98.5	98.5	94.2	NA	98.8	95.0	99.0	96.4	93.9	91.3
991	96.6	95.1	102.2	92.7	96.6	99.2	99.1	96.5	94.7	101.0	96.0	99.1	97.2	94.7	93.8
992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
993	103.4	106.9	99.6	108.3	102.9	100.9	98.5	100.6	99.4	97.6	99.8	101.9	99.9	110.0	105.1
994	109.7	113.0	101.4	119.0	107.0	109.7	110.2	108.2	107.8	104.7	106.9	113.1	100.1	126.4	109.3
995	115.6	114.1	101.4	130.5	114.9	113.3	113.7	113.0	110.5	107.3	112.2	117.5	100.3	134.5	108.5
996	118.7	112.2	115.4	141.7	122.7	117.9	108.6	113.8	110.3	107.3	110.9	119.5	101.5	139.6	107.9
997	123.9	116.0	119.6	160.1	129.2	127.8	118.1	120.7	115.9	116.0	114.2	121.0	100.8	151.6	109.2
998	128.1	116.2	117.3	172.2	133.2	130.4	117.3	126.4	117.9	122.3	113.5	123.5	99.1	160.8	110.3
999	136.3	120.4	122.5	205.7	141.2	133.1	121.2	130.8	116.7	NA	113.7	126.4	103.1	176.0	114.3
2000	143.6	122.7	133.6	218.5	148.4	137.7	127.6	136.2	120.7	NA	117.3	131.9	104.9	194.9	120.7
2000	143.6	119.1	130.5	210.5	146.5	137.9	134.7	138.7	120.7	NA	117.3	131.9	104.9	194.9	120.7
2002	150.3	121.4	130.5	225.9	158.9	143.1	140.5	141.2	120.5	NA	116.2	132.1	107.5	205.4	123.3

Note: The data relate to employees (wage and salary earners) in Belgium, Denmark, Italy, and Taiwan and to all employed persons (employees and self-employed workers) in the other countries.

** See note on Germany in box on page 4.

	United									Former West		Nether-			United
/ear	States	Canada	Japan	Korea	Taiwan	Belgium	Denmark	France	Germany**	Germany**	Italy	lands	Norway	Sweden	Kingdom
950	NA	22.0	2.2	NA	NA	NA	29.1	16.6	NA	14.5	10.1	16.9	39.0	30.9	49.6
955	NA	28.5	4.9	NA	NA	NA	32.0	20.6	NA	27.5	15.6	23.1	47.7	35.7	58.3
960	NA	33.4	10.7	NA	NA	30.7	44.4	27.9	NA	41.5	23.0	31.9	57.7	45.9	67.3
961	NA	34.7	12.9	NA	NA	32.1	46.8	30.0	NA	44.0	25.4	33.0	60.1	49.0	67.6
962	NA	38.6	14.0	NA	NA	34.6	50.8	32.1	NA	46.2	28.1	34.6	60.6	52.8	67.7
963	NA	41.2	15.6	NA	NA	36.2	51.4	34.6	NA	47.1	29.9	36.1	64.2	55.4	70.2
964	NA	45.1	18.1	NA	NA	39.5	57.5	37.8	NA	51.2	30.3	39.5	68.8	60.3	76.5
965	NA	49.5	18.8	NA	NA	40.8	61.3	39.7	NA	55.0	31.9	42.2	72.4	64.5	78.7
966	NA	52.9	21.3	NA	NA	43.2	62.6	43.3	NA	55.9	34.8	44.5	76.7	66.3	80.1
						43.2	63.7		NA				79.2		
967	NA	53.9	25.6	NA	NA			45.4		54.7	38.3	46.3		68.5	80.6
968	NA	57.0	29.5	NA	NA	46.7	67.3	47.9	NA	60.3	41.8	50.7	81.1	72.0	86.6
969	NA	60.7	34.4	NA	NA	52.2	71.8	53.7	NA	67.4	44.5	55.5	87.0	77.7	89.9
970	NA	58.9	39.2	7.0	12.7	57.6	73.9	57.7	NA	70.9	48.1	59.8	91.0	80.7	90.2
971	NA	62.5	41.0	8.3	15.5	60.1	75.1	61.3	NA	71.6	48.8	61.8	93.4	81.2	89.3
972	NA	67.9	44.7	9.5	18.9	64.7	81.5	64.2	NA	73.8	51.5	63.4	97.7	81.7	91.2
973	NA	74.9	50.4	12.3	22.3	70.6	85.5	69.1	NA	78.5	58.1	68.0	103.3	87.5	99.7
974	NA	76.5	49.1	14.3	21.0	73.4	85.9	70.4	NA	77.7	61.8	70.5	106.9	92.2	98.4
975	NA	70.4	46.6	16.2	22.0	67.9	82.1	69.0	NA	74.1	58.3	65.9	104.5	92.5	91.6
976	NA	76.4	50.6	19.9	27.0	73.0	86.8	73.0	NA	79.8	66.9	69.9	104.0	92.5	93.3
977	72.5	78.8	52.2	22.8	30.6	73.3	88.2	76.4	NA	81.3	69.3	73.4	104.0	87.2	95.2
978	76.5	83.2	53.7	27.5	37.1	74.3	88.8	78.1	NA	82.8	72.7	74.1	101.9	84.9	95.7
979	79.0	85.9	58.4	30.1	40.0	76.2	92.8	79.6	NA	87.1	80.3	75.6	101.9	90.3	95.5
	75.0	83.6	60.4	29.9	44.0	70.0	94.4	04.0	NA	85.3	84.4	76.9	104.9	90.7	07.0
980	75.8					78.2		81.6							87.2
981	79.2	86.6	62.6	32.7	47.3	77.2	90.4	82.2	NA	84.4	81.8	78.0	103.0	88.0	81.8
982	74.6	78.7	64.6	34.6	48.5	80.4	92.1	83.4	NA	81.5	80.2	76.4	102.5	88.3	81.7
983	79.2	82.5	66.6	39.5	54.1	84.6	98.0	85.5	NA	82.7	79.6	78.3	101.1	93.9	83.5
984	87.6	91.8	71.0	46.0	62.2	87.2	103.0	85.7	NA	85.2	82.2	83.0	106.0	101.3	86.5
985	90.0	96.9	76.7	48.8	64.3	89.1	106.1	87.5	NA	88.3	84.9	85.0	109.8	102.9	89.0
986	88.6	96.8	75.5	57.9	74.7	89.1	106.9	89.0	NA	89.7	86.4	86.7	109.5	104.0	90.2
987	96.4	100.7	79.0	68.5	84.3	88.8	101.8	89.1	NA	88.0	89.0	87.9	112.0	106.6	94.5
988	103.2	108.5	85.3	76.7	87.7	93.3	100.9	93.2	NA	90.9	95.0	90.2	106.6	109.8	101.4
989	102.4	111.3	90.9	79.4	90.8	99.1	105.0	97.7	NA	94.0	98.3	94.4	102.6	110.9	105.5
990	101.6	106.0	97.1	86.7	90.0	101.0	102.8	99.1	NA	99.1	99.4	99.0	101.4	110.1	105.4
991	98.3	99.0	102.0	95.0	96.1	100.7	101.5	99.8	102.3	102.8	99.3	99.8	99.0	104.1	100.0
992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
993	103.5	105.9	96.3	105.4	102.4	97.0	95.6	95.7	92.4	91.8	96.5	97.7	101.7	101.9	101.4
994	111.1	114.1	94.9	116.8	102.4	101.4	105.6	100.3	95.1	93.5	102.4	104.5	104.6	117.0	106.1
994 995	118.4	119.6	94.9	129.9	114.9	101.4	111.6	100.3	95.1	93.5	102.4	104.5	104.8	131.9	107.8
996	121.3	119.6	103.0	138.7	120.3	106.7	106.7	104.6	92.5	92.5	105.4	108.9	110.3	136.4	108.5
997	127.9	127.7	106.5	147.8	128.3	114.0	115.2	109.7	95.7	95.8	108.8	111.6	114.2	146.5	109.9
998	133.1	132.8	100.2	136.8	132.6	116.5	115.7	115.0	97.7	100.7	110.7	114.9	113.7	158.3	110.8
999	139.5	141.0	101.9	165.6	141.5	117.3	117.7	118.7	95.7	NA	110.3	117.6	113.6	172.5	111.1
000	146.1	148.8	109.2	191.9	151.8	122.0	122.1	124.3	99.8	NA	113.7	122.8	112.8	191.1	113.4
001	137.3	143.9	103.9	195.9	143.1	122.3	127.5	128.0	100.4	NA	114.6	121.7	113.4	188.2	110.7
002	135.9	147.6	102.3	208.3	152.5	122.9	128.0	128.1	100.0	NA	113.8	119.7	112.6	193.7	106.3

** See note on Germany in box on page 4.

Table 4. Total hours in manufacturing, 14 countries or areas, 1950-2002
(Indexes: 1992=100)

	United									Former West		Nether-			United
Year	States	Canada	Japan	Korea	Taiwan	Belgium	Denmark	France	Germany**	Germany**	Italy	lands	Norway	Sweden	Kingdon
950	85.5	84.8	NA	NA	NA	NA	137.3	136.7	NA	109.8	75.0	147.9	155.6	158.5	202.2
955	94.6	89.4	57.0	NA	NA	NA	138.5	135.5	NA	139.6	83.1	158.3	163.7	167.3	220.2
960	92.1	88.3	77.8	NA	NA	170.7	157.8	140.5	NA	142.3	97.6	169.8	153.6	168.3	224.6
961	89.7	87.2	82.4	NA	NA	175.9	157.5	142.1	NA	143.9	99.6	166.3	154.5	171.0	224.7
962	93.4	90.3	85.1	NA	NA	180.3	162.7	143.2	NA	140.8	99.5	168.4	155.8	170.8	220.3
963	94.4	92.6	87.9	NA	NA	181.8	159.6	146.5	NA	138.1	103.2	168.7	156.9	169.1	216.6
964	96.4	97.2	90.0	NA	NA	186.5	164.9	148.3	NA	138.0	103.5	169.1	159.2	169.6	221.7
965	102.0	101.9	89.8	NA	NA	183.2	167.5	145.5	NA	140.0	97.7	169.5	158.1	168.8	221.5
966	108.6	106.8	92.8	NA	NA	181.5	162.8	147.0	NA	136.7	98.2	167.5	160.8	166.5	218.2
967	108.0	107.9	98.3	NA	NA	173.6	153.8	145.0	NA	125.9	102.8	161.9	160.1	158.4	209.8
968	109.6	108.2	101.4	NA	NA	170.9	151.7	138.5	NA	128.3	104.2	158.0	154.6	152.6	209.6
969	110.9	109.7	103.0	NA	NA	174.9	153.6	146.0	NA	133.8	107.0	157.7	151.7	152.5	212.4
970	104.4	107.1	104.4	NA	NA	174.7	149.5	148.0	NA	136.3	108.5	155.5	153.9	154.7	208.8
971	100.5	107.4	103.1	NA	NA	171.4	142.1	148.7	NA	132.5	108.4	151.6	153.4	149.1	196.9
972	105.1	110.8	102.6	NA	NA	165.2	141.4	148.9	NA	128.7	107.7	144.2	152.6	142.9	190.5
973	110.4	114.9	106.0	NA	67.4	162.1	134.8	149.7	NA	128.4	111.4	139.5	152.1	142.5	194.1
974	107.9	115.5	100.6	NA	65.6	160.4	131.7	149.3	NA	122.9	111.8	134.7	151.5	144.0	188.5
975	97.2	111.1	92.8	NA	65.1	142.6	116.3	141.3	NA	112.5	111.4	127.6	149.6	142.3	179.3
976	101.9	111.1	95.0	NA	73.7	139.4	116.7	141.0	NA	113.1	111.9	122.1	145.5	140.2	175.1
977	106.1	108.8	94.4	NA	79.3	133.3	114.1	139.2	NA	111.8	112.3	118.6	143.2	134.2	176.9
978	110.6	112.8	93.3	NA	85.5	127.4	111.5	136.3	NA	110.1	112.0	114.7	137.9	127.1	175.4
979	112.7	116.2	93.8	NA	88.7	124.2	111.3	134.2	NA	111.0	112.9	112.1	133.7	125.5	173.7
980	107.5	114.6	95.6	NA	92.3	119.7	109.6	132.7	NA	110.5	113.8	111.2	134.7	124.0	160.5
981	107.0	113.2	95.9	NA	89.7	110.2	103.6	126.4	NA	107.1	111.0	108.9	132.7	121.0	143.3
982	97.9	102.0	95.1	NA	89.6	109.4	104.1	119.7	NA	103.4	108.4	105.7	126.8	117.2	135.6
983	98.9	100.7	96.8	NA	94.0	104.3	104.9	116.5	NA	100.1	105.3	101.0	120.9	116.1	128.4
984	105.3	103.4	99.8	NA	105.2	102.6	109.2	113.2	NA	99.7	100.3	97.3	119.4	118.9	126.4
985	104.6	106.4	100.3	88.8	105.5	102.4	110.7	109.7	NA	99.1	97.1	96.1	119.9	119.4	125.2
986	103.0	110.5	99.2	98.3	112.2	101.5	116.4	108.0	NA	100.1	98.3	96.7	121.2	118.9	122.0
987	103.8	114.7	98.5	108.3	115.8	100.0	111.2	106.1	NA	99.9	99.7	97.2	118.3	119.5	121.0
988	106.6	121.2	101.7	111.6	114.8	101.5	107.2	105.4	NA	99.3	101.2	97.7	114.0	121.4	122.8
989	107.1	120.2	102.7	108.5	109.2	102.3	104.7	106.0	NA	99.3	103.0	97.9	106.8	119.0	122.4
990	104.8	113.5	102.9	106.6	101.3	104.3	103.7	105.7	NA	100.1	103.7	100.3	103.4	116.4	118.1
991	100.4	103.9	103.1	103.9	99.5	101.5	102.1	102.9	104.1	100.9	103.6	100.8	100.8	109.0	106.6
992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
993	101.4	100.1	94.7	97.5	99.6	94.7	96.2	95.0	90.8	91.3	95.2	95.8	102.1	94.9	97.3
994	103.6	103.0	91.9	98.9	101.6	93.6	NA	92.7	86.8	86.7	97.6	92.4	105.0	99.4	97.9
995	104.0	106.4	89.1	100.6	99.8	92.0	NA	92.2	84.8	84.3	99.3	92.3	106.6	105.9	101.2
996	103.6	109.0	88.7	97.3	97.7	91.0	NA	91.3	80.6	80.4	97.5	91.2	107.6	105.3	102.8
997	105.4	112.4	88.0	90.5	99.3	89.7	NA	90.1	79.5	78.6	99.0	91.9	112.0	103.9	102.8
998	105.2	117.5	82.7	74.8	97.7	90.0	NA	90.0	80.1	79.3	100.6	92.6	113.7	105.9	102.0
999	104.4	121.5	80.4	81.9	98.9	91.0	NA	89.2	78.9	NA	100.5	92.6	109.6	106.0	98.0
2000	102.8	125.6	80.3	88.1	100.8	91.6	NA	86.7	78.8	NA	100.8	92.5	105.9	105.6	94.4
2001	96.3	123.9	77.7	90.7	89.4	90.7	NA	85.8	78.2	NA	100.0	91.9	104.1	103.1	89.8
	89.5	125.2	72.7	89.9	89.3	85.7	NA	83.6	76.1	NA	100.7	89.9	101.6	98.6	85.9

Note: The data relate to employees (wage and salary earners) in Belgium, Denmark, Italy, and Taiwan and to all employed persons (employees and self-employed workers) in the other countries.

** See note on Germany in box on page 4.

 Table 5. Employment in manufacturing, 14 countries or areas, 1950-2002

 (Indexes: 1992=100)

	United									Former West		Nether-			United
Year	States	Canada	Japan	Korea	Taiwan	Belgium	Denmark	France	Germany**	Germany**	Italy	lands	Norway	Sweden	Kingdon
950	84.3	77.9	NA	NA	NA	NA	97.5	113.3	NA	75.2	71.4	113.6	119.0	122.0	164.2
500	04.0	11.5	114	114	114	114	57.5	110.0	114	10.2	71.4	110.0	110.0	122.0	104.2
955	93.1	85.3	47.8	NA	NA	NA	100.2	112.9	NA	95.5	77.1	121.3	124.9	129.7	176.6
960	92.6	84.8	62.8	NA	NA	135.7	120.3	116.5	NA	108.1	89.5	128.8	121.9	137.8	183.9
961	90.0	84.1	67.5	NA	NA	140.1	123.7	117.3	NA	111.3	92.4	131.7	124.5	141.3	186.4
962	92.8	86.5	71.3	NA	NA	143.3	126.8	118.5	NA	111.8	95.3	134.2	126.0	142.2	184.7
963	93.5	88.5	74.1	NA	NA	144.7	126.4	121.0	NA	111.0	98.3	134.9	127.4	142.4	181.8
964	94.9	92.5	76.4	NA	NA	148.8	129.5	123.3	NA	111.0	98.6	136.5	128.5	144.3	184.5
965	99.3	96.9	77.4	NA	NA	148.7	131.7	122.1	NA	113.0	96.3	137.3	130.6	144.8	187.0
966	105.4	102.4	79.7	NA	NA	148.5	130.4	122.7	NA	111.8	95.7	136.4	132.4	143.0	187.5
967	106.7	103.3	84.3	NA	NA	143.9	124.6	122.2	NA	105.8	98.8	132.4	133.2	138.3	181.7
1968	108.5	103.8	87.2	NA	NA	141.5	125.7	120.1	NA	106.6	100.2	131.5	131.7	136.0	180.0
969	110.6	105.7	89.7	NA	NA		129.0	123.6	NA		100.2				
909	110.0	105.7	09./	NA	NA	146.3	129.0	123.0	NA	111.0	103.0	133.2	132.3	138.4	182.4
970	106.3	103.9	91.9	NA	NA	150.2	129.7	126.8	NA	113.6	107.0	133.7	135.3	140.6	182.1
971	102.2	104.4	92.3	NA	NA	149.6	123.6	128.4	NA	112.9	109.9	131.7	136.1	135.9	175.9
1972	105.0	107.7	92.3	NA	NA	147.4	125.8	129.9	NA	110.8	110.0	127.0	137.5	133.8	171.8
1973	110.5	112.5	96.2	NA	60.3	148.4	126.6	132.7	NA	111.5	112.4	125.3	137.8	135.8	172.8
1974	110.1	113.9	95.3	NA	61.2	150.7	121.4	134.1	NA	108.9	116.9	124.9	139.3	138.7	173.4
975	100.6	110.9	90.0	NA	59.3	141.5	110.6	130.8	NA	102.2	118.5	120.6	138.3	139.8	165.5
976	104.2	110.7	89.5	NA	66.7	135.8	110.5	130.0	NA	99.9	119.1	115.6	138.1	139.4	160.2
977	108.2	108.5	88.6	NA	71.9	130.5	109.1	129.5	NA	100.3	120.1	112.7	138.3	134.5	160.8
1978	112.7	111.7	87.4	NA	78.1	125.0	107.8	128.0	NA	100.0	120.0	110.1	135.8	130.7	160.1
1979	115.6	115.7	87.2	NA	81.4	121.8	107.8	126.0	NA	101.2	121.9	108.9	134.0	131.0	159.2
1980	111.6	115.1	88.9	NA	84.4	119.3	105.4	124.7	NA	102.2	122.6	107.4	134.2	130.9	151.4
	111.0	114.8	89.8	NA	86.2		100.9	120.5		102.2		104.6	132.0	127.0	
1981	103.5		89.3			112.4	99.9		NA	97.4	119.6 117.1			127.0	137.9 129.8
1982		104.3		NA	86.3	109.2		118.7	NA			100.5	127.3		
1983	101.8	101.6	90.8	NA	90.5	106.8	99.3	116.2	NA	94.1	113.7	95.9	120.8	119.9	123.1
1984	106.8	104.4	92.7	NA	100.4	105.7	103.7	112.8	NA	93.7	108.4	93.7	119.6	120.5	121.2
1985	106.0	106.8	93.5	80.3	103.7	104.0	108.8	109.9	NA	94.9	105.8	94.9	120.5	122.0	120.6
1986	104.5	110.4	93.0	87.3	108.4	103.0	111.8	107.9	NA	96.4	103.9	96.0	121.7	121.9	118.0
1987	104.7	113.7	91.9	97.9	111.8	100.5	109.3	105.4	NA	96.4	102.5	97.0	121.8	121.1	116.9
1988	106.6	117.6	93.9	103.4	112.2	100.4	105.3	104.2	NA	96.3	103.3	96.8	116.3	123.3	118.1
1989	107.0	119.4	95.9	104.4	108.3	101.7	104.1	104.9	NA	97.6	103.8	97.5	108.4	121.2	118.5
990	105.4	113.2	97.5	104.3	101.4	102.5	104.3	105.2	NA	100.3	104.6	100.0	105.2	117.2	115.4
1991	101.8	104.1	99.8	102.5	99.5	101.5	102.4	103.5	108.0	101.8	103.5	100.7	101.9	109.9	106.7
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1993	100.1	99.1	96.8	97.3	99.6	96.1	97.0	95.2	93.0	94.0	96.8	95.9	101.8	92.6	96.5
1994	101.3	100.9	93.6	98.1	101.4	92.5	95.8	92.7	88.2	89.3	95.8	92.4	104.5	92.6	97.1
1995	102.5	104.8	90.1	99.6	99.9	91.9	98.1	92.8	86.2	87.3	95.6	92.1	107.0	98.0	99.3
1996	102.2	106.6	89.3	97.9	98.1	90.5	98.3	91.9	83.8	84.6	95.1	91.1	108.7	97.7	100.6
1997	102.2	110.0	89.1	92.3	99.3	89.2	97.6	90.9	82.6	82.6	95.3	92.2	113.3	96.6	100.0
1998	103.2	114.3	85.5	79.5	99.6	89.3	98.6	91.0	82.9	82.4	97.5	93.1	114.7	98.4	100.4
1998	104.0	114.3	83.2	80.5	100.2	88.1	97.1	90.7	82.0	02.4 NA	97.0	93.1	110.2	98.0	97.2
	404.0	404.0	o4 -		400.0	00.0	or 7	04.0				00.4	407 5		
2000	101.8	121.2	81.7	87.8	102.3	88.6	95.7	91.3	82.7	NA	96.9	93.1	107.5	98.0	93.9
2001	97.0	120.7	79.6	92.4	97.7	88.7	94.7	92.3	83.0	NA	96.9	92.6	106.0	97.0	89.8
2002	90.4	121.5	74.5	92.2	96.0	85.9	91.1	90.7	81.3	NA	97.9	90.6	104.8	94.3	85.2

Note: The data relate to employees (wage and salary earners) in Belgium, Denmark, Italy, and Taiwan and to all employed persons (employees and self-employed workers) in the other countries.

** See note on Germany in box on page 4.

 Table 6. Average annual hours in manufacturing, 14 countries or areas, 1950-2002 (Indexes: 1992=100)

	United									Former West		Nether-			United
Year	States	Canada	Japan	Korea	Taiwan	Belgium	Denmark	France	Germany**		Italy	lands	Norway	Sweden	Kingdom
1950	101.4	108.8	NA	NA	NA	NA	140.7	120.7	NA	146.0	105.1	130.2	130.8	129.9	123.1
1955	101.5	104.8	119.3	NA	NA	NA	138.2	120.1	NA	146.1	107.8	130.5	131.1	129.0	124.7
1000	101.0	104.0	115.5	110	110	110	100.2	120.1	114	140.1	107.0	100.0	101.1	120.0	124.7
1960	99.5	104.1	123.9	NA	NA	125.8	131.2	120.6	NA	131.7	109.0	131.8	126.0	122.1	122.2
1961	99.6	103.6	122.0	NA	NA	125.5	127.3	121.1	NA	129.4	107.8	126.3	124.1	121.1	120.5
1962	100.6	104.4	119.5	NA	NA	125.8	128.3	120.9	NA	126.0	104.4	125.4	123.7	120.1	119.3
1963	100.9	104.7	118.6	NA	NA	125.7	126.3	121.0	NA	124.4	104.9	125.0	123.1	118.8	119.2
1964	101.6	105.1	117.9	NA	NA	125.3	127.4	120.3	NA	124.3	104.9	123.9	123.9	117.5	120.1
1965	102.7	105.2	115.9	NA	NA	123.2	127.2	119.2	NA	123.9	101.4	123.5	121.1	116.6	118.4
1966	103.0	104.4	116.5	NA	NA	122.2	124.8	119.8	NA	122.3	102.6	122.8	121.4	116.4	116.4
1967	101.2	104.5	116.7	NA	NA	120.7	123.4	118.6	NA	119.0	104.0	122.3	120.2	114.5	115.5
1968	101.0	104.2	116.4	NA	NA	120.7	120.6	115.3	NA	120.4	104.0	120.1	117.4	112.2	116.4
1969	100.2	103.9	114.8	NA	NA	119.5	119.1	118.1	NA	120.4	103.3	118.4	114.7	110.2	116.4
1303	100.2	105.5	114.0	100	110	115.5	115.1	110.1	110	120.0	105.5	110.4	114.7	110.2	110.4
1970	98.2	103.2	113.6	NA	NA	116.3	115.3	116.7	NA	119.9	101.4	116.2	113.8	110.0	114.7
1971	98.4	102.8	111.8	NA	NA	114.6	114.9	115.8	NA	117.3	98.6	115.1	112.7	109.7	111.9
1972	100.0	102.9	111.1	NA	NA	112.0	112.4	114.6	NA	116.2	97.9	113.5	111.0	106.8	110.9
1973	99.9	102.1	110.1	NA	111.7	109.3	106.4	112.8	NA	115.2	99.1	111.3	110.3	104.9	112.3
1974	98.0	101.5	105.6	NA	107.3	106.4	108.5	111.3	NA	112.9	95.6	107.9	108.8	103.8	108.7
1975	96.6	100.2	103.2	NA	109.9	100.7	105.1	108.1	NA	110.1	94.0	105.9	108.1	101.8	108.4
	97.7	100.2		NA			105.6			113.2		105.5	105.3		
1976			106.2		110.5	102.6		108.4	NA		94.0			100.6	109.3
1977	98.1	100.3	106.5	NA	110.4	102.1	104.6	107.5	NA	111.5	93.5	105.2	103.5	99.8	110.0
1978	98.1	101.0	106.9	NA	109.6	101.9	103.4	106.5	NA	110.1	93.3	104.2	101.6	97.2	109.6
1979	97.5	100.5	107.6	NA	109.0	102.0	103.3	106.5	NA	109.7	92.6	103.0	99.8	95.8	109.1
1980	96.3	99.6	107.6	NA	109.3	100.4	104.0	106.4	NA	108.1	92.8	103.6	100.4	94.8	106.0
1981	96.4	98.7	106.8	NA	104.1	98.1	102.7	104.9	NA	106.8	92.8	104.1	100.5	95.3	103.9
1982	94.6	97.8	106.5	NA	103.9	100.2	104.2	104.5	NA	106.2	92.6	105.2	99.6	95.7	100.5
1983	97.2	99.1	106.6	NA	103.9	97.7	104.2	100.8	NA	106.2	92.6	105.2	100.1	96.9	104.3
	97.2			NA						106.4			99.9		
1984		99.0	107.7		104.8	97.1	105.3	100.4	NA		92.6	103.8		98.6	104.4
1985	98.7	99.6	107.3	110.6	101.7	98.5	101.8	99.8	NA	104.5	91.8	101.2	99.5	97.9	103.8
1986	98.6	100.1	106.7	112.6	103.5	98.6	104.2	100.0	NA	103.9	94.5	100.7	99.6	97.5	103.4
1987	99.1	100.9	107.2	110.7	103.6	99.4	101.8	100.7	NA	103.6	97.3	100.2	97.2	98.7	103.6
1988	100.0	103.0	108.3	108.0	102.3	101.1	101.8	101.2	NA	103.2	98.0	101.0	98.0	98.5	104.0
1989	100.0	100.7	107.1	103.9	100.8	100.6	100.6	101.0	NA	101.7	99.2	100.4	98.5	98.2	103.3
1990	99.4	100.2	105.6	102.3	99.9	101.8	99.4	100.5	NA	99.8	99.2	100.4	98.3	99.3	102.4
1990	99.4 98.7	99.8	103.0	102.3	100.0	101.8	99.4 99.7	99.5	96.3	99.0 99.1	100.1	100.4	98.9	99.3 99.2	102.4
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1993	101.3	101.0	97.9	100.2	100.0	98.5	99.2	99.9	97.6	97.0	98.4	99.9	100.3	102.6	100.8
1994	102.2	102.0	98.1	100.8	100.2	101.2	NA	99.9	98.4	97.1	101.9	100.0	100.5	107.3	100.8
1995	101.5	101.6	98.9	101.0	99.9	100.1	NA	99.3	98.4	96.5	103.8	100.2	99.6	108.0	102.0
1996	101.5	102.3	99.4	99.4	99.7	100.5	NA	99.4	96.2	95.0	102.5	100.1	99.0	107.8	102.2
1997	102.2	102.2	98.8	98.0	100.0	100.6	NA	99.1	96.3	95.2	103.9	99.7	98.9	107.5	102.1
1998	101.2	102.7	96.8	94.1	98.1	100.8	NA	98.9	96.6	96.2	103.2	99.5	99.2	107.6	101.6
1999	102.0	103.8	96.7	101.7	98.7	103.3	NA	98.3	96.2	NA	103.6	99.5	99.5	108.2	100.8
	404.0	402.0	00.2	400.2	00.5	402.4		05.0	05.2		404.4	00.4	00.5	407 7	400.4
2000	101.0	103.6	98.3	100.3	98.5	103.4	NA	95.0	95.3	NA	104.1	99.4	98.5	107.7	100.4
2001	99.2	102.6	97.6	98.2	91.5	102.2	NA	92.9	94.2	NA	103.1	99.3	98.2	106.2	100.0
2002	98.9	103.0	97.5	97.5	93.0	99.8	NA	92.1	93.6	NA	102.9	99.3	97.0	104.5	100.8

NA: Not Available

Note: The data relate to employees (wage and salary earners) in Belgium, Denmark, Italy, and Taiwan and to all employed persons (employees and self-employed workers) in the other countries.

** See note on Germany in box on page 4.

Table 7. Hourly compensation in manufacturing, national currency basis, 14 countries or areas, 1950-2002 (Indexes: 1992=100)

	United									Former West		Nether-			United
Year	States	Canada*	Japan	Korea	Taiwan	Belgium	Denmark	France*	Germany**	Germany**	Italy	lands	Norway	Sweden*	Kingdom*
1950	8.7	5.4	NA	NA	NA	NA	2.1	1.6	NA	3.4	0.9	3.0	2.2	1.9	1.5
1330	0.7	5.4		100	110	110	2.1	1.0	NA NA	5.4	0.3	5.0	2.2	1.5	1.5
1955	11.7	7.7	3.1	NA	NA	NA	2.8	2.9	NA	5.0	1.4	4.4	3.4	2.9	2.2
1960	14.9	10.0	4.3	NA	NA	5.4	3.8	4.3	NA	8.1	1.8	6.2	4.7	4.1	2.9
1961	15.3	10.2	5.0	NA	NA	5.7	4.3	4.8	NA	9.1	2.0	7.0	5.2	4.5	3.2
1962	15.9	10.6	5.7	NA	NA	6.2	4.7	5.3	NA	10.3	2.3	7.5	5.7	5.0	3.3
1963	16.4	11.1	6.4	NA	NA	6.8	5.1	5.8	NA	11.0	2.8	8.3	6.1	5.5	3.5
1964	17.0	11.5	7.2	NA	NA	7.7	5.5	6.3	NA	11.9	2.9	9.6	6.5	6.0	3.7
1965	17.4	12.2	8.1	NA	NA	8.5	6.2	6.8	NA	13.1	3.1	10.8	7.2	6.6	4.0
1966	18.2	13.1	8.9	NA	NA	9.4	7.0	7.2	NA	14.2	3.3	12.1	7.8	7.3	4.4
1967	19.2	13.8	10.0	NA	NA	10.3	7.8	7.7	NA	15.0	3.7	13.4	8.7	8.1	4.5
1968	20.7	14.7	11.7	NA	NA	11.0	8.6	8.8	NA	16.1	3.9	14.9	9.6	8.7	4.8
1969	22.2	15.9	13.8	NA	NA	12.1	9.7	9.3	NA	17.6	4.3	16.9	10.6	9.6	5.3
1970	23.7	17.1	16.4	NA	NA	13.7	11.1	10.5	NA	20.7	5.3	19.4	11.8	10.7	6.1
1971	25.2	18.2	19.0	NA	NA	15.9	12.8	11.8	NA	23.2	6.1	22.1	13.5	12.1	6.9
1972	26.5	19.5	21.9	NA	NA	18.8	14.3	13.0	NA	25.6	6.7	25.4	15.2	13.5	8.0
1973	28.5	21.2	26.7	NA	9.5	22.3	17.5	14.9	NA	29.0	7.9	30.2	17.1	15.2	9.1
1974	31.6	24.6	35.1	NA	13.9	27.4	21.4	17.7	NA	33.0	10.3	36.0	20.1	17.9	11.0
1975	35.5	28.3	40.8	NA	14.9	33.1	25.7	21.6	NA	36.4	12.7	40.9	24.0	21.9	14.6
1976	38.4	32.5	44.0	NA	16.7	38.3	28.9	24.8	NA	39.1	15.8	45.7	27.7	25.7	16.9
1977	41.8	36.1	48.5	NA	18.2	41.4	32.2	28.1	NA	42.8	18.9	49.8	31.1	28.1	19.1
1978	45.2	38.8	51.7	NA	20.5	44.4	35.8	31.7	NA	45.9	21.5	53.7	34.1	31.1	22.3
1979	49.6	42.7	55.0	NA	24.3	47.2	40.4	35.9	NA	49.3	26.0	57.5	35.8	33.5	26.5
1980	55.6	47.6	58.5	NA	29.6	52.5	45.0	41.3	NA	53.6	30.4	60.5	39.0	37.3	32.1
1981	61.1	53.8	62.7	NA	38.0	57.3	50.0	48.0	NA	57.0	36.2	63.4	43.3	41.2	37.4
1982	67.0	61.0	65.8	NA	41.5	59.9	54.9	56.7	NA	60.4	42.2	67.0	48.2	44.2	41.2
1983	68.8	65.3	67.5	NA	43.3	65.7	59.4	62.6	NA	63.1	48.6	70.5	52.9	49.1	44.4
1984	71.2	69.0	69.6	NA	46.2	71.4	63.6	68.0	NA	66.0	55.7	73.5	57.9	53.2	48.2
1985	75.1	71.9	72.4	33.1	49.5	75.3	68.8	73.6	NA	70.0	63.1	77.5	63.4	58.6	52.9
1986	78.5	73.0	76.1	35.2	55.7	77.3	71.1	76.5	NA	72.8	65.9	80.4	69.1	63.4	57.6
1987	80.7	74.7	77.8	40.3	60.9	79.7	78.4	79.3	NA	76.0	69.4	84.7	78.4	67.7	64.3
1988	84.0	77.5	79.2	50.0	65.6	81.1	82.9	81.9	NA	79.1	74.6	85.3	83.3	71.8	68.7
1989	86.6	82.6	84.1	57.6	74.3	85.9	87.7	86.1	NA	83.2	80.9	86.8	87.2	79.4	73.8
1990	90.8	88.3	90.6	68.5	85.3	90.1	92.7	90.9	NA	89.4	87.6	89.8	92.3	87.8	82.9
1991	95.6	95.0	96.5	86.1	93.5	97.3	96.0	96.4	91.5	95.1	94.2	94.8	97.5	95.5	93.8
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1993	102.7	102.0	102.7	114.0	106.0	104.8	103.0	102.6	106.4	105.9	105.7	104.5	101.5	97.4	105.0
1994	105.6	103.7	104.7	129.5	111.1	106.1	NA	106.0	111.8	111.7	106.8	109.0	104.4	99.8	108.0
1995	107.9	106.0	108.3	158.1	120.3	109.2	NA	110.0	117.6	117.7	111.3	112.1	109.2	106.8	109.4
1996	109.4	107.0	109.1	184.1	128.2	111.0	NA	112.1	123.3	123.7	119.0	114.4	113.6	115.2	111.4
1997	111.5	109.3	112.6	197.7	132.3	115.2	NA	112.0	125.7	126.6	123.0	117.2	118.7	121.0	115.7
1998	117.4	110.5	115.4	214.8	140.2	116.9	NA	112.6	127.6	127.6	122.2	122.0	125.7	125.6	122.6
1999	122.1	112.3	114.8	211.1	144.0	118.4	NA	116.4	130.6	NA	124.2	126.0	133.0	130.3	129.7
2000	131.1	113.9	113.7	221.0	146.2	120.5	NA	120.8	137.2	NA	127.8	132.0	140.5	135.3	137.6
2001	134.3	117.8	114.5	236.5	149.4	126.7	NA	126.9	141.4	NA	132.4	138.9	148.2	139.8	143.8
2002	141.0	123.2	112.7	267.3	149.3	135.0	NA	130.9	144.5	NA	135.6	146.0	157.2	145.1	148.6

NA: Not Available

Note: The data relate to employees (wage and salary earners) in Belgium, Denmark, Italy, and Taiwan and to all employed persons (employees and self-employed workers) in the other countries.

* Compensation adjusted to include changes in employment taxes that are not compensation to employees, but are labor costs to employers.

** See note on Germany in box on page 4.

Table 8. Hourly compensation in manufacturing, U.S. dollar basis, 14 countries or areas, 1950-2002 (Indexes: 1992=100)

	United									Former West		Nether-			United
Year	States	Canada*	Japan	Korea	Taiwan	Belgium	Denmark	France*		Germany**	Italy	lands	Norway	Sweden*	Kingdom*
1950	8.7	6.0	NA	NA	NA	NA	1.8	2.5	NA	1.3	1.9	1.4	1.9	2.1	2.5
1955	11.7	9.5	1.1	NA	NA	NA	2.5	4.3	NA	1.9	2.7	2.0	2.9	3.3	3.5
1000	11.7	5.5		114	110	114	2.0	4.0	114	1.5	2.7	2.0	2.5	0.0	0.0
1960	14.9	12.4	1.5	NA	NA	3.5	3.4	4.7	NA	3.0	3.5	2.9	4.1	4.6	4.7
1961	15.3	12.2	1.8	NA	NA	3.7	3.8	5.1	NA	3.5	3.9	3.4	4.5	5.0	5.0
1962	15.9	12.0	2.0	NA	NA	4.0	4.1	5.7	NA	4.0	4.6	3.7	5.0	5.6	5.3
1963	16.4	12.4	2.2	NA	NA	4.4	4.5	6.2	NA	4.3	5.5	4.0	5.3	6.2	5.5
1964	17.0	12.9	2.5	NA	NA	5.0	4.8	6.8	NA	4.7	5.8	4.7	5.6	6.8	5.8
1965	17.4	13.7	2.8	NA	NA	5.5	5.4	7.3	NA	5.1	6.2	5.3	6.2	7.5	6.4
1966	18.2	14.7	3.1	NA	NA	6.1	6.1	7.7	NA	5.5	6.6	5.9	6.8	8.2	6.9
1967	19.2	15.4	3.5	NA	NA	6.7	6.8	8.3	NA	5.9	7.3	6.5	7.6	9.1	7.0
1968	20.7	16.5	4.1	NA	NA	7.1	7.0	9.4	NA	6.3	7.8	7.2	8.4	9.9	6.6
1969	22.2	17.9	4.9	NA	NA	7.7	7.8	9.5	NA	7.0	8.5	8.2	9.3	10.8	7.1
1970	23.7	19.8	5.8	NA	NA	8.9	8.9	10.0	NA	8.9	10.3	9.4	10.3	12.0	8.3
1971	25.2	21.7	6.9	NA	NA	10.5	10.4	11.3	NA	10.4	12.1	11.1	11.9	13.8	9.6
1972	26.5	23.8	9.2	NA	NA	13.7	12.4	13.6	NA	12.6	14.1	13.9	14.3	16.5	11.3
1973	28.5	25.6	12.5	NA	6.3	18.5	17.6	17.8	NA	17.1	16.7	19.1	18.5	20.3	12.7
1974	31.6	30.5	15.2	NA	9.2	22.6	21.2	19.5	NA	19.9	19.4	23.6	22.6	23.5	14.5
1975	35.5	33.7	17.5	NA	9.9	29.0	27.0	26.7	NA	23.1	23.9	28.5	28.6	30.8	18.4
1976	38.4	39.9	18.8	NA	11.0	31.9	28.9	27.4	NA	24.3	23.5	30.4	31.6	34.3	17.3
1977	41.8	41.1	23.0	NA	12.1	37.1	32.4	30.3	NA	28.8	26.4	35.7	36.3	36.7	18.9
1978	45.2	41.2	31.5	NA	13.9	45.4	39.3	37.3	NA	35.8	31.2	43.7	40.4	40.2	24.2
1979	49.6	44.0	32.0	NA	16.9	51.7	46.4	44.6	NA	42.0	38.6	50.4	43.9	45.5	31.8
1980	55.6	49.1	32.8	NA	20.7	57.7	48.2	51.7	NA	46.1	43.8	53.6	49.0	51.4	42.2
1981	61.1	54.2	36.0	NA	26.0	49.5	42.3	46.7	NA	39.3	39.1	44.6	46.9	47.3	42.8
1982	67.0	59.7	33.5	NA	26.7	42.1	39.7	45.6	NA	38.8	38.4	44.1	46.4	41.0	40.8
1983	68.8	64.0	36.0	NA	27.2	41.3	39.2	43.5	NA	38.6	39.4	43.4	45.0	37.2	38.1
1984	71.2	64.4	37.1	NA	29.3	39.7	37.1	41.2	NA	36.3	39.1	40.3	44.1	37.5	36.5
1985	75.1	63.6	38.5	30.2	31.2	40.8	39.2	43.4	NA	37.2	40.7	41.1	45.8	39.7	38.9
1986	78.5	63.5	57.3	31.2	37.0	55.6	53.0	58.5	NA	52.4	54.4	57.7	58.0	51.8	47.9
1987	80.7	68.1	68.2	38.3	48.3	68.6	69.2	69.8	NA	66.0	66.0	73.6	72.3	62.1	59.7
1988	84.0	76.2	78.3	53.5	57.7	70.9	74.3	72.8	NA	70.4	70.6	75.9	79.3	68.2	69.3
1989	86.6	84.3	77.2	67.0	70.8	70.1	72.3	71.4	NA	69.1	72.7	71.9	78.4	71.6	68.4
1990	90.8	91.5	79.2	75.6	79.7	86.6	90.4	88.3	NA	86.4	90.1	86.7	91.7	86.4	83.7
1991	95.6	100.1	90.9	91.7	87.9	91.5	90.5	90.4	86.1	89.4	93.5	89.1	93.3	91.9	93.9
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1993	102.7	95.5	117.2	111.0	100.9	97.4	95.9	95.8	100.4	100.0	82.8	98.9	88.8	72.8	89.3
1994	105.6	91.7	129.9	126.0	105.6	102.1	NA	101.1	107.6	107.6	81.7	105.4	91.9	75.3	93.7
1995	107.9	93.3	146.1	160.5	114.2	119.1	NA	116.8	128.3	128.3	84.2	122.8	107.1	87.1	97.8
1996	109.4	94.8	127.2	179.4	117.4	115.3	NA	116.0	128.0	128.4	95.0	119.3	109.3	100.1	98.4
1997	111.5	95.3	117.9	163.7	115.6	103.4	NA	101.5	113.2	114.0	88.9	105.6	104.1	92.2	107.2
1998	117.4	90.0	111.7	120.4	105.1	103.5	NA	101.0	113.3	113.3	86.7	108.2	103.4	92.0	115.0
1999	122.1	91.4	128.0	139.2	112.1	100.5	NA	100.0	111.1	NA	84.2	107.1	105.9	91.7	118.7
2000	131.1	92.6	133.7	153.4	117.7	88.6	NA	90.0	101.1	NA	75.1	97.3	99.1	85.9	118.0
2000	131.1	92.6 91.9	133.7	153.4	111.1	88.6 90.4	NA	90.0 91.7	101.1	NA	75.1	97.3 99.3	102.4	85.9 78.8	118.0
2001	134.3	91.9	119.4	143.6	108.8	90.4 101.7	NA	99.9	101.1	NA	75.4 81.6	110.1	122.3	86.9	126.4
		34.0	114.1	10/./	100.0	101.7	INA I	33.3	103.1	INA I	01.0	110.1			

NA: Not Available

Note: The data relate to employees (wage and salary earners) in Belgium, Denmark, Italy, and Taiwan and to all employed persons (employees and self-employed workers) in the other countries.

* Compensation adjusted to include changes in employment taxes that are not compensation to employees, but are labor costs to employers.

** See note on Germany in box on page 4.

Table 9. Unit labor costs in manufacturing, national currency basis, 14 countries or areas, 1950-2002 (Indexes: 1992=100)

	United									Former West		Nether-			United
Year	States	Canada*	Japan	Korea	Taiwan	Belgium	Denmark	France*	Germany**	Germany**	Italy	lands	Norway	Sweden*	Kingdom
950	NA	20.9	NA	NA	NA	NA	9.8	13.4	NA	25.5	7.0	26.3	8.8	9.5	6.3
955	NA	24.2	36.5	NA	NA	NA	12.2	18.8	NA	25.4	7.2	30.0	11.5	13.8	8.3
900	NA	24.2	30.5	NA	NA	NA	12.2	10.0	NA	25.4	1.2	30.0	11.5	13.0	0.3
960	NA	26.4	31.3	NA	NA	30.1	13.6	21.8	NA	27.8	7.5	32.9	12.6	15.0	9.8
1961	NA	25.7	32.1	NA	NA	31.5	14.5	22.6	NA	29.7	7.7	35.5	13.3	15.6	10.5
1962	NA	24.8	35.0	NA	NA	32.1	15.1	23.5	NA	31.5	8.2	36.6	14.6	16.2	10.8
1963	NA	24.9	36.1	NA	NA	34.2	15.9	24.3	NA	32.2	9.5	38.8	14.8	16.9	10.7
1964	NA	24.9	35.8	NA	NA	36.3	15.9	24.5	NA	32.1	10.0	41.1	15.0	16.9	10.7
1965	NA	25.1	38.7	NA	NA	38.3	16.8	24.9	NA	33.3	9.6	43.2	15.7	17.4	11.4
1966	NA	26.5	38.9	NA	NA	39.6	18.2	24.4	NA	34.7	9.4	45.4	16.4	18.2	11.9
1967	NA	27.6	38.5	NA	NA	40.9	18.9	24.7	NA	34.5	9.9	46.8	17.7	18.6	11.7
1968	NA	27.9	40.0	NA	NA	40.3	19.4	25.3	NA	34.3	9.8	46.4	18.4	18.5	11.7
1969	NA	28.8	41.4	NA	NA	40.4	20.8	25.4	NA	35.0	10.4	47.9	18.5	18.8	12.5
1970	NA	31.1	43.8	NA	23.8	41.7	22.4	26.9	NA	39.8	11.9	50.4	20.0	20.6	14.1
1971	NA	31.2	47.8	NA	24.8	45.2	24.2	28.6	NA	42.9	13.5	54.1	22.2	22.2	15.3
1972	NA	31.8	50.2	NA	24.9	47.9	24.9	30.1	NA	44.7	13.9	57.7	23.7	23.6	16.7
1973	NA	32.6	56.2	NA	28.8	51.2	27.6	32.3	NA	47.5	15.1	61.9	25.2	24.8	17.8
1974	NA	37.2	71.9	NA	43.5	59.9	32.8	37.5	NA	52.1	18.6	68.7	28.4	27.9	21.0
1975		44.7	81.4	NA		69.5		44.2	NA	55.2		79.2		33.7	
	NA				44.2		36.3				24.2		34.3		28.6
1976	NA	47.3	82.7	NA	45.5	73.1	38.8	47.8	NA	55.4	26.4	79.9	38.8	38.9	31.7
1977	61.2	49.9	87.7	NA	47.3	75.3	41.7	51.3	NA	58.8	30.7	80.4	42.9	43.3	35.5
1978	65.3	52.6	89.9	NA	47.4	76.1	45.0	55.3	NA	61.1	33.1	83.2	46.1	46.6	40.9
1979	70.7	57.8	88.4	NA	53.8	76.8	48.5	60.4	NA	62.9	36.6	85.3	45.1	46.6	48.2
1980	78.8	65.2	92.6	NA	62.2	80.3	52.2	67.2	NA	69.4	41.0	87.6	50.0	51.0	59.0
1981	82.4	70.4	96.0	NA	72.1	81.7	57.3	73.8	NA	72.4	49.0	88.4	55.8	56.6	65.4
1982	87.9	79.1	96.8	NA	76.8	81.5	62.1	81.4	NA	76.7	57.0	92.7	59.6	58.7	68.5
1983	86.0	79.7	98.1	NA	75.2	81.1	63.5	85.4	NA	76.4	64.2	90.9	63.3	60.7	68.2
1984	85.6	77.8	97.8	NA	78.1	84.0	67.4	89.8	NA	77.3	67.9	86.2	65.3	62.5	70.4
1985	87.3	78.9	94.7	60.4	81.3	86.5	71.7	92.2	NA	78.6	72.2	87.6	69.2	68.0	74.4
1986	91.2	83.3	99.9	59.8	83.5	88.0	77.4	92.9	NA	81.2	74.9	89.6	76.5	72.5	77.9
1987	86.9	85.1	97.0	63.8	83.7	89.7	85.7	94.4	NA	86.3	77.8	93.7	82.8	75.8	82.3
1988	86.7	86.6	94.3	72.8	85.9	88.1	88.1	92.7	NA	86.5	79.4	92.4	89.0	79.4	83.3
1989	90.5	89.3	94.9	78.7	89.5	88.7	87.5	93.4	NA	87.9	84.8	90.0	90.8	85.1	85.6
1990	93.7	94.6	95.9	84.2	95.9	93.0	93.5	96.9	NA	90.3	91.5	91.1	94.2	92.9	92.9
1991	97.6	99.6	97.4	94.1	96.8	98.1	96.5	99.4	93.1	93.3	98.2	95.7	99.2	100.0	100.0
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1993	100.6	96.4	101.0	105.4	103.0	102.3	103.7	101.9	104.5	105.3	104.3	102.4	101.9	90.8	100.7
1994	98.5	93.6	101.4	109.8	104.1	97.9	96.2	97.9	102.0	103.6	101.9	96.4	104.8	84.7	99.6
1995	94.8	94.3	97.6	122.4	104.5	96.4	96.4	96.7	104.7	105.9	103.0	95.6	108.4	85.8	102.8
1996	93.5	97.5	94.0	129.1	104.1	94.7	103.2	97.9	107.5	107.5	110.0	95.9	110.8	89.0	105.5
1997	91.9	96.2	93.0	121.0	102.3	90.7	99.4	91.9	104.5	103.9	111.9	96.5	116.4	85.8	108.2
1998	92.8	97.7	95.2	117.4	102.0	90.4	102.8	88.1	104.6	100.4	111.1	98.3	125.7	84.0	112.8
1999	91.3	96.8	90.6	104.4	100.7	91.9	102.0	87.5	107.6	NA	113.2	99.1	128.4	80.1	114.4
2000	92.3	96.1	83.6	101.5	97.1	90.4	102.5	84.3	108.3	NA	113.4	99.5	131.9	74.7	114.5
2001	94.1	101.5	85.6	101.5	93.3	93.9	102.3	85.0	110.1	NA	115.5	105.0	136.1	76.6	114.3
2001	94.1	101.5	80.1	115.4	93.3 87.4	93.9 94.1	101.4	85.4	110.0	NA	120.1	105.0	141.8	78.8	120.1
LUUZ	9 2 .0	104.0	ov. i	113.4	0/.4	34.1	101.0	03.4	110.0	NA	120.1	109.7	141.0	13.0	120.1

NA: Not Available

Note: The data relate to employees (wage and salary earners) in Belgium, Denmark, Italy, and Taiwan and to all employed persons (employees and self-employed workers) in the other countries.

* Compensation adjusted to include changes in employment taxes that are not compensation to employees, but are labor costs to employers.

** See note on Germany in box on page 4.

Table 10. Unit labor costs in manufacturing, U.S. dollar basis, 14 countries or areas, 1950-2002 (Indexes: 1992=100)

	United									Former West		Nether-			United
Year	States	Canada*	Japan	Korea	Taiwan	Belgium	Denmark	France*	Germany**	Germany**	Italy	lands	Norway	Sweden*	Kingdom
1950	NA	23.1	NA	NA	NA	NA	8.5	20.3	NA	9.5	13.8	12.2	7.7	10.7	10.0
1955	NA	29.7	12.8	NA	NA	NA	10.7	28.5	NA	9.4	14.1	13.9	10.0	15.5	13.2
1960	NA	32.9	11.0	NA	NA	19.4	12.0	23.5	NA	10.4	15.0	15.3	11.0	16.9	15.6
1961	NA	30.6	11.3	NA	NA	20.3	12.7	24.4	NA	11.6	15.3	17.2	11.6	17.6	16.6
1962	NA	28.1	12.3	NA	NA	20.7	13.2	25.4	NA	12.3	16.3	17.9	12.7	18.3	17.1
1963	NA	27.8	12.7	NA	NA	22.0	13.9	26.3	NA	12.6	18.8	18.9	12.9	18.9	17.0
1964	NA	27.9	12.5	NA	NA	23.5	13.9	26.5	NA	12.6	19.8	20.0	13.0	19.1	16.9
1965	NA	28.2	13.6	NA	NA	24.8	14.7	26.9	NA	13.0	19.0	21.1	13.6	19.6	18.0
1966	NA	29.7	13.6	NA	NA	25.6	15.9	26.2	NA	13.6	18.6	22.0	14.3	20.6	18.8
1967	NA	30.9	13.5	NA	NA	26.5	16.3	26.5	NA	13.5	19.6	22.8	15.4	21.0	18.3
1968	NA	31.3	14.1	NA	NA	25.9	15.7	27.1	NA	13.4	19.4	22.5	16.0	20.9	15.9
1969	NA	32.3	14.6	NA	NA	25.9	16.7	25.9	NA	13.9	20.4	23.2	16.1	21.1	16.9
1909	NA	32.3	14.0	NA	na.	25.5	10.7	25.5	NA	13.9	20.4	23.2	10.1	21.1	10.5
1970	NA	36.0	15.5	NA	14.9	27.0	18.0	25.8	NA	17.1	23.3	24.5	17.4	23.1	19.1
1971	NA	37.3	17.4	NA	15.6	29.9	19.8	27.4	NA	19.3	26.9	27.3	19.6	25.3	21.2
1972	NA	38.8	21.0	NA	15.7	35.0	21.6	31.6	NA	21.9	29.4	31.6	22.4	28.9	23.7
1973	NA	39.3	26.3	NA	18.9	42.4	27.7	38.5	NA	28.0	32.0	39.2	27.2	33.1	24.7
1974	NA	46.0	31.3	NA	28.8	49.5	32.5	41.3	NA	31.5	35.2	45.0	32.0	36.7	27.9
1975	NA	53.1	34.8	NA	29.3	60.9	38.2	54.7	NA	35.1	45.7	55.2	40.9	47.4	35.9
1976	NA	58.0	35.4	NA	30.1	60.9	38.8	53.0	NA	34.4	39.2	53.2	44.1	52.0	32.4
1977	61.2	56.7	41.5	NA	31.3	67.6	42.0	55.2	NA	39.6	42.8	57.7	50.0	56.4	35.1
1978	65.3	55.8	54.7	NA	32.2	77.8	49.3	65.1	NA	47.6	48.1	67.7	54.7	60.1	44.4
1979	70.7	59.6	51.4	NA	37.5	84.2	55.7	75.2	NA	53.6	54.3	74.8	55.4	63.3	57.9
1980	78.8	67.4	51.8	NA	43.4	88.3	55.9	84.2	NA	59.6	59.0	77.5	62.9	70.2	77.7
1981	82.4	70.9		NA	43.4		48.4		NA	49.9	53.0	62.2	60.4	65.1	
			55.2			70.6		71.8							75.0
1982	87.9	77.5	49.3	NA	49.4	57.2	44.9	65.5	NA	49.3	51.9	61.0	57.4	54.4	67.8
1983	86.0	78.1	52.4	NA	47.2	51.0	41.9	59.3	NA	46.7	52.1	56.0	53.8	46.1	58.6
1984	85.6	72.5	52.2	NA	49.6	46.8	39.3	54.4	NA	42.4	47.7	47.2	49.7	44.0	53.3
1985	87.3	69.8	50.3	55.0	51.3	46.9	40.9	54.3	NA	41.7	46.6	46.4	50.0	46.1	54.7
1986	91.2	72.4	75.3	53.0	55.6	63.4	57.7	71.0	NA	58.5	61.9	64.4	64.3	59.2	64.7
1987	86.9	77.6	85.1	60.6	66.3	77.2	75.5	83.1	NA	74.9	73.9	81.3	76.4	69.6	76.4
1988	86.7	85.0	93.3	77.8	75.5	77.0	78.9	82.3	NA	76.9	75.2	82.2	84.8	75.4	84.0
1989	90.5	91.1	87.2	91.6	85.2	72.3	72.1	77.5	NA	73.0	76.1	74.6	81.7	76.8	79.4
1990	93.7	98.0	83.9	93.0	89.7	89.5	91.2	94.2	NA	87.3	94.1	87.9	93.6	91.3	93.8
1991	97.6	105.1	91.8	100.3	91.1	92.3	91.0	93.2	87.5	87.8	97.5	90.0	95.0	96.3	100.1
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1993	100.6	90.3	115.3	102.7	98.1	95.1	96.5	95.2	98.7	99.4	81.6	96.9	89.2	67.8	85.6
1994	98.5	82.8	125.8	106.8	99.0	94.2	91.4	93.4	98.2	99.8	77.9	93.2	92.3	64.0	86.4
1995	94.8	83.0	131.6	124.3	99.2	105.2	104.0	102.6	114.2	115.5	77.9	104.8	106.4	70.0	91.9
1996	93.5	86.4	109.5	125.9	95.4	98.3	107.5	102.0	111.6	111.6	87.9	100.0	106.6	77.3	93.2
1997	93.5 91.9	84.0	97.4	125.9	89.5	81.4	90.8	83.3	94.0	93.5	80.9	87.0	100.0	65.4	100.3
	92.8		97.4	65.8		80.0	90.8		92.9	89.1		87.0	102.1		
1998 1999	92.8 91.3	79.6 78.8	92.2 101.0	65.8 68.8	77.4 78.3	80.0 78.0	92.6 89.5	79.1 75.2	92.9 91.6	89.1 NA	78.8 76.7	87.2 84.3	103.5	61.5 56.4	105.9 104.7
2000	92.3	78.2	98.4	70.4	78.1	66.5	76.5	62.8	79.8	NA	66.6	73.3	93.0	47.5	98.3
2001	94.1	79.2	89.3	66.5	69.4	67.0	73.4	61.4	78.7	NA	65.8	75.0	94.0	43.1	95.1
2002	92.8	80.5	81.1	72.4	63.7	70.9	77.9	65.1	83.0	NA	72.2	82.8	110.3	44.2	102.1

Note: The data relate to employees (wage and salary earners) in Belgium, Denmark, Italy, and Taiwan and to all employed persons (employees and self-employed workers) in the other countries.

* Compensation adjusted to include changes in employment taxes that are not compensation to employees, but are labor costs to employers.

** See note on Germany in box on page 4.

Table 11. Exchange rates, 14 countries or areas, 1950-2002 (Value of foreign currency relative to U.S. dollar) (Indexes: 1992=100)

	United									Former West		Nether-			United
/ear	States	Canada	Japan	Korea	Taiwan	Belgium	Denmark	France	Germany**	Germany**	Italy	lands	Norway	Sweden	Kingdor
950	100.0	110.5	35.2	NA	NA	NA	87.5	151.3	NA	37.2	197.3	46.2	87.1	112.6	158.6
955	100.0	122.5	35.2	NA	NA	NA	87.4	151.2	NA	37.1	197.1	46.1	87.0	112.6	158.0
960	100.0	124.6	35.2	NA	NA	64.5	87.6	107.9	NA	37.4	198.4	46.6	87.1	112.7	159.0
961	100.0	119.4	35.1	NA	NA	64.5	87.4	107.9	NA	38.9	198.4	48.5	87.0	112.7	158.6
962	100.0	113.1	35.1	NA	NA	64.6	87.5	108.0	NA	39.1	198.5	48.8	87.1	113.0	159.0
963	100.0	112.0	35.1	NA	NA	64.5	87.4	108.0	NA	39.2	198.2	48.8	86.9	112.3	158.5
964	100.0	112.0	35.0	NA	NA	64.6	87.3	108.0	NA	39.3	197.3	48.8	86.8	113.1	158.1
965	100.0	112.1	35.1	NA	NA	64.8	87.3	108.0	NA	39.1	197.2	48.8	86.9	112.9	158.3
966	100.0	112.2	35.0	NA	NA	64.5	87.4	107.7	NA	39.1	197.3	48.6	86.9	112.8	158.1
967	100.0	112.0	35.0	NA	NA	64.7	86.5	107.6	NA	39.2	197.4	48.8	86.9	112.9	155.7
968	100.0	112.2	35.2	NA	NA	64.4	80.7	106.9	NA	39.1	197.7	48.6	87.0	112.7	135.5
969	100.0	112.2	35.4	NA	NA	64.1	80.3	102.2	NA	39.8	196.4	48.5	87.0	112.7	135.3
909	100.0	112.2	35.4	NA	NA	04.1	80.5	102.2	NA	39.0	190.4	40.0	07.0	112.7	135.3
970	100.0	115.8	35.4	252.7	62.9	64.7	80.5	95.7	NA	42.8	196.5	48.6	86.9	112.3	135.6
971	100.0	119.7	36.5	226.0	62.9	66.2	81.6	96.1	NA	44.9	199.3	50.4	88.3	114.1	138.4
972	100.0	122.0	41.8	199.7	62.9	73.0	86.8	104.9	NA	49.0	211.1	54.8	94.3	122.5	141.6
973	100.0	120.8	46.8	197.0	65.8	82.8	100.2	119.3	NA	59.0	211.8	63.3	108.2	133.8	138.8
974	100.0	123.6	43.5	194.0	66.2	82.7	99.3	110.1	NA	60.5	189.4	65.5	112.6	131.4	132.5
975	100.0	118.8	42.7	162.1	66.2	87.6	105.3	123.6	NA	63.6	188.9	69.7	119.2	140.6	125.8
976	100.0	122.6	42.8	162.1	66.2	83.3	99.9	110.9	NA	62.1	148.4	66.6	113.9	133.7	102.2
977	100.0	113.7	47.3	162.1	66.2	89.7	100.6	107.7	NA	67.3	139.6	71.7	116.8	130.4	98.8
978	100.0	106.0	60.8	162.1	67.9	102.3	109.6	117.6	NA	77.9	145.2	81.4	118.6	129.0	108.6
979	100.0	103.2	58.1	162.1	69.8	102.5	114.8	124.4	NA	85.2	148.3	87.7	122.7	135.9	120.2
313	100.0	103.2	50.1	102.1	09.0	109.0	114.0	124.4	NA	05.2	140.5	01.1	122.7	133.5	120.2
980	100.0	103.4	55.9	129.2	69.8	110.0	107.1	125.3	NA	85.9	143.9	88.5	125.8	137.7	131.7
981	100.0	100.8	57.5	115.2	68.3	86.4	84.6	97.3	NA	69.0	108.2	70.4	108.2	115.0	114.6
982	100.0	97.9	50.9	107.2	64.3	70.2	72.4	80.5	NA	64.3	91.0	65.8	96.2	92.7	99.0
983	100.0	98.1	53.4	101.1	62.8	62.9	66.0	69.5	NA	61.2	81.1	61.6	85.1	75.9	85.8
984	100.0	93.3	53.4	97.1	63.5	55.7	58.3	60.6	NA	54.9	70.2	54.8	76.2	70.4	75.7
985	100.0	88.5	53.2	91.0	63.1	54.2	57.0	58.9	NA	53.1	64.5	53.0	72.3	67.7	73.5
986	100.0	87.0	75.3	88.7	66.5	72.0	74.6	76.4	NA	72.0	82.6	71.8	84.0	81.7	83.1
987	100.0	91.1	87.7	95.0	79.2	86.1	88.2	88.0	NA	86.9	95.0	86.8	92.2	91.8	92.8
988	100.0	98.2	98.9	106.8	87.9	87.4	89.6	88.8	NA	88.9	94.6	88.9	95.2	94.9	100.8
989	100.0	102.1	91.8	116.4	95.3	81.6	82.5	83.0	NA	83.0	89.8	82.9	89.9	90.2	92.7
303	100.0	102.1	91.0	110.4	95.5	01.0	02.5	03.0	NA	63.0	09.0	02.9	09.9	90.2	92.7
990	100.0	103.6	87.4	110.4	93.5	96.2	97.5	97.2	NA	96.6	102.8	96.6	99.4	98.4	101.0
991	100.0	105.5	94.2	106.5	94.0	94.0	94.3	93.7	94.0	94.0	99.3	93.9	95.7	96.3	100.1
992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
993	100.0	93.7	114.1	97.4	95.2	93.0	93.1	93.4	94.4	94.4	78.3	94.6	87.5	74.7	85.0
994	100.0	88.4	124.1	97.2	95.1	96.2	95.0	95.4	96.3	96.3	76.5	96.7	88.1	75.5	86.7
995	100.0	88.1	134.9	101.5	95.0	109.1	107.8	106.2	109.1	109.1	75.6	109.6	98.1	81.6	89.4
996	100.0	88.6	116.5	97.5	91.6	103.8	104.1	103.5	103.8	103.8	79.9	104.3	96.2	86.8	88.4
997	100.0	87.3	104.7	82.8	87.4	89.8	91.3	90.7	90.0	90.0	72.3	90.1	87.7	76.2	92.7
998	100.0	81.5	96.8	56.0	75.0	88.5	90.1	89.7	88.8	88.8	70.9	88.7	82.3	73.3	93.8
999 999	100.0	81.3	111.5	65.9	75.0	84.9	86.4	86.0	85.1	85.1	67.8	85.0	79.6	70.4	91.6
000	100.0	81.4	117.6	69.4	80.5	73.6	74.6	74.5	73.7	NA	58.7	73.7	70.5	63.5	85.8
001	100.0	78.0	104.3	60.7	74.4	71.3	72.5	72.2	71.5	NA	57.0	71.4	69.1	56.3	81.5
002	100.0	77.0	101.2	62.8	72.9	75.3	76.6	76.3	75.5	NA	60.2	75.4	77.8	59.9	85.1

NA: Not Available

** See note on Germany in box on page 4.

Table 12. Average annual compensation	ation in manufacturing, nation	onal currency basis	14 countries or areas,	1950-2002
	(Indexes: 1992=*	00)		

	United														
		Canada*	lanan	Korea	Taiwan	Belgium	Denmark	France*	Germany**	Former West Germany**	Italy	Nether- lands	Norway	Sweden*	United
1050	States	Callaua	Japan	Korea	Taiwan	Deigiuili	Denmark	France	Germany	Germany	пату	lanus	Norway	Sweden	Kingdom*
1950	8.8	5.9	NA	NA	NA	NA	2.9	2.0	NA	4.9	1.0	3.9	2.9	2.4	1.9
1955	11.8	8.1	3.8	NA	NA	NA	3.9	3.4	NA	7.3	1.5	5.7	4.4	3.8	2.8
1960	14.8	10.4	5.3	NA	NA	6.8	5.0	5.2	NA	10.7	1.9	8.1	6.0	5.0	3.6
1960	14.0	10.4	6.1	NA	NA	7.2	5.5	5.2	NA	11.8	2.1	8.9	6.4	5.4	3.8
1962	16.0	11.1	6.9	NA	NA	7.8	6.1	6.4	NA	13.0	2.4	9.4	7.0	6.0	4.0
1962	16.5	11.6	7.6	NA	NA	8.6	6.5	7.0	NA	13.7	2.4	10.4	7.5	6.6	4.0
1963	17.3	12.1	8.5	NA	NA	9.6	7.1	7.5	NA	14.8	3.1	11.9	8.0	7.1	4.1
1965	17.9	12.1	9.4	NA	NA	10.5	7.8	8.1	NA	14.8	3.1	13.3	8.7	7.7	4.4
1965	18.8	13.7	10.4	NA	NA	11.5	8.7	8.6	NA	17.4	3.4	14.8	9.5	8.5	4.8 5.1
	19.4		10.4			12.4	9.7	9.2		17.4		14.0	9.5 10.5	8.5 9.2	5.1
1967		14.4		NA NA	NA		9.7 10.4		NA		3.8	17.9			
1968 1969	20.9 22.2	15.4 16.5	13.6 15.9	NA	NA	13.3	11.6	10.1	NA NA	19.4	4.1	20.0	11.3 12.2	9.8	5.6 6.1
1969	22.2	10.5	15.9	NA	NA	14.4	11.0	11.0	NA	21.3	4.5	20.0	12.2	10.5	0.1
1970	23.3	17.6	18.7	NA	NA	16.0	12.7	12.2	NA	24.8	5.3	22.5	13.4	11.8	7.0
1971	24.8	18.7	21.3	NA	NA	18.2	14.7	13.6	NA	27.2	6.0	25.4	15.2	13.3	7.8
1972	26.5	20.1	24.3	NA	NA	21.0	16.1	14.9	NA	29.8	6.5	28.8	16.8	14.4	8.9
1973	28.5	21.7	29.5	NA	10.6	24.3	18.7	16.8	NA	33.4	7.8	33.6	18.9	16.0	10.3
1974	31.0	25.0	37.0	NA	15.0	29.2	23.2	19.7	NA	37.2	9.8	38.8	21.8	18.6	11.9
1975	34.3	28.4	42.1	NA	16.4	33.3	27.0	23.3	NA	40.0	11.9	43.3	25.9	22.3	15.8
1976	37.6	32.7	46.7	NA	18.4	39.3	30.5	26.8	NA	44.3	14.9	48.3	29.2	25.8	18.5
1977	41.0	36.2	51.7	NA	20.1	42.3	33.7	30.2	NA	47.7	17.7	52.4	32.2	28.1	21.0
1978	44.3	39.2	55.3	NA	22.5	45.2	37.0	33.8	NA	50.6	20.1	56.0	34.6	30.3	24.4
1979	48.4	42.9	59.2	NA	26.5	48.1	41.8	38.2	NA	54.1	24.1	59.2	35.7	32.1	28.9
1980	53.5	47.3	63.0	NA	32.4	52.7	46.8	43.9	NA	57.9	28.2	62.7	39.1	35.3	34.0
1981	58.8	53.1	66.9	NA	39.6	56.1	51.3	50.3	NA	60.9	33.6	66.0	43.5	39.2	38.8
1982	63.3	59.7	70.0	NA	43.1	60.0	57.2	57.2	NA	64.1	39.0	70.5	48.0	42.3	43.1
1983	66.9	64.7	72.0	NA	44.9	64.2	62.7	62.8	NA	67.2	45.0	74.3	53.0	47.5	46.3
1984	70.2	68.3	74.9	NA	48.4	69.3	67.0	68.3	NA	70.3	51.5	76.4	57.9	52.5	50.3
1985	74.1	71.6	77.7	36.7	50.4	74.1	70.0	73.4	NA	73.1	57.9	78.5	63.1	57.4	54.9
1986	77.4	73.0	81.2	39.6	57.6	76.2	74.0	76.6	NA	75.6	62.3	81.0	68.8	61.8	59.6
1987	80.0	75.4	83.4	44.6	63.1	79.2	79.8	79.8	NA	78.8	67.6	84.9	76.2	66.8	66.6
1988	84.0	79.9	85.7	54.0	67.1	81.9	84.4	82.9	NA	81.7	73.1	86.1	81.6	70.7	71.5
1989	86.7	83.2	90.0	59.9	75.0	86.4	88.2	87.0	NA	84.6	80.3	87.1	85.9	77.9	76.2
1990	90.2	88.5	95.6	70.0	85.2	91.7	92.1	91.3	NA	89.2	86.9	90.2	90.8	87.2	84.8
1991	94.3	94.8	99.6	87.3	93.5	97.3	95.6	95.9	88.2	94.3	94.3	94.9	96.4	94.7	93.8
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1993	104.1	103.0	100.6	114.2	106.0	103.2	102.2	102.4	103.9	102.8	104.0	100.0	101.8	99.9	105.8
1994	104.1	105.8	102.8	130.6	111.4	103.2	106.0	102.4	109.9	102.0	104.0	109.0	101.0	107.1	108.9
1995	109.5	105.6	102.0	159.7	120.1	107.4	109.7	105.5	115.8	113.6	115.6	112.3	104.5	115.4	111.6
1995	109.5	107.8	107.0	182.9	120.1	111.6	112.1	109.3	118.6	117.6	122.0	112.3	112.5	124.2	113.8
1996	1113.9	109.5		193.8	132.3		112.1	111.4		120.5	122.0	114.5	112.5	124.2	
			111.3			115.8			121.0						118.1
1998 1999	118.8	113.5 116.6	111.7	202.2 214.6	137.5	117.8	120.6 125.7	111.4	123.3	122.8 NA	126.1	121.4	124.6	135.1 140.9	124.5 130.7
1999	124.5	110.0	111.0	214.0	142.1	122.3	123.1	114.4	125.6	NA	128.6	125.3	132.4	140.9	130.7
2000	132.5	118.0	111.7	221.7	144.1	124.6	130.8	114.8	130.7	NA	133.0	131.2	138.4	145.7	138.2
2001	133.2	120.9	111.7	232.2	136.7	129.6	136.5	117.9	133.1	NA	136.6	138.0	145.6	148.5	143.9
2002	139.5	127.0	109.9	260.6	138.9	134.7	143.0	120.5	135.3	NA	139.6	144.9	152.4	151.6	149.7

Note: The data relate to employees (wage and salary earners) in Belgium, Denmark, Italy, and Taiwan and to all employed persons (employees and self-employed workers) in the other countries.

* Compensation adjusted to include changes in employment taxes that are not compensation to employees, but are labor costs to employers.

** See note on Germany in box on page 4.

Table 13. Real hourly compensation in manufacturing, CPI basis, 14 countries or areas, 1950-2002 (Indexes: 1992=100)

	United									Former West		Nether-			United
Year	States	Canada	Japan	Korea	Taiwan	Belgium	Denmark	France	Germany**	Germany**	Italy	lands	Norway	Sweden	Kingdom
			•												
1950	46.6	37.0	NA	NA	NA	NA	23.9	20.1	NA	11.7	19.1	16.6	26.3	25.3	25.6
4055	50.4	40.5	40.0					07.4		45.0					
1955	56.4	46.5	18.2	NA	NA	NA	26.6	27.1	NA	15.9	22.3	20.5	29.5	30.5	28.0
1960	65.0	54.6	23.1	NA	NA	24.5	32.3	30.6	NA	23.6	26.8	25.5	36.4	35.4	32.8
1961	66.3	55.5	25.6	NA	NA	25.7	34.8	32.7	NA	25.8	29.0	28.8	38.7	37.9	33.9
1962	68.1	56.9	27.3	NA	NA	27.2	35.5	34.6	NA	28.4	32.7	30.0	40.4	40.4	34.2
1963	69.3	58.3	28.4	NA	NA	29.4	36.6	36.0	NA	29.4	36.1	32.0	42.0	43.4	35.0
1964	71.2	59.6	30.7	NA	NA	31.9	38.2	37.8	NA	31.1	36.3	35.1	42.5	45.7	36.2
1965	71.6	61.7	32.1	NA	NA	34.0	39.8	40.0	NA	33.0	37.2	37.8	45.0	48.1	37.8
1966	72.8	63.8	33.7	NA	NA	36.0	42.4	41.2	NA	34.7	38.7	40.0	47.6	49.5	39.3
1967	74.4	64.9	36.3	NA	NA	38.3	44.2	43.2	NA	36.1	41.2	42.9	51.0	52.6	40.3
1968	76.9	66.6	40.1	NA	NA	39.8	45.0	47.1	NA	38.3	43.3	46.0	54.3	56.0	41.4
1969	78.2	68.9	45.2	NA	NA	42.0	49.0	48.3	NA	41.0	46.3	48.6	58.1	58.9	42.6
1970	79.2	71.5	49.9	NA	NA	46.1	52.4	51.7	NA	46.7	53.7	53.8	58.3	61.8	46.1
1971	80.5	73.9	54.3	NA	NA	51.0	57.4	55.0	NA	49.8	59.1	57.0	62.9	64.1	47.9
1972	82.0	75.7	59.6	NA	NA	57.2	60.2	57.2	NA	52.3	61.5	60.7	65.8	67.5	51.6
1973	83.1	76.6	65.3	NA	32.7	63.5	67.4	61.0	NA	55.4	65.7	66.7	69.0	69.8	53.8
1974	83.1	80.2	69.4	NA	32.5	69.3	71.3	63.7	NA	58.9	71.7	72.4	74.0	74.8	55.7
1975	85.4	83.2	72.4	NA	33.0	74.3	78.1	69.5	NA	61.2	75.7	74.9	79.1	83.6	59.8
1976	87.5	88.8	71.3	NA	36.0	78.8	80.7	72.6	NA	63.1	80.9	76.8	83.9	88.4	59.5
1977	89.3	91.2	72.7	NA	36.8	79.4	81.1	75.4	NA	66.7	82.7	78.6	86.3	86.1	57.9
1978	90.3	89.9	74.4	NA	39.2	81.5	81.8	77.8	NA	69.9	83.9	81.4	87.4	88.9	62.1
1979	90.6	90.6	76.3	NA	42.2	82.9	84.2	79.5	NA	72.2	88.5	83.5	87.6	89.9	64.9
1980	91.4	91.6	75.3	NA	43.3	86.5	83.4	80.6	NA	74.6	85.3	82.2	86.0	87.7	66.7
1981	91.9	92.0	76.8	NA	47.8	87.7	83.0	82.6	NA	74.6	86.1	80.6	84.1	86.3	69.8
1982	95.1	94.1	78.5	NA	50.7	84.4	82.7	87.3	NA	75.0	86.2	80.6	84.1	85.1	70.5
1983	93.9	95.2	79.1	NA	52.1	86.0	83.8	88.0	NA	76.0	86.6	82.6	85.1	84.5	72.6
1984	93.4	96.4	79.7	NA	55.6	87.8	84.4	88.9	NA	77.6	89.6	83.4	87.7	85.2	74.9
1985	95.3	96.6	81.3	50.1	59.8	88.3	87.1	90.7	NA	80.7	93.0	86.0	90.8	87.4	77.5
1986	97.8	94.1	84.9	51.8	66.7	89.6	86.9	91.9	NA	84.0	91.7	89.0	92.4	90.4	81.6
1987	97.3	92.3	86.8	57.5	72.6	90.9	92.2	92.3	NA	87.7	92.2	94.2	96.4	92.4	87.4
1988	97.7	92.1	87.6	66.7	77.2	91.4	93.2	93.0	NA	90.3	94.4	94.0	96.0	94.1	89.1
1989	96.6	93.4	91.0	72.7	83.8	94.0	94.1	94.3	NA	92.3	96.3	94.7	96.1	98.3	88.7
1990	96.4	94.7	95.1	79.6	92.3	95.2	96.9	96.3	NA	96.6	98.0	95.6	97.7	97.6	91.0
1991	98.0	96.3	98.0	91.5	97.7	99.7	98.0	99.0	96.2	99.0	99.1	97.9	99.8	97.3	97.3
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1993	100.3	100.2	101.4	108.7	102.9	102.0	101.7	100.5	101.9	102.1	101.2	101.8	99.2	95.3	103.3
1994	101.0	101.6	102.7	116.4	103.7	100.9	NA	102.1	104.3	104.8	98.3	103.4	100.6	95.6	103.8
1995	100.7	101.7	106.3	136.0	108.3	102.3	NA	104.2	107.8	108.6	97.4	104.2	102.7	97.8	101.7
1996	99.4	101.1	107.0	150.8	111.9	101.9	NA	104.1	111.4	112.7	100.1	104.3	105.6	104.4	101.0
1997	99.2	101.6	108.4	155.2	114.5	104.0	NA	102.7	111.5	113.3	101.4	104.6	107.5	108.4	101.7
1998	103.0	101.4	110.5	156.8	119.3	104.6	NA	102.6	112.1	113.3	98.8	106.8	111.3	111.7	104.2
1999	104.9	101.3	110.3	152.8	122.3	104.7	NA	105.5	114.0	NA	98.8	107.9	115.2	112.1	108.6
2000	109.0	99.9	109.9	156.5	122.7	103.9	NA	107.7	118.1	NA	99.1	110.2	118.0	119.1	111.9
2000	103.6	100.8	111.5	160.9	125.4	105.5	NA	111.3	119.3	NA	99.9	111.0	120.8	120.4	115.0
2001	112.3	103.3	110.7	177.0	125.6	111.8	NA	112.6	120.4	NA	99.9	112.6	120.8	120.4	116.8
2002	112.0	100.0	110.7		120.0		110	112.0	120.7	110	33.5	112.0	120.0	144.4	110.0

NA: Not Available

Note: The data relate to employees (wage and salary earners) in Belgium, Denmark, Italy, and Taiwan and to all employed persons (employees and self-employed workers) in the other countries.

** See note on Germany in box on page 4.

Table 14. Real average annual compensation in manufacturing, CPI basis, 14 countries or areas, 1950-2002 (Indexes: 1992=100)

	United									Former West		Nether-			United
Year	States	Canada	Japan	Korea	Taiwan	Belgium	Denmark	France	Germany**	Germany**	Italy	lands	Norway	Sweden	Kingdom
			•												- 0
1950	47.3	40.3	NA	NA	NA	NA	33.6	24.3	NA	17.1	20.1	21.5	34.4	32.8	31.5
1955	57.2	48.7	21.7	NA	NA	NA	36.8	32.6	NA	23.3	24.0	26.8	38.6	39.4	34.9
1060	647	56.9	20 6	NA	NA	20.0	42.4	26.0	NA	24.0	20.2	22.7	45 0	42.2	40.4
1960 1961	64.7 66.0	56.8 57.5	28.6 31.2	NA NA	NA NA	30.8 32.2	42.4 44.3	36.9 39.7	NA NA	31.0 33.4	29.2 31.3	33.7 36.4	45.8 48.1	43.2 45.9	40.1 40.9
1962	68.5	59.4	32.7	NA	NA	34.2	45.5	41.8	NA	35.8	34.1	37.7	49.9	48.5	40.8
1963	69.9	61.0	33.6	NA	NA	37.0	46.3	43.5	NA	36.5	37.8	40.1	51.8	51.5	41.8
1964	72.4	62.7	36.2	NA	NA	39.9	48.7	45.5	NA	38.7	38.1	43.4	52.7	53.7	43.5
1965	73.5	64.9	37.3	NA	NA	41.9	50.7	47.7	NA	40.9	37.8	46.7	54.5	56.0	44.8
1966	75.0	66.6	39.3	NA	NA	44.0	53.0	49.4	NA	42.4	39.7	49.2	57.8	57.6	45.8
1967	75.3	67.8	42.4	NA	NA	46.2	54.5	51.3	NA	42.9	42.8	52.4	61.3	60.3	46.6
1968	77.7	69.4	46.7	NA	NA	48.1	54.3	54.3	NA	46.1	45.0	55.3	63.7	62.9	48.2
1969	78.4	71.5	51.9	NA	NA	50.2	58.4	57.1	NA	49.5	47.9	57.5	66.6	64.9	49.6
							<u> </u>	<u> </u>		50.0		~~~~	<u> </u>	<u> </u>	
1970	77.8	73.7	56.7	NA	NA	53.6	60.4	60.4	NA	56.0	54.5	62.6	66.4	68.0	52.8
1971	79.2	76.0	60.7	NA	NA	58.5	65.9	63.7	NA	58.4	58.3	65.6	70.8	70.3	53.6
1972	82.1	77.9	66.2	NA	NA	64.1	67.7	65.5	NA	60.7	60.2	68.9	73.0	72.1	57.2
1973	83.0	78.3	71.9	NA	36.5	69.4	71.7	68.8	NA	63.8	65.1	74.2	76.1	73.2	60.4
1974	81.5	81.4	73.3	NA	34.9	73.8	77.4	71.0	NA	66.5	68.6	78.1	80.5	77.6	60.5
1975	82.5	83.4	74.7	NA	36.3	74.8	82.1	75.1	NA	67.4	71.1	79.3	85.6	85.1	64.8
1976	85.5	89.1	75.7	NA	39.8	80.8	85.2	78.8	NA	71.4	76.0	81.2	88.3	89.0	65.0
1977	87.6	91.4	77.4	NA	40.6	81.1	84.8	81.0	NA	74.3	77.3	82.7	89.3	86.0	63.7
1978	88.6	90.8	79.5	NA	43.0	83.1	84.6	82.9	NA	76.9	78.3	84.8	88.7	86.5	68.0
1979	88.4	91.1	82.1	NA	46.0	84.6	87.0	84.7	NA	79.2	81.9	86.0	87.4	86.1	70.8
1980	88.1	91.2	81.0	NA	47.4	86.9	86.7	85.8	NA	80.6	79.2	85.1	86.3	83.1	70.7
1981	88.5	90.8	82.1	NA	49.8	86.0	85.2	86.7	NA	79.7	79.9	83.9	84.6	82.2	70.7
1982	90.0	92.0	83.5	NA	52.7	84.5	86.2	88.0	NA	79.7	79.8	84.8	83.8	81.4	73.6
1983	91.2	94.3	84.4	NA	54.1	84.0	88.5	88.2	NA	80.8	80.2	87.0	85.2	81.8	75.7
1984	92.1	95.4	85.8	NA	58.3	85.3	88.9	89.2	NA	82.6	82.9	86.6	87.6	84.0	78.1
1985	94.0	96.2	87.2	55.5	60.8	87.0	88.7	90.5	NA	84.3	85.3	87.1	90.4	85.5	80.4
1986	96.4	94.2	90.6	58.3	69.0	88.3	90.5	92.0	NA	87.3	86.7	89.7	92.0	88.1	84.4
1987	96.5	93.2	93.0	63.7	75.2	90.4	93.8	92.9	NA	90.9	89.8	94.4	93.7	91.2	90.5
1988	97.7	94.9	94.9	72.0	79.0	92.4	94.9	94.1	NA	93.2	92.5	94.9	94.0	92.7	92.6
1989	96.6	94.1	97.4	75.6	84.5	94.5	94.6	95.3	NA	93.9	95.6	95.1	94.7	96.5	91.7
1990	95.9	94.9	100.4	81.4	92.2	96.9	96.3	96.8	NA	96.4	97.2	95.9	96.1	96.9	93.2
1991	96.7	96.1	101.2	92.8	97.7	99.7	97.6	98.5	92.7	98.2	99.2	98.0	98.7	96.6	97.3
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1992	100.0	101.2	99.3	100.0	100.0	100.5	100.9	100.0	99.5	99.1	99.6	100.0	99.5	97.7	100.0
1993	101.0	101.2	99.3 100.7	117.3	102.9	100.5	100.9	100.4	102.5	101.7	100.2	101.7	101.1	102.5	104.2
1994	103.2	103.8		137.4	103.9		102.7	102.0		104.9	100.2	103.4	101.1	102.5	104.6
1995	102.2	103.3	105.0 106.3	149.9	108.1	102.3 102.4	104.0	103.5	106.1 107.2	104.9	101.1	104.4	102.3	112.6	103.6
1997	101.3	103.8	107.1	152.1	114.5	104.6	106.6	101.8	107.3	107.9	105.3	104.3	106.3	116.5	103.8
1998	104.3	104.2	106.9	147.6	117.0	105.4	107.6	101.5	108.4	109.0	101.9	106.2	110.4	120.2	105.9
1999	107.0	105.1	106.6	155.4	120.7	108.2	109.5	103.7	109.7	NA	102.3	107.3	114.6	121.3	109.4
2000	110.2	103.6	108.0	157.0	120.9	107.5	110.6	102.3	112.5	NA	103.2	109.6	116.2	128.2	112.4
2001	107.8	103.5	108.8	157.9	114.7	109.1	112.8	103.4	112.4	NA	103.1	110.2	118.7	127.9	115.0
2002	111.1	106.4	108.0	172.6	116.8	111.6	115.5	103.7	112.7	NA	102.8	111.8	122.7	127.8	117.7
		100.4	100.0	172.0	110.0		110.0	100.7			102.0		144.1	121.0	

NA: Not Available

Note: The data relate to employees (wage and salary earners) in Belgium, Denmark, Italy, and Taiwan and to all employed persons (employees and self-employed workers) in the other countries.

** See note on Germany in box on page 4.

 Table 15. Total labor compensation in manufacturing, 14 countries or areas, 1950-2002

 (Indexes: 1992=100)

	United									Former West		Nether-			United
Year	States	Canada*	Japan	Korea	Taiwan	Belgium	Denmark	France*	Germany**	Germany**	Italy	lands	Norway	Sweden*	Kingdom*
1950	7.4	4.6	NA	NA	NA	NA	2.8	2.2	NA	3.7	0.7	4.4	3.4	2.9	3.1
1950	7.4	4.0	NA	NA	NA	NA NA	2.0	2.2	NA	5.7	0.7	4.4	5.4	2.5	5.1
1955	11.0	6.9	1.8	NA	NA	NA	3.9	3.9	NA	7.0	1.1	6.9	5.5	4.9	4.9
1960	13.7	8.8	3.4	NA	NA	9.2	6.1	6.1	NA	11.6	1.7	10.5	7.3	6.9	6.6
1961	13.7	8.9	4.1	NA	NA	10.1	6.8	6.8	NA	13.1	2.0	11.7	8.0	7.7	7.1
1962	14.8	9.6	4.9	NA	NA	11.1	7.7	7.6	NA	14.5	2.3	12.7	8.9	8.5	7.3
1963	15.4	10.2	5.6	NA	NA	12.4	8.2	8.4	NA	15.2	2.8	14.0	9.5	9.3	7.5
1964	16.4	11.2	6.5	NA	NA	14.3	9.1	9.3	NA	16.4	3.0	16.2	10.3	10.2	8.2
1965	17.8	12.4	7.3	NA	NA	15.6	10.3	9.9	NA	18.3	3.1	18.3	11.3	11.2	9.0
1966	19.8	14.0	8.3	NA	NA	17.1	11.4	10.6	NA	19.4	3.3	20.2	12.6	12.1	9.5
1967	20.7	14.9	9.8	NA	NA	17.9	12.0	11.2	NA	18.9	3.8	21.6	14.0	12.8	9.5
1968	22.6	15.9	11.8	NA	NA	18.8	13.1	12.1	NA	20.7	4.1	23.5	14.9	13.4	10.1
1969	24.6	17.5	14.2	NA	NA	21.1	14.9	13.6	NA	23.6	4.6	26.6	16.1	14.6	11.2
1970	24.8	18.3	17.2	NA	3.0	24.0	16.5	15.5	NA	28.2	5.7	30.1	18.2	16.6	12.7
1971	25.3	19.5	19.6	NA	3.9	27.2	18.2	17.5	NA	30.7	6.6	33.5	20.8	18.0	13.7
1972	27.8	21.6	22.4	NA	4.7	31.0	20.3	19.3	NA	33.0	7.2	36.6	23.2	19.3	15.3
1973	31.5	24.4	28.3	NA	6.4	36.1	23.6	22.3	NA	37.3	8.8	42.1	26.0	21.7	17.7
1974	34.2	28.5	35.3	NA	9.1	43.9	28.2	26.4	NA	40.5	11.5	48.4	30.4	25.7	20.7
1975	34.5	31.5	37.9	NA	9.7	47.2	29.8	30.5	NA	40.9	14.1	52.2	35.8	31.2	26.2
1976	39.2	36.1	41.8	NA	12.3	53.4	33.7	34.9	NA	44.2	17.7	55.9	40.3	36.0	29.6
1977	44.4	39.3	45.8	NA	14.5	55.2	36.8	39.2	NA	47.8	21.2	59.0	44.6	37.8	33.8
1978	50.0	43.8	48.3	NA	17.6	56.5	39.9	43.2	NA	50.6	24.1	61.6	47.0	39.6	39.1
1979	55.9	49.6	51.6	NA	21.5	58.6	45.0	48.1	NA	54.8	29.4	64.5	47.9	42.1	46.0
1980	59.7	54.5	56.0	NA	27.4	62.8	49.3	54.8	NA	59.2	34.6	67.4	52.5	46.3	51.4
1981	65.3	60.9	60.1	NA	34.1	63.1	51.8	60.6	NA	61.0	40.1	69.0	57.5	49.8	53.5
1982	65.6	62.2	62.6	NA	37.2	65.5	57.1	67.9	NA	62.5	45.7	70.9	61.1	51.8	55.9
1983	68.1	65.7	65.4	NA	40.7	68.6	62.3	73.0	NA	63.2	51.1	71.2	64.0	57.0	57.0
1984	75.0	71.3	69.4	NA	48.6	73.2	69.5	77.0	NA	65.9	55.8	71.6	69.2	63.2	60.9
1985	78.5	76.5	72.6	29.4	52.3	77.1	76.1	80.7	NA	69.4	61.3	74.5	76.0	70.0	66.2
1986	80.8	80.6	75.5	34.6	62.5	78.5	82.7	82.6	NA	72.9	64.7	77.8	83.8	75.4	70.3
1987	83.8	85.7	76.7	43.7	70.5	79.7	87.2	84.1	NA	76.0	69.2	82.4	92.8	80.9	77.8
1988	89.5	94.0	80.5	55.9	75.3	82.3	88.9	86.4	NA	78.6	75.5	83.4	94.9	87.2	84.4
1989	92.8	99.3	86.3	62.5	81.2	87.9	91.8	91.2	NA	82.6	83.3	85.0	93.2	94.5	90.3
1990	95.1	100.2	93.2	73.0	86.4	94.0	96.1	96.1	NA	89.5	90.9	90.2	95.5	102.3	97.9
1991	96.0	98.6	99.4	89.4	93.1	98.8	98.0	99.2	95.2	96.0	97.6	95.6	98.2	104.1	100.0
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1993	104.2	102.1	97.3	111.1	105.5	99.2	99.1	97.5	96.6	96.6	100.6	100.1	103.6	92.4	102.2
1994	109.4	106.8	96.2	128.2	112.9	99.3	101.6	98.2	97.0	96.8	104.3	100.7	109.6	99.2	105.7
1995	112.2	112.8	96.4	159.0	120.0	100.4	107.6	101.4	99.7	99.2	110.5	103.4	116.3	113.1	110.8
1996	113.4	116.7	96.8	179.1	125.3	101.0	110.2	102.4	99.4	99.4	116.0	104.4	122.3	121.3	114.4
1997	117.5	122.9	99.1	178.9	131.3	103.3	114.5	100.9	99.9	99.5	121.7	107.7	132.9	125.7	118.9
1998	123.5	129.8	95.4	160.7	136.9	105.3	118.9	101.3	102.2	101.2	123.0	113.0	142.9	133.0	125.0
1999	127.4	136.5	92.3	172.8	142.4	107.7	122.0	103.8	103.0	NA	124.8	116.6	145.8	138.1	127.1
2000	134.8	143.0	91.3	194.7	147.4	110.3	125.2	104.8	108.1	NA	128.9	122.1	148.8	142.8	129.8
2001	129.2	146.0	88.9	214.5	133.5	114.9	129.3	108.8	110.5	NA	132.4	127.7	154.3	144.1	129.2
	126.1	154.3	81.9	240.3	133.3	115.7	130.3	109.4	110.0	NA	136.6	131.3	159.7	143.0	127.6

NA: Not Available

Note: The data relate to employees (wage and salary earners) in Belgium, Denmark, Italy, and Taiwan and to all employed persons (employees and self-employed workers) in the other countries.

* Compensation adjusted to include changes in employment taxes that are not compensation to employees, but are labor costs to employers.

** See note on Germany in box on page 4.