

1 HOT TOPICS
Future Worker-Management

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INDUSTRIAL AND LABOR RELATIONS
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Labor Productivity, Compensation Costs, and U.S. International Competitiveness

U.S. Bureau of Labor Statistics
Office of Productivity and Technology
June 1993

Unpublished Data

Table 1
Real Gross Domestic Product per Employed Person
14 Countries, 1960-1991

Average Annual Rates of Change

Country	1960-73	1973-91	1973-79	1979-91	1979-85	1985-91
United States	2.0	0.4	0.1	0.6	0.7	0.6
Canada	2.6	1.0	1.3	.9	1.4	.5
Japan	8.2	2.8	2.9	2.8	2.7	2.9
Korea	NA	5.5	5.6	5.5	5.0	6.0
Austria	5.0	2.1	2.5	1.9	1.8	2.0
Belgium	4.3	2.1	2.2	2.1	2.0	2.1
Denmark	3.0	1.4	1.3	1.5	1.6	1.3
France	4.8	2.2	2.5	2.0	1.9	2.2
Germany	4.0	1.8	2.7	1.4	1.1	1.6
Italy	5.7	2.1	2.8	1.7	1.4	2.1
Netherlands	4.0	.8	1.7	.4	.1	.7
Norway	3.5	2.3	2.8	2.0	2.4	1.6
Sweden	3.4	.9	.7	1.1	1.3	.9
United Kingdom	2.9	1.4	1.3	1.5	1.8	1.1

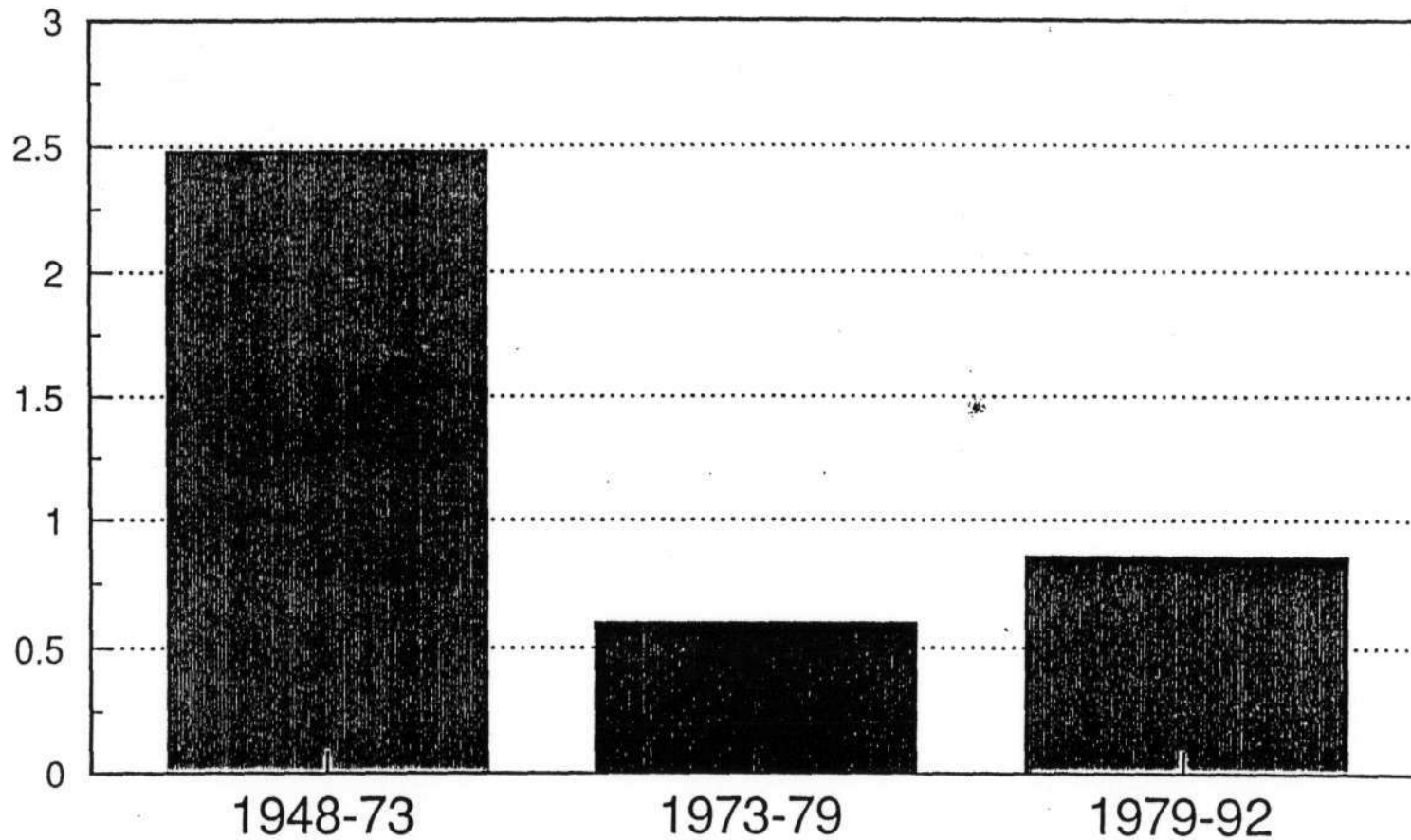
NA = not available

Note: Germany refers to the former West Germany.

Prepared by: U.S. Bureau of Labor Statistics, Office of Productivity and Technology, June 1993.

Chart 1. Labor productivity growth in nonfarm business for selected periods, United States, 1948-92.

Percent per year (compound annual rate).



Labor productivity is equal to output per hour at work.

Source: Bureau of Labor Statistics.

June 17, 1993

Table 2
Output per Hour and Unit Labor Costs in Manufacturing
12 Countries, 1979-1991

Average Annual Rates of Change

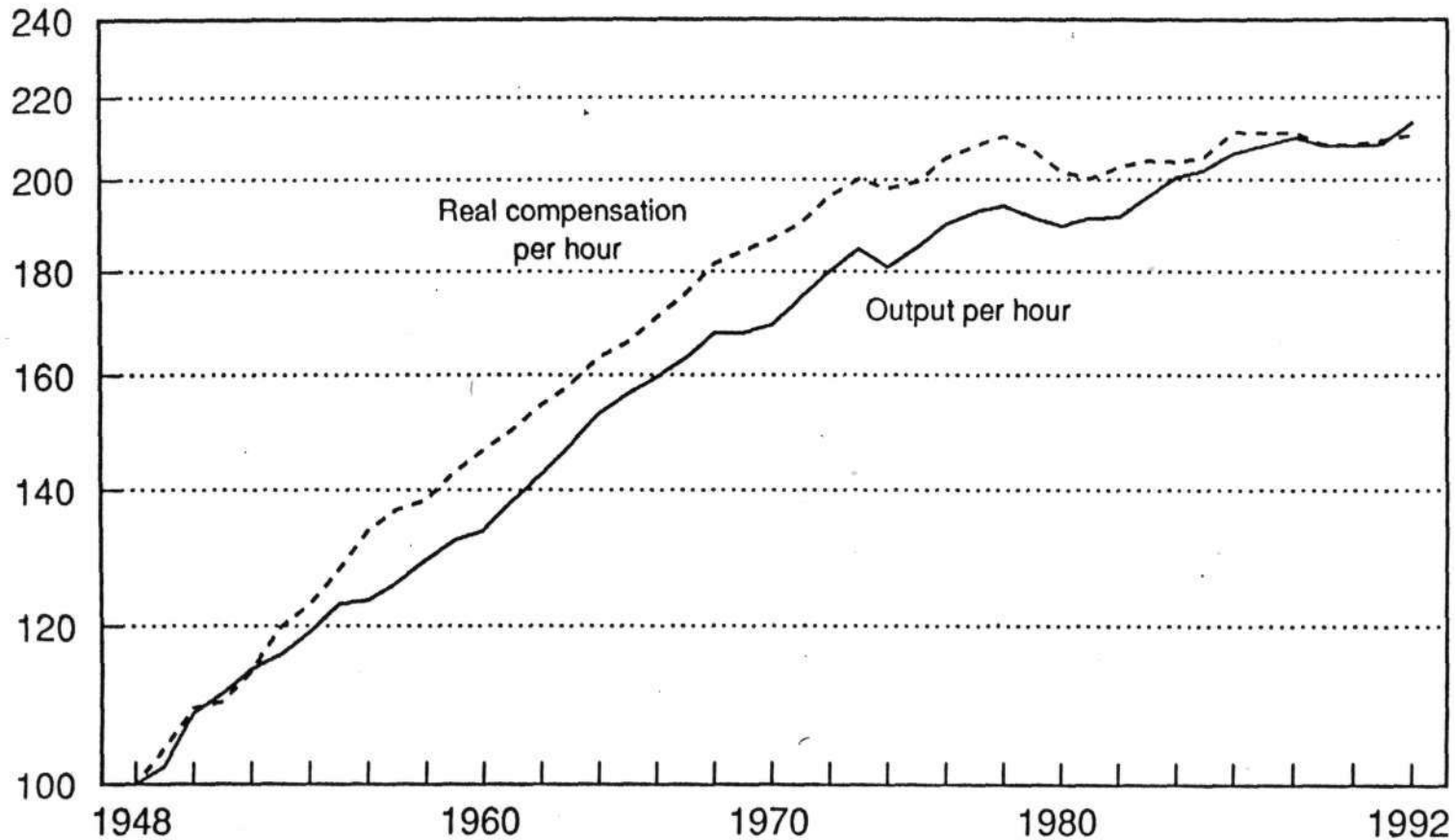
Country	Output per Hour			Unit Labor Costs National Currency Basis			Unit Labor Costs U.S. Dollar Basis		
	1979-91	1979-85	1985-91	1979-91	1979-85	1985-91	1979-91	1979-85	1985-91
United States	2.2	2.0	2.5	3.2	4.9	1.5	3.2	4.9	1.5
Canada	1.3	2.4	.2	5.4	6.1	4.7	5.6	3.4	7.8
Japan	4.3	3.9	4.6	.5	.7	.3	4.7	- .8	10.4
Belgium	4.4	6.1	2.6	1.5	1.5	1.4	.2	- 9.7	11.2
Denmark	1.4	2.1	.7	5.2	5.9	4.4	3.5	- 5.8	13.6
France	3.1	3.2	2.9	5.2	9.4	1.2	2.8	- 3.4	9.3
Germany	1.9	2.0	1.8	3.6	3.8	3.4	4.5	- 4.0	13.8
Italy	4.0	5.0	2.9	7.7	11.1	4.4	4.2	- 3.3	12.2
Netherlands	2.7	4.2	1.3	.8	.6	.9	1.4	- 7.5	11.0
Norway	2.6	2.9	2.4	5.9	6.9	4.9	3.7	- 2.1	9.9
Sweden	2.2	2.9	1.4	6.4	6.3	6.5	3.4	- 5.3	12.9
United Kingdom	4.3	4.6	4.0	5.1	6.3	3.8	3.5	- 2.0	9.3

Note: Germany refers to the former West Germany.

Prepared by: U.S. Bureau of Labor Statistics, Office of Productivity and Technology, June 1993.

Chart 2. Output per hour and real compensation per hour in the nonfarm business sector, United States, 1948-92.

Logarithmic scale

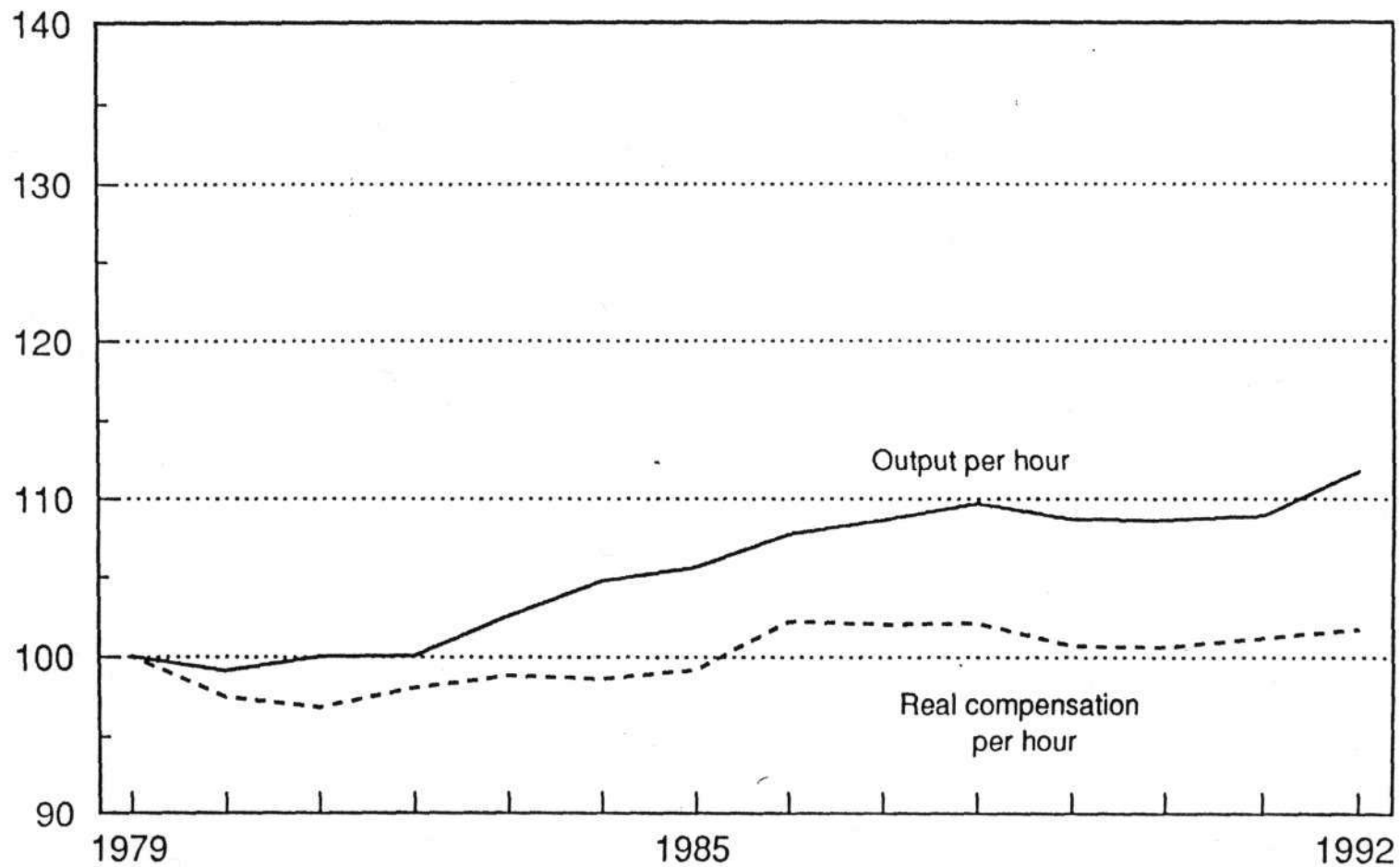


Index, 1948=100

Source: Bureau of labor Statistics

June 17, 1993

Chart 3. Output per hour and real compensation per hour in the nonfarm business sector, United States, 1979-92



Index, 1979=100

Source: Bureau of Labor Statistics

June 17, 1993

Table 3.

U.S. Nonfarm Business and Manufacturing
Productivity and Real Compensation per Hour
1948-1992

	Nonfarm Business		Manufacturing	
	Output per hour	Real hourly compensation	Output per hour	Real hourly compensation
1948	100.0	100.0	NA	NA
1959	132.3	143.0	NA	NA
1969	167.8	184.0	NA	NA
1973	184.5	200.0	NA	NA
1979	191.3	206.7	100.0	100.0
1980	189.5	201.6	97.8	98.6
1981	191.2	200.2	101.2	98.1
1982	191.4	202.7	105.3	101.1
1983	196.1	204.3	107.6	100.5
1984	200.4	203.9	109.0	99.5
1985	202.0	205.1	112.4	100.8
1986	206.1	211.4	115.3	103.0
1987	207.8	211.0	122.8	101.7
1988	209.8	211.1	125.7	101.4
1989	207.9	208.2	126.3	100.6
1990	207.8	208.0	127.9	100.3
1991	208.3	209.2	130.1	101.1
1992	213.8	210.4	136.1	101.1
Average Annual Rates of Change				
1948-73	2.5	2.8	NA	NA
1973-79	0.6	0.6	NA	NA
1979-92	0.9	0.1	2.4	0.1
1979-90	0.8	0.0	2.3	0.0
1990-92	1.4	0.6	3.1	0.4

NA = Not available

Prepared by: U.S. Bureau of Labor Statistics,
Office of Productivity and Technology, June 1993.

Table 4
Output per Hour and Real Hourly Compensation in Manufacturing
12 Countries, 1979-1991

Average Annual Rates of Change

Country	1979-91	1979-85	1985-91
United States			
Output per Hour	2.2	2.0	2.5
Real Hourly Comp.	.1	.1	.0
Canada			
Output per Hour	1.3	2.4	.2
Real Hourly Comp.	.5	.7	.2
Japan			
Output per Hour	4.3	3.9	4.6
Real Hourly Comp.	2.1	1.1	3.2
Belgium			
Output per Hour	4.4	6.1	2.6
Real Hourly Comp.	1.2	.7	1.7
Denmark			
Output per Hour	1.4	2.1	.7
Real Hourly Comp.	.5	-.5	1.4
France			
Output per Hour	3.1	3.2	2.9
Real Hourly Comp.	1.7	2.4	1.0
Germany			
Output per Hour	1.9	2.0	1.8
Real Hourly Comp.	2.7	1.8	3.5
Italy			
Output per Hour	4.0	5.0	2.9
Real Hourly Comp.	1.5	1.5	1.6
Netherlands			
Output per Hour	2.7	4.2	1.3
Real Hourly Comp.	.6	.3	1.0
Norway			
Output per Hour	2.6	2.9	2.4
Real Hourly Comp.	1.0	.6	1.5
Sweden			
Output per Hour	2.2	2.9	1.4
Real Hourly Comp.	.3	-.6	1.2
United Kingdom			
Output per Hour	4.3	4.6	4.0
Real Hourly Comp.	2.0	2.1	2.0

Note: Germany refers to the former West Germany.

Prepared by: U.S. Bureau of Labor Statistics, Office of Productivity and Technology, June 1993.

Table 5. Indexes of Hourly Compensation Costs for Production Workers in Manufacturing, 27 Countries or Areas and Selected Economic Groups, Selected Years, 1975-92

Foreign compensation costs converted to U.S. dollars at prevailing market exchange rates

(Index, U.S. = 100)

Country or area and economic groups	1975	1980	1985	1990	1991	1992	Country or area and economic groups
United States	100	100	100	100	100	100	United States
Canada	94	88	84	107	110	105	Canada
Mexico	23	22	12	11	13	15	Mexico
Australia (1)	88	85	63	86	86	80	Australia (1)
Hong Kong (2)	12	15	13	* 21	23	24	Hong Kong (2)
Israel	35	38	31	57	56	-	Israel
Japan	47	56	49	85	93	100	Japan
Korea	5	10	10	26	28	30	Korea
New Zealand	50	54	34	56	54	49	New Zealand
Singapore	13	15	19	25	28	31	Singapore
Taiwan	6	10	12	26	28	32	Taiwan
Austria (3)	68	87	56	114	111	122	Austria (3)
Belgium	101	133	69	129	127	136	Belgium
Denmark	99	110	62	120	117	124	Denmark
Finland	72	83	63	139	132	116	Finland
France	71	91	58	102	98	104	France
Germany (4)	100	125	74	147	145	160	Germany (4)
Greece	27	38	28	45	44	-	Greece
Ireland	48	60	46	79	77	82	Ireland
Italy	73	83	59	117	117	120	Italy
Netherlands	103	122	67	123	118	128	Netherlands
Norway	106	117	80	144	139	143	Norway
Portugal	25	21	12	25	27	31	Portugal
Spain	40	60	36	76	78	83	Spain
Sweden	113	127	74	140	142	150	Sweden
Switzerland	96	112	74	140	139	144	Switzerland
United Kingdom	53	77	48	85	88	91	United Kingdom
<u>Trade-weighted measures (5)</u>							<u>Trade-weighted measures (5)</u>
24 foreign economies (6)	64	71	55	90	92	96	24 foreign economies (6)
OECD	75	84	65	105	107	111	OECD
Europe	83	103	63	119	118	126	Europe
EEC	80	101	61	116	115	123	EEC
Asian NIE's (7)	8	12	12	25	27	30	Asian NIE's (7)

Dash means data not available.

See next page for footnotes.

Table 5. Indexes of Hourly Compensation Costs for Production Workers in Manufacturing, 27 Countries or Areas and Selected Economic Groups, Selected Years, 1975-92 -- Continued

(1) Compensation relates to production workers and nonproduction workers other than those in managerial, executive, professional, and higher supervisory positions.

(2) Average of selected manufacturing industries. Compensation excludes overtime pay.

(3) Excludes workers in establishments considered handicraft manufacturers. All printing and publishing and miscellaneous manufacturing establishments are classified in handicrafts.

(4) Refers to former West Germany. Excludes workers in establishments considered handicraft manufacturers.

(5) Trade weights are the sum of U.S. imports of manufactured products for consumption (customs value) and U.S. exports of domestic manufactured products (f.a.s. value) in 1986 for each country or area and each economic group.

(6) 26 foreign economies shown less 2 countries (Israel and Greece) for which 1992 data are not available.

(7) Hong Kong, Korea, Singapore, and Taiwan.

Prepared by: U.S. Bureau of Labor Statistics, Office of Productivity and Technology, June 1993.

Table 6. Percent Distribution of Hourly Compensation Costs for Production Workers in Manufacturing, 27 Countries or Areas and Selected Economic Groups, 1992

(Total compensation = 100)

Country or area and economic groups	Pay for time worked (1)	Other direct pay (2)	Total direct pay (3)	Social insurance and other labor taxes (4)
United States	70.8	6.6	77.4	22.6
Canada	75.2	9.7	85.0	15.0
Mexico (5)	-	-	88.8	11.2
Australia	74.6	10.1	84.7	15.3
Hong Kong (6)	-	-	96.8	3.2
Israel (7)	-	-	82.5	17.5
Japan	58.4	28.5	86.9	13.1
Korea	-	-	88.9	11.1
New Zealand	81.6	12.4	94.0	6.0
Singapore (8)	66.7	18.0	84.7	15.3
Taiwan	-	-	92.6	7.4
Austria (9)	52.6	19.8	72.4	27.6
Belgium	52.6	20.4	73.0	27.0
Denmark	84.0	12.9	97.0	3.0
Finland	59.8	17.1	77.0	23.0
France	54.7	16.8	71.5	28.5
Germany (10)	55.8	21.4	77.2	22.8
Greece (7)	-	-	80.7	19.3
Ireland	74.3	10.0	84.4	15.6
Italy	51.4	18.0	69.4	30.6
Netherlands	57.1	20.3	77.4	22.6
Norway (11)	69.6	11.8	81.4	18.6
Portugal (12)	-	-	76.0	24.0
Spain	-	-	75.4	24.6
Sweden	57.2	11.4	68.7	31.3
Switzerland	65.3	18.2	83.6	16.4
United Kingdom	71.8	11.6	83.5	16.5
<u>Trade-weighted measures (13)</u>				
24 foreign economies (14)	-	-	82.3	17.7
OECD	-	-	81.8	18.2
Europe	-	-	76.6	23.4
EEC	-	-	76.5	23.5
Asian NIE's (15)	-	-	91.0	9.0

Dash means data not available.

See next page for footnotes.

Table 6. Percent Distribution of Hourly Compensation Costs for Production Workers in Manufacturing, 27 Countries or Areas and Selected Economic Groups, 1992 -- Continued

- (1) Pay for time worked includes only basic time and piece rates, overtime premiums, shift differentials, other premiums and bonuses paid regularly each pay period, and cost-of-living adjustments.
- (2) Other direct pay includes pay for time not worked (vacations, holidays, and other leave, except sick leave), seasonal and irregular bonuses and other special payments; selected social allowances, and the cost of payments in kind.
- (3) Total direct pay includes pay for time worked and other direct pay.
- (4) Social insurance expenditures include employer expenditures for legally required insurance programs, contractual and private benefit plans, and, for some countries, other labor taxes.
- (5) 1990.
- (6) Average of selected manufacturing industries. Compensation excludes overtime pay.
- (7) 1991.
- (8) Pay for time worked includes social allowances paid regularly.
- (9) Excludes workers in establishments considered handicraft manufacturers. All printing and publishing and miscellaneous manufacturing establishments are classified in handicrafts.
- (10) Refers to former West Germany. Excludes workers in establishments considered handicraft manufacturers.
- (11) Pay for time worked includes irregular bonuses.
- (12) Direct pay excludes profit-sharing bonuses but includes social allowances. Profit-sharing bonuses are included in social insurance expenditures.
- (13) Trade weights are the sum of U.S. imports of manufactured products for consumption (customs value) and U.S. exports of domestic manufactured products (f.a.s. value) in 1986 for each country or area and each economic group.
- (14) 26 foreign economies shown less the 2 countries (Israel and Greece) for which 1992 data are not available.
- (15) Hong Kong, Korea, Singapore, and Taiwan.

Table 7. Hourly Compensation Costs for Production Workers in 22 Manufacturing Industries, 18 Countries or Areas, 1991
U.S. = 100 for each Industry

Industry ¹	Canada	Mexico	Japan	Korea	Singapore ²	Taiwan
All manufacturing	110	13	93	28	25	28
Food, beverages, and tobacco	109	13	81	31	30	34
Textile mill products	119	17	101	33	32	37
Apparel and other textile products	106	19	87	31	33	36
Leather and leather products	107	18 ⁶	121	32	29 ⁷	34
Lumber, wood products, and furniture	125	10	98	35 ⁸	29 ⁸	30
Paper and allied products	125	11	86	24	26	25
Printing and publishing	107	10	102	32	28	34
Chemicals and allied products	93	18	113	30	25	30
Petroleum and coal products	80	--	112	28	36	43
Rubber and plastics products	106	13	100	28	28 ¹¹	28
Stone, clay, and glass products	112	11	96	30	27	27
Primary metal industries	110	13	103	32	24	32
Iron and steel	90	13 ¹³	98	30	--	30 ¹³
Fabricated metal products	105	10	91	30 ¹⁴	26 ¹⁴	26
Industrial-commercial machinery and equip	107	11	101	31	28	27
Electronic and other electrical equipment	117	11	88	27	25	26
Transportation equipment	90	15	82	30	25	27
Motor vehicles	87	14	75 ¹⁶	27	--	24
Shipbuilding	106	--	107	44	--	50
Instruments and related products	--	--	88	26	23	21
Miscellaneous manufacturing	--	13	107 ¹⁷	30	30	32

Dash means data not available.

See footnotes at end of table.

Table 7. Hourly Compensation Costs for Production Workers in 22 Manufacturing Industries, 18 Countries or Areas, 1991
 – Continued

U.S. = 100 for each industry

Industry ¹	Belgium	Denmark	France	Germany ³	Greece	Ireland
All manufacturing	127	117	98	145 ⁵	44	77
Food, beverages, and tobacco	129	137	107	135	45	90
Textile mill products	148	155	116	163	64	94
Apparel and other textile products	156	169	133	170	--	83
Leather and leather products	160	163	130	162	--	96
Lumber, wood products, and furniture	145 ⁸	139 ⁸	110 ⁸	168 ⁸	--	79 ⁸
Paper and allied products	112	114	91	119	38	71
Printing and publishing	145	136	133	158	48	95
Chemicals and allied products	130	95	86 ⁹	131	37	77
Petroleum and coal products	141 ¹⁰	76 ¹⁰	--	122 ¹⁰	34	--
Rubber and plastics products	137	131	103	143	46	85
Stone, clay, and glass products	128	119	103	132	47	98
Primary metal industries	119	85	88	119	53	--
Iron and steel	96	--	76	99	--	--
Fabricated metal products	126 ¹⁴	111 ¹⁴	95 ¹⁴	132 ¹⁴	47 ¹⁴	69 ¹⁵
Industrial-commercial machinery and equip	125	104	94	139	43	70
Electronic and other electrical equipment	134	110	100	145	48	70
Transportation equipment	96	85	74	127	41	68
Motor vehicles	88	72	66	118	--	57
Shipbuilding	127	119	98	149	--	--
Instruments and related products	114	104	87	122	--	70
Miscellaneous manufacturing	121	149	119	157	51	85

Dash means data not available.

See footnotes at end of table.

**Table 7. Hourly Compensation Costs for Production Workers in 22 Manufacturing Industries, 18 Countries or Areas, 1991
– Continued**

U.S. = 100 for each industry

Industry ¹	Italy	Netherlands ⁴	Spain	Sweden	United Kingdom
All manufacturing	117	123	78	142	88
Food, beverages, and tobacco	132	139	83	149	95
Textile mill products	144	161	90	183	99
Apparel and other textile products	152	146	90	200	98
Leather and leather products	149	--	93 ⁷	196	118
Lumber, wood products, and furniture	132 ⁸	133 ⁸	73	173 ⁸	96 ⁸
Paper and allied products	106	115	72	142	79
Printing and publishing	143	138	81	161	111
Chemicals and allied products	101	--	72	114	79
Petroleum and coal products	88 ¹⁰	--	88 ¹⁰	111	93 ¹⁰
Rubber and plastics products	132	130	90 ¹¹	149	91
Stone, clay, and glass products	113	118	76	141	82
Primary metal industries	105	111	78 ¹²	114	72
Iron and steel	86	96	65	104 ¹³	61
Fabricated metal products	116 ¹⁴	113 ¹⁴	77 ¹³	136 ¹⁴	78 ¹⁴
Industrial-commercial machinery and equip	114	105	75	131	86
Electronic and other electrical equipment	122	118	83	140	86
Transportation equipment	87	84	71	102	75
Motor vehicles	79	72	66	93	66
Shipbuilding	116	117	--	135	93
Instruments and related products	105	--	79	121	84
Miscellaneous manufacturing	132	--	93	167	97

Das. means data not available.

See footnotes at end of table.

Table . Hourly Compensation Costs for Production Workers 22 Manufacturing Industries, 18 Countries or Areas, 19
- Continued

- 1 U.S. 1987 Standard Industrial Classification. Significant exceptions are noted.
- 2 1990 provisional estimates.
- 3 Refers to former West Germany.
- 4 1990 data.
- 5 Excludes establishments considered to be handicraft manufacturers.
- 6 The U.S./Mexico comparison relates to leather footwear only.
- 7 Includes rubber and plastics footwear.
- 8 Excludes metal furniture and fixtures.
- 9 Excludes synthetic fibers.
- 10 The U.S./foreign country comparison relates to petroleum refining only.
- 11 Excludes rubber and plastics footwear.
- 12 Excludes foundry products.
- 13 The U.S./foreign country comparison relates to iron and steel including foundry products.
- 14 Includes metal furniture and fixtures.
- 15 Includes metal furniture and fixtures and foundry products.
- 16 Includes motorcycle manufacturing.
- 17 Includes ordnance.

Prepared by: U.S. Bureau of Labor Statistics, Office of Productivity and Technology, June 1993.