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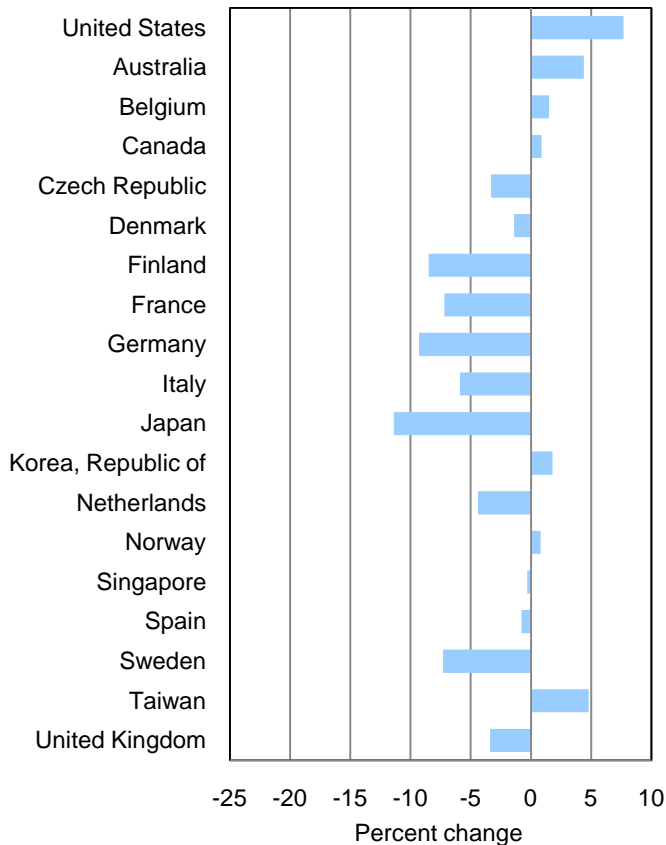
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## INTERNATIONAL COMPARISONS OF MANUFACTURING PRODUCTIVITY AND UNIT LABOR COST TRENDS, 2009

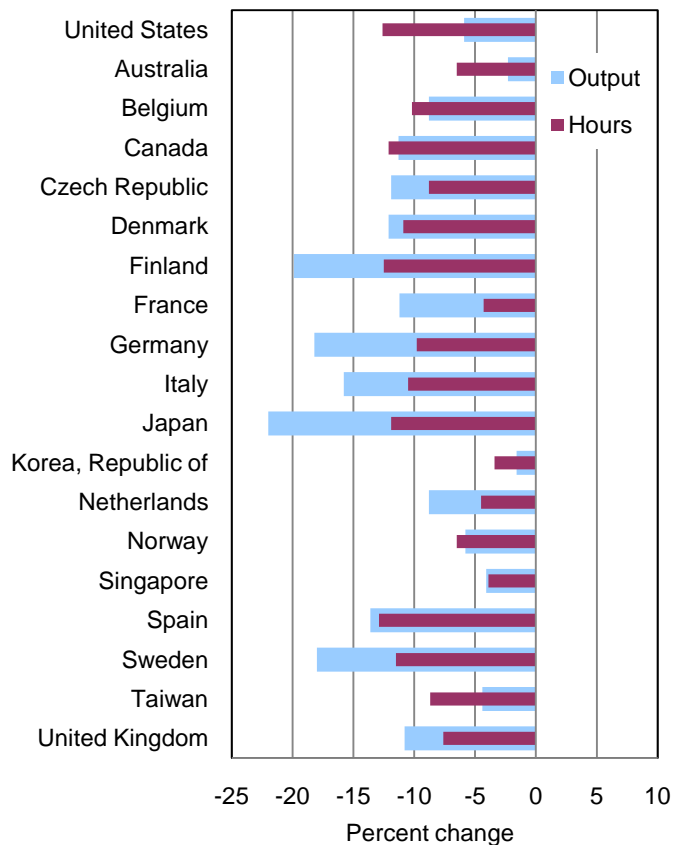
Manufacturing labor productivity decreased in 2009 in 12 of the 19 economies compared by the Bureau of Labor Statistics. The United States had the largest productivity increase, 7.7 percent, and Japan had the steepest productivity decline, -11.4 percent (see chart 1). For the first time, both output and hours in manufacturing declined in all 19 economies compared. In most economies, output declined by more than 10 percent and hours by more than 8 percent (see chart 2).

The data presented for the United States differ from those in the BLS Productivity and Costs news release. (See technical notes.)

**Chart 1. Percent changes in manufacturing output per hour, 2008-2009**

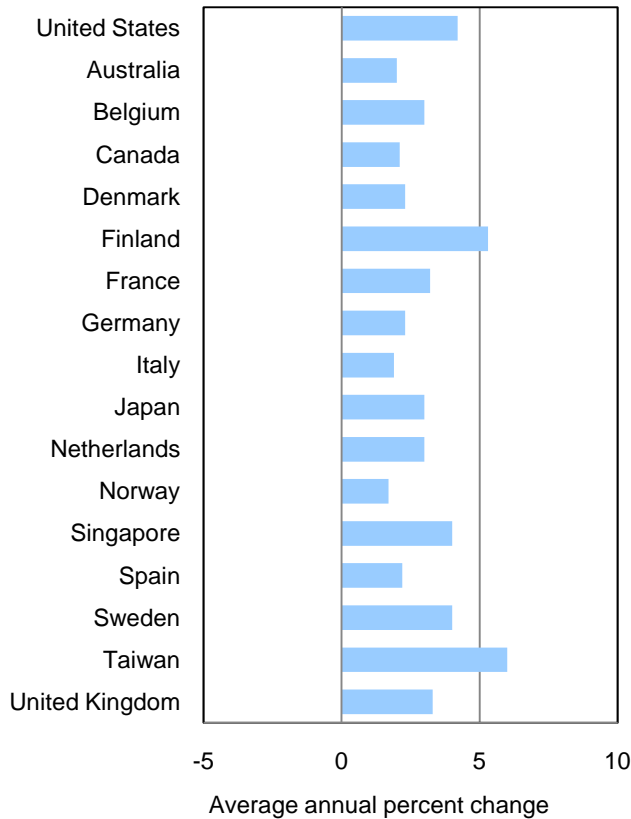


**Chart 2. Percent changes in manufacturing output and hours, 2008-2009**

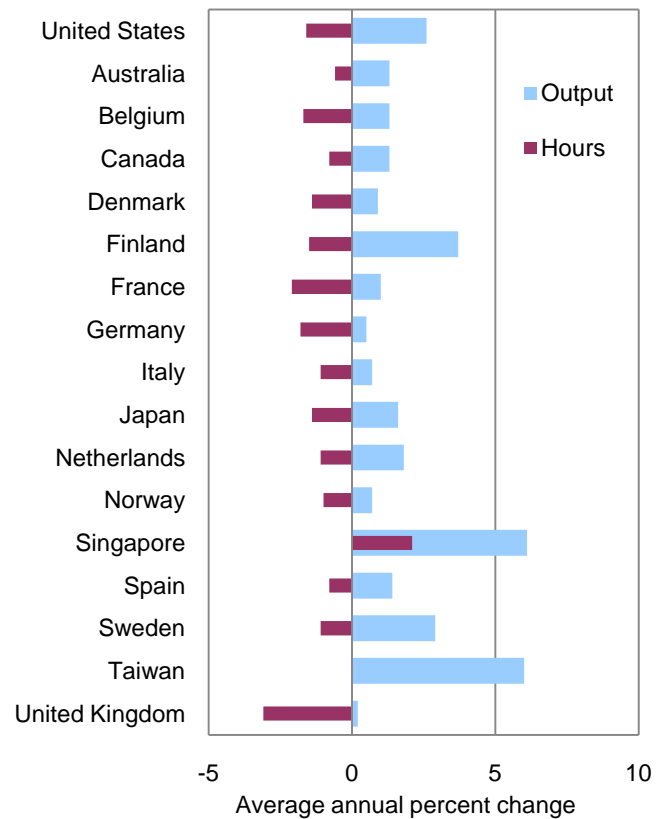


The trends in manufacturing for 2009 stand in contrast to the trends seen over the last 30 years. Between 1979 and 2009, labor productivity and output increased in all economies compared in this report (see chart 3 and chart 4). In addition, the average annual declines in hours in most economies over the last 30 years were smaller than the declines in hours from 2008 to 2009 (see chart 4).

**Chart 3. Average annual percent changes in manufacturing output per hour, 1979-2009**



**Chart 4. Average annual percent changes in manufacturing output and hours, 1979-2009**



### Changes in this news release

**New country estimates for the Czech Republic and Finland:** For the first time, this news release includes data for the Czech Republic and Finland. Data for both countries follow internationally accepted standards for national accounts and for industrial classification.

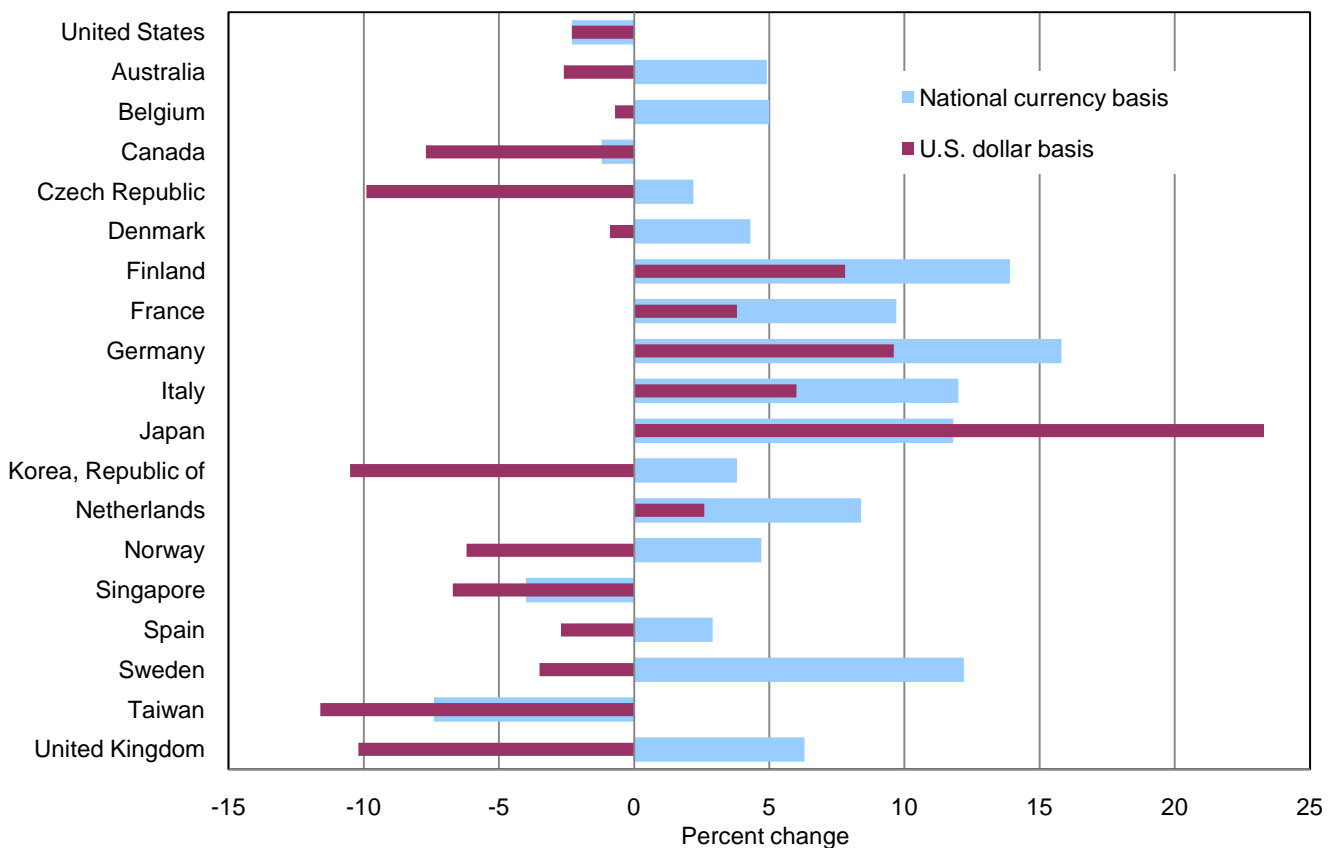
**Additional indicators in the supplementary tables:** Growth rates for average hours, employment, and hourly compensation are no longer shown in this news release. These data are available in the supplementary tables at <http://www.bls.gov/ilc/prodsuppt.xls>.

**Trade-weighted data:** The chart and table with data on trade-weighted unit labor cost trends are no longer included in this news release.

Unit labor costs are the cost of labor input required to produce one unit of output and can be expressed either in national currency units or in U.S. dollars. Expressed in national currency units, manufacturing unit labor costs increased in all but 4 economies compared in 2009, with the largest increases in Germany and Finland (see chart 5). However, due to the strength of the U.S. dollar, which appreciated against all currencies except the Japanese yen, unit labor costs converted to U.S. dollars decreased in 12 of the foreign economies.

In 2009, U.S. manufacturing labor cost competitiveness declined relative to 10 economies because unit labor costs on a U.S. dollar basis decreased more in those economies than in the United States. U.S. labor cost competitiveness improved relative to the other 8 foreign economies. In Japan, a large increase in national currency unit labor costs and a strong yen combined to push unit labor costs up more than 20 percent on a U.S. dollar basis.

**Chart 5. Percent changes in manufacturing unit labor costs, 2008–2009**



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**Find additional data.**

The data tables with annual indexes and growth rates back to 1950 used to prepare this report are available at <http://www.bls.gov/ilc/#productivity>.

**Table 1. Output per hour, output, and hours**

Manufacturing, 19 countries or areas, 1979–2009

Average annual rates of change

Country or area	Indicator	1979–2009	1979–1990	1990–2000	2000–2007	2007–2008	2008–2009
<b>United States</b>	<b>Output per hour</b>	<b>4.2</b>	<b>3.0</b>	<b>4.3</b>	<b>6.2</b>	<b>0.4</b>	<b>7.7</b>
	Output	2.6	2.3	4.2	2.9	-3.6	-5.9
	Hours	-1.6	-0.6	-0.1	-3.1	-4.0	-12.6
<b>Australia</b>	<b>Output per hour</b>	<b>2.0</b>	<b>2.1</b>	<b>1.9</b>	<b>2.4</b>	<b>-3.1</b>	<b>4.4</b>
	Output	1.3	1.6	1.5	1.6	-1.1	-2.3
	Hours	-0.6	-0.5	-0.4	-0.8	2.0	-6.5
<b>Belgium</b>	<b>Output per hour</b>	<b>3.0</b>	<b>4.2</b>	<b>2.8</b>	<b>2.1</b>	<b>1.0</b>	<b>1.5</b>
	Output	1.3	2.6	1.5	0.8	-0.3	-8.8
	Hours	-1.7	-1.6	-1.2	-1.2	-1.3	-10.2
<b>Canada</b>	<b>Output per hour</b>	<b>2.1</b>	<b>2.1</b>	<b>3.6</b>	<b>0.8</b>	<b>-2.4</b>	<b>0.9</b>
	Output	1.3	1.9	4.2	-0.6	-6.1	-11.3
	Hours	-0.8	-0.2	0.5	-1.4	-3.7	-12.1
<b>Czech Republic</b>	<b>Output per hour</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>7.4</b>	<b>6.4</b>	<b>-3.3</b>
	Output	NA	NA	NA	7.4	7.8	-11.9
	Hours	NA	NA	NA	0.0	1.4	-8.8
<b>Denmark</b>	<b>Output per hour</b>	<b>2.3</b>	<b>2.2</b>	<b>2.3</b>	<b>3.0</b>	<b>2.6</b>	<b>-1.4</b>
	Output	0.9	1.3	1.9	0.6	3.7	-12.1
	Hours	-1.4	-1.0	-0.4	-2.4	1.1	-10.9
<b>Finland</b>	<b>Output per hour</b>	<b>5.3</b>	<b>4.9</b>	<b>6.4</b>	<b>6.8</b>	<b>1.2</b>	<b>-8.5</b>
	Output	3.7	3.5	5.4	6.1	-0.1	-19.9
	Hours	-1.5	-1.4	-1.0	-0.7	-1.2	-12.5
<b>France</b>	<b>Output per hour</b>	<b>3.2</b>	<b>3.8</b>	<b>4.0</b>	<b>3.1</b>	<b>-0.9</b>	<b>-7.2</b>
	Output	1.0	1.5	2.0	1.1	-2.1	-11.2
	Hours	-2.1	-2.2	-1.9	-2.0	-1.1	-4.3
<b>Germany</b>	<b>Output per hour</b>	<b>2.3</b>	<b>2.1</b>	<b>3.3</b>	<b>3.5</b>	<b>-0.2</b>	<b>-9.3</b>
	Output	0.5	1.2	0.6	2.1	0.5	-18.2
	Hours	-1.8	-0.9	-2.6	-1.3	0.7	-9.8
<b>Italy</b>	<b>Output per hour</b>	<b>1.9</b>	<b>3.4</b>	<b>2.6</b>	<b>0.3</b>	<b>-3.6</b>	<b>-5.9</b>
	Output	0.7	2.6	1.4	0.3	-4.9	-15.8
	Hours	-1.1	-0.8	-1.2	-0.1	-1.3	-10.5
<b>Japan</b>	<b>Output per hour</b>	<b>3.0</b>	<b>3.8</b>	<b>3.4</b>	<b>3.8</b>	<b>0.3</b>	<b>-11.4</b>
	Output	1.6	4.7	0.8	2.3	-3.0	-22.0
	Hours	-1.4	0.9	-2.4	-1.4	-3.3	-11.9
<b>Korea, Republic of</b>	<b>Output per hour</b>	<b>NA</b>	<b>NA</b>	<b>10.5</b>	<b>8.1</b>	<b>0.7</b>	<b>1.8</b>
	Output	8.4	10.8	8.4	6.8	2.9	-1.6
	Hours	NA	NA	-1.9	-1.1	2.1	-3.4
<b>Netherlands</b>	<b>Output per hour</b>	<b>3.0</b>	<b>3.3</b>	<b>3.5</b>	<b>3.7</b>	<b>-2.2</b>	<b>-4.4</b>
	Output	1.8	2.4	2.7	1.9	-1.9	-8.8
	Hours	-1.1	-0.9	-0.8	-1.7	0.3	-4.5
<b>Norway</b>	<b>Output per hour</b>	<b>1.7</b>	<b>1.9</b>	<b>0.7</b>	<b>3.0</b>	<b>0.9</b>	<b>0.8</b>
	Output	0.7	-0.5	1.0	2.6	2.6	-5.8
	Hours	-1.0	-2.3	0.3	-0.3	1.7	-6.5
<b>Singapore</b>	<b>Output per hour</b>	<b>4.0</b>	<b>4.0</b>	<b>7.2</b>	<b>2.0</b>	<b>-9.3</b>	<b>-0.3</b>
	Output	6.1	7.3	7.4	5.5	-4.2	-4.1
	Hours	2.1	3.2	0.2	3.5	5.7	-3.9
<b>Spain</b>	<b>Output per hour</b>	<b>2.2</b>	<b>3.3</b>	<b>2.0</b>	<b>1.9</b>	<b>-1.5</b>	<b>-0.8</b>
	Output	1.4	2.1	2.8	1.2	-2.7	-13.6
	Hours	-0.8	-1.2	0.8	-0.6	-1.3	-12.9
<b>Sweden</b>	<b>Output per hour</b>	<b>4.0</b>	<b>2.1</b>	<b>6.4</b>	<b>6.4</b>	<b>-3.0</b>	<b>-7.3</b>
	Output	2.9	1.7	5.7	5.0	-2.9	-18.0
	Hours	-1.1	-0.4	-0.6	-1.4	0.1	-11.5
<b>Taiwan</b>	<b>Output per hour</b>	<b>6.0</b>	<b>6.3</b>	<b>5.0</b>	<b>7.6</b>	<b>1.6</b>	<b>4.8</b>
	Output	6.0	7.5	5.0	7.2	1.0	-4.4
	Hours	0.0	1.2	-0.1	-0.4	-0.6	-8.7
<b>United Kingdom</b>	<b>Output per hour</b>	<b>3.3</b>	<b>4.1</b>	<b>2.9</b>	<b>4.1</b>	<b>0.2</b>	<b>-3.4</b>
	Output	0.2	0.9	0.9	0.0	-2.9	-10.8
	Hours	-3.1	-3.1	-2.0	-3.9	-3.1	-7.6

NOTE: German data for years before 1991 pertain to the former West Germany.

NA=data not available.

**Table 2. Unit labor costs (ULC) in national currency, compensation, and output**

Manufacturing, 19 countries or areas, 1979–2009

Average annual rates of change

Country or area	Indicator	1979–2009	1979–1990	1990–2000	2000–2007	2007–2008	2008–2009
<b>United States</b>	<b>ULC in nat. cur.</b>	<b>0.3</b>	<b>2.5</b>	<b>-0.4</b>	<b>-2.3</b>	<b>3.5</b>	<b>-2.3</b>
	Compensation	2.9	4.9	3.8	0.6	-0.2	-8.0
	Output	2.6	2.3	4.2	2.9	-3.6	-5.9
<b>Australia</b>	<b>ULC in nat. cur.</b>	<b>NA</b>	<b>NA</b>	<b>1.7</b>	<b>3.0</b>	<b>4.5</b>	<b>4.9</b>
	Compensation	NA	NA	3.2	4.6	3.4	2.4
	Output	1.3	1.6	1.5	1.6	-1.1	-2.3
<b>Belgium</b>	<b>ULC in nat. cur.</b>	<b>1.1</b>	<b>1.8</b>	<b>0.2</b>	<b>0.7</b>	<b>2.3</b>	<b>5.0</b>
	Compensation	2.4	4.4	1.6	1.6	1.9	-4.3
	Output	1.3	2.6	1.5	0.8	-0.3	-8.8
<b>Canada</b>	<b>ULC in nat. cur.</b>	<b>2.3</b>	<b>4.6</b>	<b>-0.3</b>	<b>2.9</b>	<b>2.7</b>	<b>-1.2</b>
	Compensation	3.6	6.5	3.8	2.2	-3.5	-12.3
	Output	1.3	1.9	4.2	-0.6	-6.1	-11.3
<b>Czech Republic</b>	<b>ULC in nat. cur.</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>-0.2</b>	<b>-1.4</b>	<b>2.2</b>
	Compensation	NA	NA	NA	7.2	6.4	-9.9
	Output	NA	NA	NA	7.4	7.8	-11.9
<b>Denmark</b>	<b>ULC in nat. cur.</b>	<b>2.9</b>	<b>5.7</b>	<b>0.7</b>	<b>1.9</b>	<b>-0.3</b>	<b>4.3</b>
	Compensation	3.8	7.0	2.5	2.4	3.4	-8.4
	Output	0.9	1.3	1.9	0.6	3.7	-12.1
<b>Finland</b>	<b>ULC in nat. cur.</b>	<b>1.2</b>	<b>5.5</b>	<b>-2.0</b>	<b>-2.9</b>	<b>3.3</b>	<b>13.9</b>
	Compensation	4.9	9.2	3.3	3.0	3.3	-8.8
	Output	3.7	3.5	5.4	6.1	-0.1	-19.9
<b>France</b>	<b>ULC in nat. cur.</b>	<b>2.2</b>	<b>5.1</b>	<b>-0.4</b>	<b>0.4</b>	<b>3.7</b>	<b>9.7</b>
	Compensation	3.2	6.7	1.6	1.4	1.6	-2.6
	Output	1.0	1.5	2.0	1.1	-2.1	-11.2
<b>Germany</b>	<b>ULC in nat. cur.</b>	<b>2.0</b>	<b>3.3</b>	<b>1.4</b>	<b>-1.3</b>	<b>2.8</b>	<b>15.8</b>
	Compensation	2.4	4.6	2.0	0.8	3.3	-5.3
	Output	0.5	1.2	0.6	2.1	0.5	-18.2
<b>Italy</b>	<b>ULC in nat. cur.</b>	<b>5.0</b>	<b>8.8</b>	<b>1.7</b>	<b>2.8</b>	<b>7.2</b>	<b>12.0</b>
	Compensation	5.8	11.6	3.2	3.0	2.0	-5.7
	Output	0.7	2.6	1.4	0.3	-4.9	-15.8
<b>Japan</b>	<b>ULC in nat. cur.</b>	<b>-0.5</b>	<b>0.7</b>	<b>-0.9</b>	<b>-3.8</b>	<b>1.6</b>	<b>11.8</b>
	Compensation	1.1	5.5	-0.1	-1.5	-1.5	-12.8
	Output	1.6	4.7	0.8	2.3	-3.0	-22.0
<b>Korea, Republic of</b>	<b>ULC in nat. cur.</b>	<b>4.2</b>	<b>7.9</b>	<b>2.6</b>	<b>1.6</b>	<b>0.1</b>	<b>3.8</b>
	Compensation	12.9	19.5	11.3	8.5	3.0	2.2
	Output	8.4	10.8	8.4	6.8	2.9	-1.6
<b>Netherlands</b>	<b>ULC in nat. cur.</b>	<b>0.9</b>	<b>0.8</b>	<b>0.4</b>	<b>0.0</b>	<b>6.2</b>	<b>8.4</b>
	Compensation	2.7	3.2	3.1	1.8	4.2	-1.1
	Output	1.8	2.4	2.7	1.9	-1.9	-8.8
<b>Norway</b>	<b>ULC in nat. cur.</b>	<b>4.5</b>	<b>6.9</b>	<b>3.5</b>	<b>2.0</b>	<b>4.7</b>	<b>4.7</b>
	Compensation	5.2	6.4	4.6	4.6	7.4	-1.4
	Output	0.7	-0.5	1.0	2.6	2.6	-5.8
<b>Singapore</b>	<b>ULC in nat. cur.</b>	<b>0.8</b>	<b>3.7</b>	<b>-1.5</b>	<b>-1.1</b>	<b>11.5</b>	<b>-4.0</b>
	Compensation	7.0	11.3	5.8	4.4	6.9	-8.0
	Output	6.1	7.3	7.4	5.5	-4.2	-4.1
<b>Spain</b>	<b>ULC in nat. cur.</b>	<b>4.7</b>	<b>7.8</b>	<b>2.7</b>	<b>2.5</b>	<b>7.1</b>	<b>2.9</b>
	Compensation	6.1	10.1	5.5	3.8	4.2	-11.2
	Output	1.4	2.1	2.8	1.2	-2.7	-13.6
<b>Sweden</b>	<b>ULC in nat. cur.</b>	<b>1.7</b>	<b>6.6</b>	<b>-2.2</b>	<b>-2.2</b>	<b>6.4</b>	<b>12.2</b>
	Compensation	4.6	8.4	3.4	2.7	3.3	-8.0
	Output	2.9	1.7	5.7	5.0	-2.9	-18.0
<b>Taiwan</b>	<b>ULC in nat. cur.</b>	<b>0.9</b>	<b>5.5</b>	<b>0.2</b>	<b>-3.8</b>	<b>0.9</b>	<b>-7.4</b>
	Compensation	6.9	13.5	5.2	3.1	1.9	-11.5
	Output	6.0	7.5	5.0	7.2	1.0	-4.4
<b>United Kingdom</b>	<b>ULC in nat. cur.</b>	<b>3.2</b>	<b>6.2</b>	<b>1.5</b>	<b>0.9</b>	<b>1.8</b>	<b>6.3</b>
	Compensation	3.4	7.1	2.4	0.9	-1.1	-5.1
	Output	0.2	0.9	0.9	0.0	-2.9	-10.8

NOTE: German data for years before 1991 pertain to the former West Germany.

NA=data not available.

**Table 3. Unit labor costs (ULC) in U.S. dollars and in national currency**

Manufacturing, 19 countries or areas, 1979–2009

Average annual rates of change

Country or area	Indicator	1979–2009	1979–1990	1990–2000	2000–2007	2007–2008	2008–2009
<b>United States</b>	<b>ULC in U.S. dollars</b>	<b>0.3</b>	<b>2.5</b>	<b>-0.4</b>	<b>-2.3</b>	<b>3.5</b>	<b>-2.3</b>
	ULC in nat. cur.	0.3	2.5	-0.4	-2.3	3.5	-2.3
	Exchange rates	--	--	--	--	--	--
<b>Australia</b>	<b>ULC in U.S. dollars</b>	<b>NA</b>	<b>NA</b>	<b>-1.3</b>	<b>8.5</b>	<b>6.3</b>	<b>-2.6</b>
	ULC in nat. cur.	NA	NA	1.7	3.0	4.5	4.9
	Exchange rates	-1.1	-3.2	-2.9	5.4	1.7	-7.1
<b>Belgium</b>	<b>ULC in U.S. dollars</b>	<b>1.1</b>	<b>0.6</b>	<b>-2.5</b>	<b>6.6</b>	<b>9.8</b>	<b>-0.7</b>
	ULC in nat. cur.	1.1	1.8	0.2	0.7	2.3	5.0
	Exchange rates	0.0	-1.2	-2.6	5.8	7.4	-5.4
<b>Canada</b>	<b>ULC in U.S. dollars</b>	<b>2.4</b>	<b>4.6</b>	<b>-2.7</b>	<b>7.7</b>	<b>3.5</b>	<b>-7.7</b>
	ULC in nat. cur.	2.3	4.6	-0.3	2.9	2.7	-1.2
	Exchange rates	0.1	0.0	-2.4	4.8	0.7	-6.6
<b>Czech Republic</b>	<b>ULC in U.S. dollars</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>9.2</b>	<b>18.7</b>	<b>-9.9</b>
	ULC in nat. cur.	NA	NA	NA	-0.2	-1.4	2.2
	Exchange rates	NA	NA	NA	9.4	20.3	-11.9
<b>Denmark</b>	<b>ULC in U.S. dollars</b>	<b>2.8</b>	<b>4.1</b>	<b>-2.0</b>	<b>7.8</b>	<b>6.6</b>	<b>-0.9</b>
	ULC in nat. cur.	2.9	5.7	0.7	1.9	-0.3	4.3
	Exchange rates	-0.1	-1.5	-2.6	5.8	6.9	-5.0
<b>Finland</b>	<b>ULC in U.S. dollars</b>	<b>0.9</b>	<b>5.7</b>	<b>-7.0</b>	<b>2.7</b>	<b>11.0</b>	<b>7.8</b>
	ULC in nat. cur.	1.2	5.5	-2.0	-2.9	3.3	13.9
	Exchange rates	-0.3	0.2	-5.1	5.8	7.4	-5.4
<b>France</b>	<b>ULC in U.S. dollars</b>	<b>1.9</b>	<b>2.7</b>	<b>-3.0</b>	<b>6.2</b>	<b>11.4</b>	<b>3.8</b>
	ULC in nat. cur.	2.2	5.1	-0.4	0.4	3.7	9.7
	Exchange rates	-0.3	-2.2	-2.6	5.8	7.4	-5.4
<b>Germany</b>	<b>ULC in U.S. dollars</b>	<b>2.9</b>	<b>4.5</b>	<b>-1.3</b>	<b>4.4</b>	<b>10.4</b>	<b>9.6</b>
	ULC in nat. cur.	2.0	3.3	1.4	-1.3	2.8	15.8
	Exchange rates	0.9	1.1	-2.7	5.8	7.4	-5.4
<b>Italy</b>	<b>ULC in U.S. dollars</b>	<b>3.2</b>	<b>5.2</b>	<b>-3.8</b>	<b>8.7</b>	<b>15.2</b>	<b>6.0</b>
	ULC in nat. cur.	5.0	8.8	1.7	2.8	7.2	12.0
	Exchange rates	-1.7	-3.3	-5.4	5.8	7.4	-5.4
<b>Japan</b>	<b>ULC in U.S. dollars</b>	<b>2.3</b>	<b>4.6</b>	<b>2.1</b>	<b>-5.0</b>	<b>15.7</b>	<b>23.3</b>
	ULC in nat. cur.	-0.5	0.7	-0.9	-3.8	1.6	11.8
	Exchange rates	2.9	3.8	3.0	-1.3	13.9	10.4
<b>Korea, Republic of</b>	<b>ULC in U.S. dollars</b>	<b>0.9</b>	<b>4.1</b>	<b>-2.0</b>	<b>4.5</b>	<b>-15.3</b>	<b>-10.5</b>
	ULC in nat. cur.	4.2	7.9	2.6	1.6	0.1	3.8
	Exchange rates	-3.2	-3.4	-4.5	2.8	-15.4	-13.8
<b>Netherlands</b>	<b>ULC in U.S. dollars</b>	<b>1.7</b>	<b>1.7</b>	<b>-2.3</b>	<b>5.8</b>	<b>14.0</b>	<b>2.6</b>
	ULC in nat. cur.	0.9	0.8	0.4	0.0	6.2	8.4
	Exchange rates	0.8	0.9	-2.7	5.8	7.4	-5.4
<b>Norway</b>	<b>ULC in U.S. dollars</b>	<b>3.7</b>	<b>4.9</b>	<b>0.0</b>	<b>8.1</b>	<b>8.7</b>	<b>-6.2</b>
	ULC in nat. cur.	4.5	6.9	3.5	2.0	4.7	4.7
	Exchange rates	-0.7	-1.9	-3.4	6.0	3.9	-10.4
<b>Singapore</b>	<b>ULC in U.S. dollars</b>	<b>2.2</b>	<b>5.5</b>	<b>-1.0</b>	<b>0.8</b>	<b>18.8</b>	<b>-6.7</b>
	ULC in nat. cur.	0.8	3.7	-1.5	-1.1	11.5	-4.0
	Exchange rates	1.4	1.7	0.5	2.0	6.5	-2.8
<b>Spain</b>	<b>ULC in U.S. dollars</b>	<b>2.7</b>	<b>3.8</b>	<b>-3.0</b>	<b>8.5</b>	<b>15.0</b>	<b>-2.7</b>
	ULC in nat. cur.	4.7	7.8	2.7	2.5	7.1	2.9
	Exchange rates	-1.9	-3.7	-5.5	5.8	7.4	-5.4
<b>Sweden</b>	<b>ULC in U.S. dollars</b>	<b>-0.3</b>	<b>3.5</b>	<b>-6.4</b>	<b>2.2</b>	<b>9.1</b>	<b>-3.5</b>
	ULC in nat. cur.	1.7	6.6	-2.2	-2.2	6.4	12.2
	Exchange rates	-1.9	-2.9	-4.3	4.5	2.6	-14.0
<b>Taiwan</b>	<b>ULC in U.S. dollars</b>	<b>1.2</b>	<b>8.3</b>	<b>-1.3</b>	<b>-4.5</b>	<b>5.1</b>	<b>-11.6</b>
	ULC in nat. cur.	0.9	5.5	0.2	-3.8	0.9	-7.4
	Exchange rates	0.3	2.7	-1.5	-0.7	4.2	-4.5
<b>United Kingdom</b>	<b>ULC in U.S. dollars</b>	<b>2.2</b>	<b>4.5</b>	<b>-0.2</b>	<b>4.9</b>	<b>-5.7</b>	<b>-10.2</b>
	ULC in nat. cur.	3.2	6.2	1.5	0.9	1.8	6.3
	Exchange rates	-1.0	-1.6	-1.6	4.1	-7.4	-15.6

NOTE: German data for years before 1991 pertain to the former West Germany.

NA=data not available.

Exchange rates are value of foreign currency relative to the U.S. dollar.

## TECHNICAL NOTES

The comparisons in this release are based on data available to the Bureau of Labor Statistics as of November 4 from national statistical offices of the 19 economies compared. Below is a summary of the concepts used in this release. For more detailed information, see <http://www.bls.gov/ilc/#productivity>.

*Definitions.* Labor productivity is defined as real output per hour worked. Unit labor costs are defined as the cost of labor input required to produce one unit of output, and are computed as compensation in nominal terms divided by real output.

*Methodology.* In general, the measures relate to total manufacturing as defined by the International Standard Industrial Classification (ISIC). Data for the United States and Canada are in accordance with the North American Industry Classification System (NAICS), except for compensation data for the United States before 1987. For all economies, the measures are prepared according to the United Nations System of National Accounts 1993 (SNA 93) for the most recent years. For earlier years, data were compiled according to other systems of national accounts.

BLS constructs the trends in this release from three basic measures: output, total labor hours, and total compensation. In general, the output measures are real value added. Total labor hours refer to hours worked by all employed persons. Total compensation includes employer expenditures for direct pay, employer social insurance expenditures, and labor-related taxes and subsidies.

*Output for the United States.* The U.S. manufacturing output series used in this release differs from the manufacturing output series that BLS publishes as part of its major sector productivity and costs measures for the United States.<sup>1</sup> The international labor comparisons program uses a value added output concept, while the major sector series is on a sectoral output basis, which is gross output less intra-sector sales and transfers. Even though BLS has determined that sectoral output is the correct concept for U.S. measures of productivity, there are other considerations that make value added the better concept for international comparisons of labor productivity, such as differences among economies in the extent of vertical integration of industries and the availability of value added data.

*Level Comparisons.* The BLS measures are limited to trend comparisons. BLS does not prepare level comparisons of manufacturing productivity because of data limitations and technical problems in comparing the levels of manufacturing output among economies.

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<sup>1</sup> For more information about sectoral output, see <http://www.bls.gov/lpc/>.