## INTERNATIONAL COMPARISONS OF HOURLY COMPENSATION COSTS FOR PRODUCTION WORKERS IN MANUFACTURING, REVISED DATA FOR 2002

Average hourly compensation costs in U.S. dollars for production workers in manufacturing in 29 foreign economies were 66 percent of the U.S. level in 2002, according to revised data issued by the Bureau of Labor Statistics, U.S. Department of Labor. Although overall compensation costs relative to the United States remained the same in 2002 as in 2001, costs in Europe rose from 89 to 94 percent of the U.S. level, while relative costs declined in Canada and Japan. (See table 1.)

In the United States, hourly compensation costs for production workers in manufacturing increased 3.7 percent in 2002, to $\$ 21.37$. Average costs in the United States were higher than those in the economies covered outside Europe, but seven of the European countries had higher hourly compensation costs than did the United States. Trade-weighted average costs increased 3.3 percent in the combined 29 foreign economies in 2002, when measured in national currency terms. With the trade-weighted value of the foreign currencies in 2002 remaining nearly at 2001 levels, hourly compensation costs measured in U.S. dollars rose 3.2 percent in the foreign economies during 2002. A strong euro in 2002 drove European costs measured in U.S. dollars up 9.1 percent, but slow compensation cost growth and weak currencies in Canada and Japan offset the European increases. (See chart 1 and table A.)

Chart 1. Hourly compensation costs in U.S. dollars for production workers in manufacturing, 1975-2002


This report contains data that are new or that have been revised since the preliminary version published September 26, 2003. Data for Portugal for 2001 and 2002 and for Sri Lanka for 2002 are presented for the first time, and data have been revised for 25 of the 30 countries covered. Most importantly, data from the harmonized 2000 labor cost surveys conducted by the Statistical Office of the European Communities (EUROSTAT) were incorporated for most of the European countries, and new data on labor costs were incorporated for several other countries. These revisions had only a small effect on the levels and relative rankings of hourly compensation costs for 2002 for most of the economies covered. More information on these revisions can be found on page 9 .

## Compensation costs expressed in U.S. dollars

Compensation costs for production workers in manufacturing, measured in U.S. dollars, rose strongly in 2002 in most of the foreign economies, with increases of more than 7 percent in 20 of the 28 economies for which data were available. However, costs in two of the largest U.S. trading partners - Canada and Japan -- did not rise as quickly as costs in the United States. In addition, three of the four Asian NIEs had decreases in compensation costs in 2002. (NIEs are the newly industrializing economies of Hong Kong SAR, Korea, Singapore, and Taiwan.) As a result, the rate of compensation increase in a trade-weighted average of the foreign economies was only 3.2 percent, less than the 3.7 percent increase recorded in the United States. (See table A.)

Changes over time in compensation costs in U.S. dollars are affected by the underlying national wage and benefit trends measured in national currencies, as well as frequent and sometimes sharp changes in currency exchange rates. A country's compensation costs expressed in U.S. dollars are calculated by dividing compensation costs in national currency by the exchange rate (expressed as national currency units per U.S. dollar).

## A note on the measures

The hourly compensation measures in this report are based on statistics available to BLS as of March 2004. These measures are prepared specifically for international comparisons of employer labor costs in manufacturing. The methods used, as well as the results, differ somewhat from those of other BLS series on U.S. compensation costs. Data in this release are based on the 1987 U.S. Standard Industrial Classification (SIC). Data in future releases will be based on the North American Industry Classification System (NAICS).

Total compensation costs include pay for time worked, other direct pay (including holiday and vacation pay, bonuses, other direct payments, and the cost of pay in kind), employer expenditures for legally required insurance programs and contractual and private benefit plans, and, for some countries, other labor taxes.

Labor cost measures. The compensation measures are computed in national currency units and are converted into U.S. dollars at prevailing commercial market currency exchange rates. They are appropriate measures for comparing levels of employer labor costs, but they do not indicate relative living standards of workers or the purchasing power of their incomes. Prices of goods and services vary greatly among countries, and commercial market exchange rates do not reliably indicate relative differences in prices.

Data limitations. Hourly compensation is partly estimated, and data are subject to revision in the next update. The comparative level figures are averages for all manufacturing industries and are not necessarily representative of all component industries.

See the Technical Notes for further information regarding definitions, sources, and computation methods and a description of the trade-weighted measures for economic groups.

Table A. Hourly compensation costs, in national currency and in U.S. dollars, for production workers in manufacturing and exchange rates (U.S. dollars per national currency unit)

Percent change, 2001-2002

| Country or area | Hourly compensation, national currency | Exchange rates | Hourly compensation, U.S. dollars |
| :---: | :---: | :---: | :---: |
| Americas |  |  |  |
| United States | r 3.7 | - | r 3.7 |
| Brazil | r 8.0 | -19.4 | r-13.0 |
| Canada | r 2.7 | -1.3 | 1.4 |
| Mexico | r 7.7 | -3.4 | r 4.1 |
| Asia and Oceania |  |  |  |
| Australia | r 10.4 | 5.2 | r 16.2 |
| Hong Kong sar ${ }^{1}$ | -2.2 | . 0 | -2.2 |
| Israel | r . 5 | -11.2 | r-10.8 |
| Japan | r -. 8 | -2.9 | r -3.6 |
| Korea | 13.4 | 3.4 | r 17.2 |
| New Zealand | r 3.7 | 10.5 | r 14.6 |
| Singapore | -3.9 | . 1 | -3.8 |
| Sri Lanka | 17.8 | -6.6 | 10.1 |
| Taiwan | r -3.0 | -2.1 | -5.1 |
| Europe |  |  |  |
| Austria | 3.0 | 5.6 | r 8.8 |
| Belgium | 2.5 | 5.6 | 8.3 |
| Denmark | 4.3 | 5.7 | 10.2 |
| Finland | r 3.9 | 5.6 | 9.7 |
| France | 3.7 | 5.6 | 9.5 |
| Germany, former West | 2.3 | 5.6 | 8.0 |
| Germany | 2.2 | 5.6 | r 8.0 |
| Greece | - | - | - |
| Ireland | 7.6 | 5.6 | 13.6 |
| Italy | 2.6 | 5.6 | 8.4 |
| Luxembourg | r 3.0 | 5.6 | r 8.7 |
| Netherlands | 4.2 | 5.6 | r 10.0 |
| Norway | r 4.0 | 12.7 | r 17.2 |
| Portugal | 4.4 | 5.6 | 10.3 |
| Spain | r 4.9 | 5.6 | r 10.8 |
| Sweden | 3.4 | 6.4 | 10.0 |
| Switzerland | 1.8 | 8.5 | 10.4 |
| United Kingdom | 3.7 | 4.3 | 8.2 |
| Trade-weighted measures ${ }^{\text {2,3 }}$ |  |  |  |
| All 29 foreign economies | r 3.3 | -. 1 | r 3.2 |
| OECD ${ }^{4}$ | r 3.8 | . 6 | r 4.4 |
| less Mexico, Korea ${ }^{5}$ | r 2.4 | 1.2 | 3.7 |
| Europe | 3.4 | 5.5 | 9.1 |
| Asian NIEs | 2.2 | . 4 | 2.8 |

[^0]Although European compensation costs on a national currency basis increased at a slower rate than those in the United States, the strength of the European currencies in 2002 drove costs in U.S. dollars up more than 9 percent. Recently, European costs had been rising at a slower rate than costs in the United States; in 1995 European costs peaked at 27 percent higher than those in the United States. Since then, European costs have fallen below those in the United States, and in 2002 they were 94 percent of the U.S. level. (See chart 2.)

Compensation trends in Asia in 2002 were very different than those in Europe. Costs in U.S. dollars in Japan and each of the Asian NIE countries except Korea declined more than 2 percent. Japanese compensation costs, which were 13 percent higher than costs in the United States just two years before, decreased to only 89 percent of the U.S. level in 2002, the lowest relative level of Japanese costs since 1990. Even though costs declined in three of the four NIEs, the level of compensation costs in those economies nevertheless remained at 34 percent of the U.S. level because costs in Korea increased by 17.2 percent.

Moderate growth in costs in Mexico and Canada, which together comprise one-third of the trade-weighted compensation cost average, offset much of the high growth in compensation costs seen in Europe. Following three consecutive years of double-digit growth, Mexican compensation costs rose only 4.1 percent in 2002. Canadian costs continued to grow more slowly than those in the United States, increasing just 1.4 percent. Since 1993, when costs in Canada and the United States were approximately the same, costs in Canada have grown at a slower rate than the United States in all but one year, with the result that Canadian costs are now only 75 percent of U.S. costs.

With the fast growth in hourly compensation costs in Europe, the average for the 17 European countries in 2002 rose above the $\$ 20$ level for the first time in three years. Seven countries had higher compensation costs than the United States, with the highest costs in Norway and Denmark, more than $\$ 25$ per hour. Belgium, Finland, Germany, the Netherlands, and Switzerland were the other countries where costs were higher than in the United States. (See table 2.)

Chart 2. Indexes of hourly compensation costs in U.S. dollars for production workers in manufacturing, 2002

(1) For 2002, U.S. hourly compensation costs were $\$ 21.37$
(2) Hong Kong became a Special Administrative Region (SAR) of China in July 1997.
(3) Because data for Germany are not available before 1993, data for the former West Germany only are included in the tradeweighted measures. The trade-weighted measures include Greece, which is not shown on this chart because 2002 data were not available. OECD refers to the Organization for Economic Cooperation and Development. Mexico joined the OECD in 1994, and Korea joined in 1996.

## Compensation costs expressed in national currencies

For U.S. competitors, compensation costs for production workers in manufacturing in national currency in 2002 grew at the lowest rate since this series began in 1975. ${ }^{1}$ The increase of 3.3 percent was a drop of more than 1 percentage point from 2001, when the trade-weighted average cost increased 4.5 percent for the foreign economies. The lower rate of growth was due primarily to declining costs in many of the Asian countries and a slowing of cost growth in Mexico. (See table A and table 4.)

Compared to the previous year, the growth rate of compensation costs in national currency in 2002 slowed in all of the Asian economies except Korea and Sri Lanka; costs in Hong Kong, Japan, Singapore, and Taiwan actually declined from their 2001 levels, with drops of 3 percent or more in Singapore and Taiwan. Cost growth in the Asian NIEs as a whole remained positive because of the 13.4 percent increase in Korea, the highest increase of any of the foreign economies except Sri Lanka. Nevertheless, the 2.2 percent increase in NIEs costs in 2002 was much lower than the 5.8 percent increase the previous year, and was the lowest rate of growth in the NIEs since this series began in 1975.

Compensation cost trends in the North American competitors, Canada and Mexico, also contributed to the slowing growth rate for the 29 foreign economies. Sluggish cost growth continued in Canada, with a 2.7 percent increase in 2002. Compensation costs in that country have not grown at a rate of 3 percent or more since 1992. The rate of growth in Mexico fell in 2002, to 7.7 percent. It was the first time since this series began in 1975 that the Mexican compensation cost growth rate was in the single digits.

Compensation costs in Europe grew at the same rate, 3.4 percent, in 2002 as in 2001. The rate of growth was moderate (between about 2 and 5 percent) in most of the countries. The exception was Ireland, where costs grew 7.6 percent, the fourth consecutive year in which Ireland had the highest rate of growth among the European countries.

[^1]
## Exchange rates

The trade-weighted value of the currencies of the 29 foreign economies against the U.S. dollar changed very little between 2001 and 2002. Although the trade-weighted average did not change much, there were several important movements in exchange rates that impacted hourly compensation trends in U.S. dollars. (See table 5.)

In 2002, for the first time in seven years, the European currencies appreciated against the U.S. dollar, by 5.5 percent. The euro, which accounts for about 70 percent of the European tradeweighted average, rose by nearly the identical amount. The currency with the largest appreciation was the Norwegian krone ( +12.7 percent), while the British pound showed the smallest appreciation (+4.3 percent).

In contrast to the currency appreciation in Europe, currencies in each of the countries with the largest trade weights (Canada, Japan, and Mexico) fell in value against the U.S. dollar in 2002. The depreciation of the Canadian dollar (down 1.3 percent), the Japanese yen (down 2.9 percent), and

## A note on European exchange rates

On January 1, 1999, several European countries joined the European Monetary Union (EMU): Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal, and Spain. Greece joined on January 1, 2001. Currencies of EMU members were established at fixed conversion rates to the euro, the official currency of the EMU. Exchange rates between the national currencies of EMU 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 this report, data on hourly compensation costs in national currency and exchange rates for the EMU countries relate to euros for 1999-2002; for the years 1975-1998 these data are published in the old national currencies used in each country before the euro was adopted. Data for all years can be accessed in the supplementary tables to this report available at http://www.bls.gov/fls or upon request. Caution should be exercised when using these data. The national currency compensation data and exchange rates in the tables for 1975-1998 are not comparable to the same data for 1999-2002 for the EMU countries.

In order to include data on trends in national currency compensation costs and exchange rates for the entire 1975-2002 period, BLS converts national currency for 1975-1998 to a "euro" basis for calculation. The conversions for all years 1975-1998 are made using the official fixed conversion rates for 1999 below:

```
1 euro = 13.7603 Austrian Schillings
    = 40.3399 Belgian Francs
    = 5.94573 Finnish Markkas
    = 6.55957 French Francs
    = 1.95583 German Marks
    = .787564 Irish Pounds
    = 1936.27 Italian Lire
    =40.3399 Luxembourg Francs
    = 2.20371 Netherlands Guilders
    = 200.482 Portuguese Escudos
    = 166.386 Spanish Pesetas
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the Mexican peso (down 3.4 percent) negated the effect of the strong European currencies on the trade-weighted average for all countries.

Although several currencies appreciated against the dollar in 2002, most are well below their values of the mid-1990s, when many currencies peaked. Over the period 1995-2002, no foreign currency appreciated against the U.S. dollar, and the rate of depreciation was fairly steep in virtually all economies. In all but three economies (Canada, Hong Kong, and the United Kingdom), currency values declined at a rate of more than 3 percent per year during that time period. The depreciation of the foreign currencies over this time period had a significant influence on hourly compensation costs measured in U.S. dollars. Since 1995, hourly compensation costs on a national currency basis in 28 foreign economies (not including Brazil) rose at a rate of 4.8 percent per year, more than a percentage point higher than in the United States. When adjusted for a 3.7 percent per year depreciation of the foreign currencies against the U.S. dollar, however, those costs only increased at a rate of 0.9 percent per year, 2-1/2 percentage points less than in the United States.

## Additional data available

In addition to the compensation cost measures covered in this report, data are available for comparative levels of hourly compensation costs, hourly direct pay, pay for time worked, and the structure of compensation for production workers in manufacturing for all years from 1975 through 2002. Data are also available for national currency hourly compensation and exchange rates 1975-2002 in the supplementary tables as well.

BLS also computes comparative measures for 39 component manufacturing industries. Data are available upon request and via the Internet (http://www.bls.gov/fls). Data for the component industries are not included in this release; in general, the data limitations for the component industries are greater than for total manufacturing.

For further information, contact the Office of Productivity and Technology by phone at 202-691-5654, by e-mail at flshc@bls.gov, or by mail at Bureau of Labor Statistics, 2 Massachusetts Avenue, NE, Room 2150, Washington, DC 20212.

Information in this release will be made available to sensory impaired individuals upon request. Voice phone: 202-691-5200; TDD message referral phone: 1-800-877-8339.

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## Revised Measures

This is the final release of hourly compensation measures on an SIC basis. Revisions to data in the future will done on a NAICS basis only. In this update, revisions of note were made for the following countries:

For Europe, 2000 labor cost survey (LCS) data from the Statistical Office of the European Communities (EUROSTAT) were incorporated for the following countries: Denmark, France, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, and the United Kingdom. 2000 LCS data incorporated for Germany were received directly from the German federal statistical agency. 2000 LCS data for Belgium are not yet available.

For Italy, data from the 1997 LCS also were incorporated. Portuguese LCS data for 1988, 1992, and 1996 were incorporated in addition to the data for 2000.

For Austria, data were incorporated from both a 1999 labor cost survey conducted by the Austrian Federal Economic Chamber of Commerce and the 2000 labor cost survey from EUROSTAT.

For Finland, new data on labor costs and on earnings were incorporated for 2002.
Data from annual labor cost surveys were incorporated for Korea and Taiwan. For Korea, data from a 2002 labor cost survey were incorporated, while labor cost data for each year 1997-2000 were incorporated for Taiwan. In addition, minor revisions in hourly earnings were incorporated for Taiwan.

For Israel and New Zealand, new series on non-wage labor costs were developed and incorporated for all years. Previously, constant estimates of non-wage labor costs for all years had been used for both countries. The new estimates of non-wage labor costs are somewhat lower for New Zealand, and are substantially lower for Israel.

Minor revisions to components of additional compensation were made to several countries: the United States (2002), revision to the ratio of hours worked to hours paid; Spain (1989-1999), new estimates of pay for time not worked; Sweden (1998-2002), revised estimates of pay for vacation time.

Revised earnings estimates for Japan (1991-2002), Mexico (1995-2002), and Norway (2002) were incorporated.

In the previous version of this report data for Portugal (2001-2002) and Sri Lanka (2002) were not available. Those data have been included in the current release.

For this and future releases, a new, more accurate computation procedure was introduced that has resulted in rounding changes to some data points.

## TECHNICAL NOTES

The tables in this report present international comparisons of hourly compensation costs for production workers in manufacturing in selected countries or areas. The total compensation measures are prepared by the Bureau of Labor Statistics in order to assess international differences in employer labor costs. Comparisons based on the more readily available average earnings statistics published by many countries can be very misleading. National definitions of average earnings differ considerably; average earnings do not include all items of labor compensation; and the omitted items of compensation frequently represent a large proportion of total compensation.

The compensation measures are computed in national currency units and are converted into U.S. dollars at prevailing commercial market currency exchange rates. The foreign currency exchange rates used in the calculations are the average daily exchange rates for the reference period. They are appropriate measures for comparing levels of employer labor costs. They do not indicate relative living standards of workers or the purchasing power of their income. Prices of goods and services vary greatly among countries, and commercial market exchange rates are not reliable indicators of relative differences in prices.

## Definitions

Hourly compensation costs include (1) hourly direct pay and (2) employer social insurance expenditures and other labor taxes. Hourly direct pay includes all payments made directly to the worker, before payroll deductions of any kind, consisting of (a) pay for time worked (basic time and piece rates plus overtime premiums, shift differentials, other premiums and bonuses paid regularly each pay period, and cost-of-living adjustments) and (b) other direct pay (pay for time not worked (vacations, holidays, and other leave, except sick leave), seasonal or irregular bonuses and other special payments, selected social allowances, and the cost of payments in kind). Social insurance expenditures and other labor taxes include (c) employer expenditures for legally required insurance programs and contractual and private benefit plans (retirement and disability pensions, health insurance, income guarantee insurance and sick leave, life and accident insurance, occupational injury and illness compensation, unemployment insurance, and family allowances) and, for some countries, (d) other labor taxes (other taxes on payrolls or employment (or reductions to reflect subsidies), even if they do not finance programs that directly benefit workers, because such taxes are regarded as labor costs). For consistency, compensation is measured on an hours-worked basis for every country.

The BLS definition of hourly compensation costs is not the same as the International Labour Office (ILO) definition of total labor costs. Hourly compensation costs do not include all items of labor costs. The costs of recruitment, employee training, and plant facilities and services-such as cafeterias and medical clinics-are not included because data are not available for most countries. The labor costs not included account for no more than 4 percent of total labor costs in any country for which the data are available.

Production workers generally include those employees who are engaged in fabricating, assembly, and related activities; material handling, warehousing, and shipping; maintenance and repair; janitorial and guard services; auxiliary production (for example, powerplants); and other services closely related to the above activities. Working supervisors are generally included; apprentices and other trainees are generally excluded.

## Methods

Total compensation is computed by adjusting each country's average earnings series for items of direct pay not included in earnings and for employer expenditures for legally required insurance, contractual and private benefit plans, and other labor taxes. For the United States and other countries that measure earnings on an hours-paid basis, the figures are also adjusted in order to approximate compensation per hour worked.

Earnings statistics are obtained from surveys of employment, hours, and earnings or from surveys or censuses of manufactures.

Adjustment factors are obtained from periodic labor cost surveys and interpolated or projected to nonsurvey years on the basis of other information for most countries. The information used includes tabulations of employer social security contribution rates provided by the International Social Security Association, information on contractual and legislated fringe benefit changes from ILO and national labor bulletins, and statistical series on indirect labor costs. For other countries, adjustment factors are obtained from surveys or censuses of manufactures or from reports on fringe-benefit systems and social security. For the United States, the adjustment factors are special calculations for international comparisons based on data from several surveys.

The statistics are also adjusted, where necessary, to account for major differences in worker coverage; differences in industrial classification systems; and changes over time in survey coverage, sample benchmarks, or frequency of surveys. Nevertheless, some differences in industrial coverage remain and, with the exception of the United States, Canada, and several other countries, the data exclude very small establishments (less than 5 employees in Japan and less than 10 employees in most European and some other countries). For the United States, the methods used, as well as the results, differ somewhat from those for other BLS series on U.S. compensation costs.

Hourly compensation costs are converted to U.S. dollars using the average daily exchange rate for the reference period. The exchange rates used are prevailing commercial market exchange rates as published by either the U.S. Federal Reserve Board or the International Monetary Fund.

For further details on survey sources and on special estimation procedures for some countries because of incomplete data, see International Comparisons of Hourly Compensation Costs for Production Workers in Manufacturing, 1995 (Report 909, Bureau of Labor Statistics, September 1996).

## Country notes

The following are exceptions to the standard coverage and definitions explained above:

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

Hong Kong SAR. Average of selected manufacturing industries. The industries covered accounted for about 70 percent of all persons employed in manufacturing in 1988. Compensation excludes overtime pay. Hong Kong became a Special Administrative Region (SAR) of China in July 1997.

Austria. Excludes workers in establishments considered handicraft manufacturers. (All printing and publishing and miscellaneous manufacturing establishments are classified in handicrafts.) In 1986, handicraft employment was about 35 percent of all manufacturing employment. Average compensation per
employee was about 10 percent lower in manufacturing including handicrafts than in manufacturing excluding handicrafts.

Finland. Includes workers in mining and electrical power plants. For comparability with other countries, compensation excludes some obligatory training and plant facilities costs; these costs would add 1.6 percent to average hourly compensation costs in 1994.

Germany. Excludes workers in establishments considered handicraft manufacturers. In 1990, handicraft employment in the former West Germany was about 25 percent of all manufacturing employment. Average hourly earnings of production workers were about 3 percent lower in manufacturing including handicrafts than in manufacturing excluding handicrafts.

Ireland. Data refer to September for 1975.
Norway. For comparability with other countries, compensation excludes some obligatory training and plant facilities costs; these costs would add 2.2 percent to average hourly compensation costs in 1994.

## Trade-weighted measures

The trade weights used to compute the average compensation cost measures for selected economic groups are relative importances derived from the sum of U.S. imports of manufactured products for consumption (customs value) and U.S. exports of domestic manufactured products (free along side \{f.a.s.\} value) in 1999 for each country or area and each economic group. See table below.

## Share of total U.S. imports and exports of manufactured products in 1999 <br> (in percent)

| Country or area and economic group | 1999 <br> trade <br> share | Country or area and economic group | 1999 <br> trade <br> share |
| :---: | :---: | :---: | :---: |
| Brazil ............. | 1.5 | Greece ............. | 1 |
| Canada ......... | 21.5 | Ireland .............. | 1.1 |
| Mexico ............ | 11.8 | Italy ............ | 2.0 |
|  |  | Luxembourg ...... | 1 |
| Australia ......... | 1.0 | Netherlands ...... | 1.6 |
| Hong Kong SAR ${ }^{1}$ | 1.5 | Norway ............ | . 2 |
| Israel ............. | 1.1 |  |  |
| Japan ............ | 11.8 | Portugal ........... | . 2 |
| Korea ............ | 3.4 | Spain ............... | . 7 |
| New Zealand .. | . 2 | Sweden ............ | . 8 |
| Singapore ....... | 2.2 | Switzerland | 1.1 |
| Sri Lanka ........ | . 1 | United Kingdom | 4.6 |
| Taiwan .......... | 3.4 | Economic groups |  |
| Austria ........... | 4 | 29 foreign |  |
| Belgium .......... | 1.3 | economies ..... | 82.2 |
| Denmark ........ | . 3 | OECD ${ }^{3}$............ | 72.5 |
| Finland ........... | 3 | Europe .... | 22.6 |
| France ........... | 2.7 | European Union ${ }^{4}$ | 21.4 |
| Germany ${ }^{2}$....... | 5.2 | Asian NIEs ... | 10.5 |

1 Hong Kong Special Administrative Region of China.
2 Former West Germany.
3 Organization for Economic Cooperation and Development.
4 Includes the 15 European Union members prior to expansion on May 1, 2004.

The trade data used to compute the weights are U.S. Bureau of the Census statistics of U.S. imports and exports converted to an industrial classification basis from data initially collected under the Harmonized Tariff Schedule commodity classification system.

The countries included in the Organization for Economic Cooperation and Development (OECD) trade-weighted measure are Canada, Mexico, Australia, Japan, Korea, New Zealand, and all European countries. Europe consists of the European Union, Norway, and Switzerland. The European Union consists of the 15 members before the expansion to 25 countries on May 1, 2004 (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom). The group labeled "Asian NIEs" consists of the four newly industrializing economies of Hong Kong sar, Korea, Singapore, and Taiwan.

The trade weighted measures relate to all the countries or areas covered in the series. Data for Germany relate to the former West Germany. Estimates are computed for missing country data using the average trend in other economies to estimate the missing data. Trade weighted average percent changes for the 29 foreign economies are computed both including and excluding Brazil, Mexico and Israel because their rapid rates of inflation and currency changes in several years distort the trade-weighted averages.

The trade-weighted average rates of change are computed as the trade-weighted arithmetic average of the rates of change for the individual countries or areas; the trade-weighted average hourly compensation costs are computed as the trade-weighted arithmetic average of cost levels for the individual countries or areas. Rates of change derived from the trade-weighted average hourly compensation cost levels need not be the same as the tradeweighted average rates of change.

## Data limitations

Because compensation is partly estimated, the statistics should not be considered as precise measures of comparative compensation costs. In addition, the figures are subject to revision as the results of new labor cost surveys or other data used to estimate compensation costs become available.

The comparative level figures in this report are averages for all manufacturing industries and are not necessarily representative of all component industries. In the United States and some other countries, such as Japan, differentials in hourly compensation cost levels by industry are quite wide. In contrast, other countries, such as Sweden, have narrow differentials.

## Labor costs versus labor income

The hourly compensation figures in U.S. dollars shown in the tables provide comparative measures of employer labor costs; they do not provide intercountry comparisons of the purchasing power of worker incomes. Prices of goods and services vary greatly among countries, and the commercial market exchange rates used to compare employer labor costs do not reliably indicate relative differences in prices. Purchasing power parities-that is, the number of foreign currency units required to buy goods and services equivalent to what can be purchased with one unit of U.S. or other base-country currency-must be used for meaningful international comparisons of the relative purchasing power of worker incomes.

Total compensation converted to U.S. dollars at purchasing power parities would provide one measure for comparing relative real levels of labor income. It should be noted, however, that total compensation includes employer payments to funds for the benefit of workers in addition to payments made directly to workers. (For a few countries, the compensation measures also include taxes or subsidies on payrolls or employment even if they do not finance programs which directly benefit workers.) Payments into these funds provide either deferred income (for example, payments to retirement funds), a type of insurance (for example, payments to unemployment or health benefit funds), or current social benefits (for example, family allowances), and the relationship between
employer payments and current or future worker benefits is indirect. On the other hand, excluding these payments would understate the total value of income derived from work because they substitute for worker savings or self-insurance to cover retirement, medical costs, etc.

Total compensation, because it takes account of employer payments into funds for the benefit of workers, is a broader income concept than either total direct earnings or direct spendable earnings. An even broader concept would take account of all social benefits available to workers, including those financed out of general revenues as well as those financed through employment or payroll taxes.

Table 1. Indexes of hourly compensation costs for production workers in manufacturing, 30 countries or areas and selected economic groups, selected years, 1975-2002

| Country or area | 1975 | 1980 | 1985 | 1990 | 1995 | 1999 | 2000 | 2001 | 2002 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Americas |  |  |  |  |  |  |  |  |  |
| United States. | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Brazil (1). | - | - | - | - | - | 18 | 18 | 14 | 12 |
| Canada. | 94 | 88 | 84 | 107 | 94 | 82 | 81 | 77 | 75 |
| Mexico. | 23 | 22 | 12 | 11 | r 8 | 10 | 11 | r 12 | r 12 |
| Asia and Oceania |  |  |  |  |  |  |  |  |  |
| Australia.. | 88 | 86 | 63 | 89 | 90 | 84 | 73 | r 64 | r 72 |
| Hong Kong SAR (2) | 12 | 15 | 13 | 22 | 29 | 29 | r 29 | 29 | 27 |
| Israel. | r 32 | r 35 | r 28 | r 52 | r 55 | 55 | r 58 | r 59 | r 51 |
| Japan. | 47 | 56 | 49 | r 86 | r135 | 109 | 113 | r 96 | r 89 |
| Korea. | 5 | 10 | 9 | 25 | 42 | 38 | 41 | r 37 | r 42 |
| New Zealand. | 49 | r 52 | r 33 | r 54 | r 57 | r 47 | r 40 | r 37 | r 40 |
| Singapore. | 13 | 15 | 19 | 25 | r 42 | 38 | r 38 | 37 | 34 |
| Sri Lanka. | 4 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 |
| Taiwan. | 6 | 10 | r 12 | 26 | 34 | r 31 | r 32 | r 30 | r 27 |
| Europe |  |  |  |  |  |  |  |  |  |
| Austria. | 71 | 90 | 58 | 119 | 147 | 114 | r 97 | r 93 | r 97 |
| Belgium. | 101 | 133 | 69 | 129 | 161 | 125 | 109 | 102 | 107 |
| Denmark. | 99 | 110 | 62 | 121 | 145 | r129 | r113 | r111 | r118 |
| Finland. | 73 | 84 | 63 | 142 | 141 | 113 | 98 | 96 | r102 |
| France. | 71 | 91 | 58 | 104 | 113 | 90 | 79 | r 76 | r 81 |
| Germany, Former West | 99 | 124 | 73 | 146 | 184 | r138 | r120 | r114 | r119 |
| Germany, Unified.......... | - | - | - | - | 176 | r132 | r115 | r109 | r114 |
| Greece...... | 27 | 38 | 28 | 45 | r 52 | - | - | - | - |
| Ireland. | 48 | 61 | 46 | 79 | 80 | r 73 | r 65 | r 66 | r 73 |
| Italy. | 73 | 83 | 59 | 117 | r 93 | 83 | r 72 | 67 | r 71 |
| Luxembourg. | 98 | 117 | 58 | 108 | 136 | r103 | r 89 | 84 | r 88 |
| Netherlands. | 103 | 122 | 67 | 121 | 140 | 112 | 98 | 96 | 102 |
| Norway. . | 106 | 117 | 80 | 144 | 142 | 128 | 114 | 112 | r127 |
| Portugal. | r 24 | r 20 | r 11 | r 24 | r 30 | r 27 | r 23 | 23 | 24 |
| Spain.. | 40 | 60 | 36 | 76 | 74 | 63 | r 54 | 53 | 56 |
| Sweden. | 113 | 127 | 74 | 140 | 125 | 113 | 102 | 89 | 95 |
| Switzerland. | 96 | 112 | 74 | 140 | 170 | 123 | 108 | 106 | 113 |
| United Kingdom............ | 53 | 77 | 48 | 85 | r 81 | r 91 | r 86 | r 81 | r 84 |
| Trade-weighted measures ( 3,4 ) |  |  |  |  |  |  |  |  |  |
| All 29 foreign economies.. | - | - | - | $\stackrel{-}{-}$ | - | 74 | 72 | 66 | 66 |
| less Brazil.............. | 60 | 66 | 51 | 80 | 89 | 75 | 73 | 67 | 67 |
| less Brazil, Mexico, Israel | 67 | 74 | 59 | 93 | 103 | 87 | 84 | 77 | 77 |
| OECD (5). | 66 | 72 | 55 | 86 | r 94 | 80 | 77 | 71 | 71 |
| less Mexico, Korea (6)... | 78 | 86 | 67 | 105 | r115 | 97 | 93 | 85 | 85 |
| Europe................ | 79 | 99 | 61 | 115 | 127 | 106 | 94 | 90 | r 94 |
| European Union-15 (7)..... | 78 | 98 | 60 | 114 | 125 | 105 | 93 | r 89 | 93 |
| Asian NIEs (8)..... | 8 | 12 | 13 | 25 | 38 | r 35 |  | r 34 | r 34 |

## r=revised

Dash means data not available.
(1) Data for Brazil are not available before 1996.
(2) Hong Kong special administrative region of China.
(3) Because data for Germany are not available before 1993, data for the former West Germany only are included in the trade-weighted measures.
(4) For description of trade-weighted measures and economic groups, see the Technical Notes preceding these tables.
(5) Organization for Economic Cooperation and Development.
(6) Mexico joined the OECD in 1994, and Korea joined in 1996.
(7) European Union-15 refers to European Union member countries prior to the expansion of the European Union to 25 countries on May 1, 2004.
(8) The Asian NIEs are Hong Kong, Korea, Singapore and Taiwan.

Source: U.S. Department of Labor, Bureau of Labor Statistics, May 2004.

Table 2. Hourly compensation costs in U.S. dollars for production workers in manufacturing, 30 countries or areas and selected economic groups, selected years, 1975-2002

| Country or area |  | 1975 |  | 1980 |  | 1985 | 1990 | 1995 | 1999 | 2000 | 2001 | 2002 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Americas |  |  |  |  |  |  |  |  |  |  |  |  |
| United States |  | 6.36 |  | 9.87 |  | 13.01 | 14.91 | 17.19 | 19.10 | 19.76 | r20.61 | r21.37 |
| Brazil (1) |  | - |  | - |  | - | - | - | 3.43 | 3.56 | 2.97 | r 2.58 |
| Canada. |  | 5.96 |  | 8.67 |  | 10.95 | 15.95 | 16.10 | 15.58 | 16.04 | 15.80 | 16.02 |
| Mexico |  | 1.47 |  | 2.21 |  | 1.59 | 1.58 | r 1.46 | r 1.86 | r 2.19 | r 2.51 | r 2.61 |
| Asia and Oceania |  |  |  |  |  |  |  |  |  |  |  |  |
| Australia..... |  | 5.62 |  | 8.47 |  | 8.21 | 13.24 | 15.56 | 15.99 | 14.47 | r13.28 | r15.44 |
| Hong Kong SAR (2) |  | 0.76 |  | 1.51 |  | 1.74 | 3.23 | 4.91 | r 5.55 | r 5.64 | r 5.98 | r 5.85 |
| Israel | $r$ | 2.03 | r | 3.41 |  | 3.65 | r 7.70 | r 9.48 | r10.58 | r11.42 | r12.17 | r10.85 |
| Japan |  | 3.00 |  | 5.52 |  | 6.34 | r12.77 | r23.19 | r20.85 | r22.34 | r19.73 | r19.02 |
| Korea |  | 0.32 |  | 0.96 |  | 1.23 | 3.71 | 7.29 | 7.35 | 8.19 | r 7.71 | r 9.04 |
| New Zealand | r | 3.09 | $r$ | 5.13 |  | 4.30 | r 8.03 | r 9.79 | r 8.95 | r 7.93 | r 7.55 | r 8.65 |
| Singapore |  | 0.84 |  | 1.49 |  | 2.47 | r 3.76 | r 7.31 | r 7.27 | r 7.61 | r 7.55 | r 7.26 |
| Sri Lanka |  | 0.28 |  | 0.22 |  | 0.28 | 0.35 | 0.48 | 0.46 | 0.48 | r 0.45 | 0.49 |
| Taiwan. |  | 0.38 |  | 1.02 |  | 1.50 | 3.90 | r 5.91 | r 5.86 | r 6.27 | r 6.12 | r 5.81 |
| Europe |  |  |  |  |  |  |  |  |  |  |  |  |
| Austria. |  | 4.51 |  | 8.88 |  | 7.58 | 17.75 | 25.32 | r21.73 | r19.25 | r19.16 | r20.83 |
| Belgium. |  | 6.41 |  | 13.11 |  | 8.97 | 19.17 | 27.62 | 23.92 | r21.60 | r21.05 | 22.79 |
| Denmark |  | 6.28 |  | 10.83 |  | 8.13 | 18.04 | 24.98 | r24.71 | r22.35 | r22.84 | r25.16 |
| Finland |  | 4.66 |  | 8.33 |  | 8.25 | 21.25 | 24.32 | 21.55 | 19.45 | 19.86 | r21.79 |
| France. |  | 4.52 |  | 8.94 |  | 7.52 | 15.49 | 19.38 | r17.12 | r15.56 | r15.77 | r17.27 |
| Germany, Former West |  | 6.29 |  | 12.21 |  | 9.50 | 21.81 | 31.57 | r26.38 | r23.68 | r23.51 | r25.40 |
| Germany, Unified. |  | - |  | - |  | - | - | r30.25 | r25.25 | r22.66 | r22.52 | r24.31 |
| Greece. |  | 1.69 |  | 3.73 |  | 3.66 | r 6.71 | r 8.95 | - | - | - | - |
| Ireland | r | 3.07 |  | 6.03 |  | 6.00 | r11.80 | 13.78 | r13.90 | r12.87 | r13.68 | r15.54 |
| Italy |  | 4.67 |  | 8.15 |  | 7.63 | 17.45 | r16.04 | 15.88 | r14.15 | r13.91 | r15.07 |
| Luxembourg. | $r$ | 6.24 |  | 11.55 |  | 7.50 | r16.05 | r23.43 | r19.68 | r17.57 | r17.26 | r18.77 |
| Netherlands |  | 6.58 |  | 12.06 |  | 8.75 | 18.06 | 24.12 | r21.46 | 19.44 | r19.76 | 21.74 |
| Norway. |  | 6.77 |  | 11.59 |  | 10.37 | 21.47 | 24.38 | 24.45 | 22.44 | 23.13 | r27.11 |
| Portugal | $r$ | 1.54 |  | 2.00 |  | 1.49 | r 3.64 | r 5.17 | r 5.12 | r 4.54 | 4.65 | 5.12 |
| Spain. |  | 2.53 |  | 5.89 |  | 4.66 | 11.38 | 12.80 | r12.01 | r10.74 | r10.85 | r12.02 |
| Sweden. |  | 7.18 |  | 12.51 |  | 9.66 | 20.93 | 21.44 | r21.60 | r20.22 | r18.43 | r20.27 |
| Switzerland. |  | 6.09 |  | 11.09 |  | 9.66 | 20.86 | r29.31 | r23.55 | r21.25 | r21.83 | 24.11 |
| United Kingdom. |  | 3.37 |  | 7.56 |  | 6.27 | 12.70 | r13.88 | r17.45 | r16.96 | r16.67 | r18.03 |
| Trade-weighted measures ( 3,4 ) |  |  |  |  |  |  |  |  |  |  |  |  |
| All 29 foreign economies.. |  | - |  | - |  | - | - | - | r14.19 | r14.16 | r13.70 | r14.17 |
| less Brazil. |  | 3.83 |  | 6.51 |  | 6.68 | 11.96 | r15.22 | r14.39 | r14.35 | r13.90 | r14.38 |
| less Brazil, Mexico, Israel. |  | 4.27 |  | 7.31 |  | 7.62 | 13.83 | 17.72 | 16.64 | 16.52 | 15.92 | 16.49 |
| OECD (5) | $r$ | 4.17 |  | 7.08 |  | 7.21 | r12.84 | r16.22 | 15.27 | r15.18 | r14.67 | r15.25 |
| less Mexico, Korea (6) |  | 4.96 | $r$ | 8.44 |  | 8.72 | r15.71 | r19.80 | r18.51 | 18.28 | 17.59 | r18.23 |
| Europe. |  | 5.03 |  | 9.80 |  | 7.92 | 17.19 | r21.84 | r20.28 | r18.56 | r18.47 | r20.14 |
| European Union-15 (7) |  | 4.96 |  | 9.71 |  | 7.80 | 16.97 | 21.44 | 20.07 | 18.38 | 18.26 | 19.87 |
| Asian NIEs (8) |  | 0.51 |  | 1.17 |  | 1.65 | 3.72 | r 6.51 | r 6.59 | r 7.09 | r 6.92 | r 7.17 |

## r=revised

Dash means data not available.
(1) Data for Brazil are not available before 1996.
(2) Hong Kong special administrative region of China.
(3) Because data for Germany are not available before 1993, data for the former West Germany only are included in the trade-weighted measures.
(4) For description of trade-weighted measures and economic groups, see the Technical Notes preceding these tables.
(5) Organization for Economic Cooperation and Development.
(6) Mexico joined the OECD in 1994, and Korea joined in 1996.
(7) European Union-15 refers to European Union member countries prior to the expansion of the European Union to 25 countries on May 1, 2004.
(8) The Asian NIEs are Hong Kong, Korea, Singapore and Taiwan.

Source: U.S. Department of Labor, Bureau of Labor Statistics, May 2004.
-15-
Table 3. Annual percent change in hourly compensation costs in U.S. dollars for production workers in manufacturing, 30 countries or areas and selected economic groups, selected years, 1975-2002

| Country or area | $\begin{aligned} & 1975- \\ & 2002(1) \end{aligned}$ | $\begin{aligned} & 1975- \\ & 1980 \end{aligned}$ | $\begin{aligned} & 1980- \\ & 1985 \end{aligned}$ | $\begin{aligned} & 1985- \\ & 1990 \end{aligned}$ | $\begin{aligned} & 1990- \\ & 1995 \end{aligned}$ | $\begin{aligned} & 1995- \\ & 2002 \end{aligned}$ | 2000 | 2001 | 2002 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Americas |  |  |  |  |  |  |  |  |  |
| United States | 4.6 | 9.2 | 5.7 | 2.8 | 2.9 | r 3.2 | 3.5 | 4.3 | r 3.7 |
| Brazil (2) | - | - | - | - | - | - | r 3.7 | r-16.4 | r-13.0 |
| Canada. | 3.7 | 7.8 | 4.8 | 7.8 | . 2 | -. 1 | 2.9 | -1.5 | 1.4 |
| Mexico. | r 2.2 | 8.5 | -6.3 | -. 2 | r-1.6 | r 8.6 | r17.9 | r14.4 | r 4.1 |
| Asia and Oceania |  |  |  |  |  |  |  |  |  |
| Australia. | 3.8 | 8.6 | -. 6 | 10.0 | 3.3 | r -. 1 | -9.5 | $r-8.2$ | r16.2 |
| Hong Kong SAR (3) | 7.9 | 14.8 | r 2.9 | 13.3 | r 8.7 | 2.5 | 1.6 | r 6.1 | -2.2 |
| Israel. | 6.4 | 11.0 | 1.4 | 16.1 | 4.3 | r 1.9 | 7.9 | r 6.5 | r-10.8 |
| Japan. | r 7.1 | 13.0 | 2.8 | r15.0 | r12.7 | r-2.8 | r 7.1 | r-11.7 | r-3.6 |
| Korea. | r13.1 | 24.3 | 5.1 | 24.6 | 14.5 | r 3.1 | 11.5 | $r-5.9$ | r17.2 |
| New Zealand. | 3.9 | 10.7 | -3.5 | 13.3 | r 4.1 | r-1.8 | r-11.4 | -4.9 | r14.6 |
| Singapore | 8.3 | r12.0 | r10.7 | r 8.8 | 14.2 | -. 1 | r 4.7 | r -. 7 | -3.8 |
| Sri Lanka | r 2.1 | -5.0 | 5.2 | 4.7 | 6.4 | . 5 | 3.5 | $r-6.1$ | 10.1 |
| Taiwan. | r10.6 | r21.8 | r 8.1 | r21.1 | r 8.7 | r -. 2 | r 7.0 | $r-2.3$ | -5.1 |
| Europe |  |  |  |  |  |  |  |  |  |
| Austria | r 5.8 | 14.5 | -3.1 | 18.5 | 7.4 | r-2.7 | r-11.4 | r -. 5 | r 8.8 |
| Belgium. | 4.8 | 15.4 | -7.3 | 16.4 | 7.6 | -2.7 | -9.7 | -2.5 | 8.3 |
| Denmark. | r 5.3 | 11.5 | -5.6 | 17.3 | 6.7 | r . 1 | r-9.5 | r 2.2 | 10.2 |
| Finland | r 5.9 | 12.3 | -. 2 | 20.8 | 2.7 | r-1.6 | -9.7 | 2.1 | r 9.7 |
| France. | 5.1 | 14.6 | -3.4 | 15.6 | 4.6 | r-1.6 | $r-9.1$ | r 1.3 | 9.5 |
| Germany, Former West | r 5.3 | 14.2 | -4.9 | 18.1 | 7.7 | r-3.1 | r-10.2 | r -. 7 | 8.0 |
| Germany, Unified. | - | - | - | - | - | r-3.1 | r-10.3 | -. 6 | r 8.0 |
| Greece. | 7.4 | 17.2 | -. 4 | r12.9 | r 5.9 | - | - | - | - |
| Ireland | r 6.2 | r14.5 | -. 1 | r14.5 | r 3.2 | r 1.7 | r -7.4 | r 6.3 | 13.6 |
| Italy. | 4.4 | 11.8 | -1.3 | 18.0 | r-1.7 | r -. 9 | r-10.9 | $r-1.7$ | 8.4 |
| Luxembourg | 4.2 | r13.1 | -8.3 | 16.4 | 7.9 | r-3.1 | r-10.7 | $r-1.7$ | r 8.7 |
| Netherlands | 4.5 | 12.9 | -6.2 | 15.6 | 6.0 | -1.5 | -9.4 | 1.6 | r10.0 |
| Norway. | 5.3 | 11.4 | -2.2 | 15.7 | 2.6 | r 1.5 | -8.2 | 3.1 | r17.2 |
| Portugal | r 4.6 | 5.5 | -5.8 | r19.6 | 7.3 | -. 1 | r-11.3 | 2.3 | 10.3 |
| Spain. | r 5.9 | 18.4 | -4.6 | 19.6 | 2.4 | -. 9 | r-10.6 | r 1.0 | r10.8 |
| Sweden. | 3.9 | 11.8 | -5.0 | 16.7 | . 5 | r -. 8 | r -6.4 | -8.9 | 10.0 |
| Switzerland. | 5.2 | 12.7 | -2.7 | 16.6 | 7.0 | r-2.8 | -9.8 | 2.8 | 10.4 |
| United Kingdom........... | r 6.4 | 17.5 | -3.7 | 15.2 | r 1.8 | r 3.8 | r -2.8 | -1.8 | 8.2 |
| Trade-weighted measures $(4,5)$ |  |  |  |  |  |  |  |  |  |
| All 29 foreign economies.. | - | - | - | - | - | - | r 3.1 | r -. 7 | r 3.2 |
| less Brazil. | r 5.4 | 12.1 | . 6 | 11.7 | r 4.5 | r . 9 | r 3.0 | r -. 4 | r 3.5 |
| less Brazil, Mexico, |  |  |  |  |  |  |  |  |  |
| Israel | 5.9 | 12.8 | 1.8 | 13.7 | 5.6 | -. 5 | . 4 | -3.1 | 3.6 |
| OECD (6) | r 5.0 | r11.6 | -. 2 | 11.3 | r 4.0 | r . 9 | r 2.8 | r -. 5 | r 4.4 |
| less Mexico, Korea (7) | 5.1 | r11.5 | . 8 | r12.9 | r 4.5 | r -. 9 | -. 9 | -3.3 | 3.7 |
| Europe. | 5.4 | 14.5 | -3.9 | 16.6 | 4.3 | r -. 6 | r -8.2 | -. 3 | 9.1 |
| European Union-15 (8) | 5.4 | 14.7 | -4.0 | 16.7 | 4.2 | -. 5 | -8.1 | -. 5 | r 9.0 |
| Asian NIEs (9)........... | r10.6 | 19.6 | r 7.0 | r18.5 | 11.7 | r 1.3 | r 7.2 | r-2.0 | 2.8 |

## $r=r e v i s e d$

Rates of change based on compound rate method.
Dash means data not available.
(1) 1975-1998 for Greece.
(2) Data for Brazil are not available before 1996.
(3) Hong Kong special administrative region of China.
(4) Because data for Germany are not available before 1993, data for the former West Germany only are included in the trade-weighted measures.
(5) Trade-weighted percent changes computed as the trade-weighted average of the rates of change for the individual countries or areas. For description of trade-weighted measures and economic groups, see the Technical Notes preceding these tables.
(6) Organization for Economic Cooperation and Development.
(7) Mexico joined the OECD in 1994, and Korea joined in 1996.
(8) European Union-15 refers to European Union member countries prior to the expansion of the European Union to 25 countries on May 1, 2004.
(9) The Asian NIEs are Hong Kong, Korea, Singapore and Taiwan.

Source: U.S. Department of Labor, Bureau of Labor Statistics, May 2004.
-16-
Table 4. Annual percent change in hourly compensation costs in national currency for production workers in manufacturing, 30 countries or areas and selected economic groups, selected years, 1975-2002

| Country or area | $\begin{aligned} & 1975- \\ & 2002(1) \end{aligned}$ | $\begin{aligned} & 1975- \\ & 1980 \end{aligned}$ | $\begin{aligned} & 1980- \\ & 1985 \end{aligned}$ | $\begin{aligned} & 1985- \\ & 1990 \end{aligned}$ | $\begin{aligned} & 1990- \\ & 1995 \end{aligned}$ | $\begin{aligned} & 1995- \\ & 2002 \end{aligned}$ | 2000 | 2001 | 2002 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Americas |  |  |  |  |  |  |  |  |  |
| United States | 4.6 | 9.2 | 5.7 | 2.8 | 2.9 | r 3.2 | 3.5 | 4.3 | r 3.7 |
| Brazil (2) | - | - | - | - | - | - | r 4.2 | r 7.5 | r 8.0 |
| Canada. | 5.4 | 10.8 | 8.1 | 4.5 | 3.5 | 1.9 | 2.9 | 2.7 | r 2.7 |
| Mexico. | r30.7 | 22.5 | 51.8 | 61.1 | r16.1 | r15.2 | r16.7 | r12.9 | r 7.7 |
| Asia and Oceania |  |  |  |  |  |  |  |  |  |
| Australia. | r 7.2 | 11.6 | 9.6 | r 7.7 | 4.4 | r 4.4 | . 5 | r 3.3 | r10.4 |
| Hong Kong SAR (3) | 9.7 | 15.0 | r12.5 | 13.3 | 8.6 | r 2.7 | 2.0 | r 6.2 | -2.2 |
| Israel | r48.0 | 68.3 | 200.9 | 29.2 | 13.0 | r 8.8 | r 6.2 | r 9.9 | r . 5 |
| Japan. | 3.7 | 7.0 | 4.0 | r 4.1 | r 3.3 | r 1.3 | r 1.6 | r -. 4 | r -. 8 |
| Korea. | 17.2 | 30.1 | 13.0 | 19.5 | 16.5 | r10.5 | 5.9 | r 7.5 | 13.4 |
| New Zealand. | r 7.6 | 15.6 | 10.4 | 9.3 | r 2.1 | r 3.2 | r 2.7 | r 3.5 | r 3.7 |
| Singapore | 7.2 | 9.8 | r11.3 | r 4.6 | 8.7 | 3.3 | r 6.5 | r 3.2 | -3.9 |
| Sri Lanka | r12.5 | 12.7 | 16.2 | 13.1 | 11.7 | 9.9 | 12.8 | 9.0 | 17.8 |
| Taiwan. | r10.3 | r20.5 | r10.3 | r11.9 | r 8.3 | r 3.6 | r 3.5 | r 5.7 | r-3.0 |
| Europe |  |  |  |  |  |  |  |  |  |
| Austria | r 5.1 | 7.9 | 6.4 | 5.1 | 4.9 | r 2.5 | r 2.2 | 2.7 | 3.0 |
| Belgium. | 5.4 | 10.2 | 6.8 | 3.8 | 4.9 | 2.6 | 4.2 | . 5 | 2.5 |
| Denmark | r 6.5 | 11.1 | 7.2 | 5.3 | 4.6 | r 5.1 | r 4.8 | r 5.2 | 4.3 |
| Finland | 8.0 | 12.6 | 10.5 | 9.7 | 5.5 | r 3.7 | 4.1 | 5.3 | r 3.9 |
| France. | 7.0 | 14.3 | 12.3 | 4.6 | 2.7 | r 3.1 | r 4.9 | 4.5 | 3.7 |
| Germany, Former West | r 4.6 | 7.5 | 4.7 | 4.8 | 5.1 | r 2.2 | r 3.6 | r 2.4 | 2.3 |
| Germany, Unified. | - | - | - | - | - | r 2.2 | r 3.5 | 2.5 | 2.2 |
| Greece. | r18.2 | 23.9 | 26.0 | r16.1 | r14.3 | - | - | - | - |
| Ireland | r 8.6 | r16.3 | 13.9 | r 4.8 | 3.8 | r 6.0 | r 6.8 | r 9.6 | 7.6 |
| Italy. | r 9.0 | 18.0 | 15.9 | 7.5 | r 4.6 | r 2.4 | r 2.8 | r 1.4 | 2.6 |
| Luxembourg. | r 4.7 | 8.0 | 5.7 | 3.8 | 5.2 | r 2.1 | r 3.0 | r 1.4 | r 3.0 |
| Netherlands | 4.2 | 7.6 | 3.9 | 2.5 | 3.3 | 3.9 | 4.5 | 4.8 | 4.2 |
| Norway. | r 6.9 | 10.1 | 9.3 | 8.5 | 2.8 | r 4.9 | 3.6 | 5.2 | r 4.0 |
| Portugal | r13.1 | 20.7 | 20.6 | r15.2 | r 8.3 | 4.9 | r 2.4 | 5.5 | 4.4 |
| Spain. | 10.4 | 23.8 | 13.4 | 7.9 | 6.6 | 4.1 | r 3.2 | 4.1 | r 4.9 |
| Sweden. | r 7.3 | 12.2 | 9.5 | 8.3 | 4.3 | r 3.7 | r 3.8 | 2.7 | 3.4 |
| Switzerland. | 3.3 | 3.4 | 5.0 | 4.1 | 3.6 | 1.2 | 1.3 | 2.7 | 1.8 |
| United Kingdom........... | r 8.0 | 16.5 | 8.3 | 8.0 | r 4.3 | r 4.6 | r 3.7 | 3.4 | 3.7 |
| Trade-weighted measures ( 4,5 ) |  |  |  |  |  |  |  |  |  |
| All 29 foreign economies.. | - | - | - | - | - | - | r 5.3 | r 4.5 | r 3.3 |
| less Brazil. | 10.6 | 14.5 | 17.2 | 14.6 | r 6.7 | r 4.8 | r 5.3 | r 4.5 | r 3.2 |
| less Brazil, Mexico, |  |  |  |  |  |  |  |  |  |
| Israel | 6.5 | 12.2 | 8.2 | 6.3 | 4.9 | 2.9 | 3.3 | 2.9 | 2.4 |
| OECD (6) | r10.2 | 13.5 | 15.0 | r14.9 | r 6.4 | r 4.8 | r 5.4 | r 4.3 | r 3.8 |
| less Mexico, Korea (7) | 5.6 | 10.7 | 7.5 | 5.0 | r 3.8 | r 2.4 | r 3.0 | r 2.4 | r 2.4 |
| Europe. | 6.6 | 12.4 | 8.7 | 5.8 | 4.4 | r 3.4 | r 3.9 | 3.4 | 3.4 |
| European Union-15 (8) | 6.8 | 12.9 | 8.9 | 5.9 | 4.4 | 3.4 | 4.0 | 3.4 | 3.4 |
| Asian NIEs (9)...... | r11.8 | 20.6 | r11.7 | 13.1 | r11.1 | r 5.6 | r 4.7 | r 5.8 | 2.2 |

## $r=r e v i s e d$

Rates of change based on compound rate method.
Dash means data not available.
(1) 1975-1998 for Greece.
(2) Data for Brazil are not available before 1996.
(3) Hong Kong special administrative region of China.
(4) Because data for Germany are not available before 1993, data for the former West Germany only are included in the trade-weighted measures.
(5) Trade-weighted percent changes computed as the trade-weighted average of the rates of change for the individual countries or areas. For description of trade-weighted measures and economic groups, see the Technical Notes preceding these tables.
(6) Organization for Economic Cooperation and Development.
(7) Mexico joined the OECD in 1994, and Korea joined in 1996.
(8) European Union-15 refers to European Union member countries prior to the expansion of the European Union to 25 countries on May 1, 2004.
(9) The Asian NIEs are Hong Kong, Korea, Singapore and Taiwan.

Source: U.S. Department of Labor, Bureau of Labor Statistics, May 2004.

Table 5. Annual percent change in exchange rates (U.S. dollars per national currency unit), 30 countries or areas and selected economic groups, selected years, 1975-2002

| Country or area | $\begin{aligned} & 1975- \\ & 2002(1) \end{aligned}$ | $\begin{aligned} & 1975- \\ & 1980 \end{aligned}$ | $\begin{aligned} & 1980- \\ & 1985 \end{aligned}$ | $\begin{aligned} & 1985- \\ & 1990 \end{aligned}$ | $\begin{aligned} & 1990- \\ & 1995 \end{aligned}$ | $\begin{aligned} & 1995- \\ & 2002 \end{aligned}$ | 2000 | 2001 | 2002 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Americas |  |  |  |  |  |  |  |  |  |
| United States | - | - | - | - | - | - | - | - | - |
| Brazil (2) | - | - | - | - | - | - | -. 5 | -22.2 | -19.4 |
| Canada. | -1.6 | -2.7 | -3.1 | 3.2 | -3.2 | -1.9 | . 0 | -4.1 | -1.3 |
| Mexico. | -21.8 | -11.5 | -38.3 | -38.0 | -15.2 | -5.7 | 1.0 | 1.3 | -3.4 |
| Asia and Oceania |  |  |  |  |  |  |  |  |  |
| Australia. | -3.2 | -2.7 | -9.3 | 2.2 | -1.0 | -4.3 | -9.9 | -11.1 | 5.2 |
| Hong Kong SAR (3) | -1.7 | -. 1 | -8.6 | . 0 | . 1 | -. 1 | -. 4 | -. 1 | . 0 |
| Israel | -28.1 | -34.1 | -66.3 | -10.2 | -7.7 | -6.3 | 1.5 | -3.1 | -11.2 |
| Japan. | 3.2 | 5.6 | -1.1 | 10.5 | 9.1 | -4.0 | 5.5 | -11.3 | -2.9 |
| Korea. | -3.5 | -4.4 | -6.9 | 4.2 | -1.7 | -6.7 | 5.2 | -12.5 | 3.4 |
| New Zealand. | -3.5 | -4.3 | -12.6 | 3.7 | 1.9 | -4.8 | -13.7 | -8.0 | 10.5 |
| Singapore. | 1.0 | 2.1 | -. 5 | 3.9 | 5.1 | -3.3 | -1.7 | -3.8 | . 1 |
| Sri Lanka. | r-9.2 | -15.7 | -9.5 | -7.5 | -4.8 | -8.5 | -8.3 | r-13.8 | -6.6 |
| Taiwan. | . 4 | 1.1 | -2.0 | 8.2 | . 3 | -3.7 | 3.4 | -7.6 | -2.1 |
| Europe |  |  |  |  |  |  |  |  |  |
| Austria. | . 7 | 6.1 | -9.0 | 12.8 | 2.4 | -5.1 | -13.3 | -3.0 | 5.6 |
| Belgium. | -. 6 | 4.7 | -13.2 | 12.2 | 2.5 | -5.2 | -13.3 | -3.0 | 5.6 |
| Denmark | -1.2 | . 4 | -11.9 | 11.4 | 2.0 | -4.8 | -13.7 | -2.8 | 5.7 |
| Finland | -2.0 | -. 3 | -9.7 | 10.1 | -2.6 | -5.0 | -13.3 | -3.0 | 5.6 |
| France. | -1.8 | . 3 | -14.0 | 10.5 | 1.8 | -4.6 | -13.3 | -3.0 | 5.6 |
| Germany, Former West | . 6 | 6.2 | -9.2 | 12.7 | 2.5 | -5.1 | r-13.3 | -3.0 | 5.6 |
| Germany, Unified.. | - | - | - | - | - | -5.1 | r-13.3 | -3.0 | 5.6 |
| Greece. | -9.2 | -5.4 | -21.0 | -2.7 | -7.3 | - | - | - | - |
| Ireland | -2.3 | -1.5 | -12.3 | 9.2 | -. 7 | -4.1 | -13.3 | -3.0 | 5.6 |
| Italy. | -4.1 | -5.3 | -14.8 | 9.8 | -6.0 | -3.2 | -13.3 | r-3.0 | 5.6 |
| Luxembourg. | -. 5 | 4.7 | -13.2 | 12.2 | 2.5 | -5.1 | -13.3 | -3.0 | 5.6 |
| Netherlands | . 3 | 4.9 | -9.8 | 12.7 | 2.6 | -5.2 | -13.3 | -3.0 | 5.6 |
| Norway. | -1.6 | 1.1 | -10.5 | 6.6 | -. 3 | -3.2 | -11.4 | -2.0 | 12.7 |
| Portugal | r-7.6 | -12.7 | -21.9 | 3.8 | -1.0 | -4.8 | r-13.3 | -3.0 | 5.6 |
| Spain. | -4.1 | -4.3 | -15.9 | 10.8 | -3.9 | -4.8 | -13.3 | r-3.0 | 5.6 |
| Sweden. | -3.1 | -. 4 | -13.2 | 7.8 | -3.7 | -4.3 | -9.8 | -11.3 | 6.4 |
| Switzerland. | 1.9 | 9.0 | -7.4 | 12.0 | 3.3 | -3.9 | -10.9 | . 1 | 8.5 |
| United Kingdom........... | -1.4 | . 9 | -11.0 | 6.6 | -2.4 | -. 7 | -6.3 | -5.0 | 4.3 |
| Trade-weighted measures $(4,5)$ |  |  |  |  |  |  |  |  |  |
| All 29 foreign economies.. | - | - | - | - | - | - | -2.1 | r-5.1 | -. 1 |
| less Brazil. | -4.0 | -1.6 | -11.4 | . 2 | -1.8 | r-3.7 | -2.2 | -4.7 | . 3 |
| less Brazil, Mexico, |  |  |  |  |  |  |  |  |  |
| Israel. | -. 5 | . 6 | -5.9 | 7.0 | . 6 | -3.3 | -2.8 | -5.8 | 1.1 |
| OECD (6). | r-4.1 | -1.4 | -11.4 | -. 1 | -2.0 | -3.7 | -2.5 | -4.7 | . 6 |
| less Mexico, Korea (7)... | -. 4 | . 9 | -6.2 | 7.5 | . 6 | -3.1 | -3.7 | -5.5 | 1.2 |
| Europe. | r-1.1 | 2.1 | -11.5 | 10.2 | . 0 | r-3.8 | -11.6 | -3.6 | r 5.5 |
| European Union-15 (8).... | -1.3 | 1.7 | -11.7 | 10.2 | -. 2 | -3.8 | -11.6 | -3.8 | 5.3 |
| Asian NIEs (9)........... | -1.0 | -. 7 | -4.2 | 4.9 | . 6 | -4.1 | 2.4 | -7.3 | . 4 |

$r=r e v i s e d$
Rates of change based on compound rate method.
Dash means data not available.
(1) 1975-1998 for Greece.
(2) Data for Brazil are not available before 1996.
(3) Hong Kong special administrative region of China.
(4) Because data for Germany are not available before 1993, data for the former West Germany only are included in the trade-weighted measures.
(5) Trade-weighted percent changes computed as the trade-weighted average of the rates of change for the individual countries or areas. For description of trade-weighted measures and economic groups, see the Technical Notes preceding these tables.
(6) Organization for Economic Cooperation and Development.
(7) Mexico joined the OECD in 1994, and Korea joined in 1996.
(8) European Union-15 refers to European Union member countries prior to the expansion of the European Union to 25 countries on May 1, 2004.
(9) The Asian NIEs are Hong Kong, Korea, Singapore and Taiwan.

Source: U.S. Department of Labor, Bureau of Labor Statistics, May 2004.

Table 6. Hourly compensation costs in national currency units and exchange rates, 30 countries or areas and selected economic groups, selected years, 2002

| Country or area | Compensation costs | Exchange Rat |
| :---: | :---: | :---: |
| Americas |  |  |
| United States. | . r 21.37 | 1.000 |
| Brazil (1) | r 7.55 | 2.921 |
| Canada. | . r 25.15 | 1.570 |
| Mexico. | . r 25.20 | 9.663 |
| Asia and Oceania |  |  |
| Australia. | . r 28.39 | 1.839 |
| Hong Kong SAR (2) | . r 45.63 | 7.800 |
| Israel.......... | . r 51.43 | 4.738 |
| Japan. | . r 2381 | 125.2 |
| Korea.. | . r 11294 | 1250 |
| New Zealand. | . r 18.62 | 2.153 |
| Singapore. | . r 13.01 | 1.791 |
| Sri Lanka. | 47.26 | 95.66 |
| Taiwan. | . r 200.8 | 34.54 |
| Europe |  |  |
| Austria. | r 22.04 | 1.058 |
| Belgium. | . r 24.10 | 1.058 |
| Denmark. | . r 198.4 | 7.886 |
| Finland. | . r 23.05 | 1.058 |
| France. | r 18.26 | 1.058 |
| Germany, Former West | . r 26.87 | 1.058 |
| Germany, Unified. | . r 25.71 | 1.058 |
| Greece. | . - | - |
| Ireland. | . r 16.43 | 1.058 |
| Italy. | . r 15.95 | 1.058 |
| Luxembourg. | . r 19.86 | 1.058 |
| Netherlands | 22.99 | 1.058 |
| Norway. | . r 216.4 | 7.984 |
| Portugal | 5.42 | 1.058 |
| Spain. | . r 12.71 | 1.058 |
| Sweden. | . r 197.0 | 9.720 |
| Switzerland. | . r 37.53 | 1.557 |
| United Kingdom...... | ... r 12.01 | . 6660 |

r=revised
Dash means data not available.
(1) Data for Brazil are not available before 1996.
(2) Hong Kong special administrative region of China.

National currency units are: United States, dollar; Canada, dollar;
Brazil, real; Mexiao, peso; Australia, dollar; Hong Kong, dollar;
Israel, new shekel; Japan, yen; Korea, won; New Zeland, dollar;
Singapore, dollar; Sri Lanka, rupee; Taiwan, dollar;
Austria, euro; Belgium, euro; Denmark, krone; Finland, euro;
France, euro; Germany, euro; Greece, euro; Ireland, euro;
Italy, euro; Luxembourg, euro; Netherlands, euro; Norway, krone;
Portugal, euro; Spain, euro; Sweden, krona;
Switxzerland, franc; United Kingdom, pound
Note: For data for all years 1975-2002, see the supplementary tables to this report at http://www.bls.gov/fls.

Source: U.S. Department of Labor, Bureau of Labor Statistics, May 2004.


[^0]:    $r=$ revised
    ${ }^{1}$ Hong Kong Special Administrative Region of China.
    ${ }^{2}$ Because data for Germany are not available before 1993, data for only the former West Germany are included in the trade-weighted measures.
    ${ }^{3}$ The 2001-2002 percent changes for the trade-weighted measures are based upon the changes for the countries or areas for which 2002 data are available.
    ${ }_{5}^{4}$ OECD refers to the Organization for Economic Cooperation and Development.
    ${ }^{5}$ Mexico joined the OECD in 1994, and Korea joined in 1996.

[^1]:    ${ }^{1}$ Data prior to 1996 relate to 28 foreign economies not including Brazil.

