

Chapter 12.

International Labor Comparisons

Background

From its inception, BLS has published statistical information on labor conditions and labor developments abroad. Beginning in the early 1960s, BLS began to develop regularly published statistical series of data adjusted to common concepts to facilitate international comparisons. Comparative statistical analyses have been undertaken for two main purposes: (1) to assess U.S. economic and labor market performance relative to other economies and (2) to evaluate the competitive position of the United States in increasingly global markets.

The BLS program of international comparisons is unique. Other national statistical agencies publish some international comparisons, and international organizations publish statistics collected within a common set of guidelines for a large number of countries. With few exceptions, however, data are not adjusted for comparability by these other agencies.

Description of Measures

The emphasis of the current program is on the development of international comparisons of

- The labor force, employment, unemployment, and related indicators;
- Hourly compensation costs of employees and production workers;
- Productivity and unit labor costs in manufacturing;
- Real gross domestic product per capita and per employed person; and
- Consumer prices.

The measures compiled relate primarily to the major developed countries, but other countries or areas of importance to U.S. foreign trade are included in some of the measures. Most of the data are annual averages; only unemployment

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rates and consumer prices are also available as monthly and quarterly figures.

Data Sources

Research on comparative labor statistics is based upon statistical data and other source materials from (a) statistical agencies of foreign countries; (b) international and supranational bodies such as the United Nations, the International Labor Office (ILO), the Organization for Economic Cooperation and Development (OECD), and the Statistical Office of the European Communities (EUROSTAT); and (c) private agencies such as banks, industry associations, and research institutions. All foreign-country data are drawn from secondary sources; BLS does not initiate surveys or data collection programs abroad.

Estimation Procedures

Because statistical concepts and methods vary from country to country, international comparisons of statistical data can be misleading. BLS attempts to derive meaningful comparisons by (1) selecting a conceptual framework for comparative purposes, (2) analyzing foreign statistical series and selecting those which most nearly match the desired concepts, and (3) adjusting statistical series, where necessary and feasible, for greater international comparability.

Labor force, employment, and unemployment

To compare unemployment across countries, BLS publishes monthly, quarterly, and annual unemployment rates adjusted to U.S. concepts for 10 countries: the United States, Canada, Australia, Japan, France, Germany, Italy, the Netherlands, Sweden, and the United Kingdom. BLS publishes additional annual labor force statistics on a civilian basis (that is, excluding military personnel) for the same 10 countries: working-age population, labor force, employment by major economic sector (agriculture, industry, manufacturing, and services), unemployment, employment-population ratios by sex, unemployment rates by age and sex, and women's share of the labor force. (To present the differences between data adjusted to U.S. concepts and data from national sources, BLS also publishes unadjusted annual labor force, employment, and unemployment data series; these may or may not be on a civilian basis). The U.S. concepts that form the basis for the international comparisons are as follows:

- The civilian noninstitutional working-age population consists of those persons 16 years of age and older, excluding persons who are either inmates of institutions or on active duty in the military.
- Employed persons are those who, during the reference week, (a) worked at least 1 hour as paid employees, worked in their own businesses or professions or on their own farms, or worked at least 15 hours as unpaid workers in a family-operated enterprise, or (b) did not work, but had jobs or businesses from which they were temporarily absent because of vacation, illness, bad weather, childcare problems, maternity or paternity leave, labor-management disputes, job training, or other family or personal reasons, regardless of whether they were paid or were seeking other jobs.
- Unemployed persons are all persons who had no employment during the reference week, were available for work, except for temporary illness, and had actively sought work during the 4-week period ending with the reference week. "Active" job search methods are those methods which have the potential to result in a job offer without further action on the part of the jobseeker; for example, sending a resume to an employer would be considered active, whereas reading newspaper advertisements would not. Persons who were waiting to start a new job must have fulfilled these criteria to be considered unemployed; however, persons who were waiting to be recalled to a job from which they had been laid off need not have been looking for work. (For further information on U.S. Current Population Survey concepts and definitions, see the technical notes in *Employment and Earnings* at http://www.bls.gov/cps/eetech_methods.pdf.)

Foreign-country data are adjusted as closely as possible to these U.S. definitions. Primary areas of adjustment address

conceptual differences in upper age limits and definitions of employment and unemployment, provided that reliable data are available to make such adjustments. Where applicable, adjustments are made to

- Include employed and unemployed persons above upper age limits; some European countries do not include persons older than age 64 in their labor force measures, because a large portion of this population has retired.
- Include full-time students seeking work and available for work as unemployed when they are classified as not in the labor force.
- Exclude active-duty military personnel from employment figures, although a small number of career military personnel may be included in some European countries.
- Exclude unpaid family workers who worked fewer than 15 hours per week from employment figures; U.S. concepts do not include them in employment, whereas most foreign countries include all unpaid family workers regardless of the number of hours worked.

Where possible, lower age limits are based on the age at which compulsory schooling ends in each country, rather than on the U.S. standard of 16 years of age and older. Lower age limits have ranged between 13 and 16 over the years covered; currently, the lower age limits are either 15 or 16 in all 10 countries.

Some adjustments for comparability are not made because data are unavailable for adjustment purposes. For example, no adjustments to unemployment are usually made for deviations from U.S. concepts in the treatment of persons waiting to start a new job or in the treatment of passive jobseekers. These conceptual differences have little impact on the measures. Furthermore, BLS studies have concluded that no adjustments should be made for persons on layoff who are counted as employed in some countries because of their strong job attachment, as evidenced by, for example, the payment of a salary or the existence of a recall date. In the United States, persons on layoff have weaker job attachment and are classified as unemployed.

The annual labor force measures are obtained from monthly, quarterly, or continuous household surveys and may be calculated as averages of monthly or quarterly data. Quarterly and monthly unemployment rates are based on household surveys. For some countries, they are calculated by applying annual adjustment factors to current published data and, therefore, are less precise indicators of unemployment under U.S. concepts than the annual figures are.

The labor force measures may have breaks in series over time because of changes in surveys, sources, or estimation methods. Breaks are noted in data tables.

For further discussion of international comparability issues, see Constance Sorrentino, "International unemployment rates: how comparable are they?" *Monthly Labor Review*, June 2000, pp. 3–20. For up-to-date information on

Table 1. Hourly compensation		
Hourly direct pay		Employer social insurance expenditures (both legally required and contractual and private) and other labor taxes
Pay for time worked	Other direct pay	
<ul style="list-style-type: none"> • Basic wages • Piece rate • Overtime premiums • Shift, holiday, or night work premiums • Cost-of-living adjustments • Bonuses and premiums paid each pay period 	<ul style="list-style-type: none"> • Pay for time not worked (vacations, holidays, and other leave, except sick leave) • Seasonal and irregular bonuses • Allowances for family events, commuting expenses, etc. • The cash value of payments in kind • Severance pay (where not explicitly linked to a collective-bargaining agreement) 	<ul style="list-style-type: none"> • Retirement and disability pensions • Health insurance • Income guarantee insurance and sick leave • Life and accident insurance • Occupational injury and illness compensation • Unemployment insurance • Severance pay (where linked to a collective-bargaining agreement) • Other social insurance expenditures • Taxes (or subsidies) on payrolls or employment

adjustments and breaks in series, see the Technical Notes to *International Comparisons of Annual Labor Force Statistics, 10 Countries*, on the Internet at <http://www.bls.gov/ilc/flscomparelf.htm>, and the notes to table 1 of *International Unemployment Rates and Employment Indexes, 2007–2009 (Seasonally Adjusted)*, on the Internet at http://www.bls.gov/ilc/intl_unemployment_rates_monthly.htm.

Hourly compensation costs

Measures of hourly compensation costs are prepared by BLS to assess international differences in manufacturing employer labor costs. For several reasons, comparisons based on the more readily available average earnings statistics published by many countries can be 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. For many years, data on hourly compensation costs covered production workers only; recently, the series has been extended to cover all employees as well.

Hourly compensation costs consist of (1) hourly direct pay and (2) employer social insurance expenditures and other labor taxes. Hourly direct pay represents all payments made directly to the worker, before payroll deductions of any kind, and consists of pay for time worked and other direct pay. Social insurance expenditures represent the value of social contributions incurred by employers to secure entitlement to social benefits for their employees; these contributions often provide delayed, future income and benefits to employees. Included are (1) employer expenditures for legally required insurance programs and for contractual and private benefit plans and (2) other labor taxes. Other labor taxes are taxes on payrolls or employment (or reductions to reflect subsidies), even if they do not finance programs that directly benefit workers. Table 1 illustrates the relationships among the subcategories of hourly compensation costs.

The BLS definition of hourly compensation costs is not the same as the International Labor Office (ILO) definition of total labor costs: BLS hourly compensation costs are less inclusive than the total labor costs reported by the ILO. Expenditures on the maintenance and repair of facilities related to company-provided services—such as cafeterias, daycare centers, private medical clinics, and recreational facilities—are excluded from the BLS definition because they are overhead costs not directly linked to the level of employment or payroll. Recruitment and vocational training costs and reimbursements of business expenses also are not included in the BLS definition, because the concepts used, and thus the measurement of these items, are not consistent across countries. The labor costs excluded from the BLS definition account for no more than 2 percent of total labor costs in most countries for which 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, in powerplants); and other services closely related to the preceding activities. Working supervisors generally are included; apprentices and other trainees generally are excluded.

All employees comprise production workers, as well as all others employed full or part time in an establishment during a specified payroll period. Temporary employees are included. Persons are considered employed if they receive pay for any part of the specified pay period. The self-employed, unpaid family workers, and workers in private households are excluded.

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 and subsidies. For the United States and other countries that measure earnings on an hours-paid basis,

the figures also are adjusted in order to approximate compensation per hour worked.

Earnings, hours worked, and employment statistics are obtained from surveys or censuses of manufactures, or from administrative data sources. The surveys used in the BLS series typically cover firms with a minimum of 1 to 10 employees.

For most countries, adjustment factors obtained from periodic labor cost surveys or censuses of manufactures are used to adjust average earnings to total compensation; the adjustment factors are interpolated or projected to nonsurvey years on the basis of other information. Generally, these surveys cover all employees in the establishment; survey data are used for both production worker and all-employee series. Other 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, and statistical series on indirect labor costs. For the United States, the adjustment factors for international comparisons are specially constructed out of data from several surveys. The methods used, as well as the results, differ somewhat from those for other BLS series on U.S. compensation costs.

The statistics also are 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 the frequency of surveys. Nevertheless, some differences remain. Exceptions to these methods, as well as data sources, can be found in "Country Notes and Sources," located at <http://www.bls.gov/ilc>.

The average daily exchange rate for the reference period is used to convert hourly compensation costs to U.S. dollars. 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.

The trade weights used to compute the average compensation cost measures for selected economic groups are weights based on the relative dollar value of U.S. trade in manufactured commodities (exports plus imports) with each country or area for a recent year. The trade data are compiled by the U.S. Census Bureau. The trade-weighted measures relate to all the countries or areas in the series. If data for the most recent year(s) are missing for a country, the average percent change of all the other economies in the series is used to compute trade-weighted estimates for the missing year(s). An economy is included in the trade-weight series beginning with the starting year of that economy's data series.

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 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 trade-weighted average rates of change.

Productivity and Unit Labor Costs

Time-series indexes of manufacturing labor productivity (output per hour) and unit labor costs are constructed from

three basic aggregate measures: Total real output, hours worked, and nominal compensation. Indexes for unit labor costs are prepared on a national currency basis; currency exchange rates are used to prepare indexes for unit labor costs on a U.S. dollar basis. With the additional collection of data on annual employment in manufacturing and the use of consumer price indexes, 15 time-series indexes are constructed.

The employment, hours, and compensation measures refer to employees (wage and salary workers) in Belgium and Taiwan and to all employed persons (employees plus the self-employed and unpaid family workers) in all other economies.

In general, the measures relate to total manufacturing as defined by the International Standard Industrial Classification (ISIC). However, the measures for France include parts of mining. Data for the United States are in accordance with the North American Industry Classification System (NAICS), except for compensation data before 1987, which are based on SIC 1987. Canadian data are in accordance with NAICS '97, starting with 1961 data.

The U.S. data are based on the system of national income and product accounts (NIPA). For other countries, the data for the most recent years are based on the United Nations System of National Accounts 1993 (SNA '93); data for earlier years are based on previously used systems.

To obtain historical time series, BLS links some data series that were compiled by national statistical offices according to different accounting systems.

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

Most economies now use moving price weights to estimate real output in manufacturing, as recommended by SNA '93. However, fixed price weights were used to make estimates for many earlier periods within the historical real output series, with the weights updated periodically (for example, every 5 or 10 years). Taiwan and Korea still use fixed price weights to estimate real output.

Measures of real output also may differ among economies because of different approaches to estimating the prices of products, such as computers, that undergo rapid changes in capabilities and characteristics.

For the United States, the output measure for the manufacturing sector is a chain-weighted index of real gross product originating (deflated value added) produced by the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce.

The U.S. manufacturing output series used for international comparisons differs from the U.S. manufacturing output series BLS publishes as part of its major-sector productivity and costs measures for the United States. (See chapter 10.) The international comparisons program uses a value-added output concept, whereas the major-sector series is on a sectoral output basis. Sectoral output is gross output less intra-sector sales and transfers.

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

For all of the economies for the most recent years, the term hours refers to hours worked. For some earlier years, BLS uses other hours measures.

For the United States, the employment and hours data series beginning with 1987 are taken from the NAICS-based manufacturing all-employed series published by BLS as part of the major-sector productivity and cost measures. For the period before 1987, these series are linked to NAICS-based, employees-only data from the Current Employment Statistics (CES) program.

For most other economies, recent years' aggregate hours series are obtained from national statistical offices, usually from national accounts. However, for some earlier years, BLS uses employment figures published with the national accounts, or other comprehensive employment series, together with data on average hours worked, to calculate the aggregate hours series.

The compensation measures are from national accounts. Compensation includes employer expenditures for legally required insurance programs and contractual and private benefit plans, in addition to all payments made in cash or in kind directly to employees. When data for the self-employed are not available, total compensation is estimated by assuming the same average compensation for the self-employed as for employees.

Labor cost is defined as compensation, plus employment taxes, minus employment subsidies—in other words, the cost to employers of using labor. For most economies, labor cost is the same as compensation. However, the BLS labor cost measure adds important taxes on payroll or employment to measures of compensation published by the national statistics offices of Australia, Canada, France, Singapore, and Sweden. For the United Kingdom, between 1967 and 1991, labor cost is arrived at by subtracting subsidies from compensation.

To account for the differences in the relative importance of each of the foreign economies to U.S. trade in manufactured products, BLS constructs relative trade-weighted measures of unit labor costs. The trade weights used are based on the relative dollar value of U.S. trade in manufactured commodities (exports plus imports) with each economy. The trade data are compiled by the U.S. Census Bureau.

Real gross domestic product per capita and per employed person

Measures of gross domestic product (GDP), population, and employment are obtained from national statistical sources. Although these data generally are comparable to one another,

some differences remain in the countries' statistical methodologies, which may affect comparability.

The GDP measures used for all countries come from their national accounts sources. For all countries, the most recent series use the 1993 United Nations System of National Accounts (SNA 93). For earlier years, data were compiled according to previously used systems.

The U.S. GDP series is based on the system of national income and product accounts (NIPA) estimated by the Bureau of Economic Analysis (BEA). A major difference among countries pertains to the weighting scheme used to derive real GDP. The SNA 93 recommends annual-weighted real output measures. The U.S. GDP series is a chain-type annual-weighted measure of real GDP. Most of the other countries already are using, or are switching to, this same deflation method, at least for the most recent years. The Republic of Korea, however, still produces its real GDP series by means of fixed base-year deflators, updating the base year every 5 years.

To obtain historical time series, BLS sometimes links together data series that were compiled according to different accounting systems by national statistical offices.

In each country's national statistics, GDP is valued in terms of its national currency units. BLS, therefore, must convert those units to a common unit of value before they can be compared. Conversions are made to U.S. dollars through the use of purchasing power parities (PPPs), currency conversion rates that allow output in different currency units to be expressed in a common unit of value, incorporating living costs in each country. The PPPs used are taken from the OECD-Eurostat PPP Program, as published by the OECD in its publications and posted on its Web site. Data for benchmark PPP estimates are collected every 3 years.

The report on GDP per capita and per employed person recently has been expanded to incorporate alternative measures of gross national income (GNI) per capita and GDP per hour worked. GNI is obtained by adjusting GDP for net income flows from abroad. For some countries, this adjustment has a significant impact on their ranking in comparison with the rankings based on GDP-per-capita series. GDP per hour worked also results in changes in rankings for some countries in comparison with rankings based on the GDP-per-employed-person series.

Consumer prices

BLS provides two international series of data on consumer prices. One series has broader country coverage, but is not adjusted to common concepts. A second series covers fewer countries and is presented on a comparative basis. Both series are available as monthly and annual series.

Unadjusted series. No adjustments are made to the overall national consumer price indexes (CPIs) as published by each country, except to convert them to a uniform base year; they are therefore termed "unadjusted" by BLS.

Adjusted series. The harmonized indexes of consumer prices (HICPs) are internationally comparable measures of consumer price inflation. These indexes provide users with

more meaningful international comparisons of inflation than the unadjusted, national CPI data published by each country. The European Union's statistical agency, Eurostat, developed the HICP's methods. The EU requires member countries and prospective member countries to produce an HICP; however, most European Union countries also continue to produce their national CPIs for internal and historical purposes.

The U.S. HICP is an experimental series created by the BLS Division of Consumer Prices. The U.S. HICP uses the methodology of the EU HICP. There are two major differences between the U.S. CPI and the U.S. HICP: the HICP excludes owner-occupied housing from its scope; and the HICP refers to the entire U.S. population, whereas the CPI refers only to the 87 percent of the U.S. population residing in urban areas. Japan also produces an index of consumer prices with methods comparable to those of the EU HICP; this index is referred to as "General, excluding imputed rent."

Analysis and Presentation

Analyses of international labor statistics focus upon comparisons with U.S. data. For labor force statistics, foreign data are adjusted to U.S. concepts to facilitate comparisons. Comparative analyses have been published on a series of alternative unemployment indicators, youth unemployment, and shifts in employment by economic sector. Productivity and unit labor cost data are broken down to show the relative contributions of changes in output, employment, average hours, compensation, and exchange rates to changes in the measures. The influence of changes in exchange rates on changes in hourly compensation costs in manufacturing also is shown.

The presentation of the comparisons varies with the degree of analysis and major use of the data. International comparisons of hourly compensation costs for production workers and all employees in manufacturing are presented in an annual news release, and supplementary tables are posted on the International Labor Comparisons homepage. Compensation costs in 22 manufacturing industries for a number of economies are updated several times each year. International comparisons of manufacturing productivity and unit labor cost trends are reported in news releases each year, and supplementary data are posted on the International Labor Comparisons homepage. GDP per capita and per employed person are updated annually. A labor force compendium is updated yearly, and comparisons of unemployment rates and consumer price indexes are published monthly. Annual reports on consumer price indexes also are updated.

Articles on international comparisons of labor statistics are published periodically in the *Monthly Labor Review*. Some series are published regularly in the statistical section of the *Review*. A *Chartbook of International Labor Comparisons* (<http://www.bls.gov/fls/chartbook.htm>) incorporates many of the BLS comparative series and is published annually. The annual Census Bureau publication *Statistical Abstract of the United States* contains several of the principal international labor data series, and some series are published in the annual *Economic Report of the President. Key Indicators of the*

Labor Market, published annually by the International Labor Office, reproduces the BLS comparative hourly compensation series as a key indicator.

Special studies of Mexico's labor market have been conducted and published in the *Monthly Labor Review*, although Mexico is not included in the BLS series of unemployment rates adjusted to U.S. concepts. With the advent of NAFTA in the early 1990s, interest in Mexico's labor statistics increased. BLS studies found that Mexico's unemployment rate could be adjusted to approximate U.S. concepts, but that it was not a very relevant indicator of Mexico's labor market. Mexico's low unemployment rates mask a large number of persons in unstable, marginal jobs. Thus, the rates indicate the need for persons to subsist through any work at all, rather than reflecting full employment. The BLS articles on Mexico emphasized other indicators beyond unemployment as better measures of that country's labor market situation.

Because of the importance of China as one of the United States' largest trading partners, BLS contracted for a special study of China's data to determine their comparability for use in the international compensation comparisons produced by this program. The resulting *Monthly Labor Review* articles have greatly facilitated the understanding of Chinese statistics, but many problems with the availability, coverage, and reliability of the Chinese data remain, as described in the articles. Because of these and other limitations, BLS decided that China's data would not be included in the regular series of compensation comparisons. BLS includes data for China in a special box in the compensation news releases and updates these data when feasible.

Uses and Limitations

BLS comparative series are used by policymakers, U.S. business and labor groups, researchers, private citizens, and the media to

- **Assess the U.S. economic and labor market performance relative to that of other countries.** By understanding how the United States compares with other advanced and emerging economies, our Nation's policymakers are better prepared to take the steps necessary to ensure that our workforce and economy continue to prosper. The availability of long time series of comparative historical data from the International Labor Comparisons program makes it possible to uncover shifts in relative performance among world labor markets and address their impact.
- **Evaluate the competitive position of the United States in increasingly global markets.** The comparisons and accompanying analyses inform Government and private officials about foreign economic developments that may affect U.S. international economic and trade policy. This information is especially important, given the U.S. participation in NAFTA and with other free trade agreements currently being debated by the Congress.

Foreign labor standards, as measured by comparative labor statistics, are important elements in trade agreement negotiations. Hourly compensation costs, unit labor costs, and productivity are used as key indicators in the evaluation of the competitive position of the United States in increasingly global markets.

Although considerable progress has occurred in making international economic statistics more uniform among coun-

tries (for example, through the work of international agencies such as the United Nations, the International Labor Office, the Organization for Economic Cooperation and Development, and the Statistical Office of the European Communities), international statistical comparisons should be used cautiously. Nevertheless, through careful analysis of each country's data, together with an understanding of the limitations, valid statistical comparisons can be made. Limitations of the BLS comparative series are described in the technical sections of the various releases.

Technical References

General

International Labor Office. *Current International Recommendations and Guidelines on Labor Statistics*, 2004 Edition. Geneva, 2004.

Presents recommendations on standardizing labor statistics, including recommendations on employment and unemployment statistics, statistics of labor costs, wage statistics, consumer price indexes, and strikes and lockouts. The ILO recommendations and guidelines are available online at <http://www.ilo.org/public/english/bureau/stat/res/index.htm>.

Capdevielle, Patricia, and Sherwood, Mark K. "Providing Comparable International Labor Statistics," *Monthly Labor Review*, June 2002; on the Internet at <http://www.bls.gov/opub/mlr/2002/06/art1full.pdf>.

Provides an overview of the history, rationale, and statistics produced by BLS to aid in international comparisons of labor statistics.

Labor force, employment, and unemployment

Chernyshev, Igor. "ILO-Comparable Employment and Unemployment Estimates: A Technical Guide." Geneva, International Labor Office, STAT Working Paper No. 91-3; Lawrence, Sophia. "ILO-Comparable Annual Employment and Unemployment Estimates," *ILO Bulletin of Labor Statistics*, 2002-4, pp. IX-XXIV. The

Technical Guide presents detailed descriptions of employment and unemployment data and adjustments made to ILO definitions for 26 countries in Eastern and Western Europe, the Far East, and Oceania (Australia and New Zealand). The article in the ILO Bulletin is the latest in a periodic series that summarizes the ILO program and presents annual average data.

Fleck, Susan, and Sorrentino, Constance. "Employment and

Unemployment in Mexico's Labor Force," *Monthly Labor Review*, November 1994; on the Internet at <http://www.bls.gov/opub/mlr/1994/11/art1full.pdf>; and Martin, Gary. "Employment and Unemployment in Mexico in the 1990s," *Monthly Labor Review*, November 2000; on the Internet at <http://www.bls.gov/opub/mlr/2000/11/art1full.pdf>.

These two articles describe the pitfalls in using Mexico's unemployment statistics for comparisons with the United States and with other countries lacking Mexico's large informal sector.

International Labor Office. *Sources and Methods: Labor Statistics*. Vol. 3, 3rd edition: *Economically Active Population, Employment, Unemployment and Hours of Work*. Geneva, 2002.

Presents methodological descriptions of labor statistics derived from labor force and household surveys that are disseminated by the ILO's Bureau of Statistics.

International Labor Office. *Key Indicators of the Labor Market*. Geneva. Biannual publication; on the Internet at <http://www.ilo.org/public/english/employment/strat/kilm/index.htm>.

Presents data on, and an analysis of, 20 labor market indicators, with some adjustments for comparability across countries.

Moy, Joyanna, and Sorrentino, Constance. "U.S. Labor Market Performance in International Perspective." *Monthly Labor Review*, June 2002; on the Internet at <http://www.bls.gov/opub/mlr/2002/06/art2full.pdf>.

Presents an analysis of U.S. and international labor force performance, using the BLS comparable labor force data series.

OECD Employment Outlook. Paris, Organization for Eco-

conomic Cooperation and Development. Annual publication. Provides analysis of policy issues regarding labor markets and presents labor market statistics for OECD member countries, with some adjustments for comparability.

Sorrentino, Constance. "International unemployment rates: how comparable are they?" *Monthly Labor Review*, June 2000; on the Internet at <http://www.bls.gov/opub/mlr/2000/06/art1full.pdf>.

Gives a detailed explanation of the adjustments made by BLS to produce international comparisons of unemployment rates for 10 countries.

Sorrentino, Constance. "International unemployment indicators," *Monthly Labor Review*, August 1995; on the Internet at <http://www.bls.gov/opub/mlr/1995/08/art4full.pdf>.

Presents international comparisons of seven unemployment indicators for 10 countries. Indicators range from four indicators narrower than the U-5 conventional rate to two indicators that take into account both persons working part time for economic reasons and discouraged workers.

Elder, Sara, and Sorrentino, Constance. "Japan's low unemployment: a BLS update and revision," *Monthly Labor Review*, October 1993; on the Internet at <http://www.bls.gov/fls/mpres93.pdf>.

Presents comparisons of U.S. and Japanese unemployment rates, including rates for both persons working part time for economic reasons and discouraged workers.

U.S. Department of Labor, Bureau of Labor Statistics. *Youth Unemployment: An International Perspective*, Bulletin 2098, September 1981; Sorrentino, Constance. "Youth unemployment: an international perspective," *Monthly Labor Review*, July 1981.

Examines the labor market experience of youths in the United States and eight other industrial countries from the early 1960s to the late 1970s.

U.S. Department of Labor, Bureau of Labor Statistics. *International Comparisons of Unemployment*, Bulletin 1979, August 1978.

Provides the conceptual framework for, and a comprehensive description of, BLS work on international unemployment comparisons; describes in detail the methods of adjusting foreign unemployment rates to U.S. concepts; and analyzes various factors contributing to differences in unemployment levels.

Hourly compensation costs

European Commission, Directorate-General for Employment and Social Affairs. *Employment in Europe 2003: Recent Trends and Prospects*, Chapter 3, "Wage structures and determinants in an enlarged Europe"; on the Internet at http://ec.europa.eu/employment_social/employment_analysis/employ_2003_en.htm.

Discusses wage formation and wage differentials in Europe

across countries, industries, firms, regions, and occupations. Also discusses the link between wages and productivity.

Gittleman, M., and Wolff, E. N. "International Comparisons of Inter-Industry Wage Differentials," *Review of Income and Wealth*, vol. 39, no. 3, September 1993, pp. 295–312; on the Internet at <http://www.roiw.org/1993/295.pdf>.

Discusses relative wages across industries for 14 OECD countries over the 1970–1985 period.

Hart, Robert A. *The Economics of Non-Wage Labor Costs*. London, George Allen & Unwin, 1984.

Discusses components and structure of labor costs and consequences for the cyclical behavior of labor markets.

International Labor Office. *An Integrated System of Wages Statistics: A Manual on Methods*. Geneva, International Labor Office, 1979.

Discusses the principal uses of wage statistics, concepts, and definitions, and outlines the integrated system recommended at the *Twelfth International Conference of Labor Statisticians*.

Krueger, A. B., and Summers, L. H. *Reflections on the Inter-Industry Wage Structure*, National Bureau of Economic Research Worker Paper Series, no. 1968, June 1986; on the Internet at <http://www.nber.org/papers/W1968.pdf>.

Discusses wage differentials across industries and types of workers for the United States and several other countries.

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