Appendix

Definitions, sources, and methods

This chartbook is based mainly upon the output of the Bureau of Labor Statistics (BLS) program of international comparisons of labor force, compensation, prices, and productivity. To increase country and indicator coverage, BLS data are supplemented by data from the Organization for Economic Cooperation and Development (OECD) and other organizations.

BLS adjusts foreign statistics to a common conceptual framework, thereby aiding users in making meaningful international comparisons. Comparability issues arise due to, for example, differences in definitions, time periods, and population coverage. Summary descriptions of the BLS comparative series are provided below. More detailed information can be found in the source documents listed, which are available on the BLS international labor comparisons Web site at http://www.bls.gov/ilc/.

To increase country coverage for the GDP, labor market, and prices charts (sections 1, 2, and 4), BLS data are supplemented by data mainly from the OECD, but also from the Statistical Office of the European Union (Eurostat), the World Bank, and national sources. Data from these alternative sources are judged reasonably comparable with the BLS series unless otherwise noted. The charts on hourly compensation and productivity in manufacturing (charts 3.1-3.5) have not been supplemented by other sources; data are from the BLS series. To provide other indicators of interest, 17 of the charts (charts 1.4, 2.4, 2.5, 2.8, 2.9, 2.13-2.15, 3.6, and all charts in sections 5) are based on statistics compiled by other organizations, mainly the OECD, but also The Conference Board, the International Labour Organization (ILO), the United Nations, and the World Bank. Discussion of the data from the non-BLS sources is included below. Although these source organizations have made some adjustments to enhance comparability, the non-BLS data generally are not considered fully comparable across countries. Where applicable, some caveats concerning comparability are noted.

Country coverage varies by indicator. Coverage in sections 1 through 4 varies from 12 to 21 economies. In addition, weighted aggregates for 15 European Union countries (EU-15) are shown on almost half these charts.

The EU-15 includes European Union member countries prior to the expansion of the European Union to 25 countries on May 1, 2004, and to 27 countries on January 1, 2007. The 15 countries are Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom. It should be noted that some countries for which data are available are not included on the charts for analytical or presentation purposes. Nine countries appear on all charts in the first four sections: Denmark, France, Germany, Italy, the Netherlands, Spain, Sweden, the United Kingdom, and the United States. In addition, data for Australia, Austria, Canada, Ireland, Japan, the Republic of Korea, Mexico, New Zealand, Norway, and Portugal appear on almost all of these charts; data for Hong Kong Special Administrative Region of China (Hong Kong SAR), Singapore, and Taiwan appear only on some charts. Section 5 covers the United States, which is presented as a reference point, and six large emerging economies: Brazil, China, India, Indonesia, the Russian Federation, and South Africa.

The latest data available are shown for each chart. All data are either annual averages or mid-year estimates. Average annual growth rates are calculated using the compound-rate method. For trends, there are some breaks in the historical continuity of the labor force and employment series; however, the breaks generally do not substantially affect the trends depicted. The nature of the breaks is documented in the source publications.

In the descriptions that follow, some charts are discussed as a group, while others warrant individual treatment.

Gross domestic product
(charts 1.1-1.4 and 5.3-5.5)

A country's **gross domestic product** (GDP) represents the sum of value added by all producers in that country. Value added is the value of the gross output of producers less the value of intermediate goods and services used in production. GDP is generally used to measure the size of an economy and should not be interpreted as necessarily measuring the wealth and well-being of the residents of that country.

Purchasing power parities (PPPs) are currency conversion rates that allow output in different currency units to be expressed in a common unit of value. A PPP is the ratio between the number of units of a country's currency and the number of U.S. dollars required to purchase an *equivalent* basket of goods and services within each respective country.

GDP per capita (charts 1.1, 1.2, and 5.3)

GDP per capita (charts 1.1 and 5.3). **GDP per capita** measures the size of an economy relative to its population. These charts show GDP measured in U.S. dollars converted at PPP rates.

Measures are taken from the data underlying a periodic report published by BLS for Australia, Austria, Canada, Denmark, France, Germany, Ireland, Italy, Japan, the Republic of Korea, the Netherlands, Norway, Singapore, Spain, Sweden, the United Kingdom, and the United States. For the remaining countries, the measures are based on data published by the World Bank.

Sources: BLS, "International Comparisons of GDP Per Capita and Per Employed Person, 17 Countries, 1960–2008," July 28, 2009, http://www.bls.gov/ilc/; and World Bank, *World Development Indicators Database,* http://www.worldbank.org/.

Average annual growth rates for real GDP per capita (chart 1.2). **Real GDP** is GDP that has been adjusted for overall price changes over time in order to remove the effects of inflation. Change in real GDP per capita over time is the result of changes in both a country's real GDP and in its population. This chart uses GDP measured in real national currencies.

Measures are taken from the data underlying a periodic report published by BLS for Australia, Austria, Canada, Denmark, France, Germany, Ireland, Italy, Japan, the Republic of Korea, the Netherlands, Norway, Singapore, Spain, Sweden, the United Kingdom, and the United States. Data for Hong Kong are from the Hong Kong Census and Statistics Department, and data for the remaining countries are from the OECD.

Sources: BLS, "International Comparisons of GDP Per Capita and Per Employed Person, 17 Countries, 1960–2008," July 28, 2009, http://www.bls.gov/ilc/; OECD, *OECD.Stat: OECD's Statistical Data Warehouse*, http://stats.oecd.org/; and Hong Kong Census and Statistics Department, http://www.info.gov.hk/censtatd/.

GDP per employed person (charts 1.3 and 5.4)

GDP per employed person measures the amount of GDP attributable on average to each employed person, working in tandem with all other inputs or factors of production. These charts show GDP measured in U.S. dollars converted at PPP rates.

Measures are taken from the data underlying a periodic report published by BLS for Australia, Austria, Canada, Denmark, France, Germany, Ireland, Italy, Japan, the Republic of Korea, the Netherlands, Norway, Singapore, Spain, Sweden, the United Kingdom, and the United States. For the remaining countries, the measures are based on data published by the World Bank for GDP, and the OECD and The Conference Board for employment (in charts 1.3 and 5.4, respectively).

The use of employed persons in the denominator of the indicator does not standardize sufficiently the measure of labor input. The number of hours worked, on average, by each employed person can vary markedly across countries and over time.

Sources: BLS, "International Comparisons of GDP Per Capita and Per Employed Person, 17 Countries, 1960–2008," July 28, 2009, http://www.bls.gov/ilc/; The Conference Board, *Total Economy Database*, June 2009, http://www.conference-board.org/economics/database.cfm; OECD, *OECD.Stat: OECD's Statistical Data Warehouse*, http://stats.oecd.org/; and World Bank, *World Development Indicators Database*, http://www.worldbank.org.

Trade in goods as a percent of GDP (charts 1.4 and 5.5)

Trade in goods as a percent of GDP is the sum of merchandise exports and imports divided by GDP, all of which are valued in current U.S. dollars using exchange rates. The value taken by the indicator does not give the share of GDP generated by imports and exports; rather, it indicates that the value of imports and exports is equivalent to the resulting percentage of GDP.

Source: World Bank, *World Development Indicators Database*, http://www.worldbank.org.

Labor market indicators
(charts 2.1-2.15 and 5.6-5.7)

Charts in section 2 depict aspects of the labor force. Charts 2.1-2.3, 2.6, 2.7, and 2.10-2.12 contain BLS comparative data on labor force, employment, and unemployment and are supplemented by data from the OECD; in contrast, charts 2.4, 2.5, 2.8, 2.13, and 2.14 contain only OECD data. Due to this difference in sources, these two groups of charts are discussed separately. Chart 2.9, annual hours worked per employed person, and chart 2.15, educational attainment of the adult population, are discussed individually. Finally, charts 5.6 and 5.7, which present labor market indicators for large emerging economies, are discussed as a set at the end of the section.

In the United States, the **unemployed** are those not working but available for work in the reference week, and actively seeking work in the past 4 weeks. Those persons waiting to be recalled from layoff need not be seeking work to be classified as unemployed. The **employed** are those persons who during the reference week did work for at least 1 hour as paid employees, worked in their own business, profession, or on their own farm, or worked 15 hours or more as unpaid workers in an enterprise operated by a family member. Those temporarily absent from work but who had jobs or businesses to return to are also counted as employed. For other countries, definitions of unemployed and employed may vary.

The **labor force** is the sum of the employed plus the unemployed; the **unemployment rate** is the ratio of the unemployed to the labor force. The **labor force participation rate** is the ratio of the labor force to the population of working age (ages 15 or 16 and over for these charts); the **employment-to-population ratio** is the ratio of the employed to the population of working age.

For charts in this section, BLS data have no upper age limit, and lower age limits vary slightly. Coverage for OECD data varies across countries but generally includes persons ages 15 or 16 and over, unless otherwise noted; for employment and unemployment, some differences remain for upper age limits. These differences should not materially affect the estimates shown because the number of persons in the oldest age groups generally is small.

Labor force, employment, and unemployment (charts 2.1-2.3, 2.6, 2.7, 2.10-2.12)

BLS comparative measures of the civilian labor force, employment, unemployment, and related indicators are used for Australia, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, the United Kingdom, and the United States. OECD data are used for Austria, Denmark, the EU-15, Ireland, the Republic of Korea, Mexico, New Zealand, Norway, Portugal, and Spain.

In the BLS comparisons program, adjustments are made to each country's published data, if necessary and where possible, to provide measures approximately consistent with U.S. definitions. The data are adjusted to the U.S. concepts used in the Current Population Survey (CPS), the official source of U.S. labor force data. To adjust the data, BLS employs data from several sources, including data obtained by special request from the central statistical offices of the foreign countries. Further information on the nature of the adjustments for each country can be found in the BLS source document cited at the end of this section.

OECD data generally are from labor force surveys that are based on ILO guidelines for measurement of the labor force, employment, and unemployment. These guidelines are available on the Internet at http://www.ilo.org/public/english/bureau/stat/download/res/ecacpop.pdf.

The ILO guidelines have become standards for many countries; consequently, definitions used in labor force surveys are now broadly similar in outline and purpose if not in all of their details. The ILO guidelines facilitate cross-country comparisons because they draw countries toward a common conceptual framework. The charted OECD data are reasonably comparable to the corresponding BLS data, although some adjustments for comparability that are made by BLS are not made by the OECD.

The OECD produces a series of "harmonized unemployment rates" (HURs) that are adjusted to ILO concepts. In recent years, the OECD series yielded unemployment rates closely comparable to the BLS comparative series of unemployment rates for the countries common to both programs, but some differences remain.

The OECD HURs are used to broaden the coverage of the unemployment data on chart 2.10. The unemployment rates for the following countries are obtained from the OECD: Austria, Denmark, Ireland, the Republic of Korea, Mexico, New Zealand, Norway, Portugal, and Spain.

OECD data used to broaden the country coverage of charts 2.1-2.3, 2.6, 2.7, 2.11, and 2.12 are not adjusted by the OECD for comparability to the extent that the HURs are adjusted; the OECD does not publish harmonized labor force and employment figures or harmonized unemployment figures for subgroups.

For a full discussion of comparability issues regarding the BLS and OECD series, see Constance Sorrentino, "International Unemployment Rates: How comparable are they?," *Monthly Labor Review*, June 2000, pp. 3-20, available on the Internet at http://www.bls.gov/opub/mlr/2000/06/art1full.pdf.

Sources: BLS, "International Comparisons of Annual Labor Force Statistics, Adjusted to U.S. Concepts, 10 Countries, 1970-2008," October 2, 2009, http://www.bls.gov/ilc/; and OECD, *OECD.Stat: OECD's Statistical Data Warehouse*, http://stats.oecd.org/.

Labor force, employment, and unemployment (charts 2.4, 2.5, 2.8, 2.13, and 2.14)

The charts discussed below are derived from the OECD. Data from the OECD are used because the BLS labor force comparisons program does not provide indicators for participation rates by age (charts 2.4 and 2.5), full-time and part-time employment (chart 2.8), duration of unemployment (chart 2.13), or unemployment by educational attainment (chart 2.14).

Labor force participation rates by age (charts 2.4 and 2.5). The **participation rate for a given age group** is defined as the percentage of the labor force for the age group as a share of the population for the age group. Two age groups are charted for youths in chart 2.4: persons ages 15 to 19 and persons ages 20 to 24. Two age groups are charted for older workers in chart 2.5: persons ages 55 to 64 and persons ages 65 and over. Data for charts 2.4 and 2.5 are from the OECD and are generally derived from labor force surveys. The OECD has made no attempt to standardize these data to international definitions. According to the OECD, international

comparisons of these data must be made with caution. In countries where young people are conscripted into the armed forces, their measured participation rates will differ considerably according to whether the figures include or exclude the armed forces. Differences in the lower age limit also affect the comparability of the data.

Source: OECD, *OECD.Stat: OECD's Statistical Data Warehouse*, http://stats.oecd.org/.

Average annual growth rates for full-time and part-time employment (chart 2.8). The OECD has adjusted full-time and part-time employment to a common conceptual basis, insofar as possible. **Full-time employment** is defined as persons usually working over 30 hours per week in their main job. **Part-time employment** is defined as persons usually working 30 or fewer hours per week in their main job. Data are obtained from labor force surveys and are generally limited to persons declaring usual hours worked.

Except for the United States, the data relate to total employment. For the United States, the data cover wage and salary employment only. This difference should not materially affect the comparisons because paid workers account for more than 90 percent of total U.S. employment.

Data for the Republic of Korea are not comparable to those of other countries because they are based on "actual hours worked," rather than "usual hours worked." They are included in chart 2.8 to track the broad trends in full-time and part time work.

Source: OECD, *OECD.Stat: OECD's Statistical Data Warehouse*, http://stats.oecd.org/.

Persons unemployed one year or longer as a percent of total unemployment (chart 2.13). The OECD data on duration of unemployment represent the length of time that unemployed persons have been looking for work. The OECD data have not been standardized, but they are all from labor force surveys.

Source: OECD, *OECD.Stat: OECD's Statistical Data Warehouse*, http://stats.oecd.org/.

Ratios of unemployment rates for adults without high school degrees to those for adults with college or university degrees (chart 2.14). Because educational systems vary widely

across countries, the OECD adopted a broad classification system based upon the International Standard Classification for Education (ISCED) developed by the United Nations Educational, Scientific, and Cultural Organization (UNESCO). The OECD summarizes the UNESCO categories into seven **educational attainment** groupings—ISCED 0 to ISCED 6—that refer to completed education. The OECD grouping "below upper secondary," which includes ISCED 0 through 2, corresponds to "without high school degrees." The grouping "tertiary-type A and advanced research programs," a subset of ISCED 5, corresponds to "with college or university degrees." Data on unemployment have not been standardized, but they are all from labor force surveys. Data refer to persons ages 25 to 64.

Sources: OECD, *Education at a Glance 2009: OECD Indicators.* Paris, August 2009, table A6.3a; and OECD, *Employment Outlook, 2009 Ed.,* Paris, September 2009, table D.

Annual hours worked per employed person (chart 2.9)

The concept used is the total number of hours actually worked over the year, divided by the average number of persons in employment. Data are intended generally for comparisons of trends over time. Annual hours worked per employed person are affected by legislation and agreements on normal and overtime hours. They also are influenced by factors such as the proportion of part-time workers and self-employed, who work fewer and longer hours, respectively. In addition, data sources and methods of estimation vary by country.

The ILO standard definition for hours actually worked includes hours actually worked during normal periods of work; time worked in addition to the normal periods and generally paid at higher rates; time spent at place of work in preparation, repair, and record keeping; time spent at place of work on stand-by basis or under a guaranteed work contract; and time corresponding to short rest periods, including tea or coffee breaks. Hours actually worked should exclude hours paid for but not worked, such as: annual leave, public holidays, paid sick leave, meal breaks, and time spent on travel between home and work. Comparative data on annual hours worked based precisely on this ILO definition are not available.

The comparisons shown in chart 2.9 are the published OECD data series on **average annual hours actually worked per worker**, which include some adjustments towards the above definition for each country. Data generally cover all persons in employment, including both full-time and part-time workers. Data are on a per-employed-person basis, except for Austria, Canada, Japan, and the United States, where data are on a per-job basis. Data sources include labor force surveys, establishment surveys, and administrative data. Annual estimates are based on actual or usual weekly hours worked from labor force and establishment surveys, or from normal hours worked from survey or administrative data.

Across countries, these data are adjusted to varying degrees to account for effective weeks worked during the year, hours not worked due to annual leave and public holidays, and underreporting of hours lost due to illness and maternity leave. For most countries, data are consistent with national accounts concepts.

Data for the United States are OECD estimates. These estimates are based on unpublished BLS statistics of annual hours worked per job, estimated from the Current Employment Statistics Survey and the CPS. The OECD adjusts these unpublished BLS statistics for multiple jobholding using data from the CPS to produce estimates of annual hours worked per employed person.

For a full discussion of measurement issues relating to annual hours worked, see Susan E. Fleck, "International comparisons of hours worked: an assessment of the statistics" *Monthly Labor Review*, May 2009, pp. 3-31, available on the Internet at http://www.bls.gov/opub/mlr/2009/05/art1full.pdf.

Source: OECD, *OECD.Stat: OECD's Statistical Data Warehouse*, http://stats.oecd.org/.

Educational attainment of the adult population (chart 2.15)

As discussed for chart 2.14, the OECD uses UNESCO categories for seven educational attainment groupings. In chart 2.15, these are grouped into three broad categories. The grouping "less than high school" includes early childhood education (ISCED 0), primary level of education (ISCED 1), and lower secondary level

of education (ISCED 2). The grouping "high school or trade school" includes upper secondary level of education (ISCED 3) and post-secondary non-tertiary level of education (ISCED 4). The grouping "college or university" includes the first stage of tertiary education (ISCED 5) and advanced research qualification (ISCED 6). The data refer to persons ages 25 to 64.

Source: OECD, *Education at a Glance 2009: OECD Indicators.* Paris, August 2009, table A1.1a.

Labor market indicators for large emerging economies (charts 5.6 and 5.7)

Measures for these charts are from BLS for the United States and from ILO for the six large emerging economies. Data from ILO are used because the BLS labor force comparisons program does not cover large emerging economies.

Chart 5.6 presents labor force participation rates by age. The participation rate for a given age group has been previously defined in this section. Four age groups are charted in chart 5.6: youths (persons ages 15 to 24), prime working-age (persons ages 25 to 54), and two groups of older workers (persons ages 55 to 64 and persons ages 65 and over). The ILO series is harmonized using an econometric model to account for differences in national data and scope of coverage, collection and tabulation methodologies, and other country-specific factors such as military service requirements. For further information on the methodology used to harmonize estimates, see the source document.

Chart 5.7 displays **employment-to-population ratios by sex**, which is defined as the ratio of the employed for a given sex to the population of working age for that sex. The population of working age has been defined previously in this section. The ILO employment series is derived from nationally reported data and the harmonized labor force data used to calculate labor force participation rates described previously. Nationally reported data are used only when they meet strict criteria in terms of international comparability and geographic coverage. Model estimates are used where national data are not available or satisfactory. Limitations to comparability are described more fully in the source document.

Sources: BLS, Labor Force Statistics from the Current Population Survey http://www.bls.gov/data/; BLS, "International Comparisons of Annual Labor Force Statistics, Adjusted to U.S. Concepts, 10 Countries, 1970-2008," October 2, 2009, http://www.bls.gov/ilc/; and ILO, *Key Indicators of the Labour Market (KILM), 6th Ed.*, Geneva, 2009, tables 1 and 2, http://www.ilo.org/kilm.

Competitiveness indicators
(charts 3.1-3.6 and 5.8)

Section 3 focuses on several key labor-related indicators of competitiveness in world markets for goods: manufacturing hourly compensation costs, productivity and unit labor costs, and manufacturing output as a percent of world manufacturing. Note that the hourly compensation costs indicators in charts 3.1-3.3 show levels and trends, whereas the productivity and unit labor costs indicators in charts 3.4-3.5 are limited to trend comparisons.

The manufacturing sector provides the best data for such comparisons, and the BLS indicators presented in charts 3.1-3.5 have been adjusted to a common conceptual framework to facilitate comparisons. Nevertheless, it should be noted that these indicators allow only for a partial assessment of international competitiveness of economies. The aggregate (all manufacturing) nature of the indicators may mask important variations in competitiveness of manufacturing sub-sectors. In addition, competitiveness relationships in manufacturing may not be the same as the relationships in services, a growing sector for trade flows. Although competitiveness is heavily dependent on labor costs, there are many other factors that influence competitiveness, including the quality of the product, the timeliness of its delivery, after-sales service, and the flexibility needed to respond to changes in customers' requirements.

Hourly compensation costs for all employees in manufacturing (charts 3.1-3.3)

These charts present data on comparative hourly compensation costs for all employees in manufacturing to assess international differences in employer labor costs. 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.

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, holiday, or night work premiums; cost-of-living adjustments; and bonuses and premiums paid each pay period) and **(b) other direct pay** (pay for time not worked—vacation, holidays, and other leave, except sick leave, seasonal or irregular bonuses, allowances for family events, commuting expenses, etc., the cash value of payments in kind, and severance pay where explicitly not linked to a collective agreement). **Social insurance expenditures and other labor taxes** include **(c) employer social insurance expenditures** (employer expenditures on 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 agreement, and other social insurance expenditures) and **(d) other labor taxes** (taxes on payrolls or employment or reductions to reflect subsidies). Generally, other labor taxes account for less than 1 percent of total compensation.

The BLS definition of hourly compensation costs is not the same as the 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 2 percent of total labor costs in any country for which these data are available.

All employees include both full- and part-time employees and temporary employees. 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 social insurance, and other labor taxes. For the United States and other countries that measure earnings on an hours-paid basis, the figures also are adjusted to approximate compensation per hour worked. Earnings statistics are obtained from surveys of employment, hours, and earnings, from surveys or censuses of manufactures, or from other data sources.

Adjustment factors for most countries are obtained from periodic labor cost surveys or censuses of manufacturers and are interpolated or projected to non-survey years using data such as tabulations of employer social security contribution rates provided by the International Social Security Association, information on contractual and legislated fringe benefit changes, or statistical series on indirect labor costs. For the United States, the adjustment factors are special calculations for international comparisons based on data from several surveys.

To the extent possible, the statistics are adjusted to account for major differences in worker coverage; differences in industrial classification systems; and changes over time in survey coverage, sample benchmarks, and frequency of surveys.

The compensation measures are computed in national currency units and 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. Changes over time in compensation costs denominated in U.S. dollars reflect the underlying national wage and benefit trends measured in national currencies, as well as frequent and sometimes sharp changes in currency exchange rates. It should be noted that the exchange rate adjusted compensation measures provide comparative measures of employer labor costs; they do not provide inter-country comparisons of the purchasing power of worker incomes.

For further information on the methodology used in these estimates, see the source document.

Source: BLS, "International Comparisons of Hourly Compensation Costs in Manufacturing, 2007," March 26, 2009, Department of Labor News Release USDL 09-0304, http://www.bls.gov/ilc/.

Manufacturing productivity and unit labor costs (charts 3.4 and 3.5)

The **productivity** estimates refer to labor productivity, defined as real output per hour worked. It is based on the manufacturing output produced in each country and the total labor input in the form of hours worked. **Output** is defined as the real (deflated) GDP produced in the manufacturing sector of the economy. GDP has been defined previously (see Gross Domestic Product section). The output data are published as part of each country's national accounts.

Hours worked in manufacturing include the hours of all persons engaged in the manufacturing process, including the self-employed. For some countries, the data on the number of hours worked in manufacturing are also published with the national accounts. For other countries, BLS constructs its own estimates of aggregate hours worked, multiplying employment figures published with the national accounts by estimates of average annual hours worked.

Manufacturing **unit labor costs** are defined as the cost of labor compensation per unit of output. Changes in unit labor costs reflect the net effect of changes in hourly worker compensation and in labor productivity. Unit labor costs rise when compensation per hour rises faster than labor productivity. Conversely, if labor productivity rises faster than hourly compensation, unit labor costs decline. Because labor costs are frequently a major factor in total production costs, changes in unit labor costs affect the prices of manufactured products.

Labor 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. Data on labor compensation are usually taken from the countries' national accounts. When data for the self-employed are not available, total compensation is estimated by assuming the same hourly compensation for self-employed and employees.

Changes in a country's unit labor costs, expressed in U.S. dollars, are estimated by combining changes in the unit labor cost expressed in each nation's currency with changes in the exchange rate of the country's currency against the U.S. dollar.

Source: BLS, "International Comparisons of Manufacturing Productivity and Unit Labor Cost Trends, 2008," October 22, 2009, Department of Labor News Release USDL 09-1271, http://www.bls.gov/ilc/.

Output by sector as a percent of world output by sector (charts 3.6 and 5.8)

Output is defined as the value added in that sector for each country. **Industry** is defined as activities in mining, manufacturing, construction, and public utilities; **manufacturing** is a sub-sector of industry.

Each country's value added, expressed in U.S. dollars, is divided by world value added. The value added series are converted to U.S. dollars by applying the corresponding exchange rate for the year shown in the chart, as reported by the International Monetary Fund (IMF). Reported rates are annual averages of the exchange rates communicated to the IMF by the monetary authority of each member country.

While exchange rates are the most appropriate conversion method, one must keep in mind that they are volatile by nature and can change suddenly and significantly, leading to sharp realignments of the comparative levels of value added. For example, if a country's currency is "undervalued," the value added for that country would be reduced. If the currency were to strengthen, the country's value added (in U.S. dollars) would rise, even if its volume of output (in local currency units) remained unchanged.

Source: United Nations, *National Accounts Main Aggregates Database*, http://unstats.un.org/.

Prices
(charts 4.1-4.3)

Average annual growth rates for Harmonized Indexes of Consumer Prices (HICPs) and national Consumer Price Indexes (CPIs) (charts 4.1 and 4.2). Charts 4.1 and 4.2 depict 1-year and 5-year trends in international consumer price inflation. **CPIs** measure the change over time in the prices paid by consumers for a fixed selection, or "market basket," of goods and services.

The **national CPIs** in chart 4.1 are not comparable across countries and have not been adjusted for comparability by BLS. Differences exist mainly in population coverage, frequency of market basket weight changes, and treatment of homeowner costs. Data for the United Kingdom refer to the "Retail Price Index" (RPI) published by the United Kingdom's Statistical Agency, which covers retail prices only.

The **HICPs** in charts 4.1 and 4.2 cover both urban and rural consumers and are based on European Union definitions; the HICPs, therefore, provide more meaningful international comparisons of consumer price inflation. HICP data for the United States are an experimental BLS series produced outside of regular production systems and, consequently, with less than full production quality. HICP data for Japan refer to the "General, excluding imputed rent" CPI published by Japan's Statistical Agency. While the HICP series for the United States and Japan broadly follow the European Union definitions, some difference remain in the frequency of market basket weight changes, aggregation methods, and quality adjustments.

For a full discussion of comparability issues regarding the HICP series, see Jessica R. Sincavage, "International comparisons of Harmonized Indexes of Consumer Prices," Monthly Labor Review, February 2007, pp. 23-26, available on the Internet at http://www.bls.gov/opub/mlr/2007/02/ressum.pdf.

Sources: BLS, "Consumer Price Indexes, 16 Countries, Annual, 1950-2008," May 8, 2009, http://www.bls.gov/ilc/; and BLS, "Harmonized Indexes of Consumer Prices, Eight Countries or Areas, Annual, 1996-2008," May 8, 2009, http://www.bls.gov/ilc/.

U.S. Import Price Indexes by country of origin (chart 4.3). The BLS Division of International Prices produces monthly indexes of U.S. import and export prices. **U.S. Import Price Indexes by country of origin**, also known as U.S. Import Price Indexes by Locality of Origin, measure the change in prices paid by U.S. importers for goods bought from other countries. **Imports** for this index cover merchandise goods purchased from abroad by U.S. residents. The **country of origin** refers to the last location from which goods were exported before they arrived in the United States.

Data in chart 4.3 represent the percentage change in the index from the same month of the previous year. These indexes are based on the North American Industry Classification System (NAICS).

For an extensive discussion of the indicator and other available U.S. import and export price indexes, see BLS, "U.S. Import and Export Price Indexes, November 2009" December 11, 2009, Department of Labor News Release USDL 09-1504, http://www.bls.gov/mxp/.

Source: Bureau of Labor Statistics, Import/Export Price Indexes, *MXP Tables*, "Percent Change Analysis Tables: Historical percent changes for one-month, three-month, and five separate 12-month periods," http://www.bls.gov/mxp/.

Population
(charts 5.1-5.2)

Figures represent the *de facto* population, which includes all residents of a country, regardless of legal status or citizenship—except for refugees not permanently settled in the country of asylum, who are generally considered part of the population of their country of origin. The values shown are mid-year estimates for the current year.

Standard demographic techniques are used to estimate population for the current year. For most countries, national population censuses are the main source of data; however, frequency and quality vary by country. Most countries conduct a complete enumeration no more than once a decade. Pre- and post-census estimates are interpolations or extrapolations based on demographic models. Surveys conducted by international organizations, such as the Demographic and Health Surveys Program, are often the source of the most recent demographic information for developing countries.

International comparability of population indicators is limited by differences in the concepts, definitions, data collection procedures, and estimation methods used by national statistical agencies and other organizations that collect population data. Furthermore, ages are not always reported accurately, particularly in developing countries.

For charts 5.1 and 5.2, data are from the World Bank. The **share of world population** (chart 5.1) shows each country's share of the total world population. The total population presents one overall measure of the potential impact of the country on the world and within its region.

The **age composition of the population** (chart 5.2) refers to the percentage of the total population that constitutes each specific age group. Three age groups are presented in chart 5.2: persons ages 14 and under, persons ages 15 to 64, and persons ages 65 and over.

Sources: World Bank, *World Development Indicators Database*, http://www.worldbank.org/; World Bank, *World Development Indicators*, Washington, D.C., 2009, table 2.1.