



A CHARTBOOK OF
**INTERNATIONAL
LABOR COMPARISONS:**
THE AMERICAS ❖ ASIA-PACIFIC ❖ EUROPE

U.S. DEPARTMENT OF LABOR ❖ JANUARY 2008

Material contained in this document is in the public domain and may be reproduced, fully or partially, without permission of the Federal Government. Source credit is requested.

This document is available on the Internet at:
<http://www.dol.gov/asp/welcome.html>.



A CHARTBOOK OF
INTERNATIONAL
LABOR COMPARISONS:
THE AMERICAS ❖ ASIA-PACIFIC ❖ EUROPE

U.S. DEPARTMENT OF LABOR ❖ JANUARY 2008

FOREWORD

All countries have unique cultures, histories, economies, and challenges. Yet despite these differences, the economies of the world are becoming increasingly interrelated as technology and world trade grow. As a result, local economies are increasingly affected by changes in worldwide markets.

For the United States to continue to succeed in the global economy and create more jobs at home, it is important to understand the economic relationships that are transforming the world. U.S. workers have long enjoyed one of the highest standards of living in the world—thanks to technology, the flexibility of our nation’s workforce, and the remarkable productivity of America’s workers. To preserve these advantages, it is critical that U.S. workers have the skills necessary to compete in the worldwide economy of the 21st century.

By understanding how the United States compares with other advanced and emerging economies, our nation will be better prepared to take the steps necessary to ensure that America’s workforce and America’s economy continue to thrive and prosper. Therefore, this *Chartbook of International Labor Comparisons* provides a comparative labor market perspective—including employment levels, jobless rates, hours worked, labor costs, and productivity trends.

As the charts reveal, the United States leads in some areas. In other cases, our nation’s trading partners have made great progress. This information provides a snapshot of where the United States stands today in relation to key economies of the rest of the world. It can assist policy and decision makers in charting a course that will help prepare our nation’s workforce for the challenges of tomorrow. I hope you find this *Chartbook* both relevant and informative.

Elaine L. Chao
Secretary of Labor



PREFACE

This chartbook focuses on the labor market situation in selected countries in the 1996-2006 period. Charts in sections 1 through 4 and section 6 include countries in North America (the United States, Canada, and Mexico) and selected Asian-Pacific and European economies. Weighted aggregates for 15 European Union countries (EU-15) are shown on most charts. These represent 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 EU-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 the selected economies are not representative of all of Europe and the Asian-Pacific region; rather, they tend to be the more industrialized economies in these regions. In section 5, several indicators are presented for five large emerging economies: Brazil, China, India, Indonesia, and the Russian Federation. Due to the lack of suitable data, some of the countries do not appear on all charts. The appendix describes the definitions, sources, and methods used to compile the data in the chartbook. For some series, the appendix provides cautions about the exact comparability of the measures.

Section 1, on Gross Domestic Product (GDP) per capita, shows charts that portray overall measures of comparative living standards. Section 2 highlights the state of the labor market by comparing major labor force, employment, and unemployment indicators. Section 3 examines the competitive position of the United States in the global marketplace by comparing hourly compensation costs in manufacturing, trends in manufacturing labor productivity and unit labor costs, and manufacturing output as a percent of world manufacturing output. Section 4 includes charts that compare public expenditures on labor market programs, regulation measures on labor and product markets, taxes on labor, and

foreign trade in goods. Section 5 presents nine charts on various topics for large emerging economies. In section 6, this edition presents charts on disability indicators. This is the first of a series of one-time supplemental sections that highlight topics of particular interest, but with occasional data availability.

The charts are color coded as follows: North American countries are blue, Asian-Pacific economies are red, and European countries are yellow. A different color scheme is used, however, when there is more than one chart-bar per country, and additional colors are used for the emerging economies charts in section 5.

The chartbook was a cooperative effort of three agencies in the Department of Labor: the Bureau of International Labor Affairs (ILAB), the Office of the Assistant Secretary for Policy (OASP), and the Bureau of Labor Statistics (BLS). Since 1960, BLS has adjusted selected labor market data of foreign countries to improve their comparability with U.S. data. The chartbook is representative of the main output of the BLS program of international labor comparisons. In order to increase country and indicator coverage, BLS data are supplemented by data from the Organization for Economic Cooperation and Development (OECD) and other international organizations.

A team led by Marie-Claire Sodergren of the BLS Division of Foreign Labor Statistics (DFLS) in cooperation with Kenneth Swinnerton and Sarah Gormly of the ILAB Division of Economic and Labor Research prepared the chartbook. The following persons comprised the BLS team: Apinait Amranand, Aaron Cobet, Rich Esposito, Susan Fleck, Mubarka Haq, Wolodar Lysko, Jennifer Raynor, and Chris Sparks. Constance Sorrentino, Chief of DFLS, and Ronald Bird and Stephanie Swirsky of OASP provided overall guidance.

CONTENTS

Section 1. Gross Domestic Product Per Capita	1	Section 3. Competitiveness Indicators for Manufacturing	21
1.1 Gross Domestic Product (GDP) per capita, 2006	2	3.1 Hourly compensation costs, 2005	22
1.2 Average annual growth rates for real GDP per capita, 1996-2006	3	3.2 Average annual growth rates for hourly compensation costs, 1995-2005	23
Section 2. Labor Market Indicators	5	3.3 Employer social insurance expenditures and other labor taxes as a percent of hourly compensation costs, 2005	24
2.1 Size of the labor force, 2006	6	3.4 Average annual growth rates for manufacturing productivity, 1996-2006	25
2.2 Average annual growth rates for the labor force, 1996-2006	7	3.5 Average annual growth rates for manufacturing output and hours worked, 1996-2006	26
2.3 Labor force participation rates by sex, 2006	8	3.6 Average annual growth rates for manufacturing unit labor costs in U.S. dollars, 1996-2006	27
2.4 Labor force participation rates for youth, 2006	9	3.7 Manufacturing output as a percent of world manufacturing output, 2006	28
2.5 Labor force participation rates for older workers, 2006	10	Section 4. Other Economic Indicators	29
2.6 Employment as a percent of the working-age population, 2006	11	4.1 Public expenditures on labor market programs as a percent of GDP, 2005-06	30
2.7 Average annual growth rates for employment, 1996-2006	12	4.2 Measures of regulation on labor and product markets, 2003	31
2.8 Average annual growth rates for full-time and part-time employment, 1996-2006	13	4.3 Share of labor costs taken by tax and social security contributions, 2006	32
2.9 Annual hours worked per employed person, 1996 and 2006	14	4.4 Dependency ratios, 2005 and projections to 2025	33
2.10 Unemployment rates, 2006	15	4.5 Trade in goods as a percent of GDP, 2005	34
2.11 Unemployment rates for youth, 2006	16		
2.12 Ratio of youth to adult unemployment rates, 2006	17		
2.13 Persons unemployed one year or longer, 2006	18		
2.14 Ratio of unemployment rate of persons without high school degrees to that of persons with college or university degrees, 2005	19		
2.15 Educational attainment of the adult population, 2005	20		

Section 5. Indicators for Large Emerging Economies	35
5.1 World population distribution, 2005	36
5.2 Age composition of the population, 2005	37
5.3 Dependency ratios, 2005 and projections to 2025	38
5.4 GDP per capita, 2005	39
5.5 GDP per employed person, 1996 and 2005	40
5.6 Labor force participation rates by age, 2006	41
5.7 Employment as a percent of the working-age population by sex, 2006	42
5.8 Trade in goods as a percent of GDP, 2005	43
5.9 Manufacturing output as a percent of world manufacturing output, 2006	44
Section 6. Disability indicators	45
6.1 Persons with disabilities as a percent of the working-age population	46
6.2 Employment as a percent of the working-age population	47
6.3 Persons receiving disability benefits as a percent of the working-age population, 1990 and 1999	48
6.4 Labor market status of persons receiving disability benefits	49
Appendix. Definitions, Sources, and Methods	A1

SECTION 1

Gross Domestic Product Per Capita

Gross Domestic Product (GDP) per capita, when converted to U.S. dollars using Purchasing Power Parities (PPPs), is the most widely used income measure for international comparisons of living standards. It should be recognized that income measures do not capture a number of variables affecting economic well-being, such as leisure time, health, safety, and cultural resources.

PPPs are the number of foreign currency units required to buy goods and services in a foreign country equivalent to what can be bought with one dollar in the United States. These are used to equalize the purchasing power of different currencies. PPPs are used instead of exchange rates because market exchange rates do not necessarily reflect the relative purchasing power of different currencies.

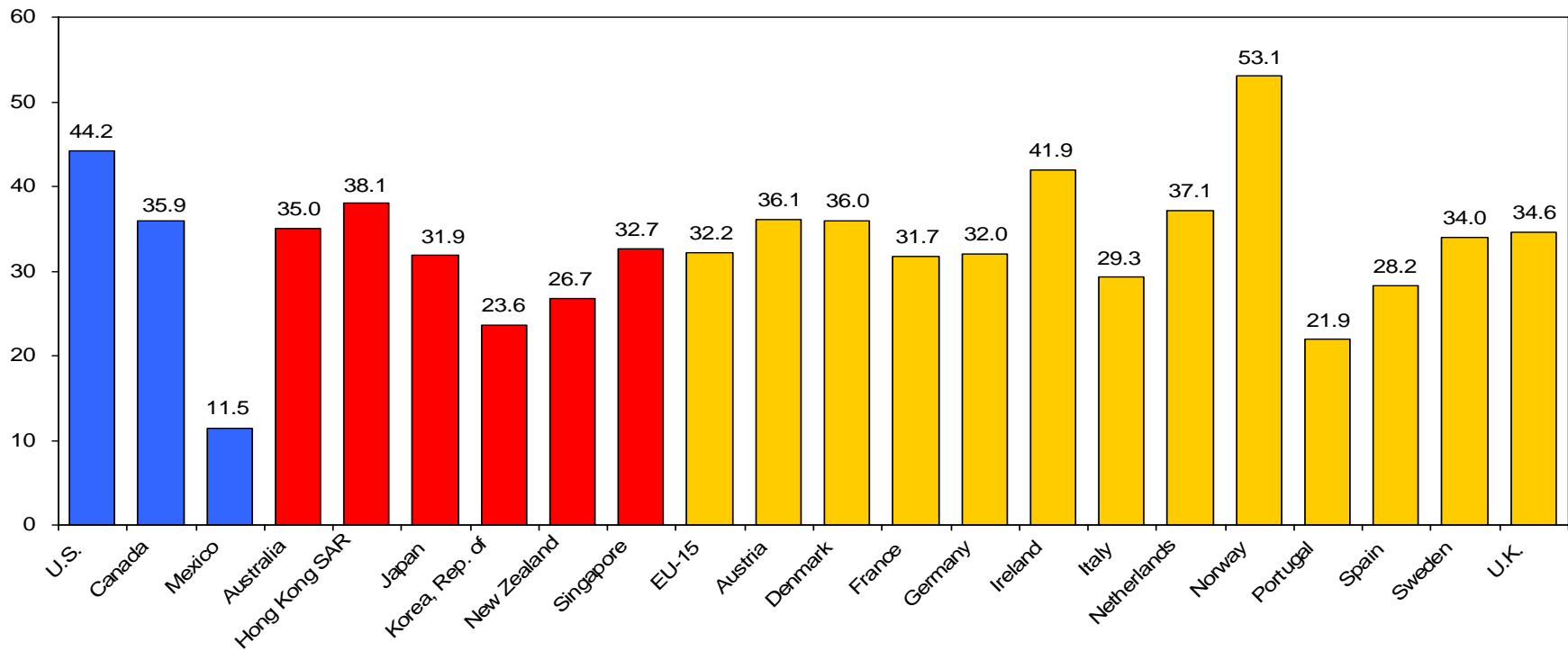
Charts 1.1 and 1.2 compare the level of GDP per capita in 2006 and the trend from 1996 to 2006 in 21 of the 22 economies shown on various charts in this chartbook. Data for the EU-15 are also included. Data were not available for charting GDP per capita for Taiwan.

CHART 1.1

Gross Domestic Product (GDP) per capita, 2006 converted at PPP rates

- Norway, the United States, and Ireland were the countries with the highest GDP per capita.
- The other economies showed levels of GDP per capita between 86 percent (Hong Kong SAR) and 26 percent (Mexico) of the U.S. level.

Thousands of U.S. dollars



NOTE: Hong Kong SAR stands for Hong Kong Special Administrative Region of China. Purchasing Power Parity (PPP) is the number of foreign currency units required to buy goods and services in a foreign country equivalent to what can be bought with one dollar in the United States.

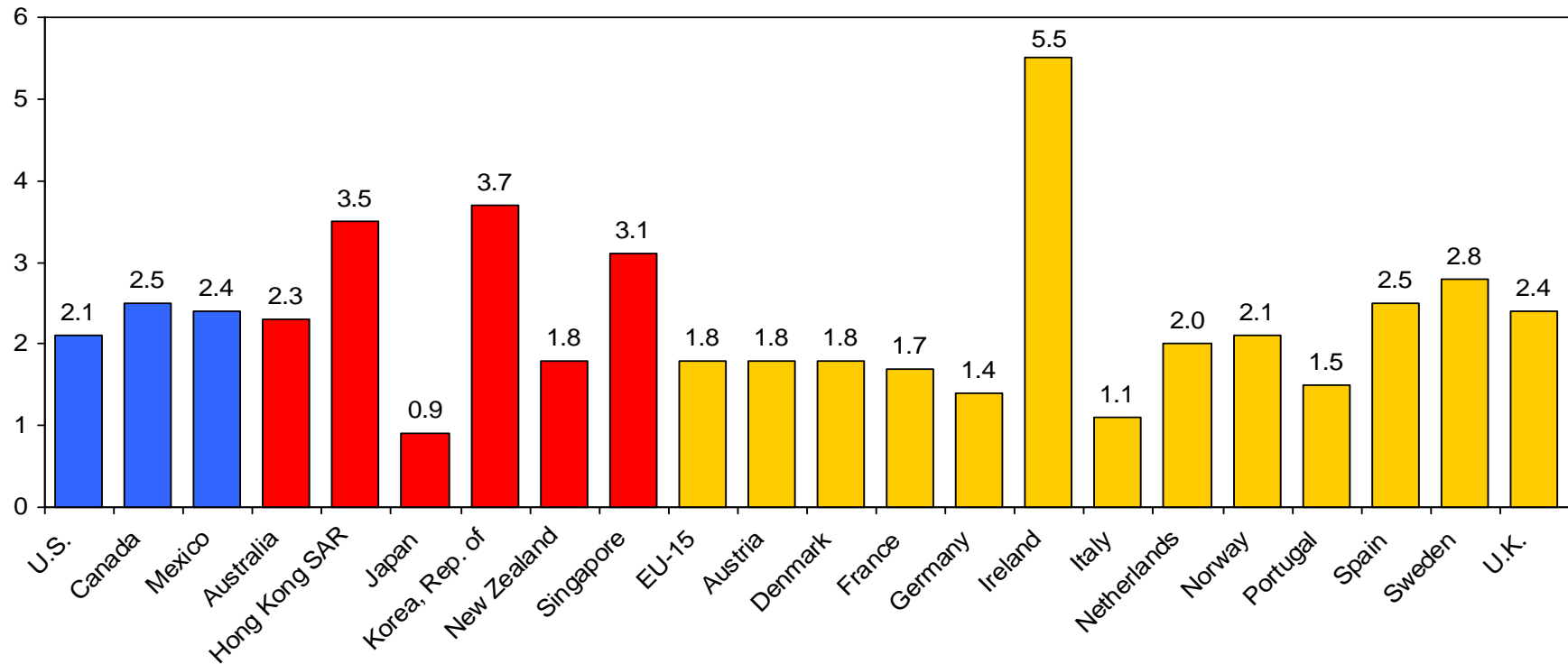
SOURCE: Bureau of Labor Statistics and World Bank.

CHART 1.2

Average annual growth rates for real GDP per capita, 1996-2006

- In most of the 21 economies, real GDP per capita grew during the decade at an average rate of 1.4 to 2.8 percent per year; the U.S. growth rate was in the middle of the range, at 2.1 percent per year.
- Ireland registered the greatest increase in real GDP per capita, by far, followed by the Republic of Korea, Hong Kong SAR, and Singapore; Japan and Italy had the smallest increases.

Percent



NOTE: Hong Kong SAR stands for Hong Kong Special Administrative Region of China.

SOURCE: Bureau of Labor Statistics, including special tabulations using data from the Organization for Economic Cooperation and Development, World Bank, and national sources.

SECTION 2

Labor Market Indicators

Charts 2.1 through 2.15 show comparisons of the labor force, employment, unemployment, and related indicators. The size of the labor force is shown in chart 2.1. Labor force growth (chart 2.2) sums up changes in both employment and unemployment over the period. Labor force participation rates (charts 2.3-2.5) express the extent to which different groups are either working or unemployed. Here comparisons are shown by sex and for four selected age groups relating to youth and older workers.

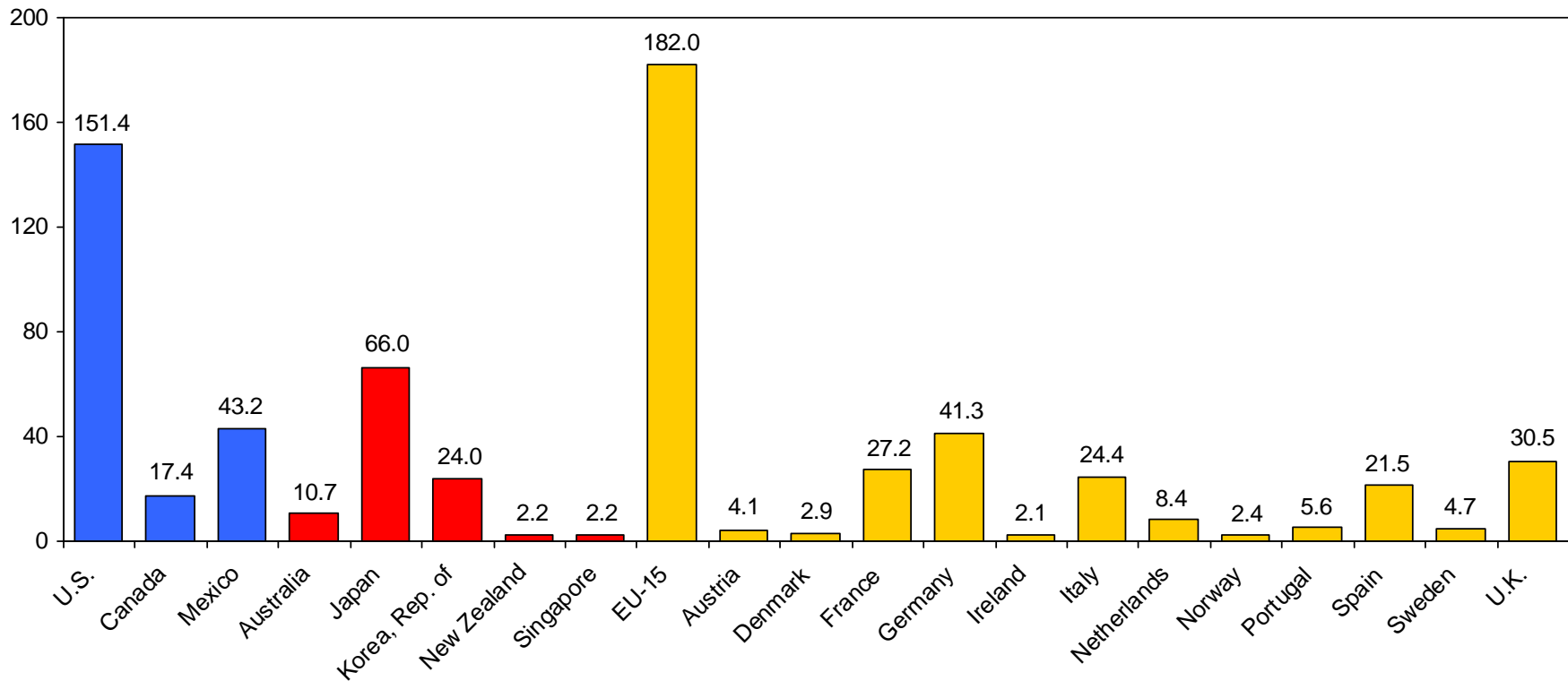
Employment and unemployment are key indicators of the functioning of labor markets both within and among countries. Charts 2.6-2.9 compare the proportion of the working-age population employed, employment growth rates, trends in full-time and part-time employment, and annual hours worked per employed person. Charts 2.10-2.15 explore unemployment rates, long-duration unemployment, and the connection between unemployment rates and levels of education.

All charts cover 19 or 20 countries. In addition, the EU-15 is shown on all but three of the charts. Comparative labor market indicators were not available for Taiwan or Hong Kong SAR, and some indicators were not available for Singapore.

CHART 2.1 Size of the labor force, 2006

- The U.S. labor force was the largest, by far.
- The EU-15 countries combined had a larger labor force than the United States.

Millions



NOTE: 2005 for the EU-15. 2004 for Singapore.

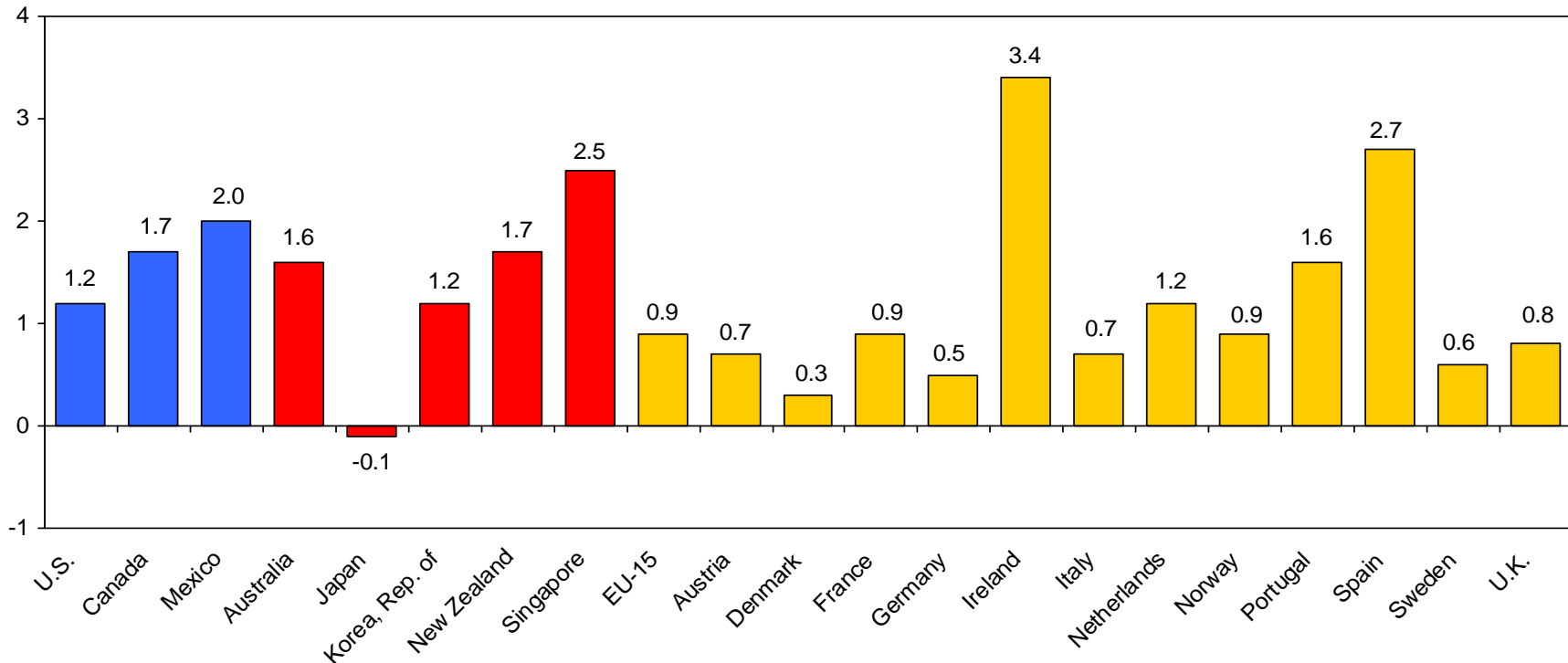
SOURCE: Bureau of Labor Statistics, Organization for Economic Cooperation and Development, and International Labor Office.

CHART 2.2

Average annual growth rates for the labor force, 1996-2006

- U.S. labor force growth outpaced that of the EU-15 average; in Europe, labor force growth was stronger in Ireland, Spain, and Portugal than in the United States.
- Singapore, the other North American countries, New Zealand, and Australia also recorded higher labor force growth rates than the United States.

Percent



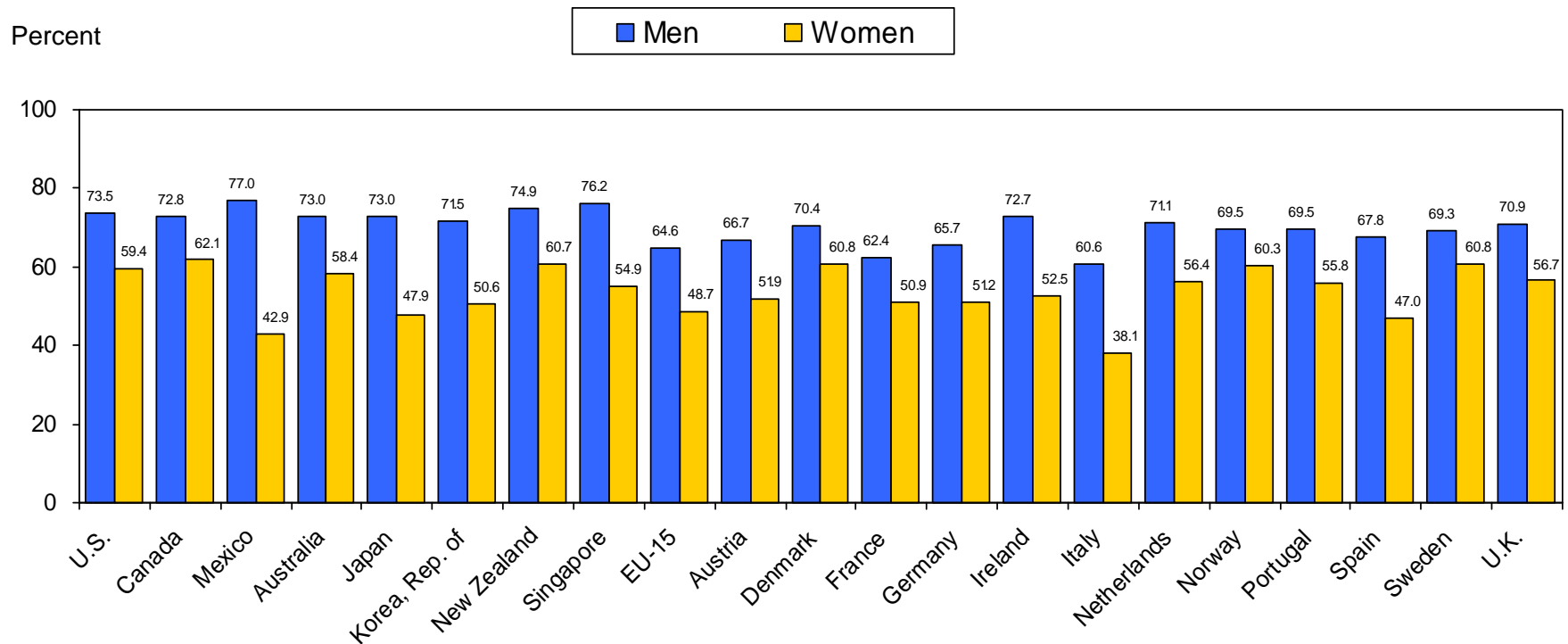
NOTE: 1996-2005 for the EU-15. 1996-2004 for Singapore.

SOURCE: Bureau of Labor Statistics, Organization for Economic Cooperation and Development, and International Labor Office.

CHART 2.3

Labor force participation rates by sex, 2006

- Across countries, women's labor force participation rates varied more than men's rates. In Canada, the Scandinavian countries, New Zealand, and Australia, women participated in the labor force at about the same high rate as U.S. women. Italian and Mexican women had the lowest participation rates.
- Participation rates for men were at least 70 percent in 12 out of 20 countries; the lowest rates for men were found in Italy and France.



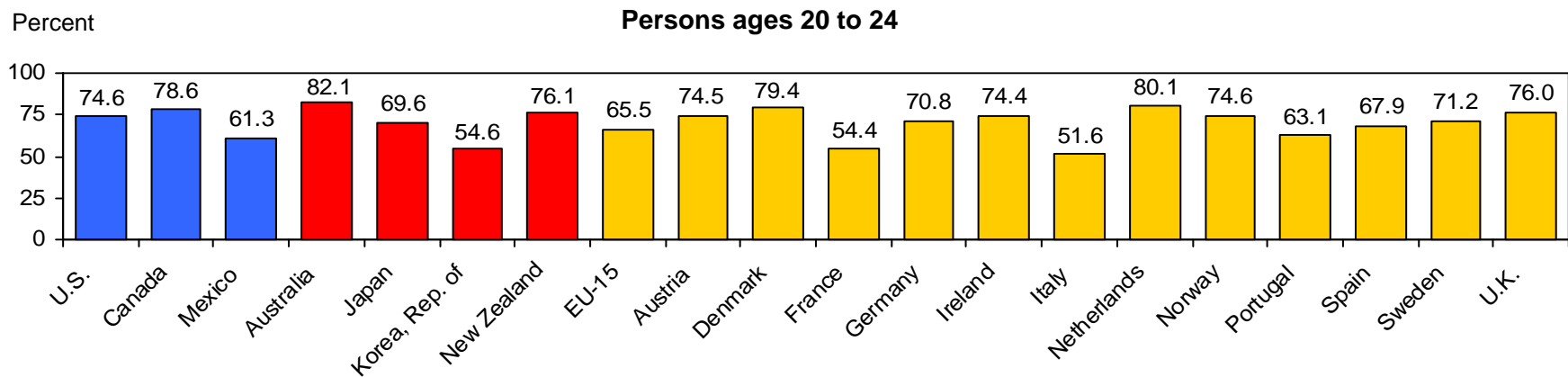
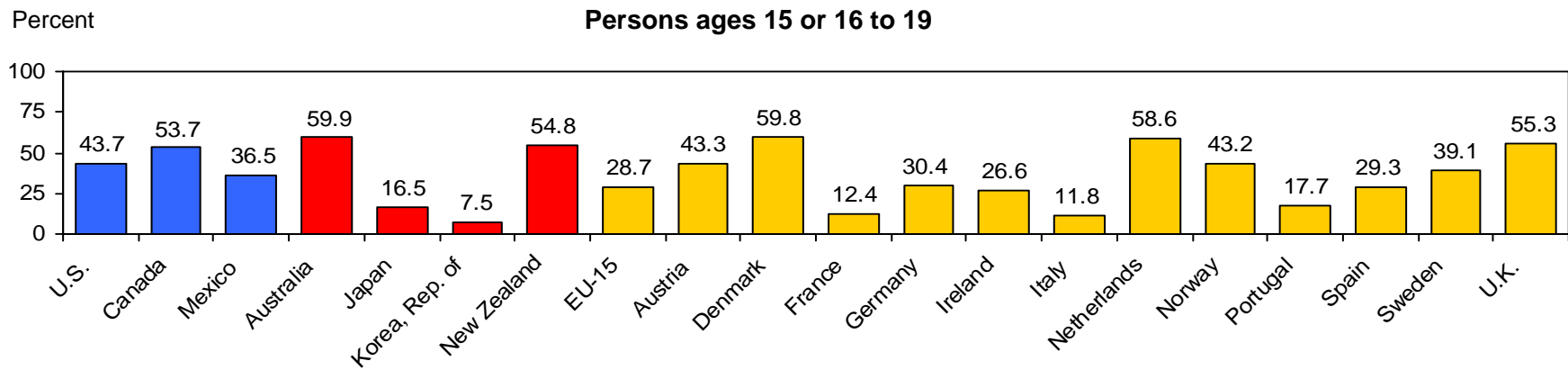
NOTE: 2005 for the EU-15. 2004 for Singapore.

SOURCE: Bureau of Labor Statistics, Organization for Economic Cooperation and Development, and International Labor Office.

CHART 2.4

Labor force participation rates for youth, 2006

- Labor force participation rates varied widely for teenagers, ranging from 7.5 percent (the Republic of Korea) to 59.9 percent (Australia).
- Persons ages 20 to 24 participated in the labor market to a much greater extent than teenagers, with the highest participation rates in Australia and the Netherlands.

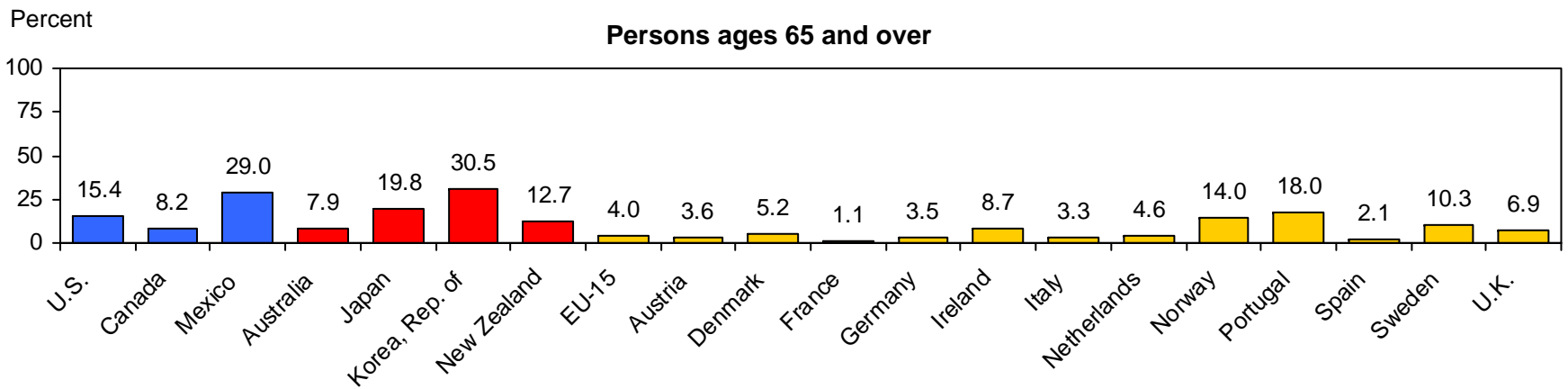
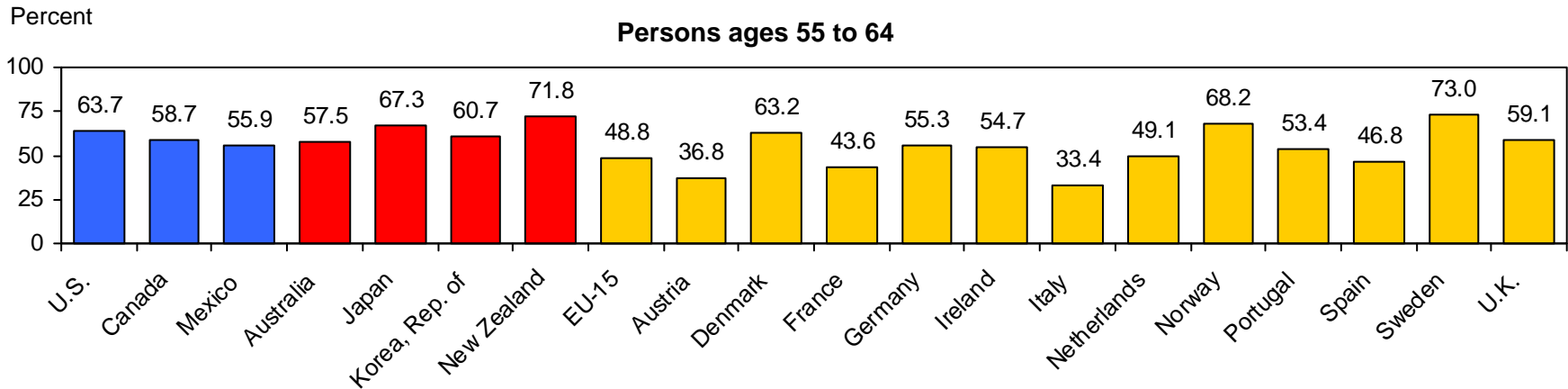


SOURCE: Organization for Economic Cooperation and Development.

CHART 2.5

Labor force participation rates for older workers, 2006

- Persons ages 55 to 64 participated in the labor market far less in Italy and Austria than in the remaining countries.
- Participation rates for persons ages 65 and over varied widely from 1.1 percent (France) to about 30 percent (the Republic of Korea and Mexico); the U.S. rate was nearly four times higher than the EU-15 average.



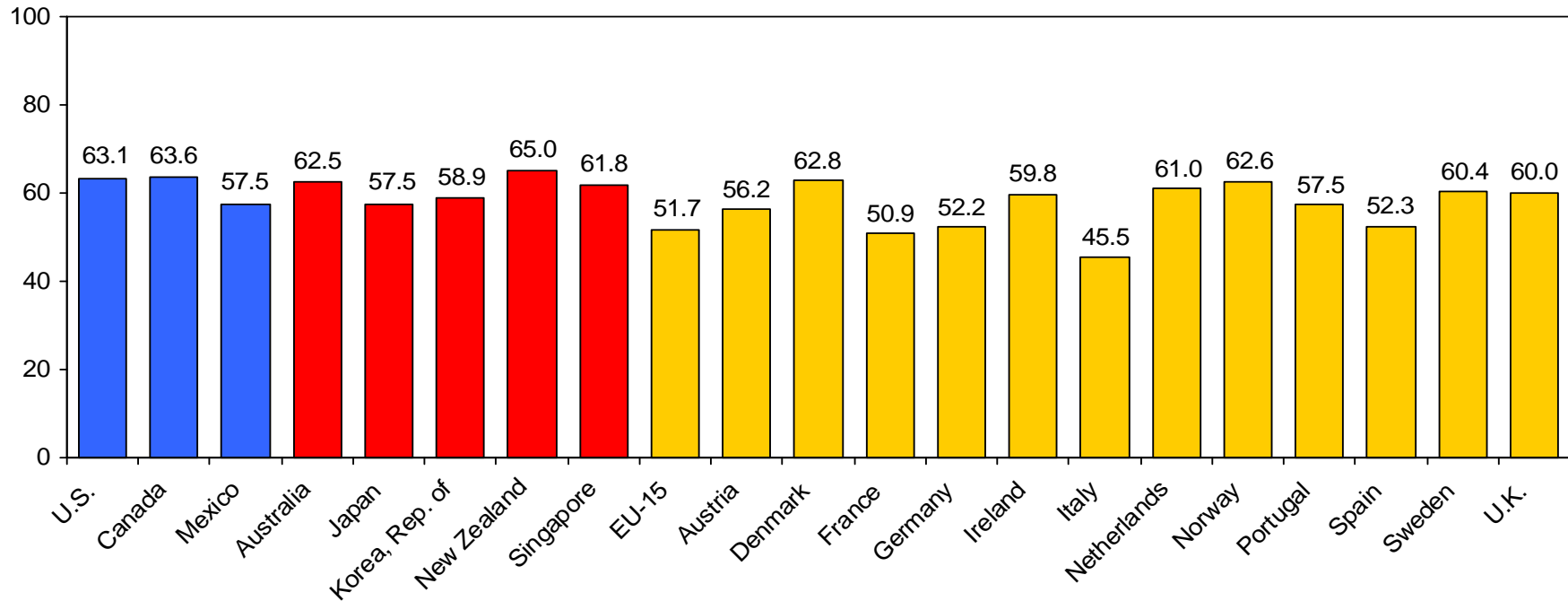
SOURCE: Organization for Economic Cooperation and Development.

CHART 2.6

Employment as a percent of the working-age population, 2006

- New Zealand, Canada, and the United States had the highest percentages of the working-age population employed.
- In Italy, less than half of the working-age population was employed.

Percent



NOTE: 2005 for the EU-15. 2004 for Singapore. The working-age population is defined as persons ages 15 or 16 and over.

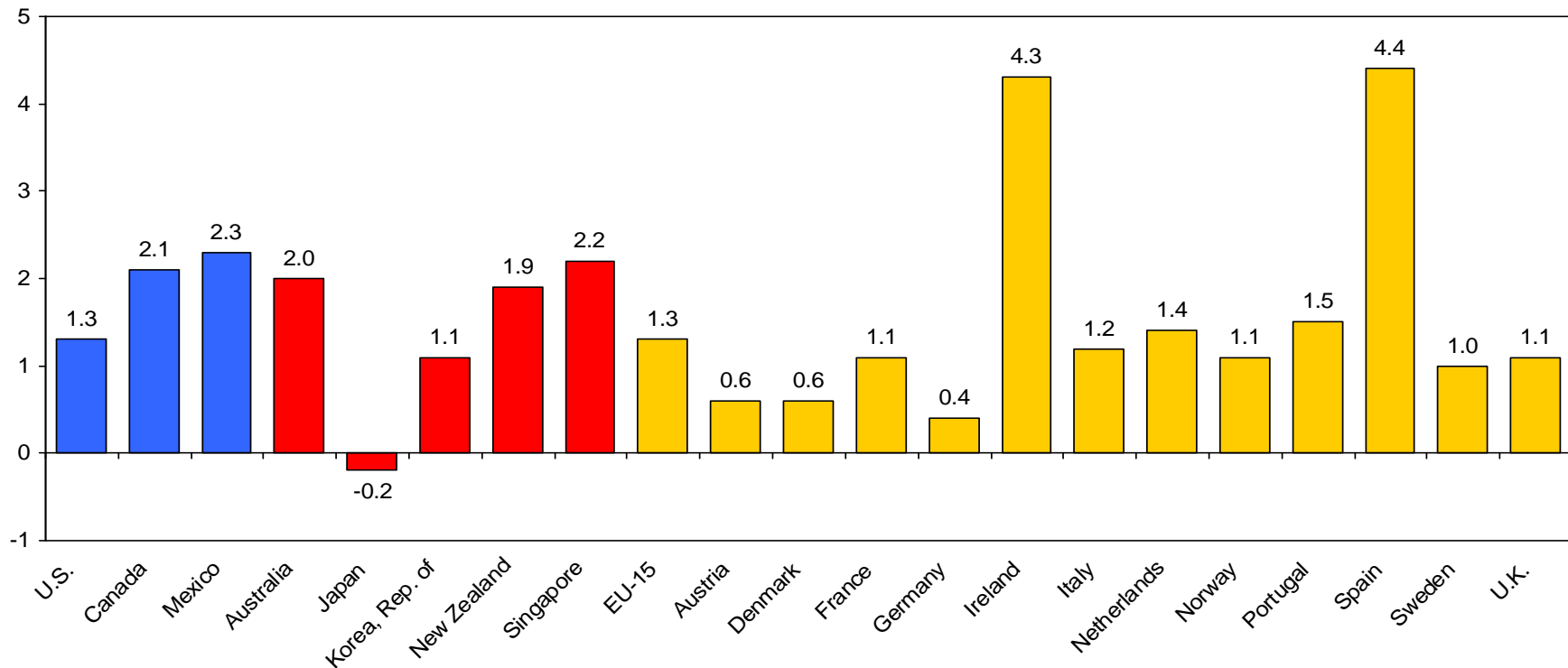
SOURCE: Bureau of Labor Statistics, Organization for Economic Cooperation and Development, and International Labor Office.

CHART 2.7

Average annual growth rates for employment, 1996-2006

- Spain and Ireland had the highest growth rates in employment. Employment declined only in Japan.
- U.S. employment growth, although identical to the EU-15 average, outpaced that of 8 of the 12 European countries; the remaining countries recorded higher employment growth than the United States, except for Japan and the Republic of Korea.

Percent



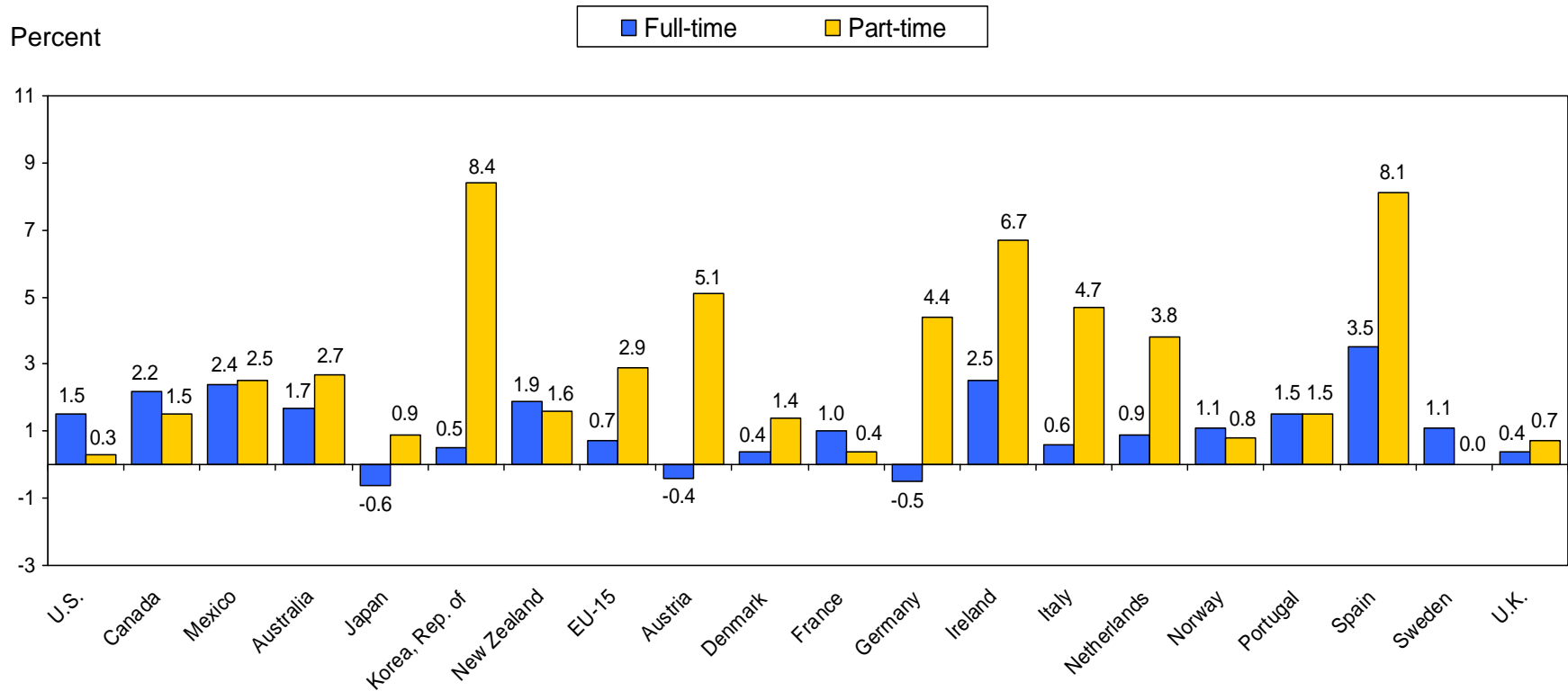
NOTE: 1996-2005 for the EU-15. 1996-2004 for Singapore.

SOURCE: Bureau of Labor Statistics, Organization for Economic Cooperation and Development, and International Labor Office.

CHART 2.8

Average annual growth rates for full-time and part-time employment, 1996-2006

- Full-time employment grew faster than part-time employment in six countries, including the United States.
- Average annual growth rates for full-time employment were highest in Spain, followed by Ireland, Mexico, and Canada.



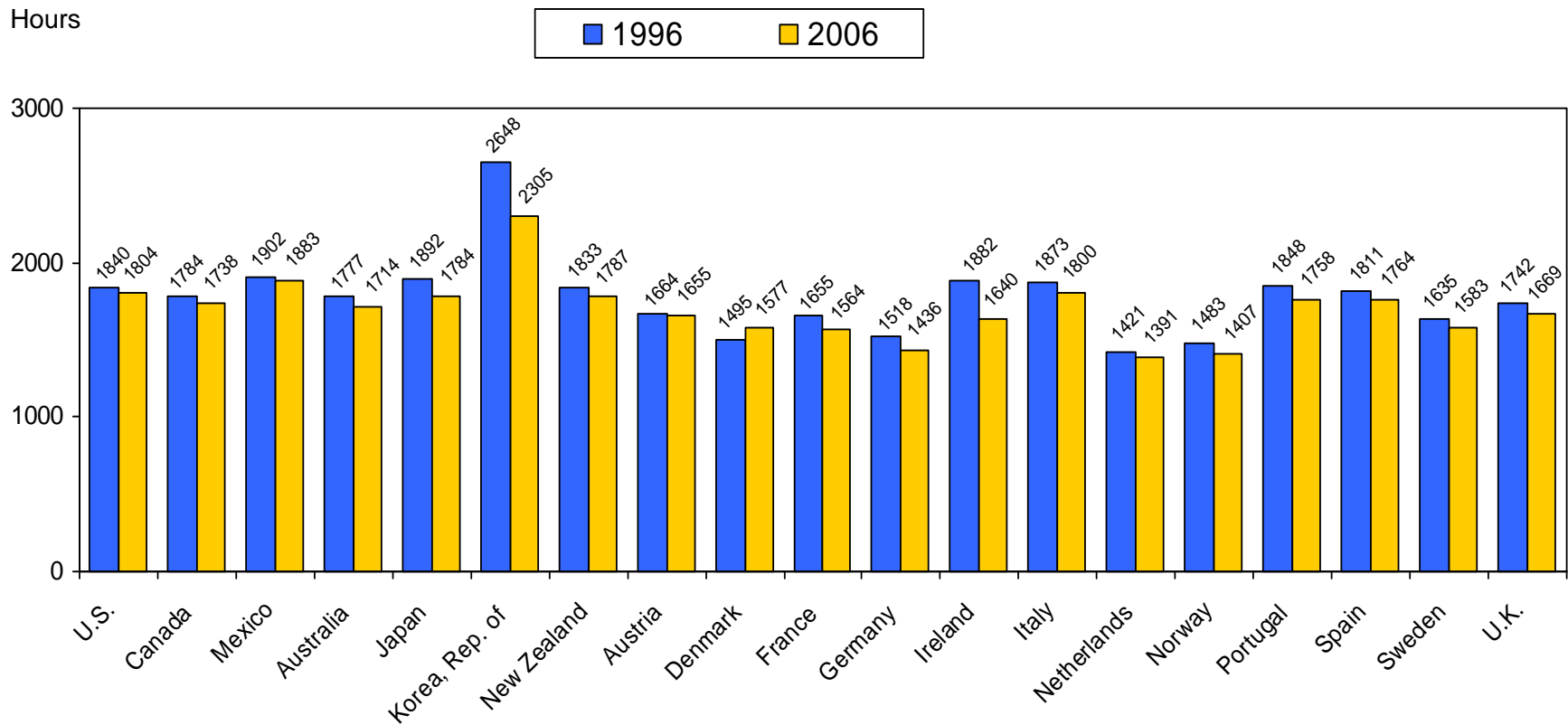
NOTE: 1996-2004 for Mexico. Full-time employment is defined as persons usually working over 30 hours per week in their main job. U.S. data refer to wage and salary workers only. Data for other countries refer to total employment, which includes wage and salary workers, self-employed persons, and unpaid family workers.

SOURCE: Organization for Economic Cooperation and Development.

CHART 2.9

Annual hours worked per employed person, 1996 and 2006

- In both years, Koreans worked the most hours annually.
- The Republic of Korea and Ireland experienced the largest reductions in annual hours worked per employed person.

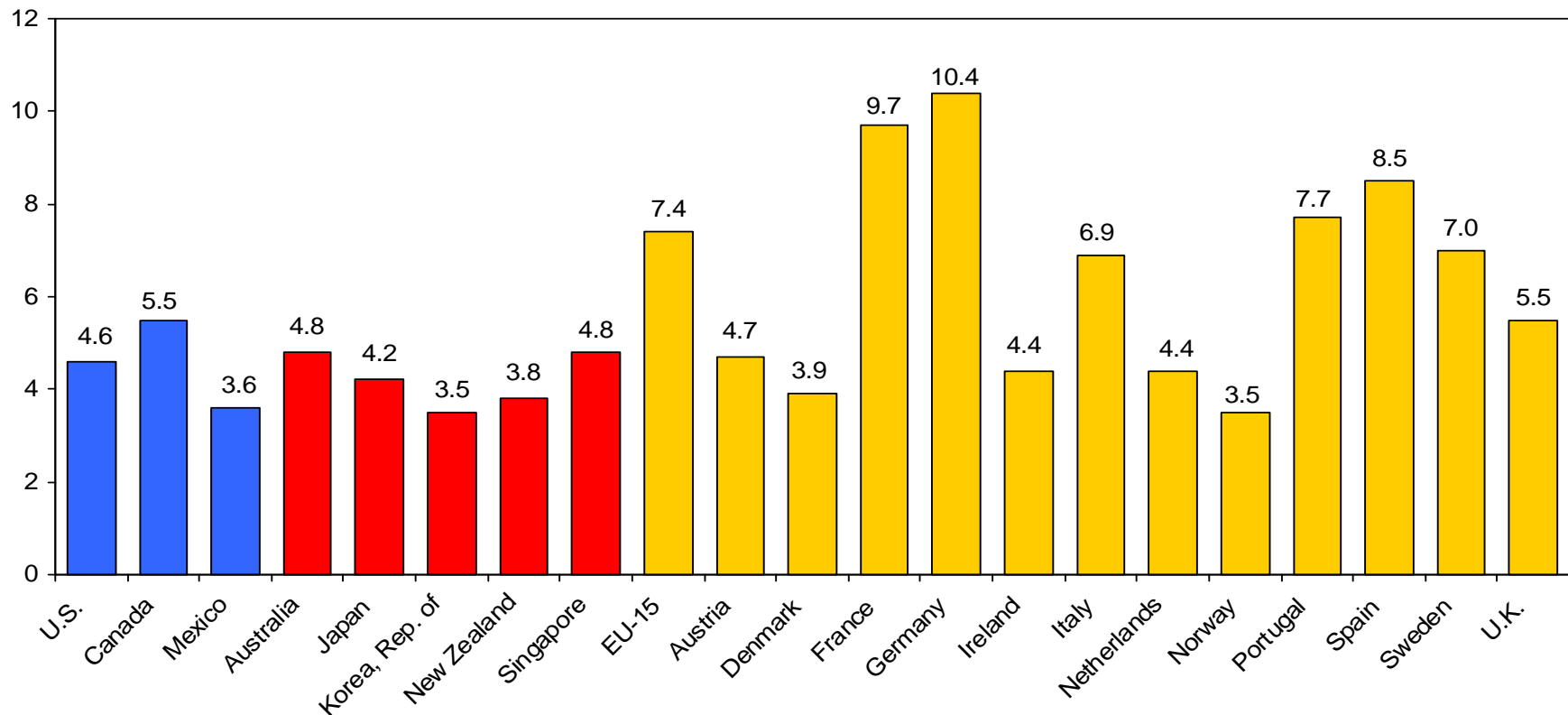


SOURCE: Organization for Economic Cooperation and Development.

CHART 2.10 Unemployment rates, 2006

- Most of the European countries had higher unemployment rates than the United States.
- The Republic of Korea, Norway, and Mexico had the lowest unemployment rates.

Percent

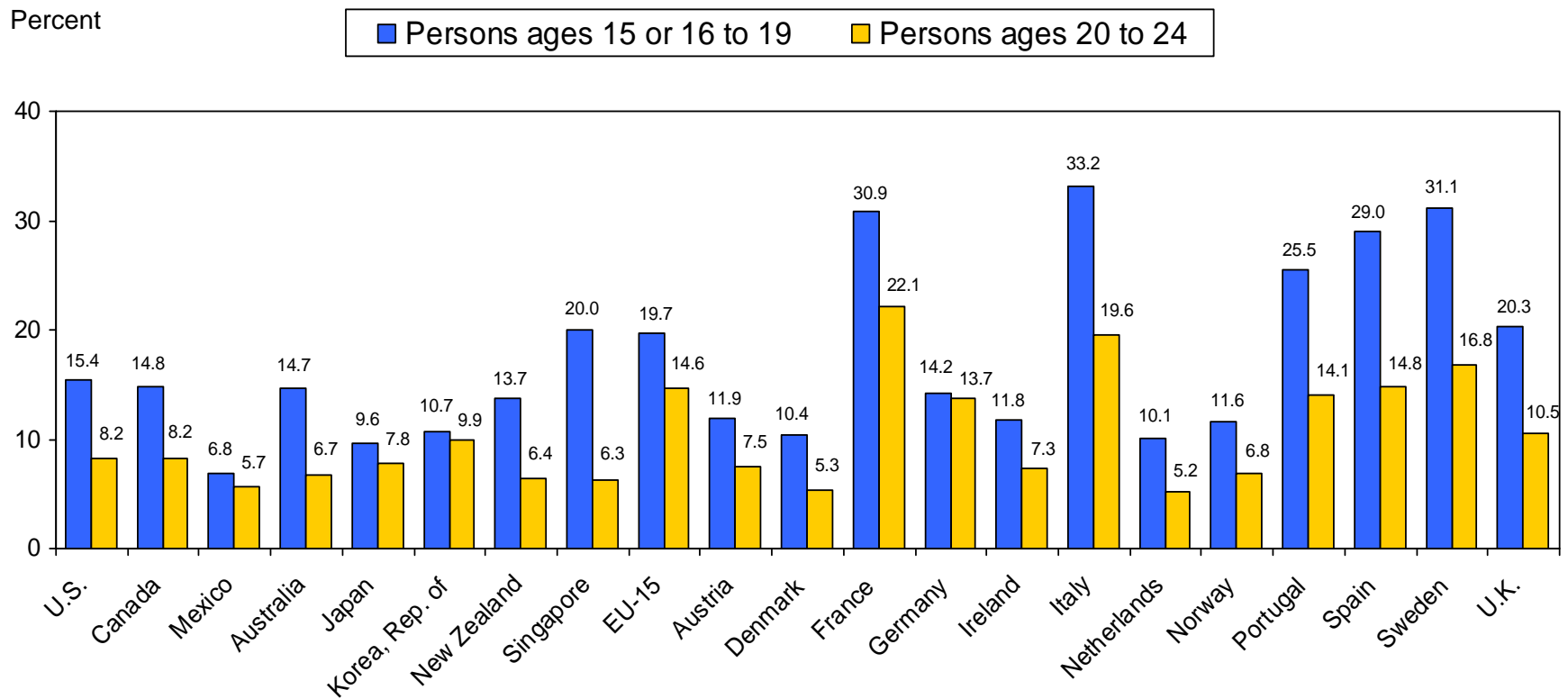


NOTE: 2004 for Singapore.

SOURCE: Bureau of Labor Statistics, Organization for Economic Cooperation and Development, and International Labor Office.

CHART 2.11 Unemployment rates for youth, 2006

- Italian teenagers had the highest unemployment rate, followed by their counterparts in Sweden and France.
- Unemployment rates for teenagers were higher than those for 20- to 24-year-olds in all countries.



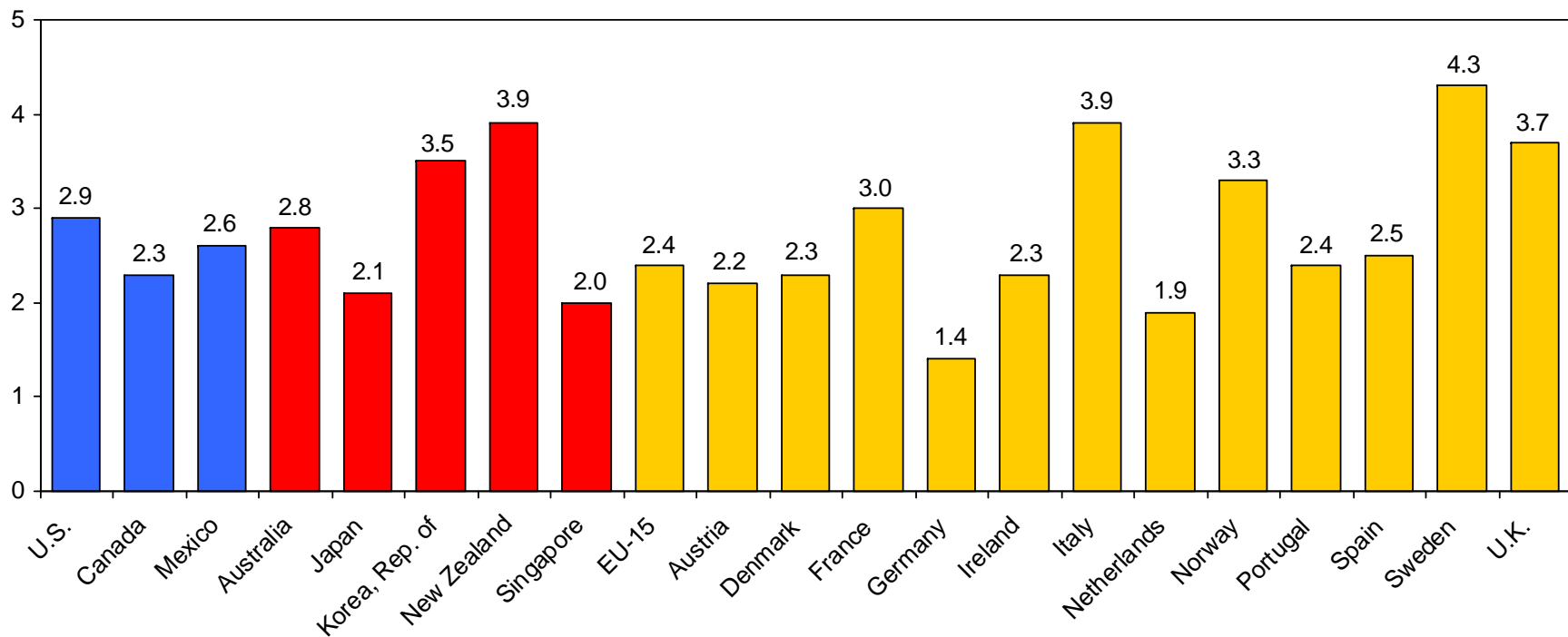
NOTE: 2004 for Singapore.

SOURCE: Bureau of Labor Statistics, Organization for Economic Cooperation and Development, and International Labor Office.

CHART 2.12 Ratio of youth to adult unemployment rates, 2006

- In most countries, unemployment rates were two to three times higher for youth than for adults.
- The ratios of youth to adult unemployment rates were highest in Sweden, New Zealand, and Italy. The ratio was lowest in Germany.

Ratio



NOTE: 2004 for Singapore. Youth are defined as persons ages 15 or 16 to 24. Adults are defined as persons ages 25 and over.

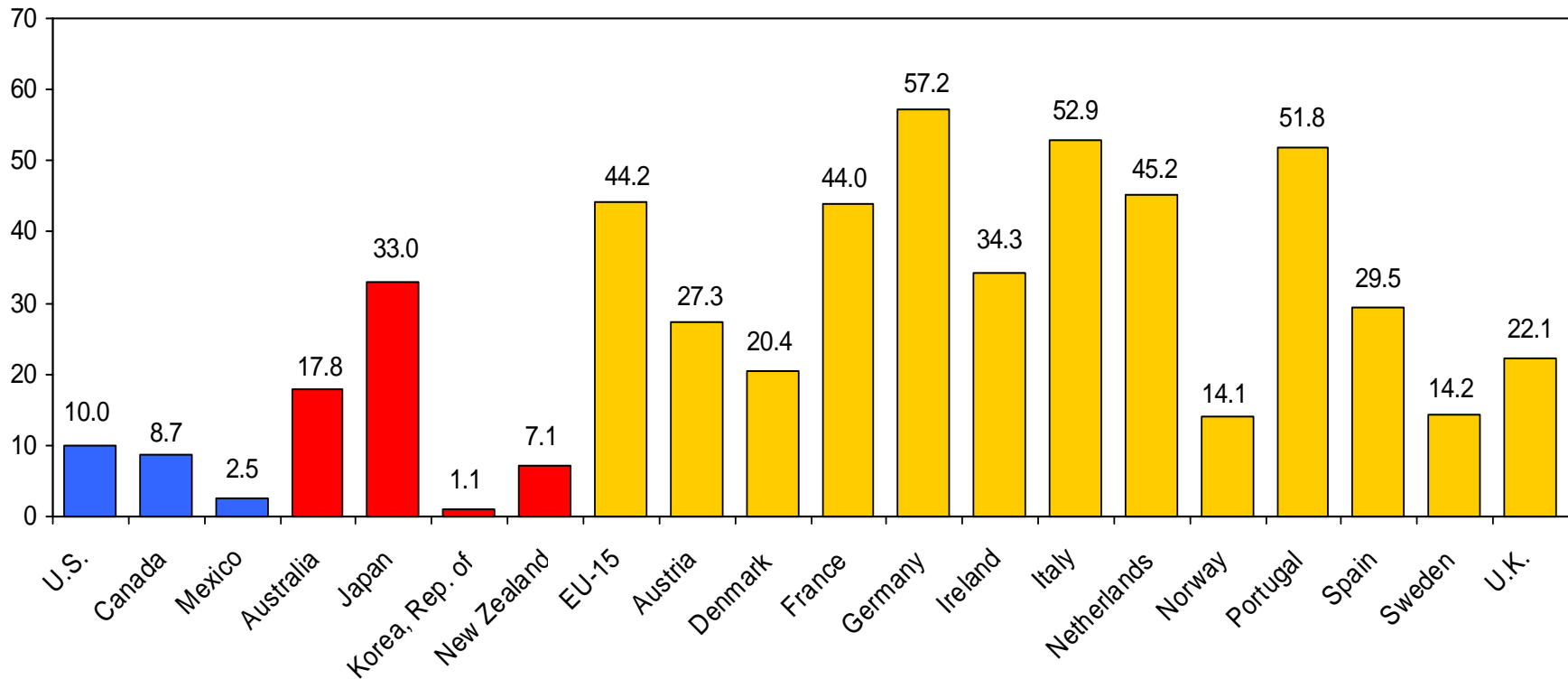
SOURCE: Bureau of Labor Statistics, Organization for Economic Cooperation and Development, and International Labor Office.

CHART 2.13

Persons unemployed one year or longer, 2006
as a percent of total unemployment

- Long-duration unemployment was least prevalent in the Republic of Korea and Mexico.
- The EU-15 countries combined had a relatively high percentage of persons unemployed one year or longer. More than half of the unemployed were without work for at least one year in Germany, Italy, and Portugal.

Percent

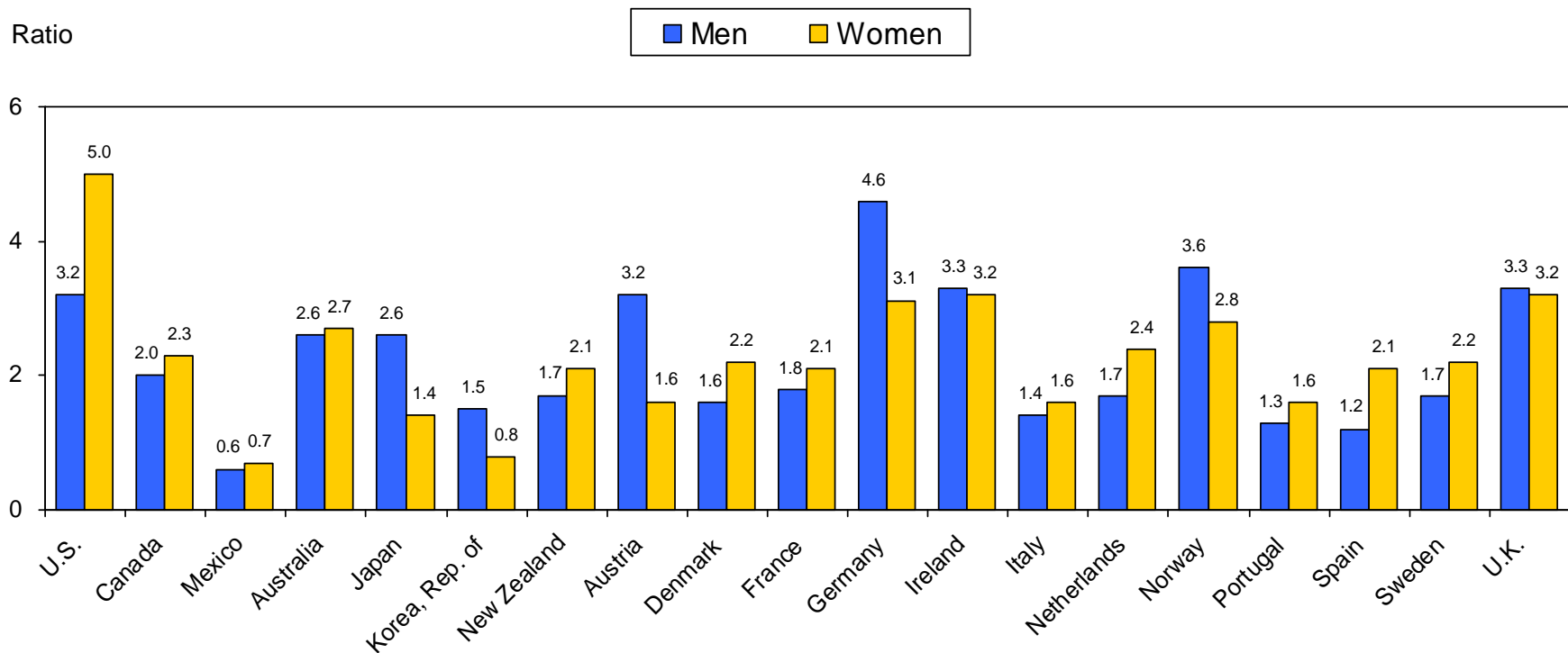


SOURCE: Organization for Economic Cooperation and Development.

CHART 2.14

Ratio of unemployment rate of persons without high school degrees to that of persons with college or university degrees, 2005

- Unemployment rates were higher for persons without high school degrees, except for men and women in Mexico and for women in the Republic of Korea.
- The unemployment rates of persons without high school degrees were at least three times those of persons with college or university degrees for men in Norway and Austria, and for both men and women in Germany, Ireland, the United Kingdom, and the United States.



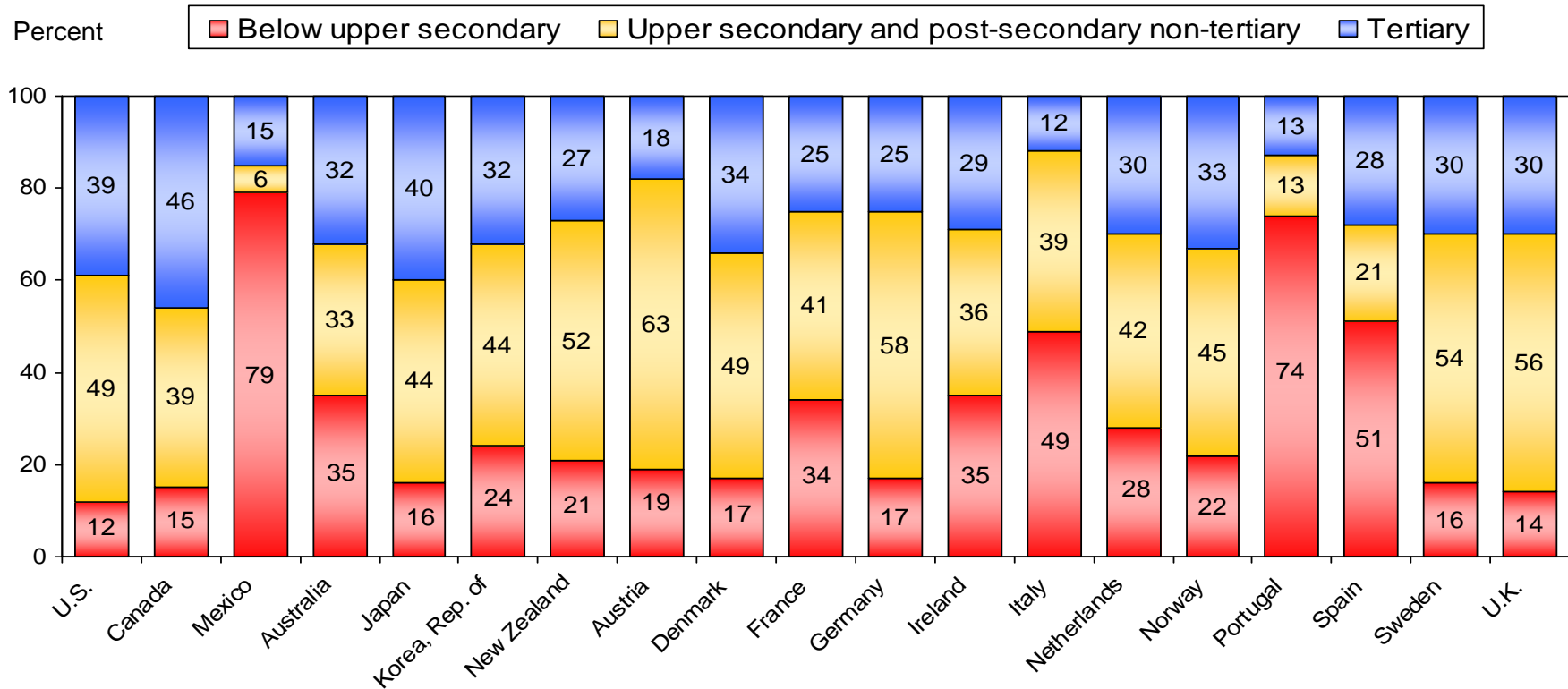
NOTE: 2004 for Austria. 2003 for Japan. The unemployment rates used to calculate these ratios are for men and women ages 25 to 64.

SOURCE: Organization for Economic Cooperation and Development.

CHART 2.15

Educational attainment of the adult population, 2005 by highest level of education attained

- More than one-third of the adult population has tertiary (university) education in Canada, Japan, the United States, and Denmark.
- In Mexico, Portugal, and Spain, more than half of the adult population has less than upper secondary education.



NOTE: 2003 for Japan. The adult population is defined as persons ages 25 to 64. Below upper secondary education is equivalent to less than high school. Upper secondary and post-secondary non-tertiary education is equivalent to high school and also includes trade school. Tertiary education is equivalent to higher education provided by a college or university.

SOURCE: Organization for Economic Cooperation and Development.

SECTION 3

Competitiveness Indicators for Manufacturing

Relative levels and changes in manufacturing hourly compensation costs and relative changes in manufacturing labor productivity (output per hour) and unit labor costs can be used to partially assess international competitiveness. These data are available on a comparative basis only for the manufacturing sector. Charts 3.1 and 3.2 compare the level and trends of hourly compensation costs for production workers in manufacturing. The data are adjusted to U.S. dollars at market exchange rates. 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. The hourly compensation figures in U.S. dollars provide comparative measures of employer labor costs; they do not provide comparative measures of the purchasing power of worker incomes. Chart 3.3 depicts employer social insurance expenditures and other labor taxes as a percent of hourly compensation costs.

Charts 3.4 through 3.7 provide comparisons of manufacturing productivity growth rates, the composition of productivity growth in terms of changes in output and hours worked, trends in unit labor costs, and shares of world manufacturing output. 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.

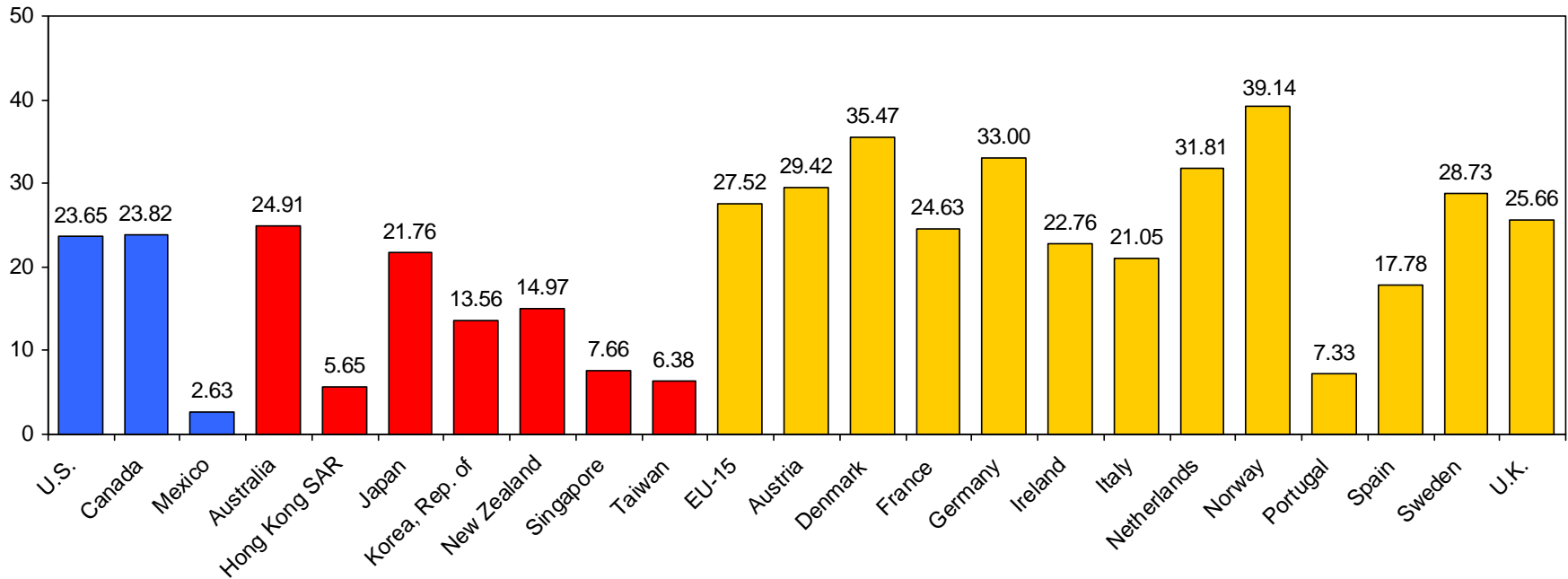
The compensation costs indicators provide the most extensive coverage in this chartbook. Twenty-two economies and the EU-15 are shown on those charts. For productivity and its related indicators, the coverage is limited to 15 economies. Chart 3.7 on world manufacturing output covers 20 economies and the EU-15.

CHART 3.1

Hourly compensation costs, 2005 for production workers in manufacturing in U.S. dollars

- Eight European countries, as well as Australia and Canada, had higher hourly compensation costs than the United States.
- Hourly compensation costs were well under \$10 in Mexico, Hong Kong SAR, Taiwan, Portugal, and Singapore.

U.S. Dollars



NOTE: Hong Kong SAR stands for Hong Kong Special Administrative Region of China.

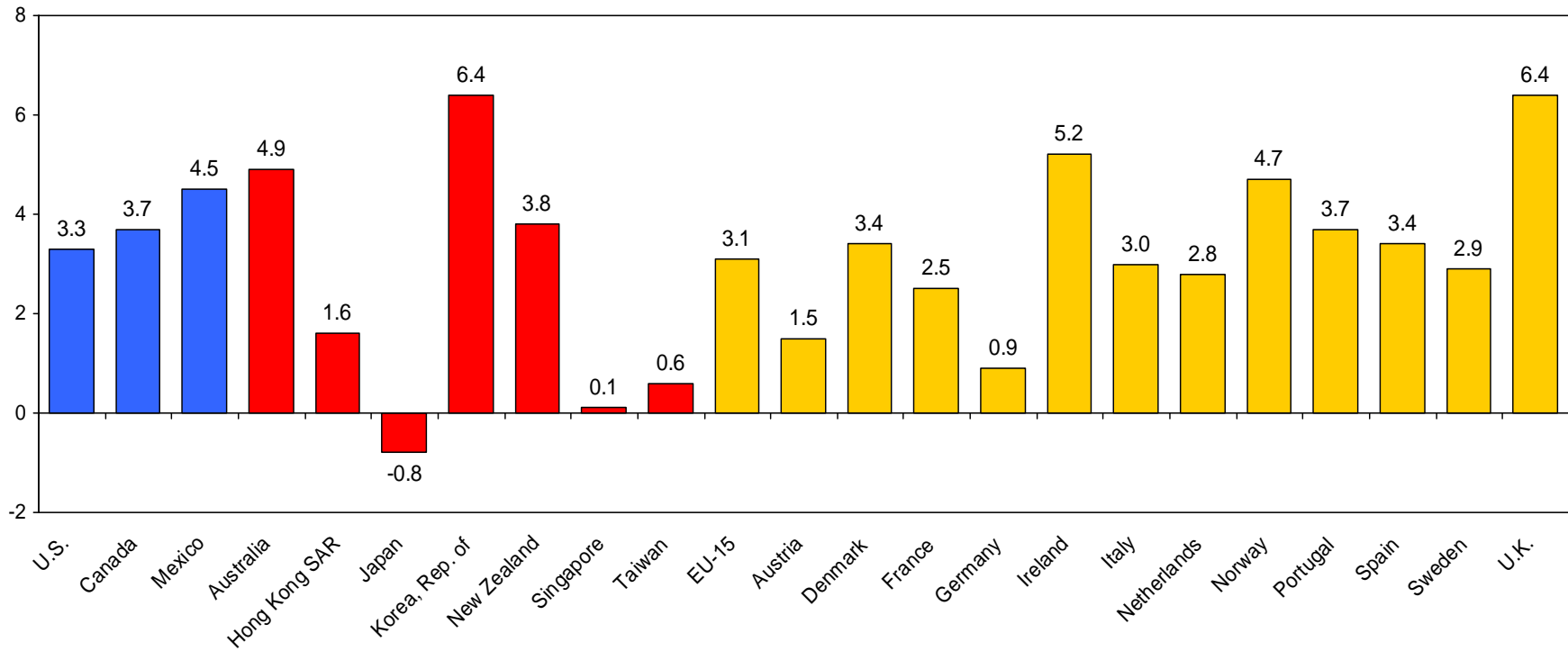
SOURCE: Bureau of Labor Statistics.

CHART 3.2

Average annual growth rates for hourly compensation costs, 1995-2005 for production workers in manufacturing in U.S. dollars

- Growth in hourly compensation costs in U.S. dollars was similar for the United States and the EU-15 as a whole.
- Only Japan had a decrease in hourly compensation costs over the period.

Percent

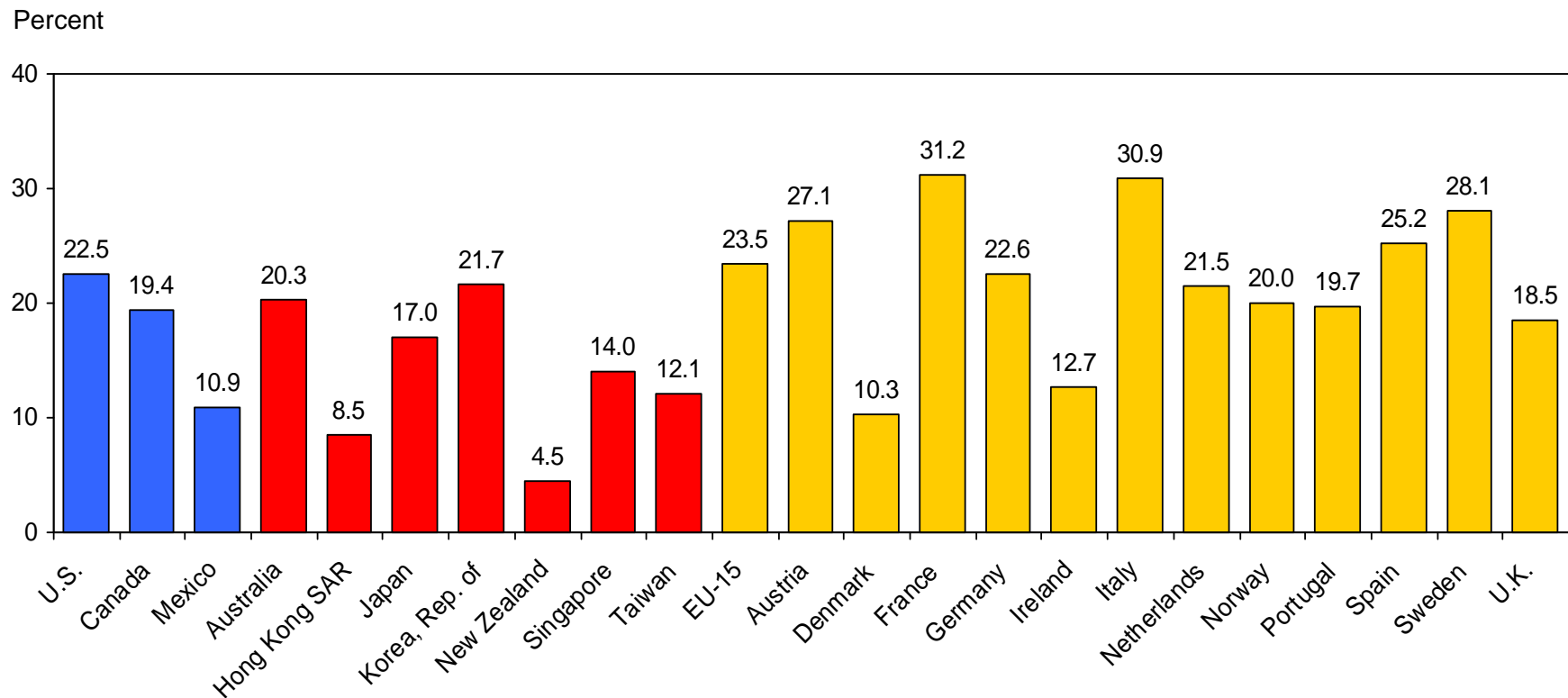


NOTE: Hong Kong SAR stands for Hong Kong Special Administrative Region of China.

SOURCE: Bureau of Labor Statistics.

CHART 3.3**Employer social insurance expenditures and other labor taxes as a percent of hourly compensation costs, 2005 for production workers in manufacturing**

- Employer social insurance costs as a percent of hourly compensation costs were similar for the United States and the EU-15 as a whole, but U.S. costs were higher than in all of the non-European economies.
- In Europe, social insurance costs as a percent of total hourly compensation costs ranged widely: France and Italy had higher costs than the United States, while Denmark and Ireland had much lower costs.



NOTE: Hong Kong SAR stands for Hong Kong Special Administrative Region of China.

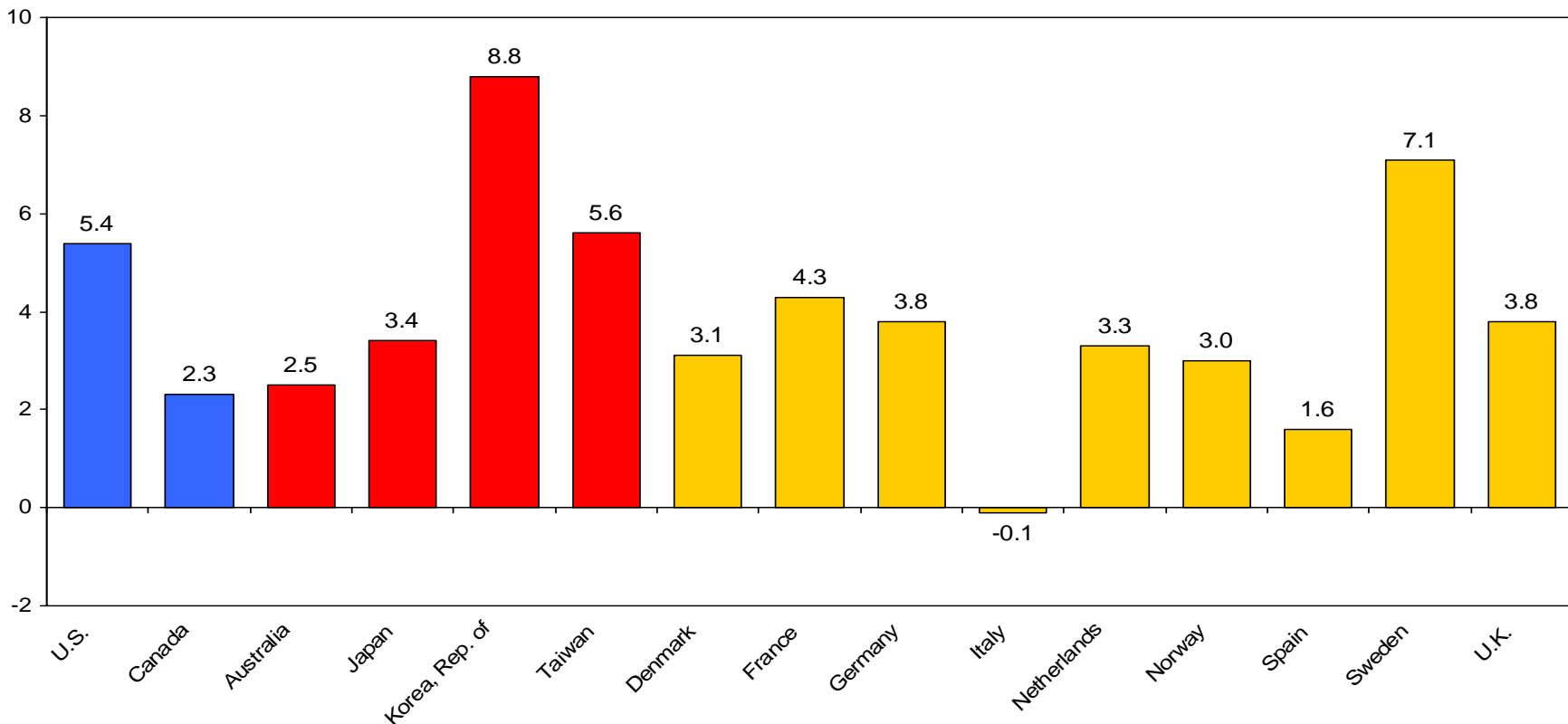
SOURCE: Bureau of Labor Statistics.

CHART 3.4

Average annual growth rates for manufacturing productivity, 1996-2006

- The Republic of Korea had, by far, the largest increase in manufacturing labor productivity, followed by Sweden, Taiwan, and the United States.
- Manufacturing labor productivity declined on average only in Italy.

Percent



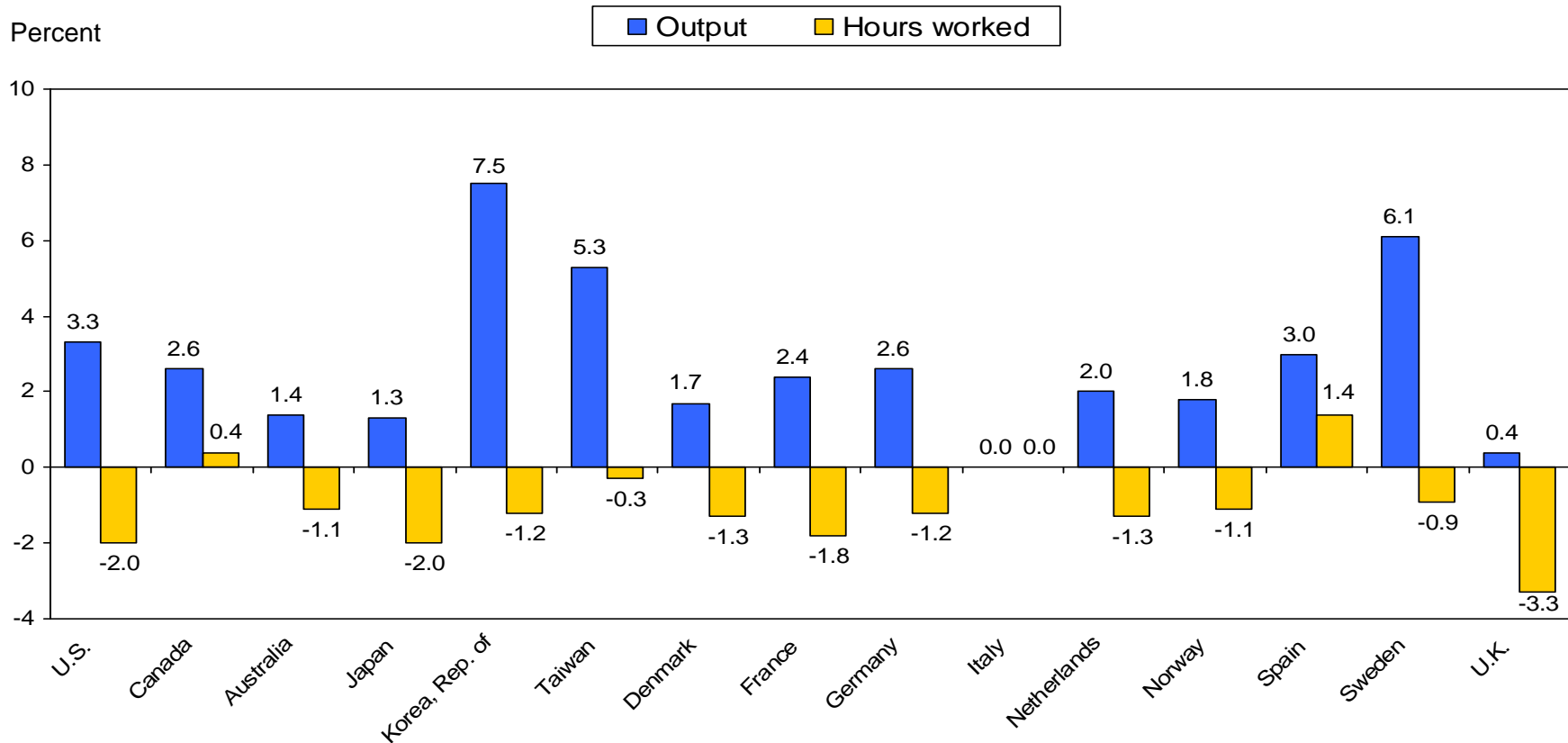
NOTE: Productivity is defined as output per hour worked.

SOURCE: Bureau of Labor Statistics.

CHART 3.5

Average annual growth rates for manufacturing output and hours worked, 1996-2006

- Average annual growth rates for manufacturing output were highest in the Republic of Korea, Sweden, and Taiwan.
- The United Kingdom, the United States, and Japan had the largest percentage declines in hours worked; hours worked increased only in Spain and Canada.



SOURCE: Bureau of Labor Statistics.

CHART 3.6

Average annual growth rates for manufacturing unit labor costs in U.S. dollars, 1996-2006

- Unit labor costs (ULC) are a component of total production costs and product prices. Declines in ULC indicate that an economy is becoming more cost-competitive.
- ULC declined over the period in almost half of the economies, including the United States.

Percent

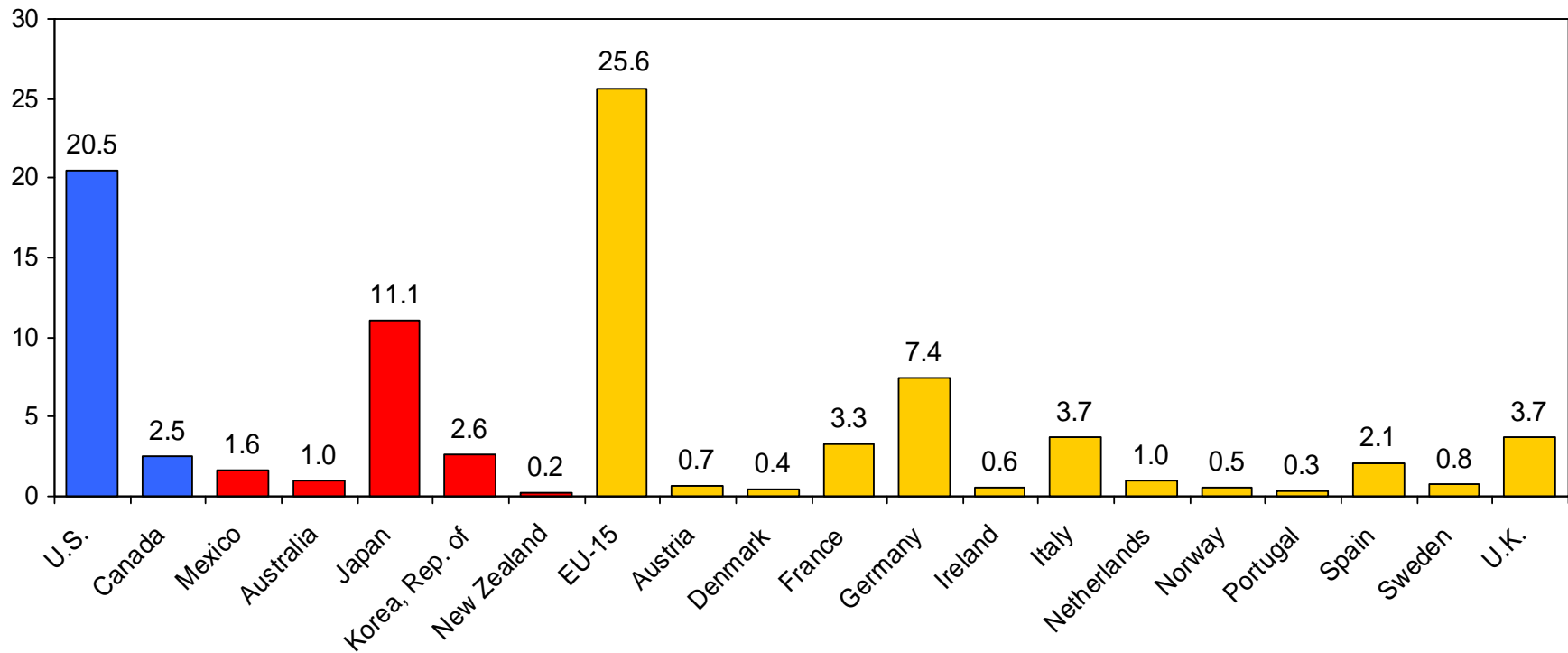


SOURCE: Bureau of Labor Statistics.

CHART 3.7**Manufacturing output as a percent of world manufacturing output, 2006**

- The United States is, by far, the world's leading producer of manufactured goods.
- The EU-15 countries' combined share of world manufacturing output surpassed that of the United States.

Percent

**SOURCE:** United Nations.

SECTION 4

Other Economic Indicators

Charts 4.1 through 4.5 show indicators of broad labor market and population issues, some of these in the policy field. Charts 4.1-4.3 compare the following policy issues: expenditures on labor market programs, the extent of labor and product market regulations, and the level of taxation on labor.

Chart 4.4 shows dependency ratios. The dependency ratio is an overall measure of the dependence of children and the elderly on people of working age. However, dependency ratios show the age composition of a population, not necessarily economic dependency. Some children and elderly people are part of the labor force and some working-age people are not.

Chart 4.5 compares data on trade in goods as a percent of GDP. This indicator shows an economy's degree of openness.

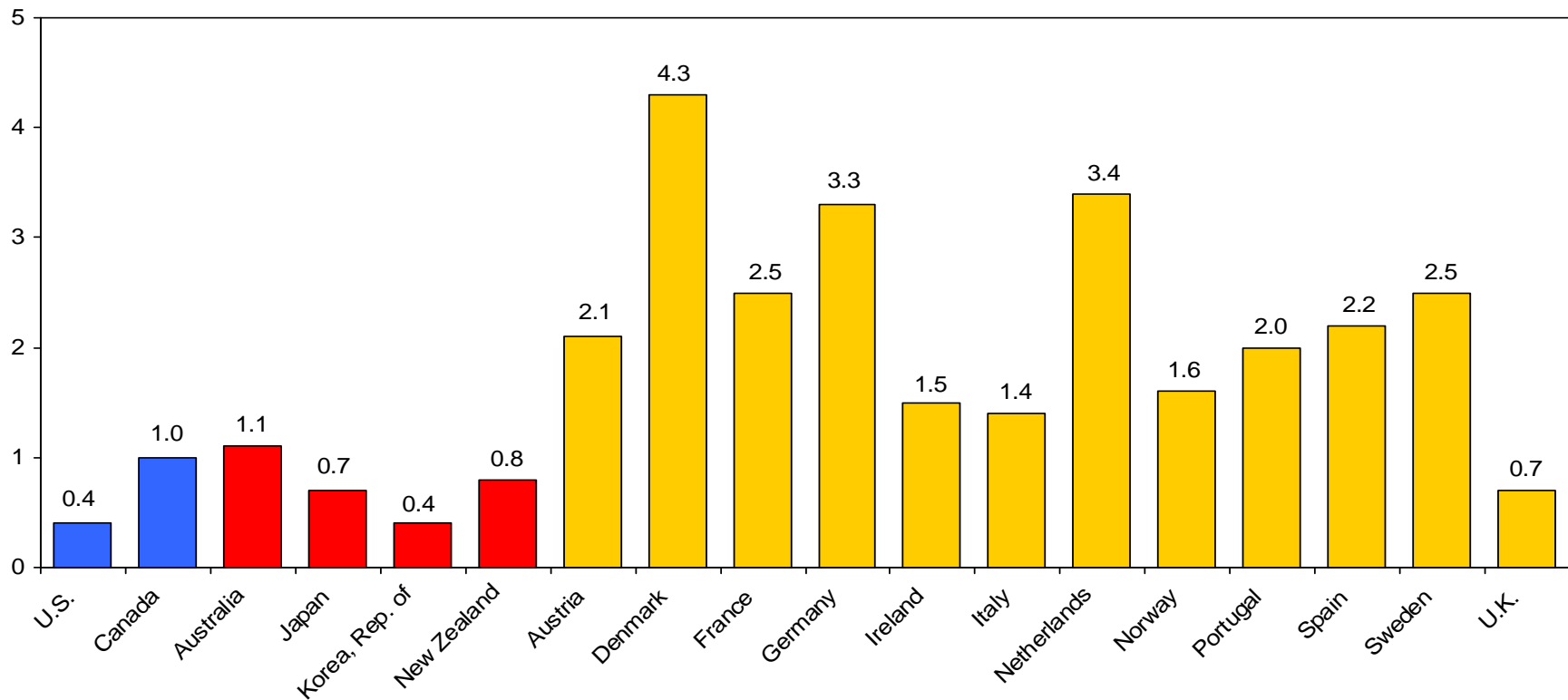
The number of countries covered in this section varies from 18 to 20. EU-15 data were available only for two charts.

CHART 4.1

Public expenditures on labor market programs as a percent of GDP, 2005-06

- Expenditures on labor market programs were less than 1 percent of GDP in the United States, the Republic of Korea, Japan, the United Kingdom, and New Zealand.
- The highest relative expenditures were in Denmark, the Netherlands, and Germany.

Percent



NOTE: 2005 for the Republic of Korea, Austria, Denmark, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, and Sweden. Fiscal year 2005 for the United Kingdom. Fiscal year 2006 for the United States, Canada, Australia, Japan, and New Zealand.

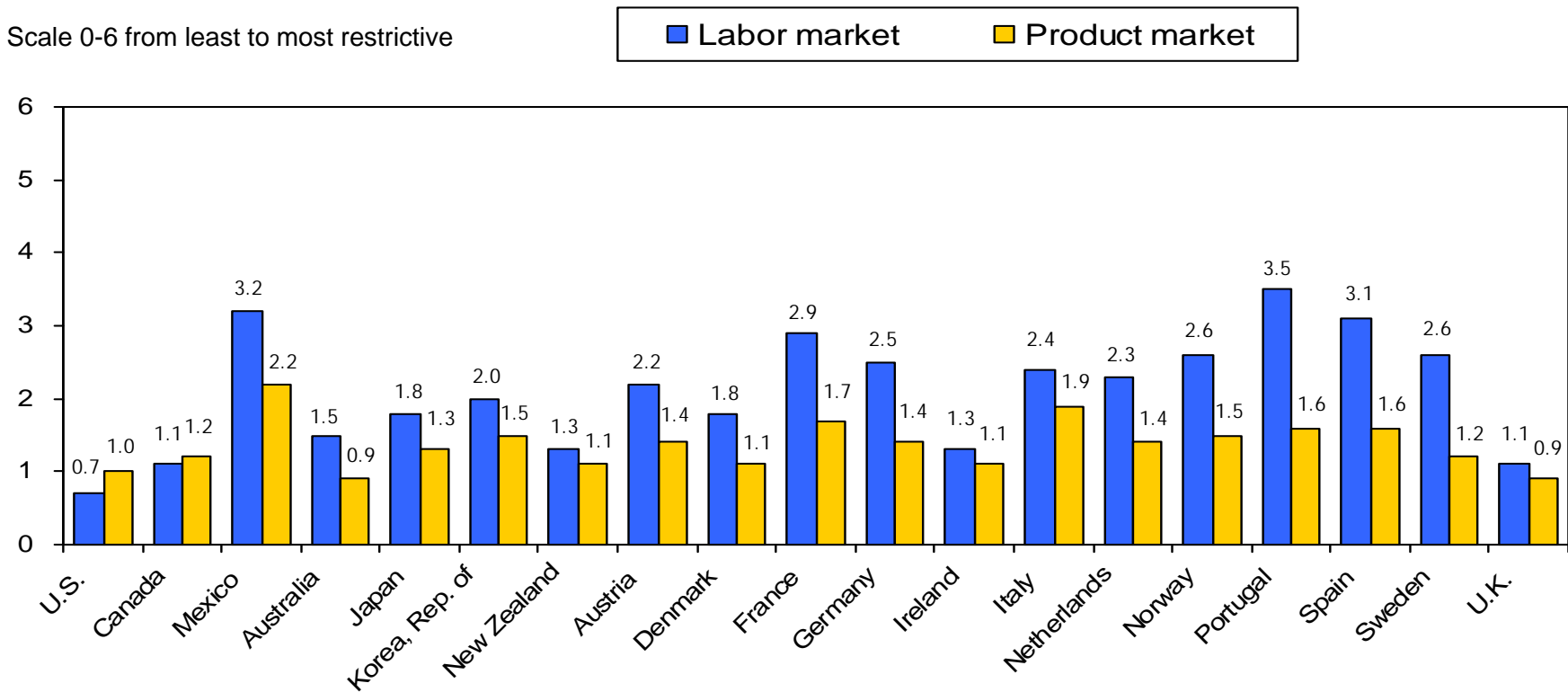
SOURCE: Organization for Economic Cooperation and Development.

CHART 4.2

Measures of regulation on labor and product markets, 2003

- Regulations on market activity were least restrictive in the United States and the United Kingdom.
- Portugal and Mexico were characterized by more restrictive labor markets, followed by Spain and France; restrictive product markets were most pronounced in Mexico and Italy.

Scale 0-6 from least to most restrictive



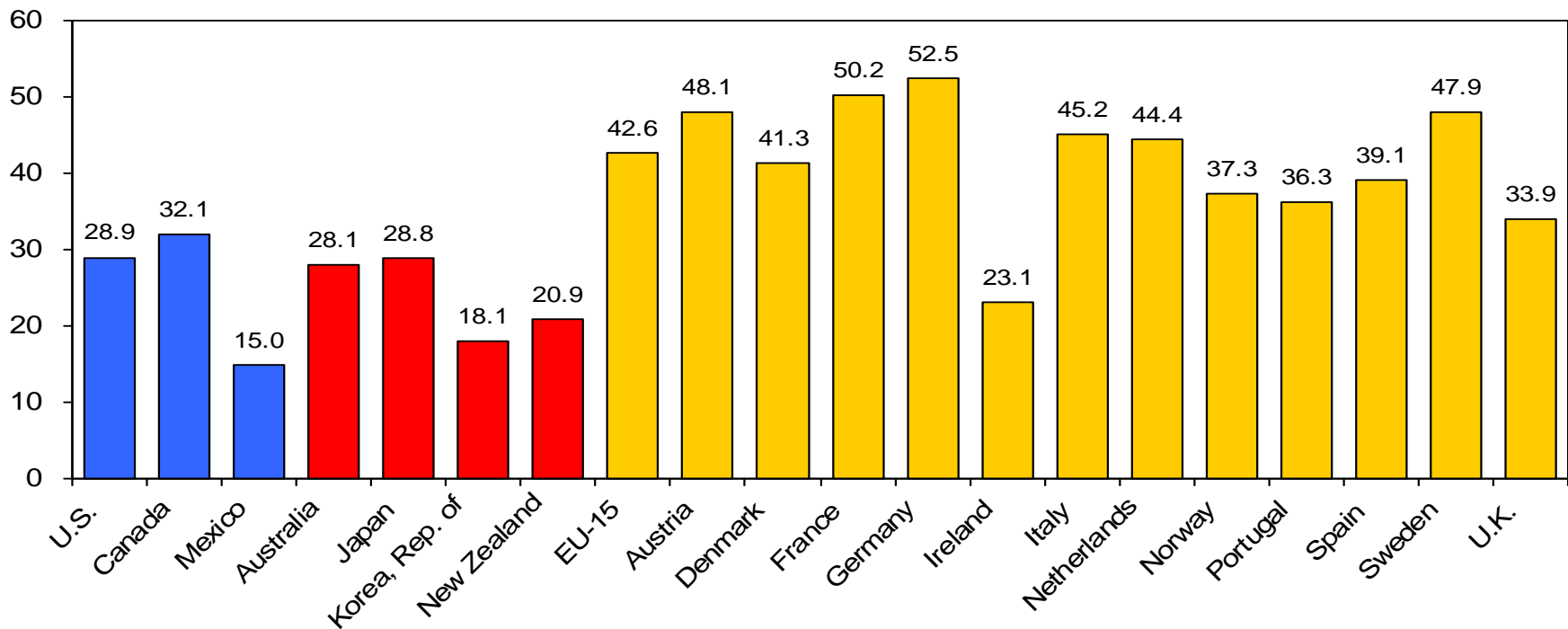
SOURCE: Organization for Economic Cooperation and Development.

CHART 4.3

Share of labor costs taken by tax and social security contributions, 2006

- For the average single worker, the combined employer-employee tax burden was lower in the United States than in all European countries except Ireland.
- The combined employer-employee tax burden was higher in the United States than in all non-European countries except Canada.

Percent



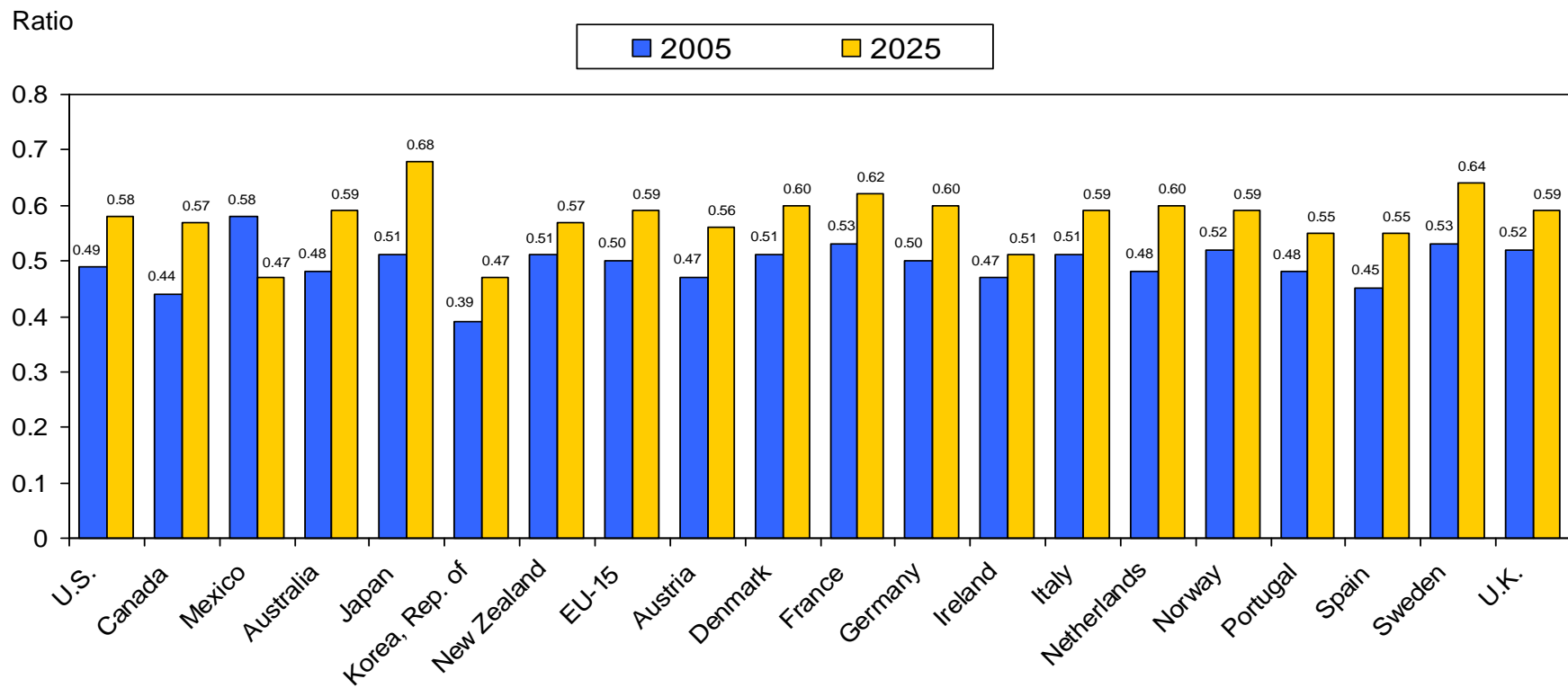
NOTE: Data refer to single persons without children at the income of the average worker.

SOURCE: Organization for Economic Cooperation and Development.

CHART 4.4

Dependency ratios, 2005 and projections to 2025

- In 2005, Mexico had the highest dependency ratio, while the Republic of Korea had the lowest.
- Only Mexico's dependency ratio is expected to decrease by 2025; Japan is expected to have the highest dependency ratio.



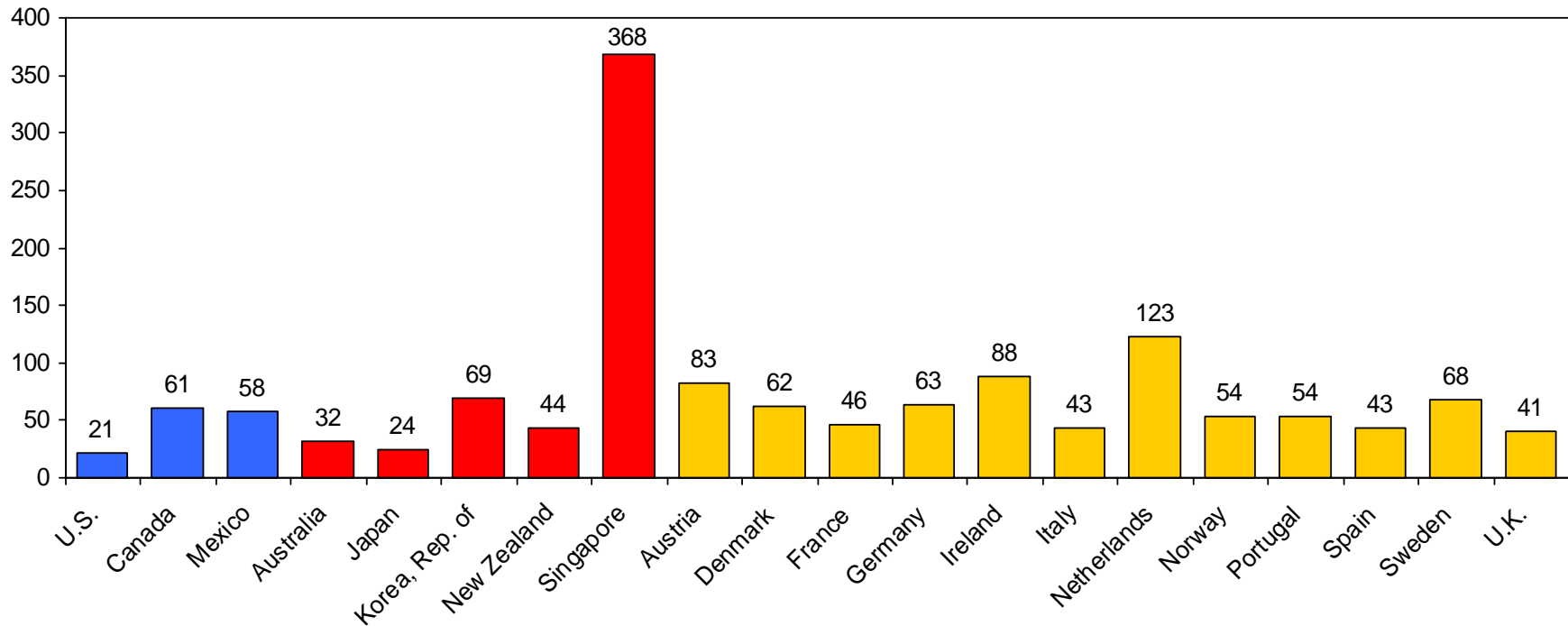
NOTE: The dependency ratio is the ratio of dependents (persons ages 14 and under and persons ages 65 and over) to the working-age population (persons ages 15 to 64).

SOURCE: United Nations.

CHART 4.5 Trade in goods as a percent of GDP, 2005

- This indicator shows the relative importance of trade in goods to an economy; the United States and Japan had the lowest ratios.
- The relatively high figures for Singapore and the Netherlands reflect their status as platforms for re-exports and trans-shipments.

Percent



SOURCE: World Bank.

Indicators for Large Emerging Economies

Charts 5.1 through 5.9 provide a broad overview of basic economic indicators for the United States and five large emerging economies. These emerging economies are not included in the other charts in this chartbook due to data limitations.

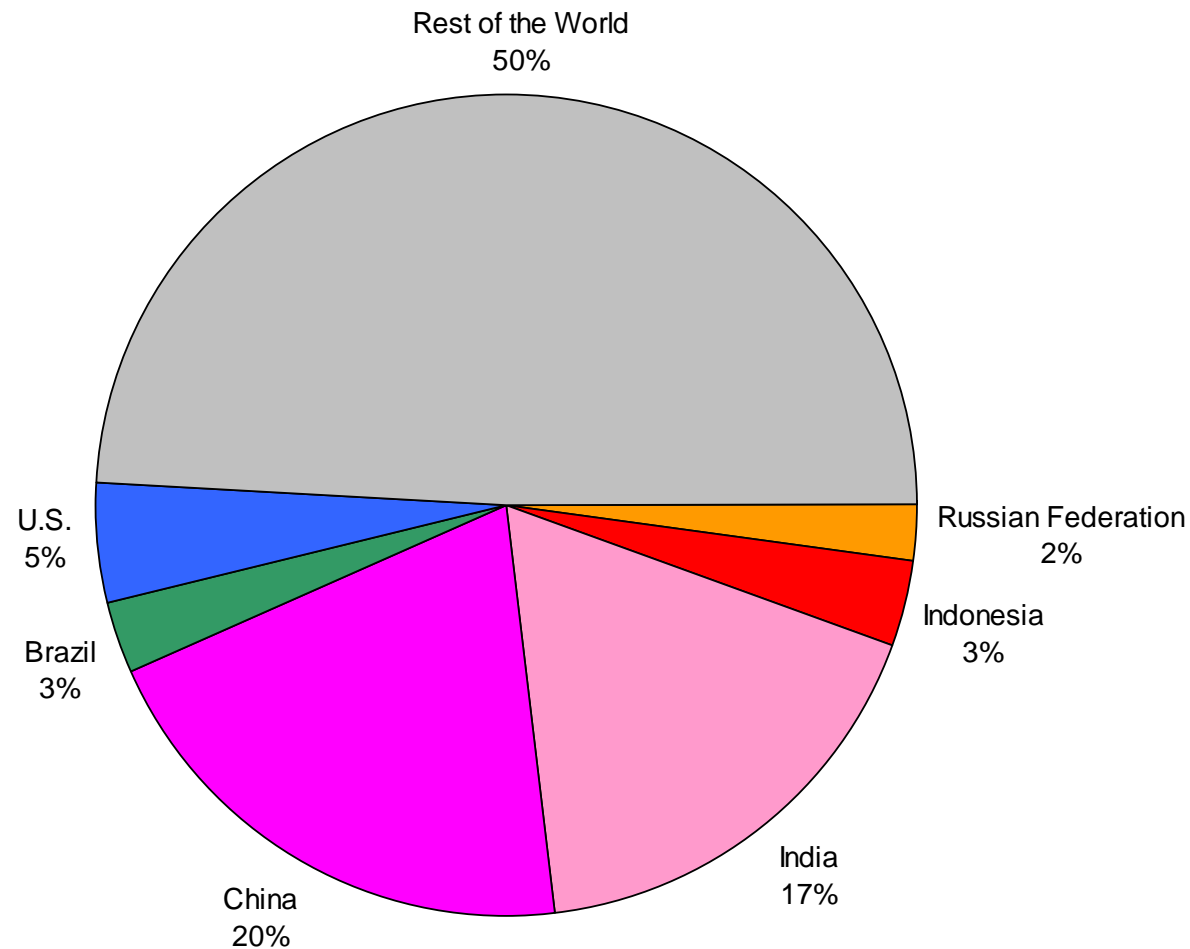
Charts 5.1-5.3 show population data in three varying ways: world population distribution, age composition of the population, and dependency ratios. Gross Domestic Product (GDP) comparisons are shown in chart 5.4 (GDP per capita) and chart 5.5 (GDP per employed person). Chart 5.6 presents labor force participation rates by age and chart 5.7 employment-to-population ratios by sex. Chart 5.8 compares trade in goods as a percent of GDP. Chart 5.9 shows manufacturing output as a percent of world manufacturing output.

All of these charts include the United States, which is used as a reference point, and five large emerging economies: Brazil, China, India, Indonesia, and the Russian Federation.

CHART 5.1

World population distribution, 2005

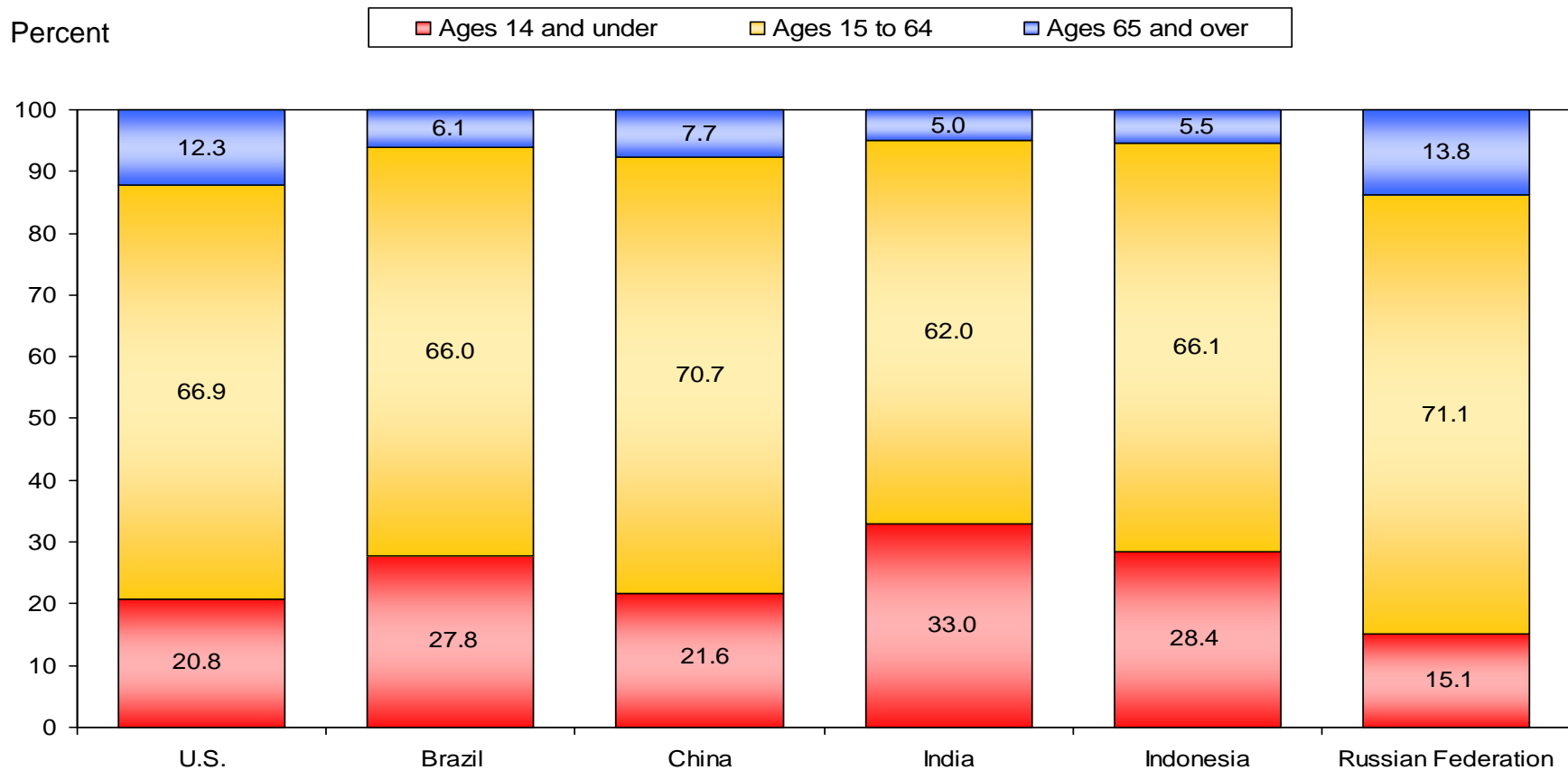
- The five large emerging economies—Brazil, China, India, Indonesia, and the Russian Federation—made up 45 percent of the world's population.
- China and India together made up well over one-third of the world's population.



SOURCE: United Nations.

CHART 5.2 Age composition of the population, 2005

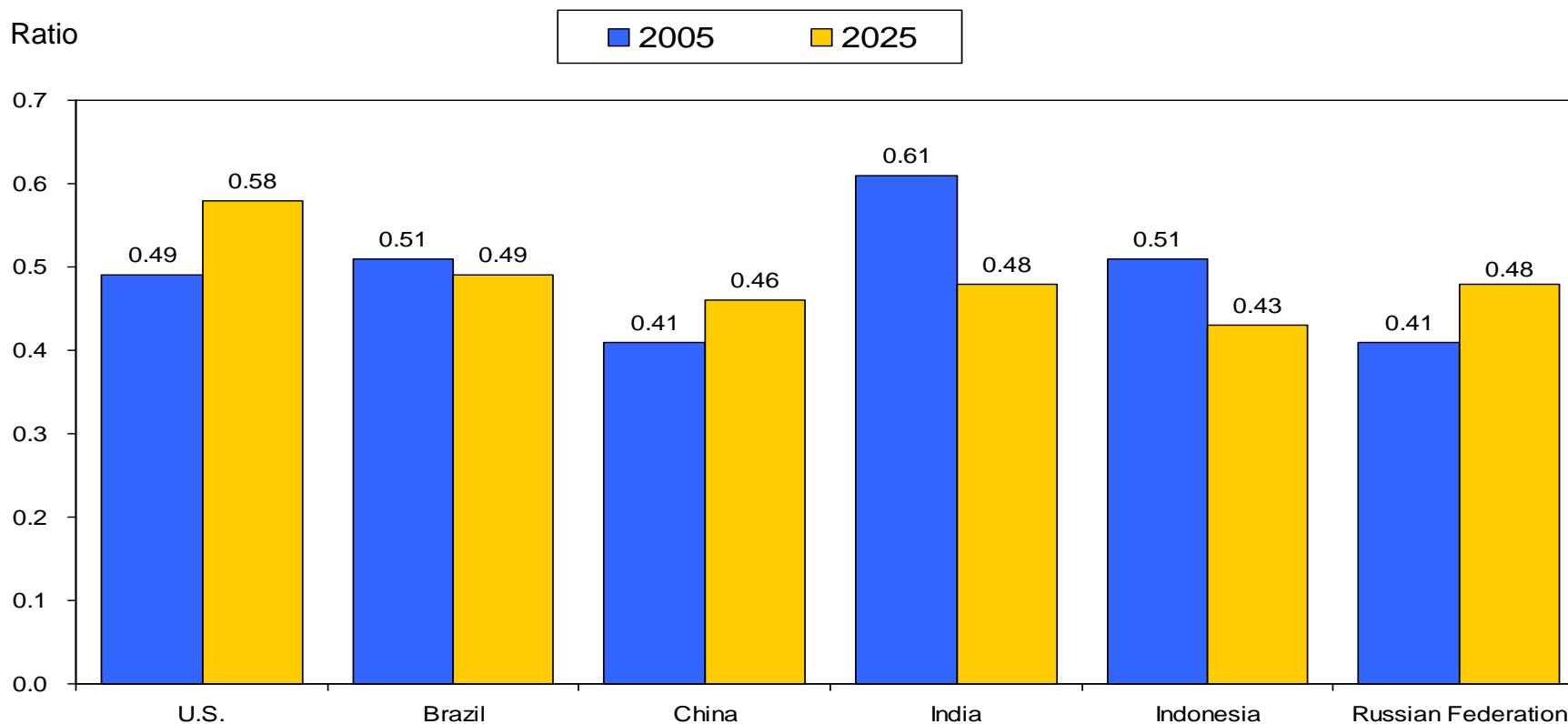
- The Russian Federation had the highest proportion of persons ages 65 and over and the lowest proportion ages 14 and under.
- India had the largest proportion of persons ages 14 and under, accounting for about one-third of the country's total population.



SOURCE: United Nations.

CHART 5.3 Dependency ratios, 2005 and projections to 2025

- In 2005, India had the highest dependency ratio; however, between 2005 and 2025, India's ratio is expected to experience the largest decline.
- Although the United States and Indonesia had similar dependency ratios in 2005, it is expected that by 2025, the U.S. dependency ratio will have risen to become the highest and Indonesia the lowest.



NOTE: The dependency ratio is the ratio of dependents (persons ages 14 and under and persons ages 65 and over) to the working-age population (persons ages 15 to 64).

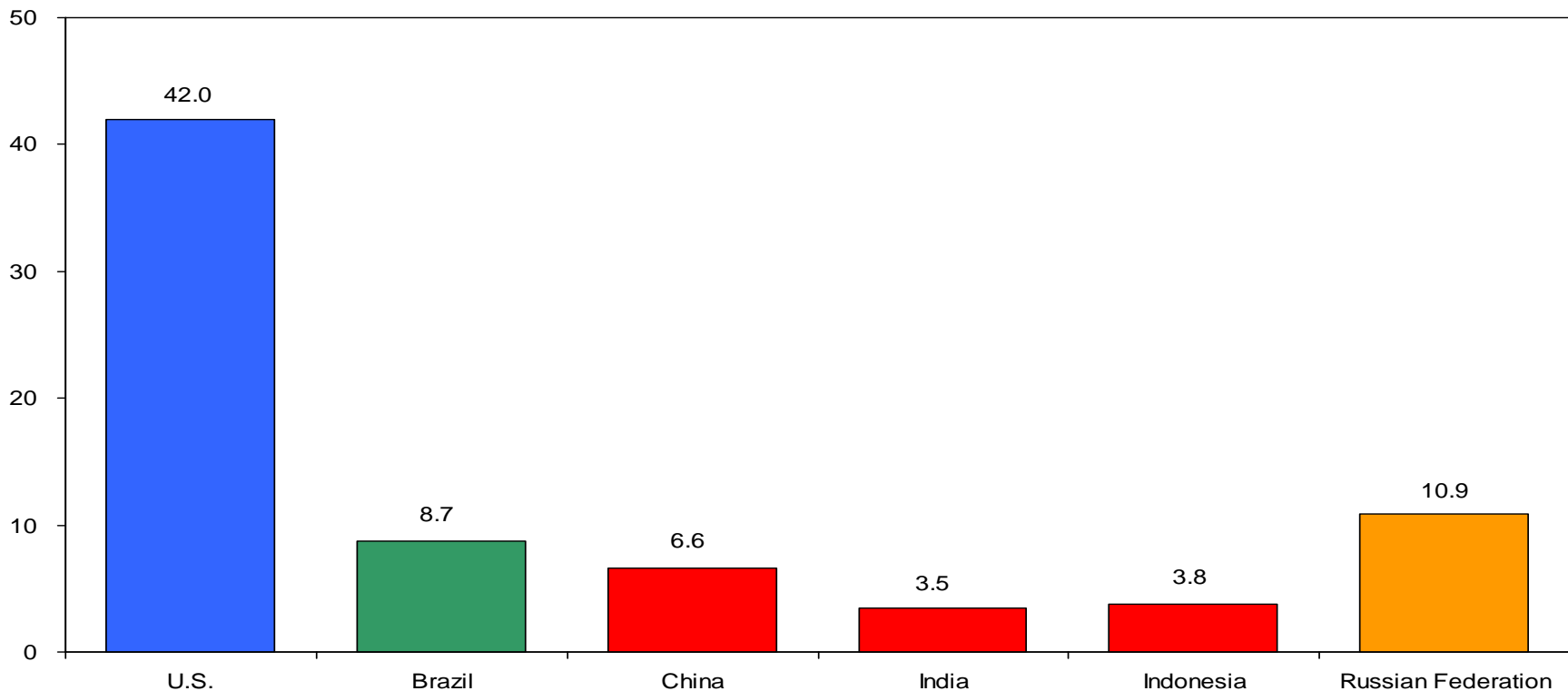
SOURCE: United Nations.

CHART 5.4

GDP per capita, 2005 converted at PPP rates

- Among the five large emerging economies, the Russian Federation and Brazil had the highest GDP per capita, one-quarter to one-fifth of the U.S. level; India and Indonesia had the lowest, at less than one-tenth of the U.S. level.
- China was in the middle of the group, with a GDP per capita at nearly 16 percent of the U.S. level.

Thousands of U.S. dollars



NOTE: Purchasing Power Parity (PPP) is the number of foreign currency units required to buy goods and services in a foreign country equivalent to what can be bought with one dollar in the United States.

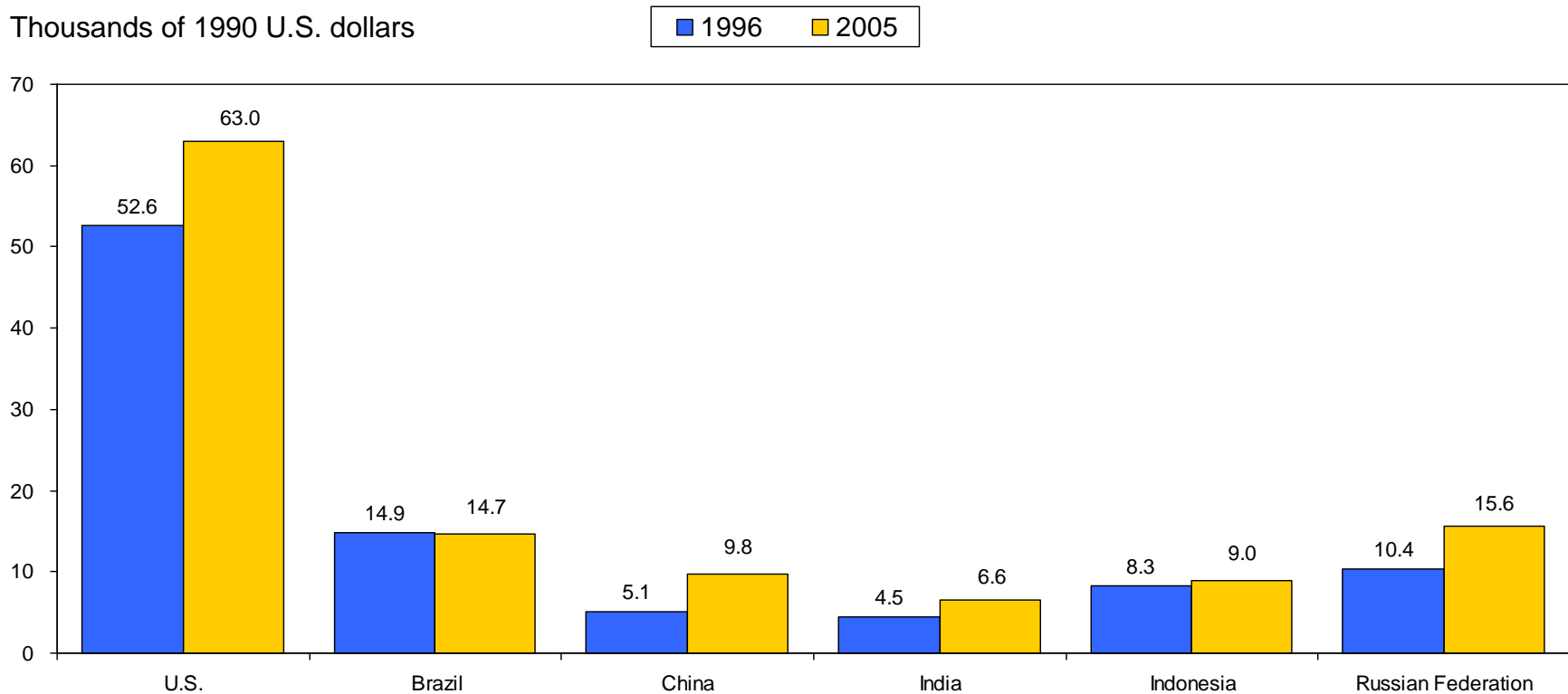
SOURCE: Bureau of Labor Statistics and World Bank.

CHART 5.5

GDP per employed person, 1996 and 2005 in 1990 U.S. dollars converted at PPP rates

- Among the five large emerging economies, GDP per employed person was highest in the Russian Federation and Brazil.
- China had the largest increase in GDP per employed person from 1996 to 2005, with an average annual growth rate of 7.5 percent.

Thousands of 1990 U.S. dollars



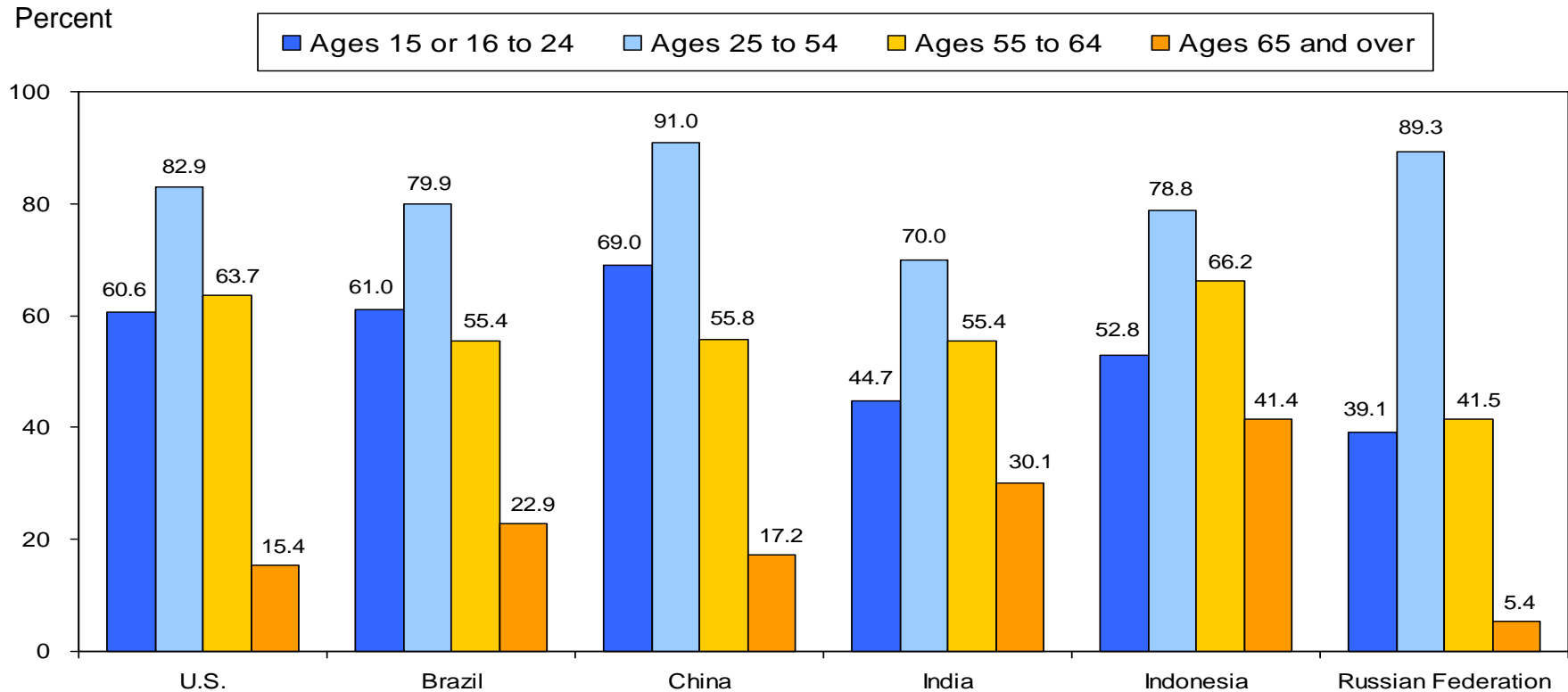
NOTE: Purchasing Power Parity (PPP) is the number of foreign currency units required to buy goods and services in a foreign country equivalent to what can be bought with one dollar in the United States.

SOURCE: International Labor Office.

CHART 5.6

Labor force participation rates by age, 2006

- Youth and both groups of older workers (persons ages 55 to 64 and persons ages 65 and over) had the lowest participation rates in the Russian Federation.
- The participation rate for youth was highest in China, while the rates for older workers, particularly persons ages 65 and over, were highest in Indonesia.



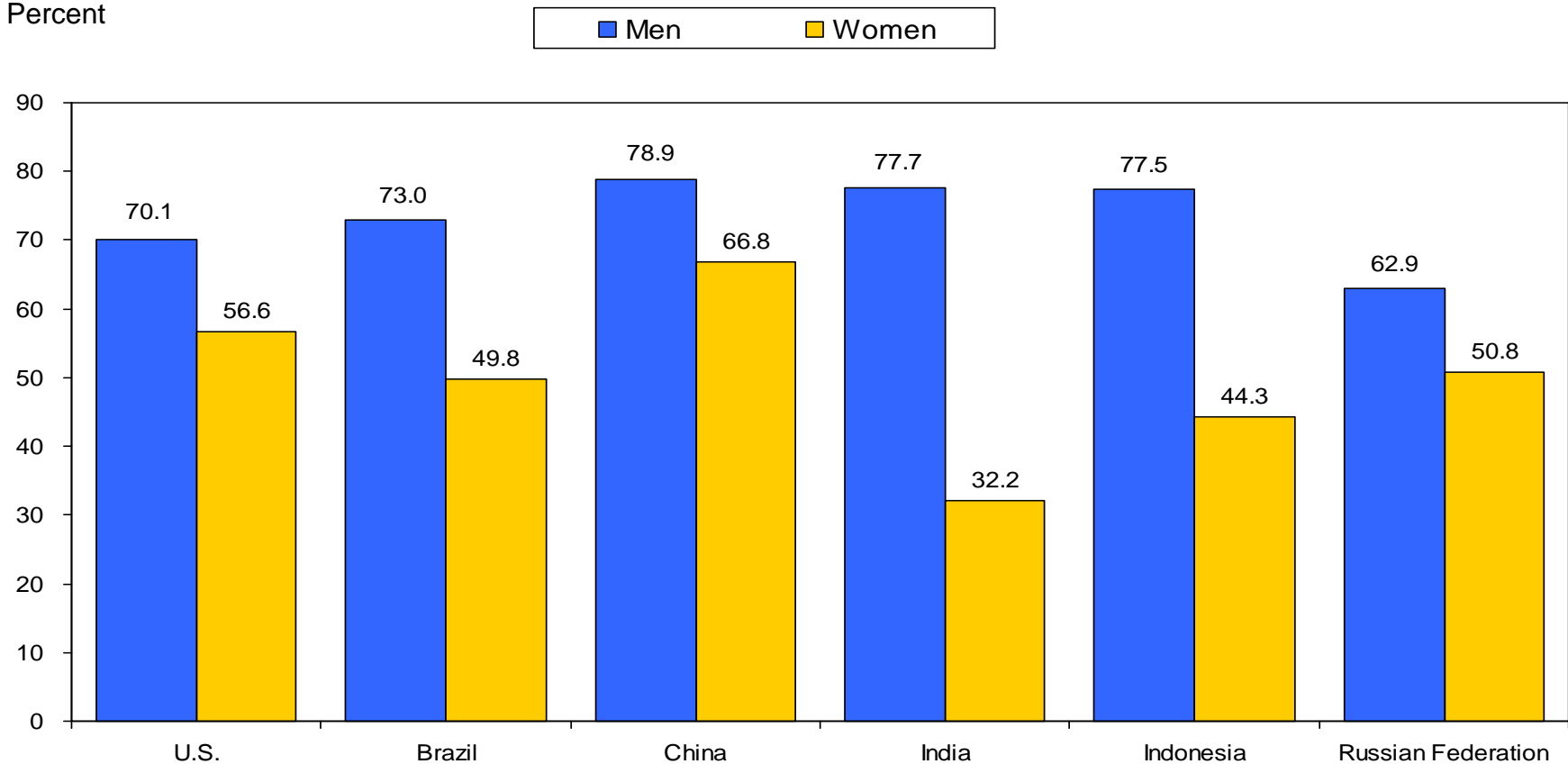
SOURCE: Bureau of Labor Statistics and International Labor Office.

CHART 5.7

Employment as a percent of the working-age population by sex, 2006

- China had the highest percentage of employed working-age men and working-age women.
- Less than one-third of the female working-age population was employed in India.

Percent



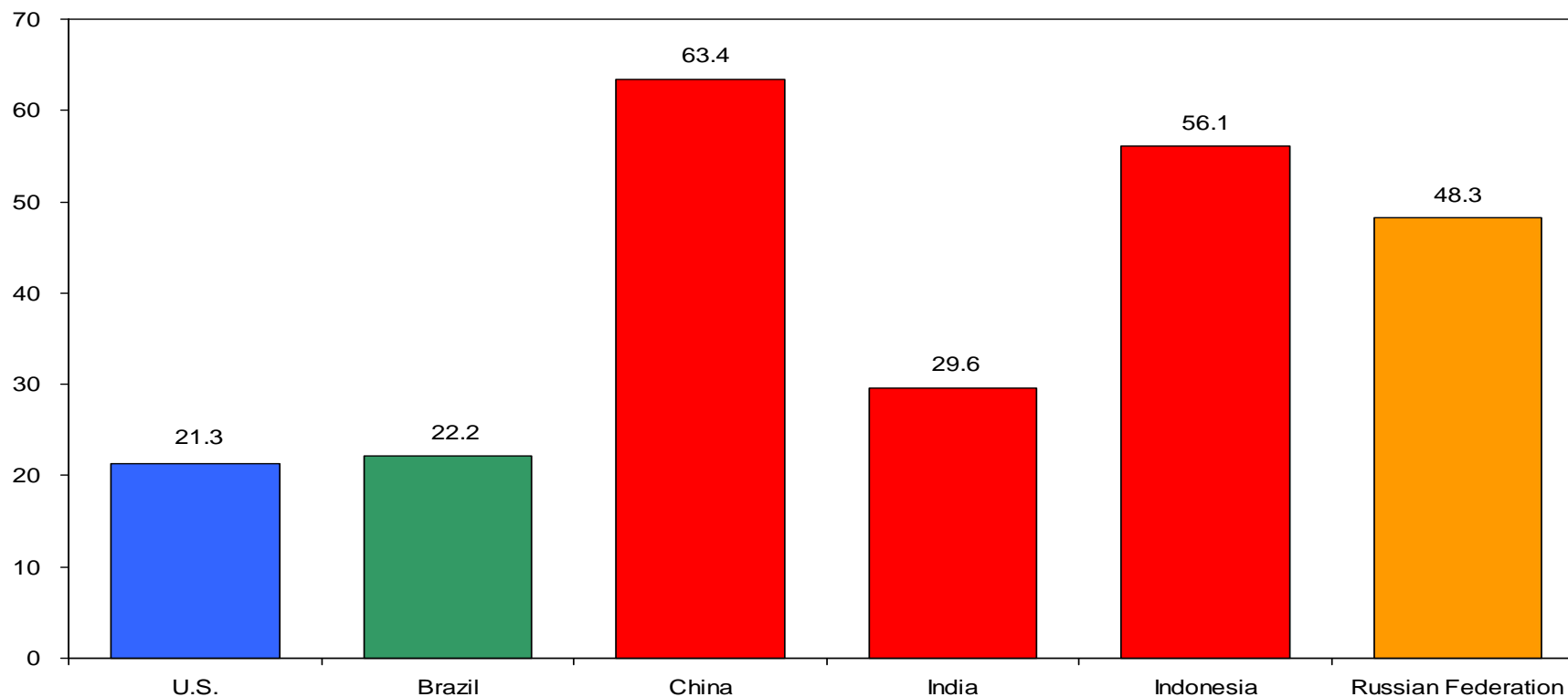
NOTE: The working-age population is defined as persons ages 15 or 16 and over.

SOURCE: Bureau of Labor Statistics and International Labor Office.

CHART 5.8 Trade in goods as a percent of GDP, 2005

- This indicator shows the relative importance of trade in goods to an economy.
- China had the highest proportion of trade in goods to GDP, followed by Indonesia and the Russian Federation; the United States had the lowest proportion.

Percent

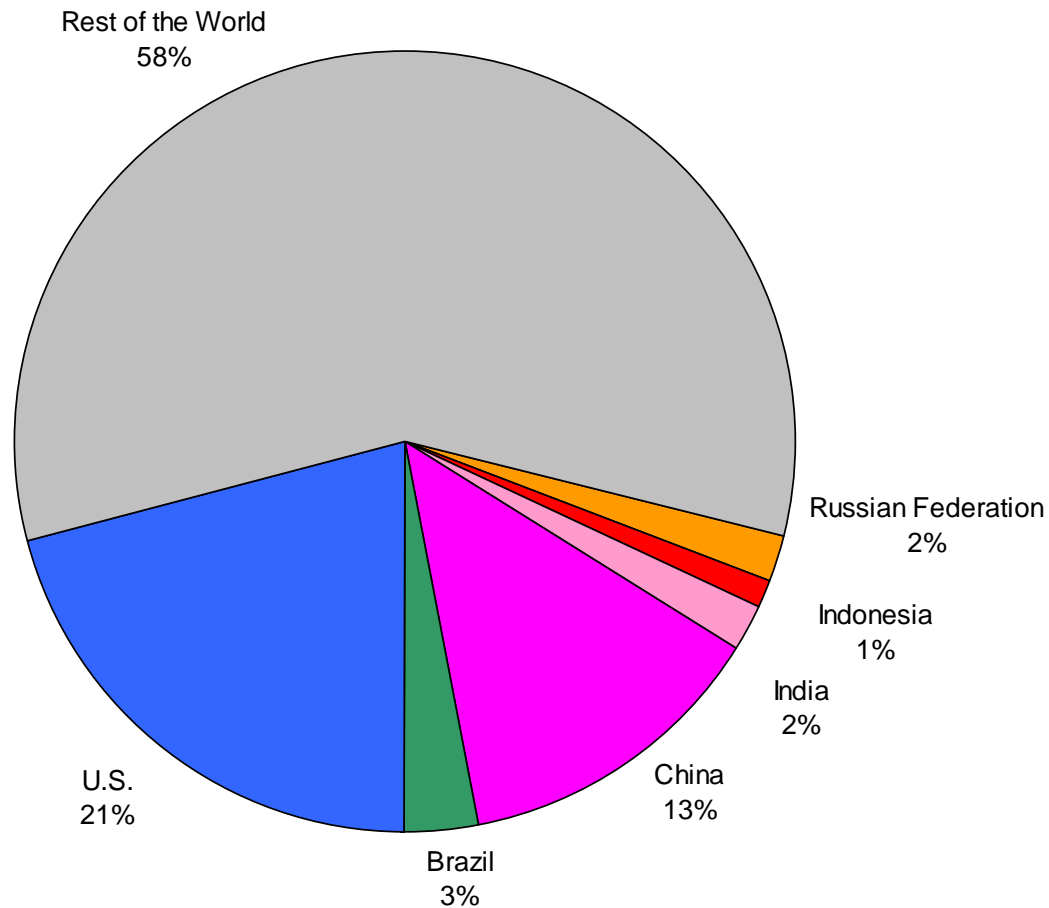


SOURCE: World Bank.

CHART 5.9

Manufacturing output as a percent of world manufacturing output, 2006

- The U.S. share of world manufacturing output was equal to the combined share of the large emerging economies.
- Among the large emerging economies, China had the largest share of world manufacturing output, by far.



SOURCE: United Nations.

SECTION 6

Disability Indicators

In recent years, governments have dedicated considerable resources and attention to tackling chronic underemployment among persons with disabilities and making work accessible to everyone. This one-time section looks at disability prevalence, benefit recipiency rates, and employment patterns among persons with disabilities.

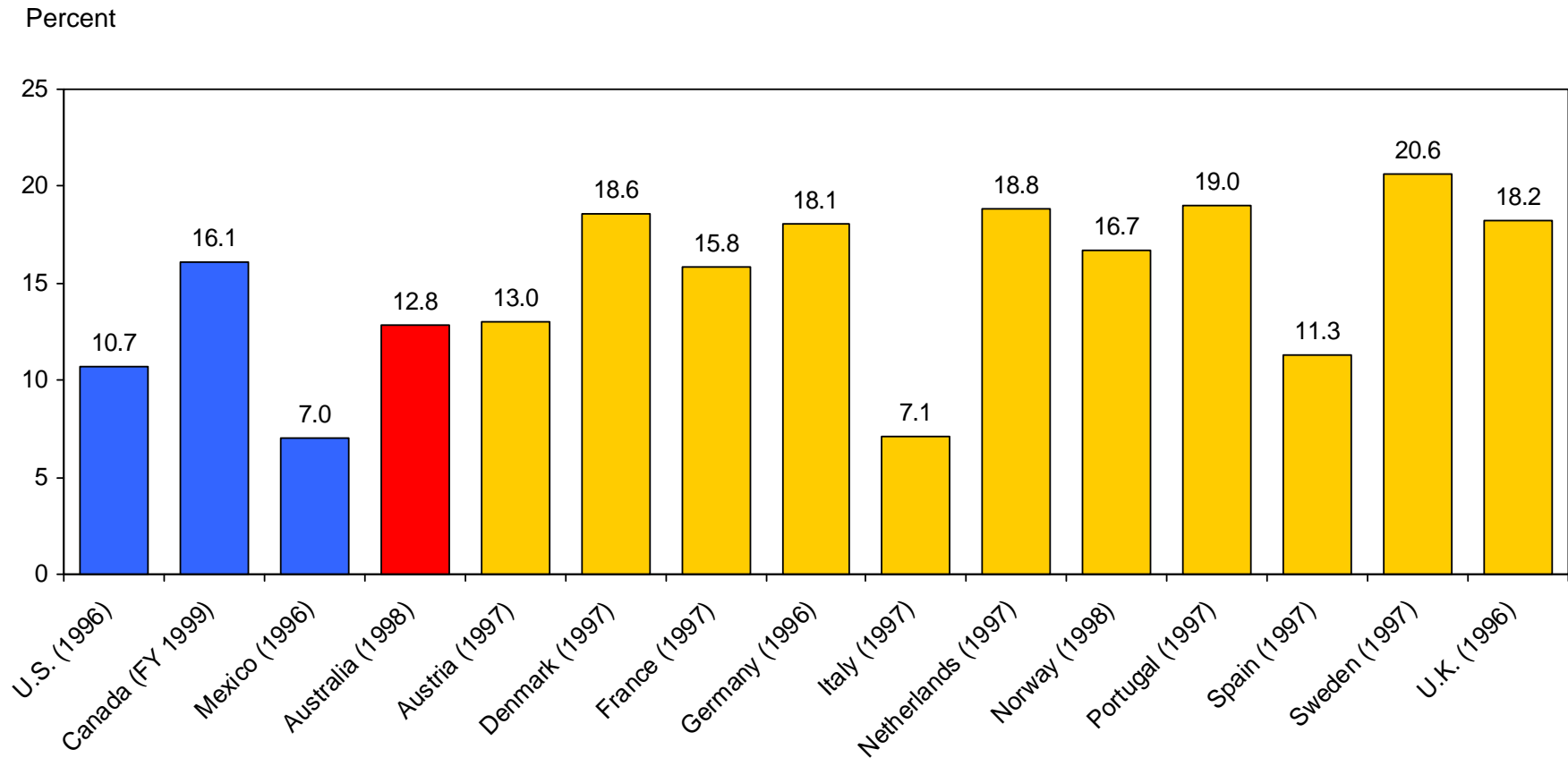
Chart 6.1 illustrates the prevalence of persons with disabilities while chart 6.2 compares their employment-to-population ratios to those of persons without disabilities. Charts 6.3 and 6.4 present the prevalence of persons receiving disability benefits and their labor force status. All charts cover 13 to 15 countries.

Interpreting international statistics on persons with disabilities and disability benefit recipients is challenging for many reasons. At the forefront, a universal statistical definition of disability is not available and therefore is not applied in data collection. Differences in survey instruments, methods, and sampling further reduce the comparability of indicators. In addition, the precise mix of disability benefit programs offered vary by country, as do the eligibility requirements and covered population. Charts 6.1, 6.2, and 6.4 are collected through household surveys, which do not cover the institutionalized population. For charts 6.1 and 6.2, disability status is determined by self-reports of a long-term health problem, disability, or disease in combination with resulting impediments to carrying out daily activities. For chart 6.4, receipt of disability benefits is also self-reported. Chart 6.3 is based on administrative records on benefit recipients. The reader should refer to the appendix for a more complete discussion on international comparability.

CHART 6.1

Persons with disabilities as a percent of the working-age population

- Mexico and Italy had the lowest percentage of persons reporting that they have disabilities, followed by the United States and Spain.
- The greatest prevalence of persons reporting disabilities was in Sweden, Portugal, the Netherlands, and Denmark.



NOTE: The working-age population is defined as persons ages 20 to 64.

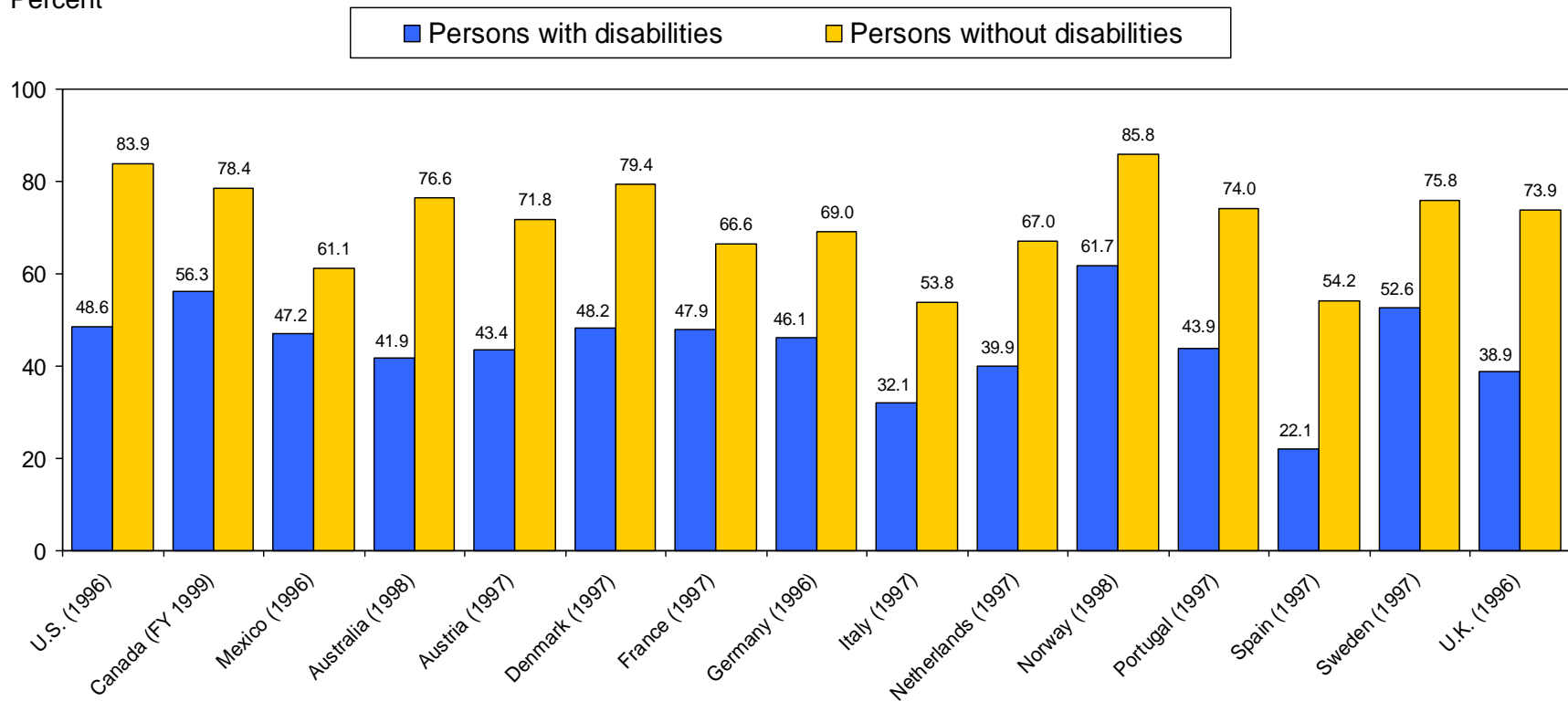
SOURCE: Organization for Economic Cooperation and Development.

CHART 6.2

Employment as a percent of the working-age population for persons with disabilities and persons without disabilities

- Persons reporting disabilities were much less likely to be employed than persons without disabilities.
- More than half of the working-age population reporting disabilities were employed in Norway, Canada, and Sweden. In contrast, less than one-third were employed in Spain and Italy.

Percent



NOTE: The working-age population for each reference group is defined as persons ages 20 to 64.

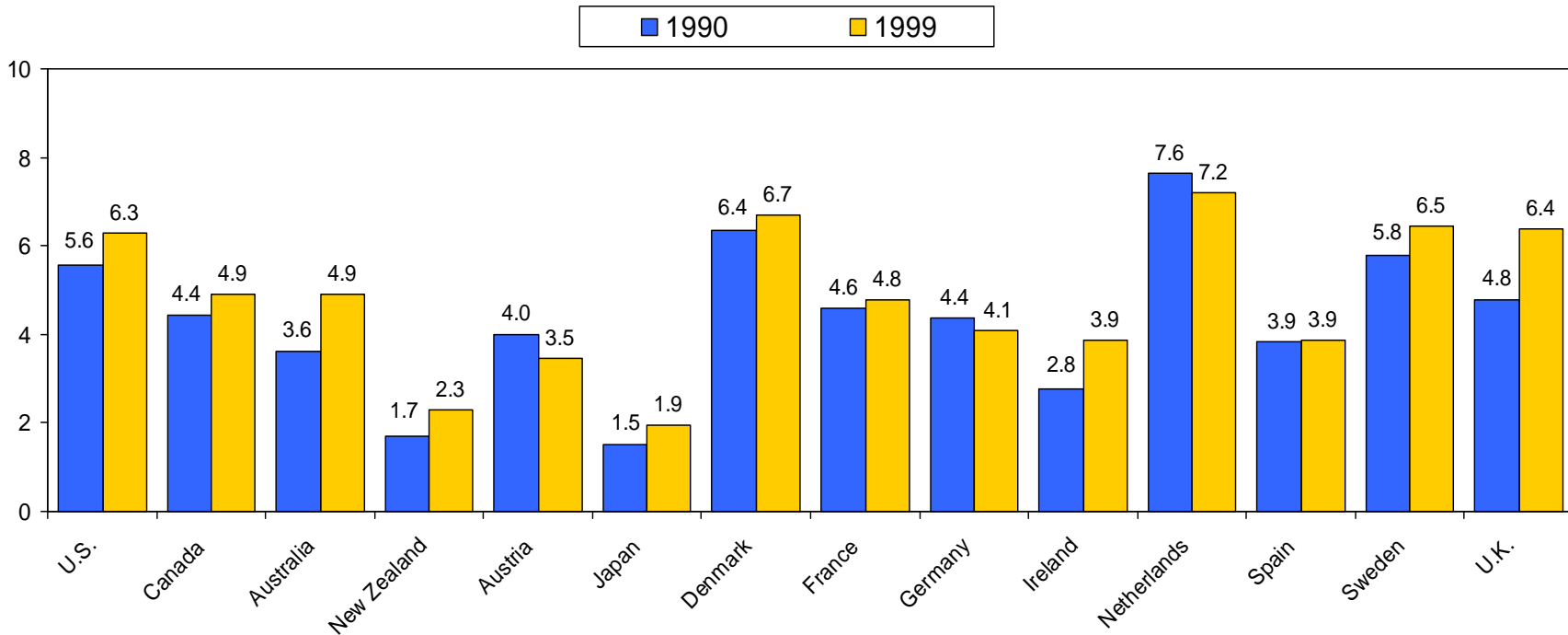
SOURCE: Organization for Economic Cooperation and Development.

CHART 6.3

Persons receiving disability benefits as a percent of the working-age population, 1990 and 1999

- Only Austria, the Netherlands, and Germany experienced a decline between 1990 and 1999 in the percentage of persons receiving disability benefits.
- The Netherlands had the highest rate of persons receiving disability benefits in both years.

Percent



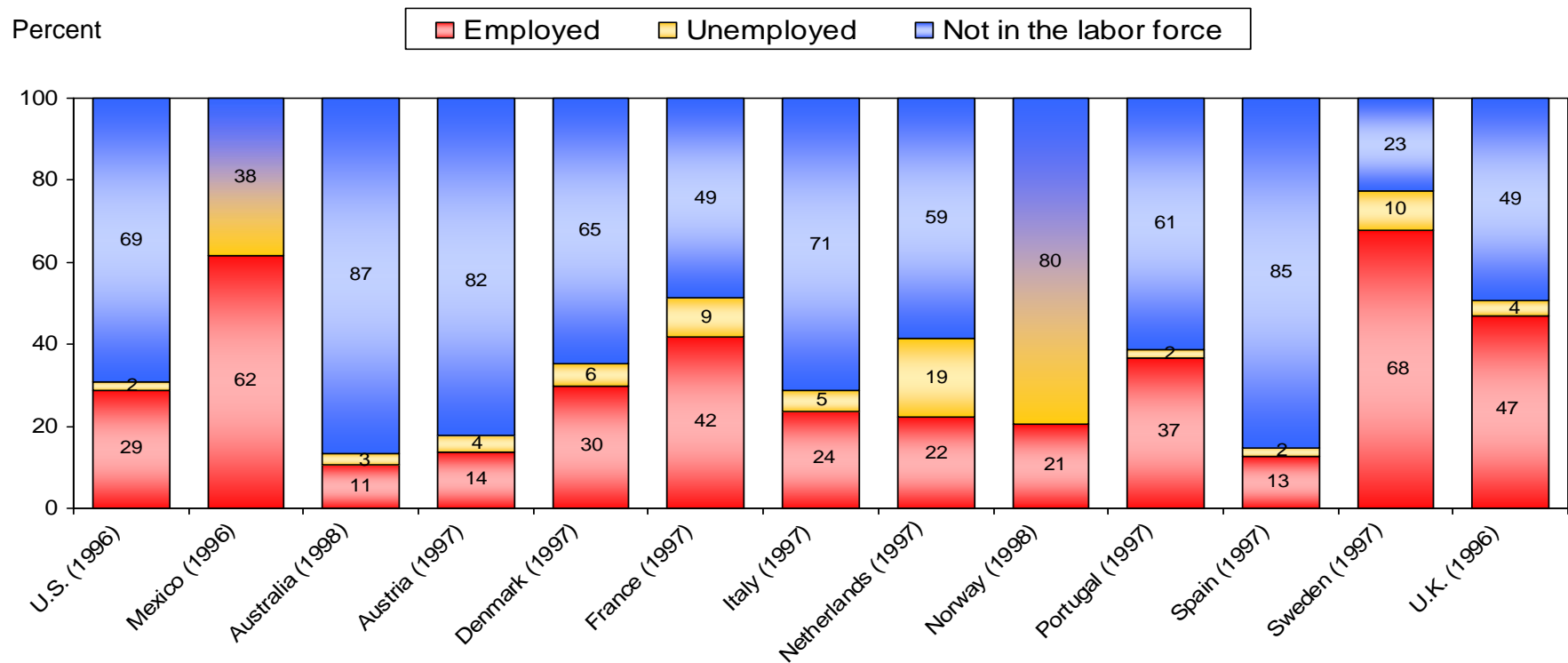
NOTE: Benefits include contributory and non-contributory disability benefits, periodic cash payments of industrial injury benefits, and war disability pensions. The working-age population is defined as persons ages 15 to 64.

SOURCE: Organization for Economic Cooperation and Development.

CHART 6.4

Labor market status of persons receiving disability benefits

- For most countries, the largest share of persons who reported receiving disability benefits was not in the labor force.
- Sweden and Mexico had the highest proportions of employed disability benefit recipients, while Australia, Spain, and Austria had the lowest.



NOTE: Labor market status for persons ages 20 to 64. For Mexico and Norway, unemployed persons are combined with persons not in the labor force.

SOURCE: Organization for Economic Cooperation and Development.

Definitions, Sources, and Methods

Introduction

This chartbook is based partially upon the output of the Bureau of Labor Statistics (BLS) program of international comparisons of labor force, compensation, and productivity. In order 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 foreign labor statistics Web site at <http://www.bls.gov/fls/>. BLS publications and releases also are available free of charge by contacting the Division of Foreign Labor Statistics, 2 Massachusetts Avenue, NE, Room 2150, Washington, D.C. 20212-0001, phone (202) 691-5654, FAX (202) 691-5679.

To increase country coverage for some of the GDP per capita and labor market indicators charts (sections 1 and 2), BLS data are supplemented by data mainly from OECD, but also from the International Labor Organization's International Labor Office (ILO), World Bank, and national sources. The 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 3.1-3.6) have not been supplemented by other

sources; data are from the BLS series. To provide other indicators of interest, 26 of the charts (charts 2.4, 2.5, 2.8, 2.9, 2.13-2.15, 3.7, and all charts in sections 4, 5, and 6) are based on statistics compiled by other organizations, mainly OECD, but also the United Nations, World Bank, and ILO. Discussion of the data from the non-BLS sources is included below. Although some adjustments may have been made by the source organizations to enhance comparability, these 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, 2, and 4 varies from 18 to 21 countries. In addition, weighted aggregates for 15 European Union countries (EU-15) are shown on most charts. These represent 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. Fourteen countries appear on all charts in the first four sections: the United States, Canada, Australia, Japan, the Republic of Korea, Denmark, France, Germany, Italy, the Netherlands, Norway, Spain, Sweden, and the United Kingdom. In addition, data for Mexico, New Zealand, Austria, Ireland, and Portugal appear on almost all charts in sections 1-4; data for Hong Kong SAR, Singapore, and Taiwan were only available for some charts. For section 3, coverage ranges from 15 economies on the productivity charts to 22 economies on the hourly compensation charts. Section 5 covers the United States, which is used as a reference point, and five large emerging economies: Brazil, China, India, Indonesia, and the Russian Federation. Coverage in the final section varies from 13 to 15 countries.

In most cases, 2006 is the latest year that data are available for the charts. All data are either annual averages or mid-year estimates. There are some breaks in the historical continuity of labor force and employment data for trends from 1996 onward. The nature of the breaks is documented in the source publications. The breaks generally do not substantially affect the trends depicted.

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

Gross Domestic Product (charts 1.1, 1.2, 5.4, and 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. It is generally used to measure the size of an economy. However, it should not be interpreted as necessarily measuring the wealth and well-being of the residents of that country. A better measure of the latter is Gross National Income.

Gross National Income (GNI), which was previously called Gross National Product (GNP), measures the total domestic and foreign value added claimed by residents. It includes GDP plus net receipts of primary income from non-resident sources, where "primary income" is defined as compensation of employees and property income. For many countries, the inflows and outflows of primary income tend to balance out, leaving little difference between GDP and GNI. However, for some countries, the difference can be substantial. For example, GDP was 15 percent higher than GNI in Ireland in 2006. **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 5.4)

GDP per capita converted at PPP rates (charts 1.1 and 5.4). The comparisons shown in charts 1.1 and 5.4 are based on measures of GDP converted at PPP rates and on population size. Measures for chart 1.1 are taken from the data underlying a periodic report published by BLS for the United States, Canada, Australia, Japan, the Republic of Korea, Austria, Belgium, Denmark, France, Germany, Italy, the Netherlands, Norway, Spain, Sweden, and the United Kingdom. For the remaining countries, the measures are based on data published by the World Bank. For chart 5.4, BLS data are used for the United States while the comparisons shown for the emerging economies are based on World Bank data.

Source: BLS, "Comparative Real Gross Domestic Product Per Capita and Per Employed Person, Sixteen Countries, 1960–2006," July 11, 2007, <<http://www.bls.gov/fls/>>; 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. For chart 1.2, the estimates of real GDP are based on data from BLS, OECD, and national sources.

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

Department; for Singapore, from Statistics Singapore; and for the remaining countries, from OECD.

Source: BLS, "Comparative Real Gross Domestic Product Per Capita and Per Employed Person, Sixteen Countries, 1960–2006," July 11, 2007, <<http://www.bls.gov/fls/>>; OECD, *STAN Database*, <<http://www.oecd.org/>>; Hong Kong Census and Statistics Department, <<http://www.info.gov.hk/censtatd/>>; and Statistics Singapore, <<http://www.singstat.gov.sg/>>.

GDP per employed person (chart 5.5)

This indicator gives GDP measured in 1990 U.S. dollars converted at PPP rates divided by the number of employed persons. For an extensive discussion of the indicator, including details of its construction and some limits to comparability, see the source document.

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.

This indicator may be viewed as giving the amount of GDP attributable on average to each employed person, working in tandem with all other inputs or factors of production.

Source: ILO, *Key Indicators of the Labor Market software, 5th Ed.*, Geneva, 2007, table 18a, <<http://www.ilo.org/kilm/>>.

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 OECD and ILO. This comprises the first set of charts discussed in this section. Charts 2.4, 2.5, 2.8, 2.13, 2.14 also show data on labor force, employment, and unemployment, but data are from OECD, so these are discussed as a second set. 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.

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 the United States, Canada, Australia, Japan, France, Germany, Italy, the Netherlands, Sweden, and the United Kingdom. Other organizations provided the data for Mexico, the Republic of Korea, New Zealand, Singapore, the EU-15, Austria, Denmark, Ireland, 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. There is no upper age limit and lower age limits vary slightly. 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.

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. 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. The **labor force participation rate** is the ratio of the labor force to the population of working age (ages 16 and over in the United States and ages 15 or 16 and over in the other countries); the **employment-to-population ratio** is the ratio of the employed to the population of working age.

The BLS data are supplemented in charts 2.1-2.3, 2.6, 2.7, and 2.10-2.12 with data mainly from OECD; data for Singapore are from ILO. The OECD and ILO data are generally from labor force surveys that are based on the 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 and ILO data are reasonably comparable to the corresponding

BLS data, although some adjustments for comparability that are made by BLS are not made by OECD or ILO.

OECD produces a series of "standardized unemployment rates" (SURs) 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, except for Canada and Germany. ILO produces a series of "ILO-comparable" measures of unemployment rates that are adapted to ILO concepts. This series is also reasonably comparable with the results from the BLS and OECD comparisons programs.

The OECD unemployment series 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 SURs: the Republic of Korea, New Zealand, the EU-15, Austria, Denmark, Ireland, Norway, Portugal, and Spain. The ILO-comparable series is the source of the unemployment rate for Singapore. The unemployment rate for Mexico is not from the OECD SURs or ILO-comparable series; it is the figure from Mexico's labor force survey as published by the OECD and it is not comparable to the other rates shown.

The 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 OECD for comparability to the extent that the SURs are adjusted; OECD does not publish standardized labor force and employment figures or standardized unemployment figures for subgroups. Data for Singapore on these charts are from the ILO-comparable series and include the armed forces.

For a full discussion of comparability issues regarding the BLS, OECD, and ILO series, see Constance Sorrentino, "International unemployment rates: how comparable are they?" *Monthly Labor*

Review, June 2000, pp. 3-20. This article is available on the Internet at <http://www.bls.gov/opub/mlr/2000/06/art1full.pdf>.

Source: BLS, "Comparative Civilian Labor Force Statistics, Ten Countries, 1960-2006," October 12, 2007, <<http://www.bls.gov/fls/>>; OECD, *Employment and Labour Market Statistics Database*, <<http://www.oecd.org/>>; and ILO, *LABORSTA ILO-Comparable Estimates Database*, <<http://laborsta.ilo.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 OECD. Data from 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 (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 youth in chart 2.4: persons ages 15 or 16 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 OECD and are generally derived from labor force surveys. OECD has made no attempt to standardize these data to international definitions. According to 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, *Employment and Labour Market Statistics Database*, <<http://www.oecd.org/>>.

Rates of growth in full-time and part-time employment (chart 2.8). 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. Coverage includes persons ages 15 or 16 and over, except for Norway and Sweden, where the data refer to persons ages 16 to 74 and 16 to 64, respectively.

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 Japan are not comparable to those of the other countries for two reasons: (1) the Japanese data are based on "actual hours worked" rather than "usual hours worked," and (2) part-time employment in Japan is defined as working fewer than 35 hours per week. Thus, the Japanese data should not be used for comparisons of the level of full-time and part-time work. They are included in chart 2.8 to track the broad trends in full-time and part-time work. For Australia and the Republic of Korea, data also are based on "actual hours worked" rather than "usual hours worked."

Source: OECD, *Employment and Labour Market Statistics Database*, <<http://www.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 persons unemployed have been looking for work. The OECD data have not been standardized, but they are all from labor force surveys. The data refer to persons ages 15 or 16 and over, except for Norway and Sweden, where the data refer to persons ages 16 to 74 and 16 to 64, respectively.

Source: OECD, *Employment Outlook, 2007 Ed.*, Paris, June 2007, table G.

Ratio of unemployment rate of persons without high school degrees to that of persons with college or university degrees (chart 2.14). Because educational systems vary widely across countries, 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). 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." The data on unemployment have not been standardized, but they are all from labor force surveys. The data refer to persons ages 25 to 64.

Source: OECD, *Education at a Glance: OECD Indicators, 2007 Ed.*, Paris, September 2007, table A8.2a; and OECD, *Employment Outlook, 2007 Ed.*, Paris, June 2007, 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 generally intended 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 **annual hours actually worked per employed person**, which include some adjustments towards the above definition for each country. The data generally cover all persons in employment, including both full-time and part-time workers. 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. Hours data reported from establishment surveys or administrative sources exclude unpaid overtime. Hours

data reported from labor force surveys are subject to respondent error. Methods of estimation include direct estimates using one survey source, component estimates using more than one survey source, or a combination of survey-based data and administrative or legislative information.

Data are consistent with national accounts concepts for 10 countries: Australia, Austria, Canada, Denmark, France, Germany, Italy, the Republic of Korea, Norway, and Sweden. Only two countries charted, New Zealand and the United Kingdom, directly measure hours actually worked with a continuous labor force survey, which accounts for every week of the year and avoids the need to adjust for holidays and other days lost. Hours data for Australia, Austria, Canada, France, Germany, Ireland, Mexico, the Netherlands, Portugal, and Spain 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. Data are on a per employed person basis except for Japan and Austria, where data are on a per job basis.

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

Source: OECD, *Employment and Labour Market Statistics Database*, <<http://www.oecd.org>>.

Educational attainment of the adult population (chart 2.15)

As discussed for chart 2.14, OECD uses UNESCO categories for seven educational attainment groupings. In chart 2.15, these are grouped into three broad categories. The grouping “below upper secondary” includes early childhood education (ISCED 0), primary level of education (ISCED 1), and lower secondary level of education (ISCED 2). The grouping “upper secondary and post-secondary non-tertiary” includes upper secondary level of education (ISCED 3) and post-secondary non-tertiary level of education (ISCED 4). The grouping “tertiary” 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: OECD Indicators, 2007 Ed.*, Paris, September 2007, tables A1.1a and A1.3a.

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

The charts discussed below are derived from BLS and ILO. Data for the United States are from BLS and data for the five large emerging economies are from ILO. 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. Chart 5.6 shows four age categories: youth (persons ages 15 or 16 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 working-age population for that sex. The working-age population in this chart is defined as persons ages 15 or 16 and over. 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.

Source: BLS, Labor Force Statistics from the Current Population Survey <<http://www.bls.gov/data/>>; and ILO, *Key Indicators of the Labor Market software, 5th Ed.*, Geneva, 2007, tables 1 and 2, <<http://www.ilo.org/kilm>>.

Competitiveness indicators for manufacturing (charts 3.1-3.7 and 5.9)

Section 3 focuses on several key labor-related indicators of competitiveness in world markets for goods: the level and trends in manufacturing hourly compensation costs, trends in productivity and unit labor costs, and manufacturing output as a percent of world manufacturing. The manufacturing sector provides the best data for such comparisons, and the BLS indicators presented in charts 3.1-3.6 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 also 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. 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 3.4-3.6 are limited to trend comparisons.

Hourly compensation costs for production workers in manufacturing (charts 3.1-3.3)

These charts present data on comparative hourly compensation costs for manufacturing production workers 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.

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 and (b) other direct pay. Pay for time worked includes basic time and piece rates plus overtime premiums, shift differentials, other premiums and bonuses paid regularly each pay period, and cost-of-living adjustments. Other direct pay includes pay for time not worked (vacation, 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 and (d) other labor taxes. Social insurance expenditures include employer expenditures for 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. Other labor taxes includes 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.

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 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, power plants); and other services closely related to the above activities. Working supervisors are generally included; apprentices and other trainees are generally 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. 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 non-survey 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, and frequency of surveys. Nevertheless, some differences in industrial coverage remain, and in many countries other

than the United States, the data exclude very small establishments (less than 5 employees in Japan and less than 10 employees in most other countries). For the United States, the methods used, as well as the results, differ somewhat from those of 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.

The hourly compensation figures in U.S. dollars shown in the tables provide comparative measures of employer labor costs; they do not provide inter-country 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 (defined previously in the Gross Domestic Product section) 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. 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.

Source: BLS, "International Comparisons of Hourly Compensation Costs of Production Workers in Manufacturing, 2005," November 30, 2006, Department of Labor News Release USDL 06-2020, <<http://www.bls.gov/fls/>>.

Manufacturing productivity and unit labor costs (charts 3.4-3.6)

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. 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 2006," September 27, 2007, Department of Labor News Release USDL 07-1456, <<http://www.bls.gov/fls/>>.

Manufacturing output as a percent of world manufacturing output (charts 3.7 and 5.9)

Manufacturing output is defined as the value added in the manufacturing sector of each country.

Each country's manufacturing value added in 2006, expressed in U.S. dollars, is divided by world manufacturing value added. The value added series are converted to U.S. dollars by applying the corresponding 2006 exchange rates, 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 shown in the charts. For example, if a country's currency is relatively "undervalued," the share of world manufacturing output shown on the chart for that country will be relatively low. If the currency were to strengthen, the country's share (in U.S. dollars) would rise, even if its manufacturing output (in local currency units) remained unchanged.

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

Public expenditures on labor market programs as a percent of GDP

(chart 4.1)

Public expenditures on labor market programs include the following programs, although not all countries have all programs: public employment services and administration; training; employment recruitment and maintenance incentives; integration of the disabled; direct job creation; business start-up incentives; out-of work and income maintenance and support, including unemployment compensation; and early retirement incentives. The data presented refer to 2005 for Austria, Denmark, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, the Republic of Korea, Spain, and Sweden. For the United Kingdom, the data refer to fiscal year 2005, which begins on April 1st. For the remaining countries, the data refer to fiscal year 2006, which begins on April 1st for Canada and Japan; on July 1st for Australia and New Zealand; and on October 1st for the United States. GDP has been defined previously (see Gross Domestic Product section).

Source: OECD, *Social Expenditures Database*, <<http://www.oecd.org/>>.

Measures of regulation on labor and product markets

(chart 4.2)

The measure of labor market regulation gauges the extent of regulations governing the hiring and firing of workers—often termed employment protection legislation. It is a summary measure that ranges from 0 (no restrictions) to 6 (very restrictive). The following factors are considered: the extent of procedural requirements that employers must follow in individual or collective dismissals, notice and severance pay requirements, and the degree of regulation on temporary forms of employment.

The measure of product market regulation is based on a simple average of indicators for seven industries, where each industry is rated from 0 (no restrictions) to 6 (very restrictive). The industries are gas, electricity, postal and courier activities, telecommunications, air transport, railways, and road freight. Depending on the industry, the following factors are considered: barriers to entry, public ownership, market structure, vertical integration, and price controls.

Both indicators are constructed by OECD from a variety of national sources as well as from multi-country surveys. The construction of these summary measures involves difficult choices of quantification and weighting. For further information on these choices, see the source documents.

Source: OECD, *Employment and Labour Market Statistics Database* and Conway, P., V. Janod and G. Nicoletti, "Product Market Regulation in OECD Countries, 1998 to 2003," OECD Economics Department Working Paper No 419, 2005, <<http://www.oecd.org/>>.

Share of labor costs taken by tax and social security contributions (chart 4.3)

This series measures the difference between the salary cost of an average worker to their employer and the amount of disposable income (net wage) that they receive. **Labor costs** are gross wages plus employer social security contributions and payroll taxes. The **taxes** included are income taxes paid by the employee, employee social security contributions, employer social security contributions, and, where in effect, payroll taxes. The types of taxes included in the measure are fully comparable across countries, as they are based on common definitions agreed upon by all OECD countries.

Because income taxes and access to work-related cash benefits vary by family status and in complex ways in nearly all countries, simple cross-country comparisons require a restriction to workers with a common family status. The figures presented in chart 4.3 pertain to single persons without children at the income of the average worker.

The information on the average worker income level is supplied by the ministries of finance in all OECD countries and is based on national statistical surveys. The amount of taxes paid by the worker is calculated by applying the tax laws of the country concerned. Thus, the tax rates are the result of a modeling exercise rather than direct observation of taxes actually paid.

Source: OECD, *Taxing Wages Database*, <<http://www.oecd.org/>>.

Population (charts 4.4 and 5.1-5.3)

Population estimates are based on the most recent demographic data available for each country and reflect the de facto population as of July 1st of the year indicated. Standard demographic techniques are used to estimate population for the base year (2005). 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.

Data for charts 4.4 and 5.1-5.3 are from the United Nations. 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.

The **dependency ratio** (charts 4.4 and 5.3) is the ratio of dependents (persons ages 14 and under and persons ages 65 and over) to the working-age population (persons ages 15 to 64). The dependency ratio is an overall measure of the dependence that children and the elderly have on people of working age. Whereas dependency ratios show the age composition of a population, they do not necessarily show economic dependency. Some children and elderly persons are part of the labor force and some working-age persons are not.

Data for 2025 are projected by applying assumptions regarding future trends in fertility, mortality, and migration. Because future trends

cannot be known with certainty, a number of projection variants are produced by the United Nations. Data in charts 4.4 and 5.3 are based on the medium variant. For further information on the assumptions for the medium variant, see the source document.

The **world population distribution** (chart 5.1) shows each country's share of the total world population. Total population of an economy includes all residents 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 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.

Source: United Nations, *World Population Prospects: The 2006 Revision Population Database*, <<http://esa.un.org>>.

Trade in goods as a percent of GDP (charts 4.5 and 5.8)

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. 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. GDP has been defined previously (see Gross Domestic Product section).

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

Disability indicators (charts 6.1-6.4)

Section 6 is a special one-time section that focuses on the employment and benefit reciprocity status of persons with disabilities. Chart 6.1 illustrates the prevalence of persons with disabilities while chart 6.2 compares their employment-to-population ratios to that of persons without disabilities. Charts 6.3 and 6.4 present the prevalence of persons receiving disability benefits and their labor market status.

Disability data presented in charts 6.1, 6.2 and 6.4 are collected through household surveys, and in most cases disability status is determined by self-reports of a long-term health problem, disability, or disease, in combination with resulting impediments to carrying out daily activities. A description of the precise methods used to identify persons with disabilities through household survey data can be found in the source document.

Caution should be taken when interpreting the disability statistics presented in these charts for several reasons. First, a universal statistical definition of disability is not available, which limits cross-country comparability; self-reported disability status collected from household surveys is used as an alternative. Household surveys omit the institutionalized population, and consequently persons with disabilities who require hospitalization or other institutionalized care are not included in the sample. Second, differences in survey instruments and methods further reduce the comparability of indicators; this is minimized for European countries that use the European Community Household Panel (ECHP), which employs a common questionnaire in

all countries surveyed. This applies to European countries with the exception of Germany and the United Kingdom, which stopped using the common questionnaire in 1996. Finally, the same year of data is not available for all countries, and observations range from 1996 to 2000.

Charts 6.2 and 6.4 present employment as a percent of the working-age population for persons with disabilities and persons without disabilities (chart 6.2) and the labor market status of persons receiving disability benefits (chart 6.4). Labor market status, including employment, is self-reported and collected through household surveys. The caveats described above therefore apply to these charts; the exclusion of the institutionalized population is particularly worthy of emphasis. That is, since persons who are institutionalized as a result of disability are likely to experience severe disability and therefore unlikely to be in the labor force, charts 6.2 and 6.4 may not be representative of the labor force distribution of the entire population with disabilities.

Data for chart 6.3 are based on research from the Netherlands Economic Institute (NEI) conducted on behalf of the Dutch Ministry of Social Affairs and Employment (SZW). The resulting database from this research is often referred to as the NEI-SZW database. The underlying data are collected from administrative records, whereas charts 6.1, 6.2, and 6.4 are based on household survey data. Furthermore, the working-age population in this chart is defined as persons ages 15 to 64, whereas it is defined as persons ages 20 to 64 in the other section 6 charts. For these reasons, the population depicted in chart 6.3 may differ significantly from those in the other section 6 charts.

Indicators for persons receiving disability benefits, a sub-group of all persons with disabilities, are presented in charts 6.3 and 6.4. Chart 6.3 covers persons receiving contributory and non-contributory disability

benefits, regular cash industrial injury benefits, and war disability payments, whereas chart 6.4 covers persons who self-reported receiving benefits in a household survey. The OECD notes that many persons who report a disability do not report receiving benefits. This may be explained in part by differences between standards for self-assessed disability status and disability benefit program eligibility requirements. For both charts, data are not directly comparable across countries, as the precise mix of disability benefit programs offered vary by country, as do the eligibility requirements and covered population. A description of the disability benefits recorded in each country can be found in the source documents.

Source: OECD, *Transforming Disability into Ability*, Paris, 2003, charts 3.6 and 3.7, and table A1.1; OECD, *Employment Outlook 2003*, Paris, 2003, table 4.A1.1.