Cross-Country Productivity Growth

Average labor productivity—i.e., the amount of output produced per unit of labor—is a key determinant of the long-run economic performance of a country. Over the past 10 years, productivity growth rates among national economies have contrasted strikingly: productivity grew at an average annual rate of 2.3 percent for the United States, 1.7 percent for the United Kingdom, 1.4 percent for Japan, and 0.9 percent for the euro area.

Labor productivity growth rates could differ among countries according to where each country is along the business cycle. Also, faster technological progress or a greater capital intensity (i.e., workers using more machines to produce things) could have generated faster productivity growth in the United States. In a recent study, Skocpol and Tissot analyzed productivity development across industrial countries and argue that, even when differences in the business cycles or capital intensity are taken into account, U.S. productivity growth rates stand out in any international assessment.

Many analysts have cited the IT revolution as a possible explanation of the high rate of U.S. productivity growth. But the U.S. advantage in average labor productivity has persisted despite the recent slump in IT investment in the United States and the sustained rates of investment in IT in other industrialized countries. This fact makes it less likely that the IT revolution is the sole explanation of U.S. productivity growth.

Legal and cultural flexibility in economic relationships, however, might help explain the higher U.S. productivity growth. Since the 1970s, U.S. economic laws and regulations have fostered increasing flexibility compared with those of its industrialized trading partners. For example, U.S. firms find it easier and cheaper to hire (and fire) workers and to start (and end) a business activity. This flexibility makes it easier for markets to relocate workers from lower-productivity firms and sectors to more productive occupations. Also, more competitive markets for goods and services can provide greater incentives for technological innovation and adoption as firms strive to keep ahead of their competitors. The U.S. retail sector, for example, leads the world partly because it is so competitive domestically.

The experience of the United Kingdom, which undertook structural reforms similar to those of the United States, supports the view that economic flexibility has contributed to U.S. productivity growth rates. Like the United States, the United Kingdom has experienced not only a sharp decline in manufacturing’s share of total employment but also better labor productivity growth than most countries.

 Nobell laureate Ed Prescott suggests a different explanation: Lower taxes on labor income make Americans more willing to work. Prescott observes that differences in hours worked per person explain most of the differences in output per worker across industrialized countries in the 1990s. On the other hand, output per hour worked is similar across countries. In the past, persistent differences in productivity across industrial countries have typically been reversed. Yet, while U.S. productivity growth has slowed recently, there is little evidence of faster productivity growth in the euro area or Japan. Hence, the differences evident in the chart are likely to persist in the near future.

― Ricardo DiCecio

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2 Skocpol and Tissot discuss the measurement issues that make it difficult to study productivity at the national level and complex cross-country comparisons.
3 See “Industrial Metamorphosis,” The Economist, October 1, 2005.
Notes

Euro-Area Data: On January 1, 2001, the euro area was enlarged to include Greece as its 12th member country. Historical euro area series for capacity utilization, the consumer price index, current account balances, employment, government debt and budget deficits, and the real effective exchange rate, retail sales, and the stock exchange index incorporate the 12 euro countries, calculated on the basis of national government bond yields weighted by the nominal outstanding amounts of government bonds in each currency unit.

The commodity price index used in the chart on page 12 is a synthetic ratio prior to January 1999. This is constructed by calculating a weighted average of the exchange rates of the euro-area countries, excluding Greece and Luxemburg, against the dollar. The weights are based on GDP 1997 shares.

German Data: As a result of reunification, data for all of Germany are now incorporated in the statistical series. The starting periods for unified German data are listed below. Care should be exercised when interpreting the data around these break points.

Third quarter 1993: current account balance, international trade, and gross saving.
First quarter 1993: consumer price index, GDP, industrial production, output per worker.
First quarter 1993: capacity utilization.
First quarter 1993: stock exchange index.
Third quarter 1993: employment.
First quarter 1994: hourly earnings.
Capacity Utilization covers the manufacturing sector for Canada, France, Japan, the United Kingdom, the United States, and the euro area; manufacturing excluding food, beverages, and tobacco for Germany; and mining and manufacturing for Italy.

Consumer Price Index is for all items. The current index is based on goods and services consumed by all individuals for Canada, all multi-person household excluding those mainly engaged in agriculture, forestry, and fisheries for Japan; all households except pensioners for Germany; and all households except pensioners and high income households for the United Kingdom; and all urban households for the United States. Data for the euro area, France, Germany, and Italy are based on the harmonic mean of capacity price consumer price indices of the 12 euro countries excluding Greece and Luxemburg.

Current Account Balance is the sum of merchandise and service exports and income on domestic assets abroad minus the sum of merchandise and service imports and income on foreign assets in the domestic economy plus net unilateral transfers.

Earnings are based on hourly earnings in manufacturing for Canada, Germany, the United States, and the United Kingdom. Hourly earnings in manufacturing excluding construction for France, hourly earnings in industry for Italy; monthly earnings in manufacturing for Japan; and weekly earnings in manufacturing for the United Kingdom.

The Exchange Rate for all countries except the United States is expressed as units of local currency per U.S. dollar. For the United States the trade-weighted exchange rate, TWIX, is used. This is a weighted average of the exchange rates of the U.S. dollar relative to the major currencies (currencies the euro area's exchange rate is exchanged for the Canadian dollar, Japanese yen, pound sterling, Swiss franc, Australian dollar, and Swedish krona. Prior to 1999, the currencies of the euro countries (with the exception of Greece) are used instead of the euro.

Real Effective Exchange Rate uses national unit labor costs in manufacturing. The weighting scheme used to construct the index is, for all euro area countries, based on disaggregated data for trade among 21 industrial countries in manufacturing for 2000. For the weight in the index of the trade in the euro area with the other countries. The weights reflect the relative importance of a country's trading partners in its direct bilateral trade relations and competition in third markets. Normalized unit labor costs in manufacturing are calculated by dividing the index of actual hourly compensation per worker by a five-year moving average index of output per man hour.

Employment data refer to civilian employment for Canada, Germany, Italy, Japan, and the United States; industrial employment for France; and total employment for the euro area and the United Kingdom.

Foreign Exchange Reserves data are at end of period. The dollar value of reserves may fluctuate as a result of changes in reserve holdings and/or changes in the value of the components held in U.S. dollars.

Government Budget Balance is the difference between general government current receipts and total outlays. Total outlays consist of current expenditures and net acquisitions of capital assets. General government debt includes all financial liabilities of the general government sector. The general government sector encompasses the accounts of the central, state, local, and social security sectors.

Inflation Differential is the cumulative inflation rate for the foreign country's consumer price index (CPI) over the change in the U.S. CPI (consumer price index for all urban consumers) over the same period. The base period for the cumulative rate of change is taken to be the first calendar year of the chart. For example, if the base period in 1999 CPI, then the cumulative inflation differential for 2003 CPI is as follows:

\[
\text{inflation differential} = 100 \left( \frac{\text{CPI}_2}{\text{CPI}_1} - 1 \right)
\]

where CPI_1 is the Japanese CPI in the third quarter of 2003, for the U.S. chart on page 11, CPI is calculated as the weighted average of the CPIs of countries whose currencies are used in the cross-country currency trade-weighted exchange rate index. Starting in 1999, the cross-country harmonized consumer price index for all urban consumers. Prior to 1999, for all the individual euro area countries (excluding Greece and Luxemburg) are used.

The cumulative inflation differential is shown because the theory of purchasing power parity changes is historically more reliable than more recent data. This in turn implies that the central government is more reliable than more recent data. This in turn implies that the central government is more reliable than more recent data. The central government is more reliable than more recent data. The central government is more reliable than more recent data. The central government is more reliable than more recent data. The central government is more reliable than more recent data. The central government is more reliable than more recent data. The central government is more reliable than more recent data. The central government is more reliable than more recent data. The central government is more reliable than more recent data. The central government is more reliable than more recent data. The central government is more reliable than more recent data. The central government is more reliable than more recent data. The central government is more reliable than more recent data. The central government is more reliable than more recent data. The central government is more reliable than more recent data. The central government is more reliable than more recent data. The central government is more reliable than more recent data.
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### Adjusted Monetary Base
Percent change from year ago

### Monetary Aggregates
Percent change from year ago

### Interest Rates
Percent

### Stock Exchange Index
- New York Stock Exchange

3000 = 100

250 = 100

125 = 75

100 = 50

75 = 25

50 = 0
International Economic Trends

United States

GDP
Percent change from year ago

Industrial Production
Percent change from year ago

Retail Sales
Percent change from year ago

Capacity Utilization
Percent

Canada

GDP
Percent change from year ago

Industrial Production
Percent change from year ago

Retail Sales
Percent change from year ago

Capacity Utilization
Percent

*Data prior to 1993 may not be strictly comparable with later figures (see Notes).
International Economic Trends

United Kingdom

Real GDP
Percent change from year ago

Employment
Percent change from year ago

Consumer Price Index
Percent change from year ago

Unemployment Rate
Percent

Weekly Earnings
Percent change from year ago*

Current Account Balance
Percent of GDP

Euro Area

International Trade - Goods
Percent of GDP

Exports
Imports

Real Effective Exchange Rate
Index 2000 = 100

Monetary Aggregates
Percent change from year ago

M1
M3

Interest Rates
Percent

90-Day Deposits
Weighted Average of 10-Year Government Bonds

* The data are seasonally adjusted, unless noted as non-seasonally adjusted data.
International Economic Trends

Germany

1. Real GDP
   Percent change from year ago

2. Employment
   Percent change from year ago

3. Consumer Price Index
   Percent change from year ago

4. Unemployment Rate
   Percent

5. Adjusted Monetary Base
   Percent change from year ago

6. Interest Rates
   Percent

7. Exchange Rate and Inflation Differential
   Year/US
   Percent

Japan

1. Real GDP
   Percent change from year ago

2. Employment
   Percent change from year ago

3. Consumer Price Index
   Percent change from year ago

4. Unemployment Rate
   Percent

5. Adjusted Monetary Base
   Percent change from year ago

6. Interest Rates
   Percent

7. Exchange Rate and Inflation Differential
   Year/US
   Percent

8. Exchange Rate
   (left scale)

* The data are seasonally adjusted, presents issues used non-seasonally adjusted data.
Real GDP
Percent change from year ago

Employment
Percent change from year ago

Consumer Price Index
Percent change from year ago

Unemployment Rate
Percent

Monthly Earnings
Percent change from year ago*

Current Account Balance
Percent of GDP

GDP
Percent change from year ago

Industrial Production
Percent change from year ago

Retail Sales
Percent change from year ago

Capacity Utilization
Percent

* The data are seasonally adjusted; previous issues used non-seasonally adjusted data.