

November 2003

Global Factors in **Budget Deficits**

iscussions about fiscal deficits—government outlays less tax receipts as a percentage of gross domestic product (GDP)—often overlook the importance of global factors in common movements across countries. The left panel of the figure, for example, shows that deficits in Canada, France, Germany, the United Kingdom, and the United States declined from the mid- to the late-1980s, increased with the global recession of 1990, and then improved again from about 1992 through 2000. Recently, however, deficits have increased; in Germany and France, they are larger than the European Monetary Union limit of 3 percent of GDP.

Why do national fiscal deficits tend to move together? One reason is that deficits react to common business cycle shocks. That is, global economic activity is subject to common shocks to technology, demographics, commodity prices, and political uncertainty. Further, international trade links countries' economies. Over a business cycle, government outlays fall and tax receipts rise with economic activity. Such changes are called automatic stabilizers; they make deficits vary with the business cycle. Governments often raise discretionary spending or cut taxes during periods of low output, further amplifying the connection of deficits to economic activity. Because countries tend to share

business cycles, which are correlated with deficits, deficits tend to be correlated internationally.

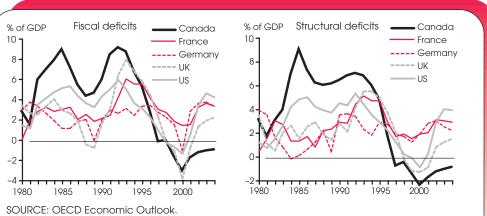
The portion of a deficit that is due to the level of economic activity is called the cyclical deficit, while the structural deficit is the shortfall that would exist even if the level of economic output were at its potential. The right panel of the figure shows estimates of structural deficits.

Structural deficits can result from changes in tax and spending preferences or external events. For example, the U.S. deficit rose in 1992 when savings and loan depositors were bailed out. And the terrorist attacks of September 11, 2001, and wars in Afghanistan and Iraq surely inflated the U.S. deficit through higher defense and homeland security expenditures. Indeed, the U.S. deficit in 2002 (3.4 percent of GDP) was mostly structural (2.9 percent), not cyclical.

The international correlation in structural deficits illustrates that the business cycle is not the only global influence on fiscal deficits. For example, the "peace dividend," the cuts in defense spending after the fall of the Soviet Union, accounted for some of the international fall in structural deficits in the 1990s. Similarly, the extraordinary international bull market in equities in the late 1990s—which was only weakly related to real economic activity—probably reduced deficits by increasing tax revenues on capital gains. The decline in equity prices since 2000 has been associated with a falloff in tax revenues on capital gains. Finally, the Maastricht Treaty, which established the European Monetary Union on January 1, 1999, limits deficits to 3 percent of GDP. This treaty obligation forced cuts in French and German deficits in the 1990s.

In evaluating deficits, one should carefully consider the source. Cyclical deficits, which often have a strong global component, do not threaten long-term fiscal solvency because they will be reversed over time. However, large structural deficits—those greater than the country's average output growth rate—cannot be maintained forever and might require adjustments to tax and spending policies.

—Christopher J. Neely



NOTE: The panels show fiscal deficits and structural deficits as a percentage of GDP. Deficits are measured as a percentage of GDP because larger, richer economies can more easily afford to run higher deficits than can poorer countries. Figures for 2003 and 2004 are projections.

Views expressed do not necessarily reflect official positions of the Federal Reserve System.

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Conventions used in this publication:

- 1. Charts and tables contain data that were current through October 2003. Unless otherwise indicated, data are quarterly.
- 2. The *percent change* refers to the percent change from the same period in the previous year. For example, the percent change in x between quarter t-4 and the current quarter t is: $[(x_t/x_{t-4})-1] \times 100$.
- 3. All data with significant seasonal patterns are adjusted accordingly.

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Research Department

Federal Reserve Bank of St. Louis

411 Locust St.

St. Louis, MO 63102

Please keep in mind that technical limitations preclude us from adding more pages to the publication. So, we must make some difficult choices with respect to the material we include.

Thank you in advance for your help in making International Economic Trends a great publication.

Sincerely,

Christopher J. Neely

Editor, International Economic Trends

Canada Euro Area France Germany Italy Japan United Kingdom United States Nominal Gross Percent change from yea	00.3 5.49 3.23 3.88 3.01 3.24 2.71 3.05 3.73	00.4 4.22 2.77 3.83 1.88 3.21 5.09 2.25 2.25	01.1 3.12 2.46 3.10 1.95 2.78 3.55 2.61 1.46	01.2 2.35 1.63 2.28 0.81 2.37 1.05 2.06 -0.14	01.3 0.86 1.50 2.27 0.73 1.57 -0.65 1.89 -0.35	01.4 1.39 0.80 0.73 0.55 0.39 -2.37 1.88 0.05	02.1 2.48 0.49 0.81 -0.12 0.00 -2.81	02.2 3.15 0.92 1.48 0.10 0.00	02.3 4.02 0.96 1.27	02.4 3.46 1.10	2.67	1.63
Euro Area France Germany taly Japan Jnited Kingdom Jnited States Nominal Gross	3.23 3.88 3.01 3.24 2.71 3.05 3.73	2.77 3.83 1.88 3.21 5.09 2.25	2.46 3.10 1.95 2.78 3.55 2.61	1.63 2.28 0.81 2.37 1.05 2.06	1.50 2.27 0.73 1.57 -0.65 1.89	0.80 0.73 0.55 0.39 -2.37 1.88	0.49 0.81 -0.12 0.00	0.92 1.48 0.10	0.96 1.27			1.63
France Germany taly Japan Jnited Kingdom Jnited States Nominal Gross	3.88 3.01 3.24 2.71 3.05 3.73	3.83 1.88 3.21 5.09 2.25	3.10 1.95 2.78 3.55 2.61	2.28 0.81 2.37 1.05 2.06	2.27 0.73 1.57 -0.65 1.89	0.73 0.55 0.39 -2.37 1.88	0.81 -0.12 0.00	1.48 0.10	1.27	1.10		
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Japan Jnited Kingdom Jnited States Nominal Gross	2.71 3.05 3.73	5.09 2.25	3.55 2.61	1.05 2.06	-0.65 1.89	-2.37 1.88		0.00	0.40	0.48	0.06	-0.20
United Kingdom United States Nominal Gross	3.05 3.73	2.25	2.61	2.06	1.89	1.88	-2.81		0.39	1.16	0.39	0.39
United States Nominal Gross	3.73							-0.44	1.47	2.50	2.94	2.97
Nominal Gross		2.25	1.46	-0.14	-0.35	0.05	1.37	1.75	2.26	2.31	2.10	1.84
	Domes						1.44	2.17	3.26	2.91	2.02	2.52
		stic Pro	oduct									
	ır ago											
	00.3	00.4	01.1	01.2	01.3	01.4	02.1	02.2	02.3	02.4	03.1	03.2
Canada	9.60	8.53	6.95	4.44	1.01	-0.29	0.73	3.12	5.70	7.67	7.99	4.83
Euro Area	4.75	4.45	4.70	4.14	3.81	3.65	3.16	3.20	3.59	3.28	2.69	2.38
France	4.64	4.93	4.37	3.99	4.18	2.74	2.95	3.37	3.10	3.20	2.55	1.61
Germany	2.81	1.84	2.90	2.11	1.61	2.59	1.74	1.64	2.44	1.45	0.89	0.83
Italy	5.76	4.96	5.23	4.47	3.74	4.05	3.31	2.63	3.61	3.25	2.88	3.53
Japan	0.80	2.93	1.58	-0.78	-2.08	-3.47	-3.47	-2.02	-0.38	-0.14	-0.46	0.21
United Kingdom	5.28	4.33	5.24	4.45	3.57	4.74	4.48	4.61	5.75	5.48	4.86	4.71
United States	5.99	4.59	3.92	2.33	2.26	2.00	2.84	3.25	4.05	4.29	3.64	4.10
Consumer Price Percent change from yea		01.1	01.2	01.3	01.4	02.1	02.2	02.3	02.4	03.1	03.2	03.
Canada	3.11	2.80	3.57	2.67	1.12	1.54	1.32	2.32	3.81	4.47	2.80	
Euro Area	2.49	2.08	2.92	2.36	2.06	2.59	2.11	2.12	2.29	2.26	1.98	2.07
France	2.08	1.43	2.31	1.99	1.56	2.26	1.70			2.32		2.07
rance		1.58		1.33					2 08			2 12
Garmany				2 13				1.67	2.08		1.85 n.93	
•	1.68		2.51	2.13	1.55	1.95	1.13	1.05	1.14	1.10	0.93	1.03
Italy	2.77	2.13	2.83	2.21	1.55 2.24	1.95 2.54	1.13 2.30	1.05 2.62	1.14 2.84	1.10 2.79	0.93 2.97	1.03
Germany Italy Japan	2.77 -0.76	2.13 -0.44	2.83 -0.72	2.21 -0.79	1.55 2.24 -0.99	1.95 2.54 -1.41	1.13 2.30 -0.89	1.05 2.62 -0.82	1.14 2.84 -0.53	1.10 2.79 -0.25	0.93 2.97 -0.24	2.12 1.03 2.82
taly Japan Jnited Kingdom	2.77	2.13	2.83	2.21	1.55 2.24	1.95 2.54	1.13 2.30	1.05 2.62	1.14 2.84	1.10 2.79	0.93 2.97	1.03 2.82
Italy Japan United Kingdom United States Employment	2.77 -0.76 3.08 3.44	2.13 -0.44 2.54	2.83 -0.72 1.91	2.21 -0.79 1.80	1.55 2.24 -0.99 1.05	1.95 2.54 -1.41 1.20	1.13 2.30 -0.89 1.23	1.05 2.62 -0.82 1.54	1.14 2.84 -0.53 2.56	1.10 2.79 -0.25 3.05	0.93 2.97 -0.24 3.02	1.03
Italy Japan United Kingdom United States Employment Percent change from yea	2.77 -0.76 3.08 3.44	2.13 -0.44 2.54 3.41	2.83 -0.72 1.91 3.38	2.21 -0.79 1.80 2.72	1.55 2.24 -0.99 1.05 1.84	1.95 2.54 -1.41 1.20 1.19	1.13 2.30 -0.89 1.23 1.24	1.05 2.62 -0.82 1.54 1.58	1.14 2.84 -0.53 2.56 2.25	1.10 2.79 -0.25 3.05 2.87	0.93 2.97 -0.24 3.02 2.17	1.03 2.82 2.22
Italy Japan United Kingdom United States Employment Percent change from yea	2.77 -0.76 3.08 3.44 ar ago 00.4	2.13 -0.44 2.54 3.41	2.83 -0.72 1.91 3.38	2.21 -0.79 1.80 2.72	1.55 2.24 -0.99 1.05 1.84	1.95 2.54 -1.41 1.20 1.19	1.13 2.30 -0.89 1.23 1.24	1.05 2.62 -0.82 1.54 1.58	1.14 2.84 -0.53 2.56 2.25	1.10 2.79 -0.25 3.05 2.87	0.93 2.97 -0.24 3.02 2.17	1.03 2.82 2.22
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taly Japan Jnited Kingdom Jnited States Employment Percent change from yea Canada Euro Area France	2.77 -0.76 3.08 3.44 ar ago 00.4 2.33 2.13	2.13 -0.44 2.54 3.41 01.1 1.61 1.90	2.83 -0.72 1.91 3.38 01.2 1.39 1.39	2.21 -0.79 1.80 2.72 01.3 1.03 1.12	1.55 2.24 -0.99 1.05 1.84 01.4 0.42 0.88	1.95 2.54 -1.41 1.20 1.19	1.13 2.30 -0.89 1.23 1.24 02.2 1.79	1.05 2.62 -0.82 1.54 1.58	1.14 2.84 -0.53 2.56 2.25 02.4 3.37	1.10 2.79 -0.25 3.05 2.87 03.1 3.14	0.93 2.97 -0.24 3.02 2.17 03.2 2.33	1.03 2.82 2.22
Italy Japan United Kingdom United States Employment Percent change from yea Canada Euro Area France Germany	2.77 -0.76 3.08 3.44 ar ago 00.4 2.33 2.13 3.92	2.13 -0.44 2.54 3.41 01.1 1.61 1.90 3.56	2.83 -0.72 1.91 3.38 01.2 1.39 1.39 2.89	2.21 -0.79 1.80 2.72 01.3 1.03 1.12 2.16	1.55 2.24 -0.99 1.05 1.84 01.4 0.42 0.88 1.65	1.95 2.54 -1.41 1.20 1.19 02.1 1.04	1.13 2.30 -0.89 1.23 1.24 02.2 1.79	1.05 2.62 -0.82 1.54 1.58 02.3 2.69	1.14 2.84 -0.53 2.56 2.25 02.4 3.37	1.10 2.79 -0.25 3.05 2.87 03.1 3.14	0.93 2.97 -0.24 3.02 2.17 03.2 2.33	1.03 2.82 2.22
Italy	2.77 -0.76 3.08 3.44 ar ago 00.4 2.33 2.13 3.92 1.51	2.13 -0.44 2.54 3.41 01.1 1.61 1.90 3.56 0.99	2.83 -0.72 1.91 3.38 01.2 1.39 1.39 2.89 0.60	2.21 -0.79 1.80 2.72 01.3 1.03 1.12 2.16 0.22	1.55 2.24 -0.99 1.05 1.84 01.4 0.42 0.88 1.65 -0.11	1.95 2.54 -1.41 1.20 1.19 02.1 1.04 0.95 -0.21	1.13 2.30 -0.89 1.23 1.24 02.2 1.79 0.64 -0.48	1.05 2.62 -0.82 1.54 1.58 02.3 2.69 0.35 -0.71	1.14 2.84 -0.53 2.56 2.25 02.4 3.37 0.19 -1.11	1.10 2.79 -0.25 3.05 2.87 03.1 3.14 -0.08 -1.58	0.93 2.97 -0.24 3.02 2.17 03.2 2.33 -0.08 -1.69	1.03 2.82 2.22
Italy Japan United Kingdom United States Employment Percent change from yea Canada Euro Area France Germany Italy	2.77 -0.76 3.08 3.44 ar ago 00.4 2.33 2.13 3.92 1.51 2.28	2.13 -0.44 2.54 3.41 01.1 1.61 1.90 3.56 0.99 2.53	2.83 -0.72 1.91 3.38 01.2 1.39 1.39 2.89 0.60 1.91	2.21 -0.79 1.80 2.72 01.3 1.03 1.12 2.16 0.22 1.35	1.55 2.24 -0.99 1.05 1.84 01.4 0.42 0.88 1.65 -0.11 0.92	1.95 2.54 -1.41 1.20 1.19 02.1 1.04 0.95 -0.21 0.97	1.13 2.30 -0.89 1.23 1.24 02.2 1.79 0.64 -0.48 1.15	1.05 2.62 -0.82 1.54 1.58 02.3 2.69 0.35 -0.71 1.09	1.14 2.84 -0.53 2.56 2.25 02.4 3.37 0.19 -1.11 1.07	1.10 2.79 -0.25 3.05 2.87 03.1 3.14 -0.08 -1.58 0.95	0.93 2.97 -0.24 3.02 2.17 03.2 2.33 -0.08 -1.69 1.21	1.03 2.82 2.22

4.04

3.94

4.19

4.43

4.84

5.58

5.62

5.86

5.77

5.91

5.76

6.17

United States

Reserve Money Percent change from year ago

	00.4	01.1	01.2	01.3	01.4	02.1	02.2	02.3	02.4	03.1	03.2	03.3
Canada	-7.94	3.26	6.78	7.32	4.23	7.32	5.15	8.05	5.63	2.23	3.30	
Japan	-0.44	0.66	7.50	14.50	17.60	31.83	27.42	21.73	20.05	10.46	20.22	20.96
United Kingdom	6.53	6.79	6.92	7.00	7.74	7.83	8.55	8.25	6.85	5.98	7.77	
United States	0.69	2.09	4.26	7.56	8.50	9.78	10.08	7.80	7.35	6.84	6.54	5.87

Narrow Money

Percent change from year ago

	00.4	01.1	01.2	01.3	01.4	02.1	02.2	02.3	02.4	03.1	03.2	03.3
Canada	17.47	13.18	11.48	8.17	13.65	14.37	13.87	16.11	9.21	6.66	8.20	
Euro Area	4.92	1.77	4.26	4.73	5.66	6.12	6.47	7.77	9.98	10.75	9.90	
Japan	4.55	5.05	7.30	11.05	14.81	23.53	30.75	30.44	25.46	14.98	5.00	
United Kingdom	7.22	8.53	9.62	10.04	9.88	9.20	8.31	8.21	8.27	8.67	8.74	
United States	8.04	10.82	14.59	17.02	20.40	17.89	13.76	11.59	8.59	7.59	7.70	8.55

Broad Money

Percent change from year ago

	00.4	01.1	01.2	01.3	01.4	02.1	02.2	02.3	02.4	03.1	03.2	03.3
Canada	7.24	5.78	5.18	4.33	5.70	5.94	6.05	7.24	5.97	5.44	6.13	
Euro Area	4.25	3.90	5.82	6.74	8.29	7.23	6.62	6.82	6.70	7.58	7.95	
Japan	2.04	2.50	2.90	3.17	3.45	3.67	3.28	3.16	2.25	1.66	1.72	
United Kingdom	8.45	8.43	7.53	7.91	6.55	5.49	5.53	5.24	6.90	6.65	7.41	
United States	6.06	7.16	8.18	9.42	10.22	9.17	7.49	7.13	6.76	6.65	7.87	7.81

Short-Term Interest Rates

Percent

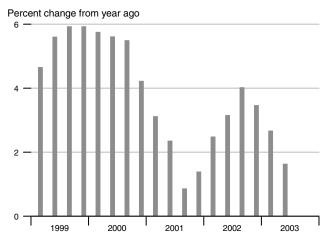
	00.4	01.1	01.2	01.3	01.4	02.1	02.2	02.3	02.4	03.1	03.2	03.3
Canada	5.81	5.10	4.48	3.95	2.39	2.11	2.58	2.89	2.84	2.99	3.27	
Euro Area	5.02	4.75	4.59	4.27	3.44	3.36	3.44	3.36	3.11	2.68	2.37	2.14
Japan	0.54	0.36	0.04	0.04	0.04	0.12	0.04	0.04	0.04	0.05	0.04	
United Kingdom	5.99	5.64	5.23	4.92	4.09	4.01	4.10	3.95	3.92	3.73	3.57	3.50
United States	6.59	5.26	4.10	3.34	2.06	1.82	1.83	1.76	1.49	1.26	1.17	1.07

Long-Term Interest Rates

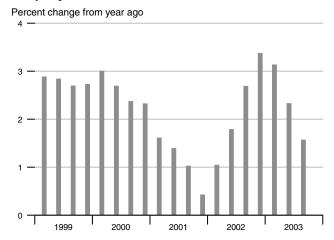
Percent

	00.4	01.1	01.2	01.3	01.4	02.1	02.2	02.3	02.4	03.1	03.2	03.3
Canada	5.54	5.39	5.78	5.48	5.22	5.51	5.50	5.10	5.07	5.03	4.59	4.79
Euro Area	5.28	4.99	5.19	5.12	4.82	5.14	5.25	4.76	4.54	4.15	3.96	4.16
France	5.75	5.48	5.55	5.34	5.15	5.46	5.53	5.12	4.91	4.43	4.10	
Germany	5.10	4.77	4.97	4.87	4.60	5.00	5.13	4.63	4.43	4.07	3.87	
Italy	5.48	5.16	5.37	5.27	4.94	5.25	5.36	4.85	4.68	4.24	4.16	
Japan	1.74	1.39	1.28	1.36	1.35	1.41	1.28	1.11	0.89	0.70	0.53	0.95
United Kingdom	5.05	4.81	5.10	5.05	4.79	5.05	5.22	4.74	4.61	4.32	4.27	4.55
United States	5.85	5.56	5.81	5.59	5.44	5.70	5.72	5.09	4.92	4.77	4.44	5.01

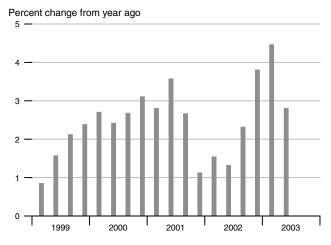
Real GDP



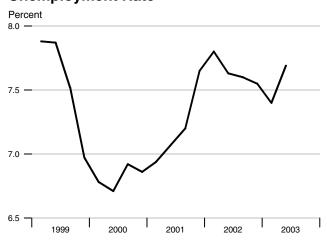
Employment



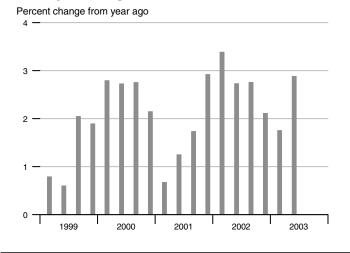
Consumer Price Index



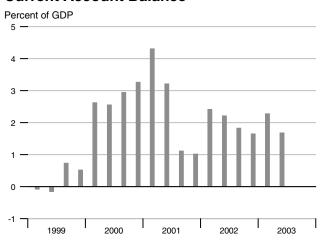
Unemployment Rate



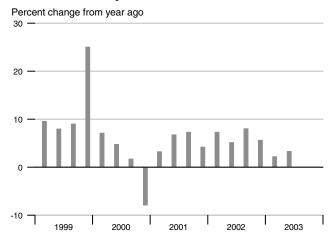
Hourly Earnings



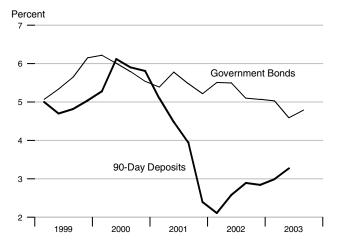
Current Account Balance



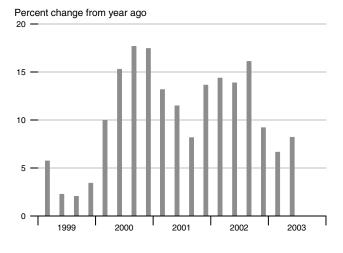
Reserve Money



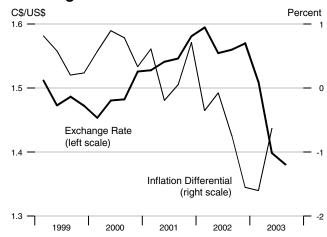
Interest Rates



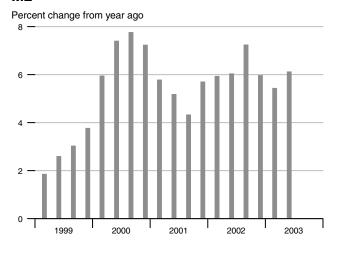
M1



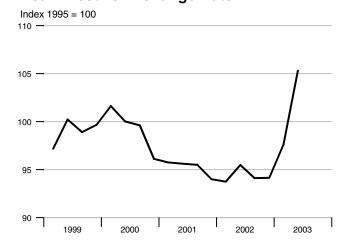
Exchange Rate and Inflation Differential



M2

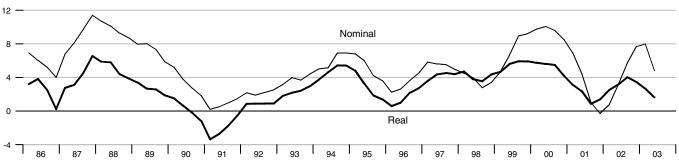


Real Effective Exchange Rate



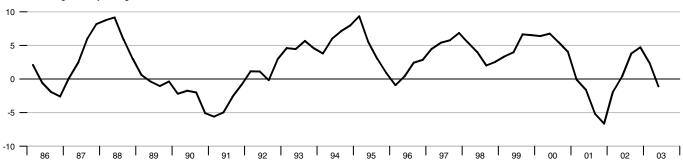
GDP

Percent change from year ago



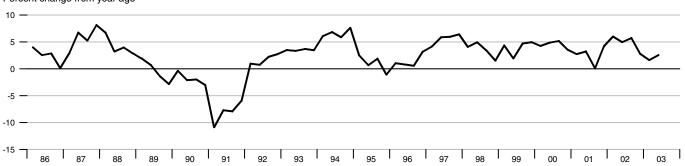
Industrial Production

Percent change from year ago

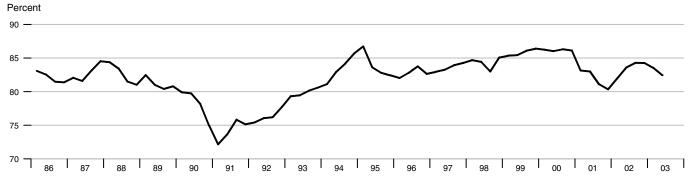


Retail Sales

Percent change from year ago



Capacity Utilization

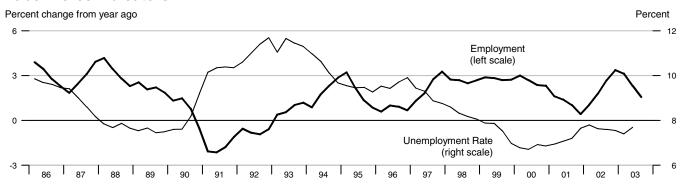


Hourly Earnings and Output per Worker

Percent change from year ago

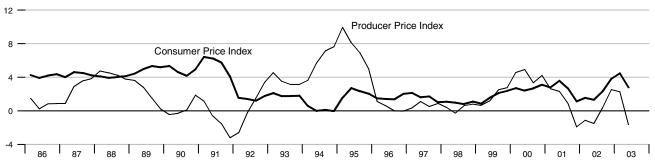


Labor Force Indicators

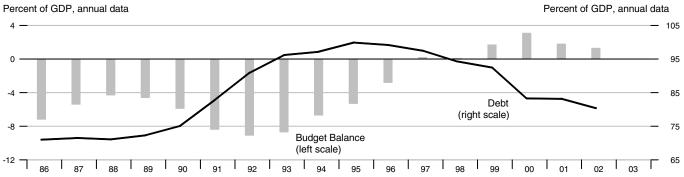


Inflation

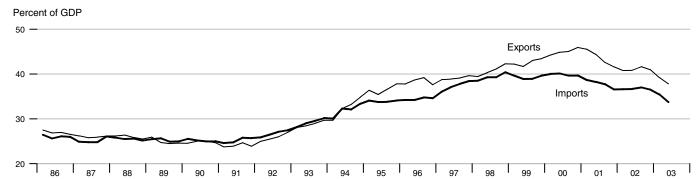
Percent change from year ago



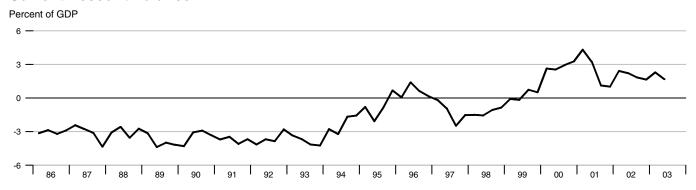
Government Debt and Budget Balance



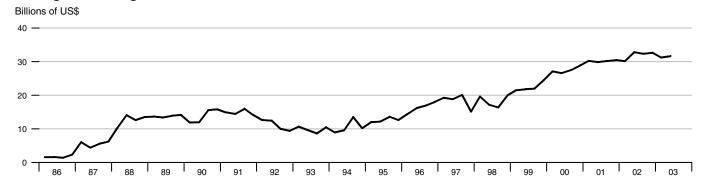
International Trade - Goods and Services



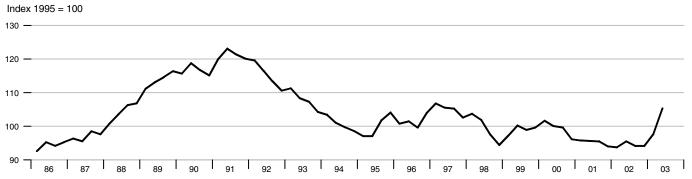
Current Account Balance



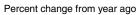
Foreign Exchange Reserves

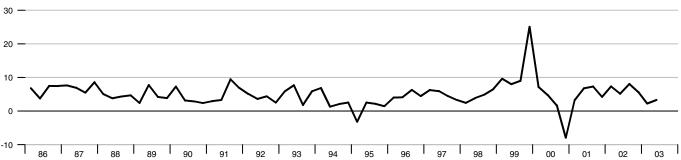


Real Effective Exchange Rate



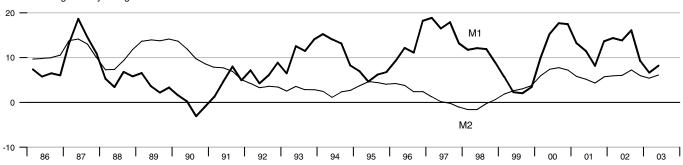
Reserve Money





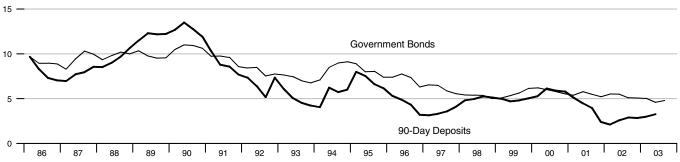
Monetary Aggregates

Percent change from year ago

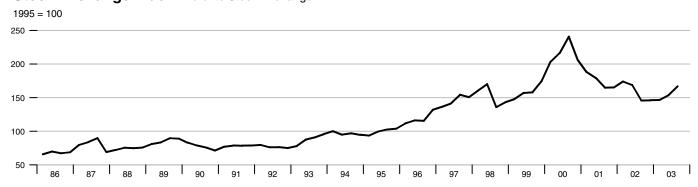


Interest Rates

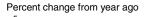


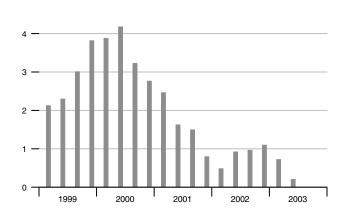


Stock Exchange Index - Toronto Stock Exchange



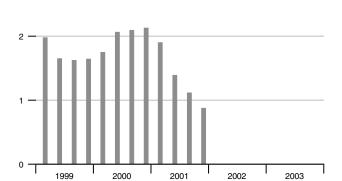
Real GDP





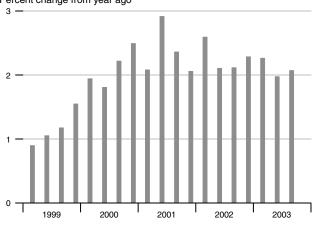
Employment

Percent change from year ago



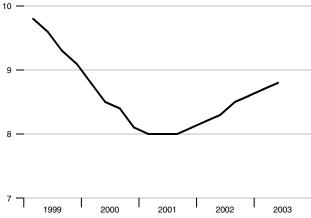
Consumer Price Index

Percent change from year ago



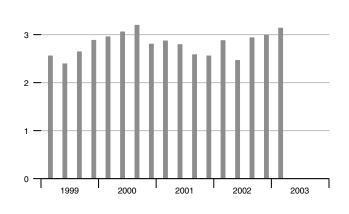
Unemployment Rate

Percent



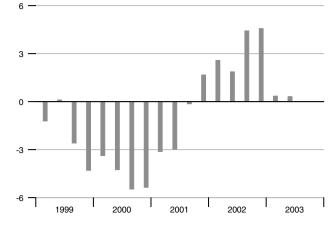
Hourly Earnings

Percent change from year ago

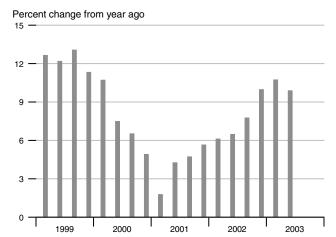


Current Account Balance

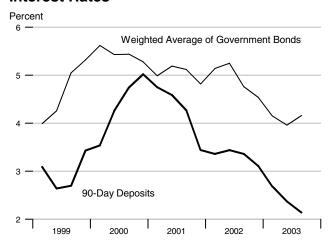
Percent of GDP



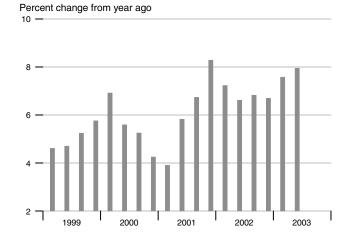
M1



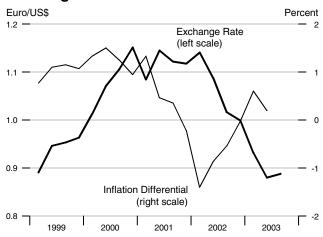
Interest Rates



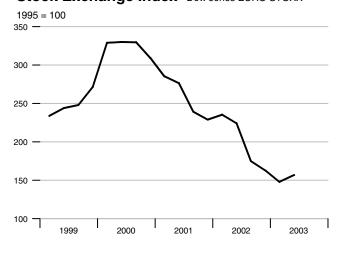
M3



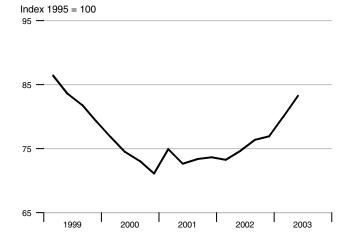
Exchange Rate and Inflation Differential



Stock Exchange Index - Dow Jones EURO STOXX SM

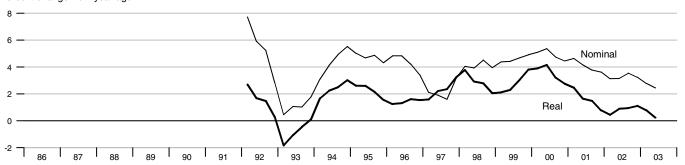


Real Effective Exchange Rate



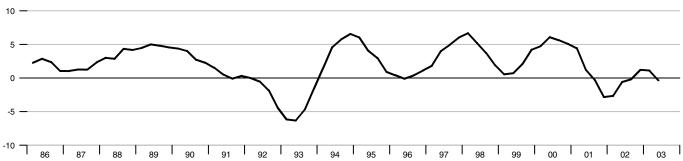
GDP

Percent change from year ago



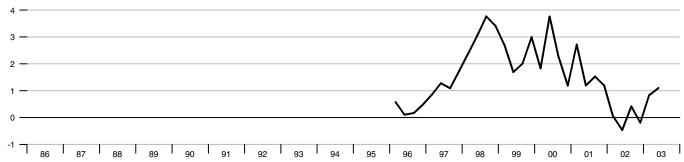
Industrial Production

Percent change from year ago



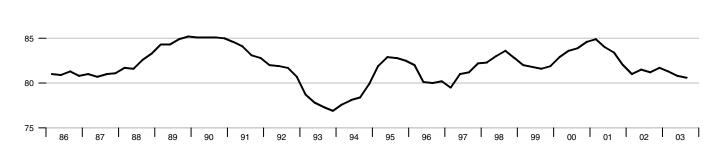
Retail Sales

Percent change from year ago



Capacity Utilization

Percent 90 —

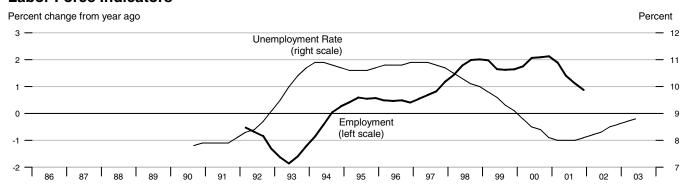


Hourly Earnings and Output per Worker



Output per Worker

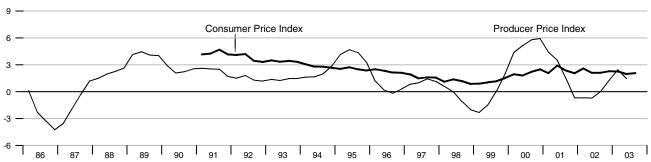
Labor Force Indicators



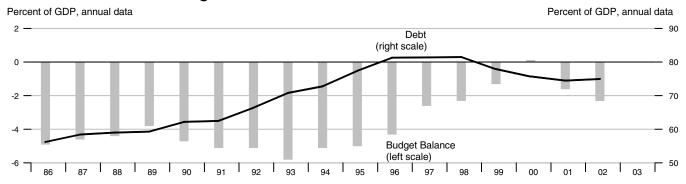
89 90 91 92 93 94 95 96 97 98 99 00 01 02 03

Inflation

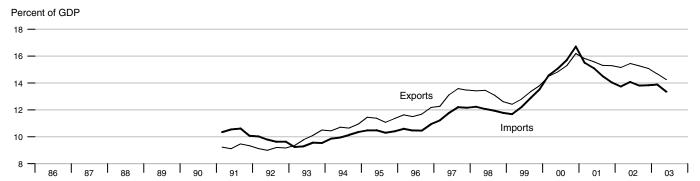
Percent change from year ago



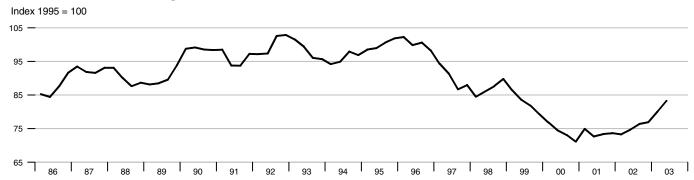
Government Debt and Budget Balance



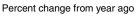
International Trade - Goods

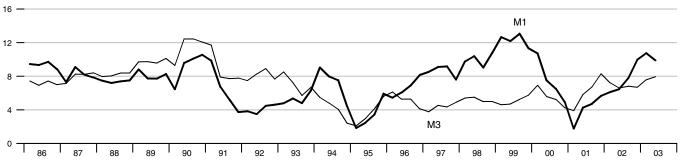


Real Effective Exchange Rate

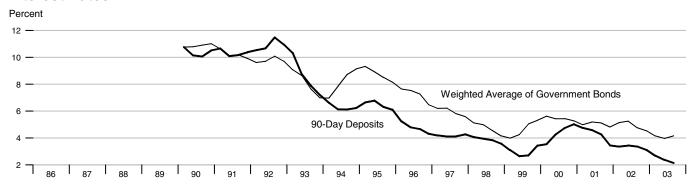


Monetary Aggregates

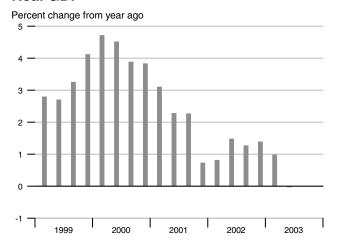




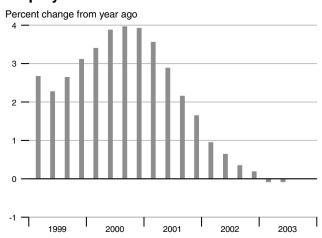
Interest Rates



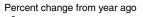
Real GDP

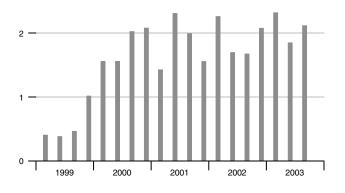


Employment



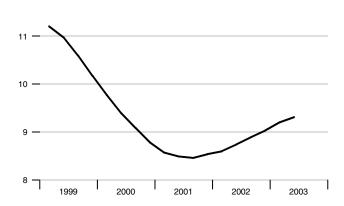
Consumer Price Index



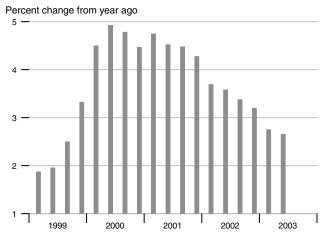


Unemployment Rate

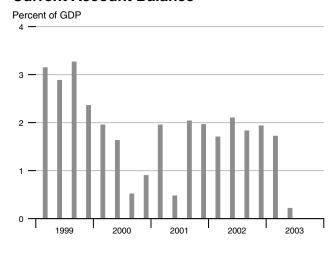




Hourly Earnings

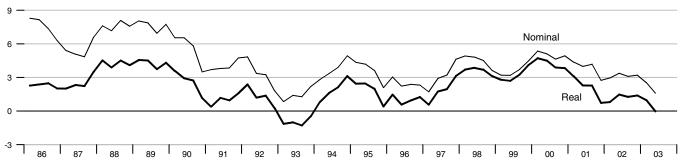


Current Account Balance



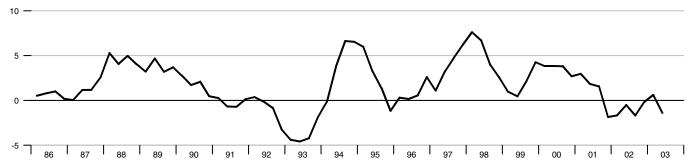
GDP

Percent change from year ago



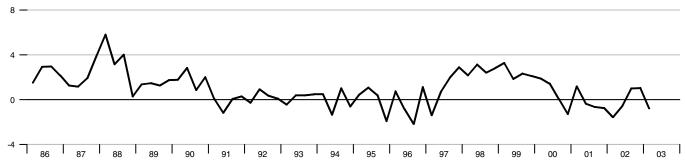
Industrial Production

Percent change from year ago

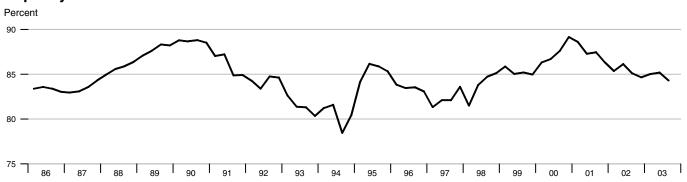


Retail Sales

Percent change from year ago

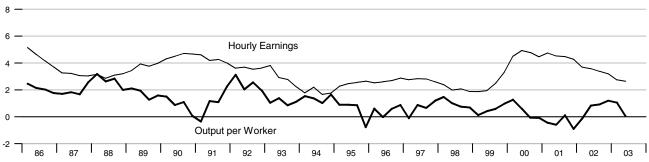


Capacity Utilization

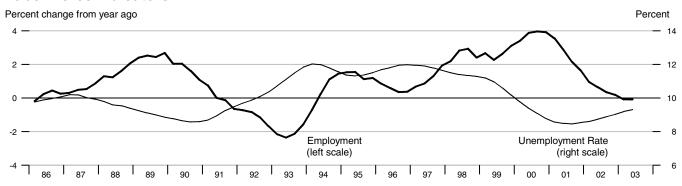


Hourly Earnings and Output per Worker



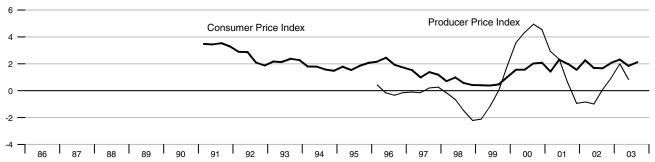


Labor Force Indicators

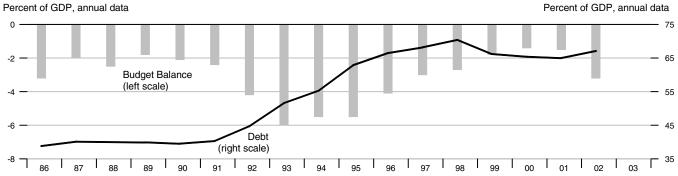


Inflation

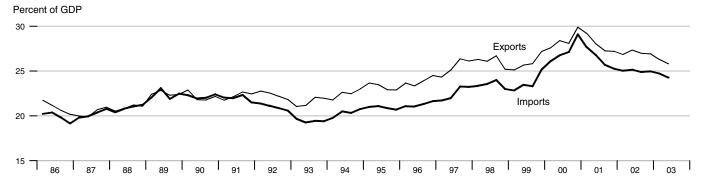
Percent change from year ago



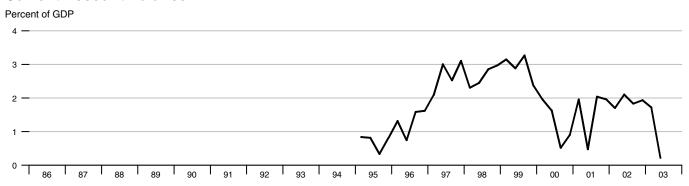
Government Debt and Budget Balance



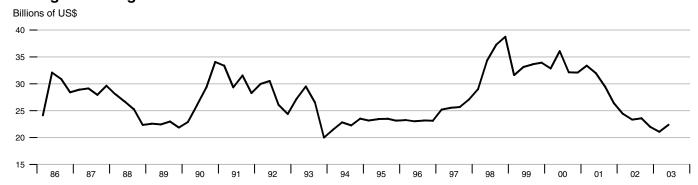
International Trade - Goods and Services



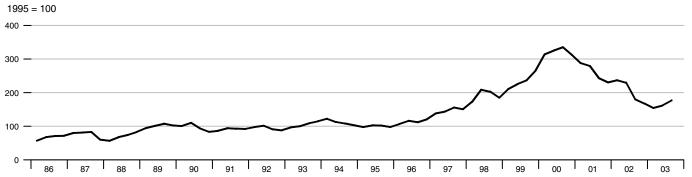
Current Account Balance



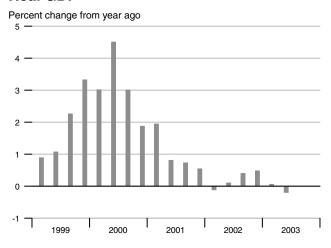
Foreign Exchange Reserves



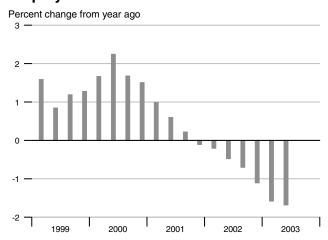
Stock Exchange Index - SBF 250



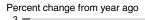
Real GDP

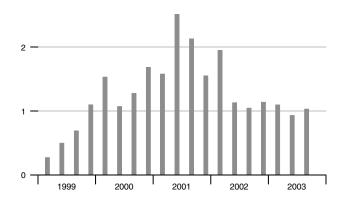


Employment



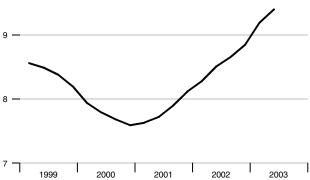
Consumer Price Index





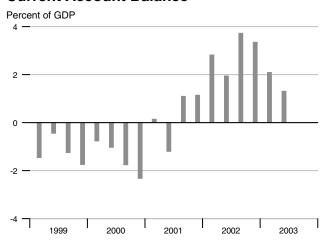
Unemployment Rate





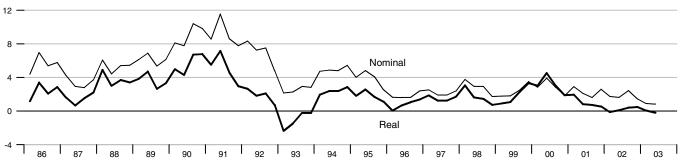
Hourly EarningsPercent change from year ago

Current Account Balance



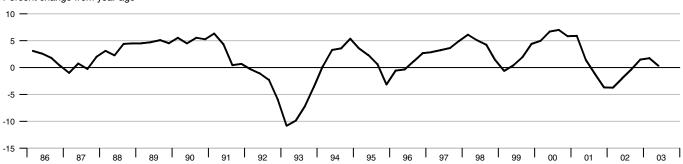
GDP





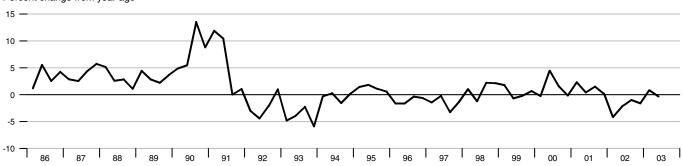
Industrial Production

Percent change from year ago

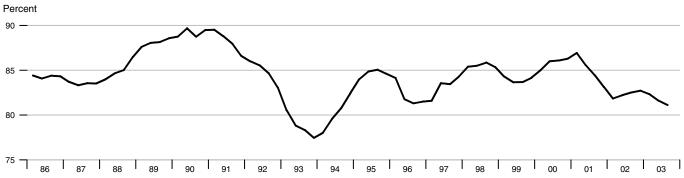


Retail Sales

Percent change from year ago

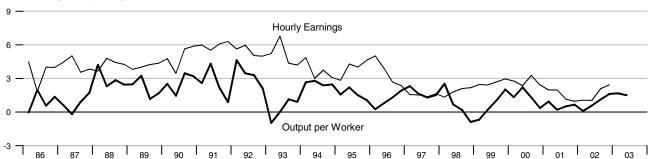


Capacity Utilization

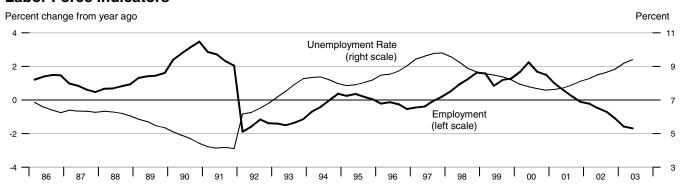


Hourly Earnings and Output per Worker

Percent change from year ago

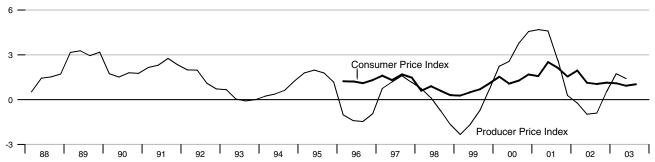


Labor Force Indicators

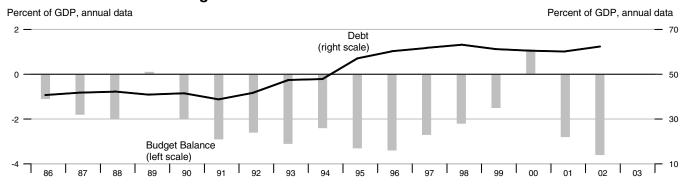


Inflation

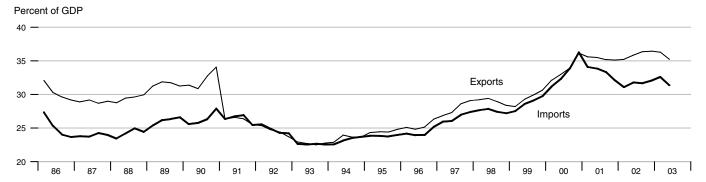
Percent change from year ago



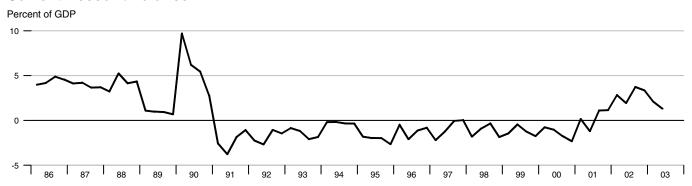
Government Debt and Budget Balance



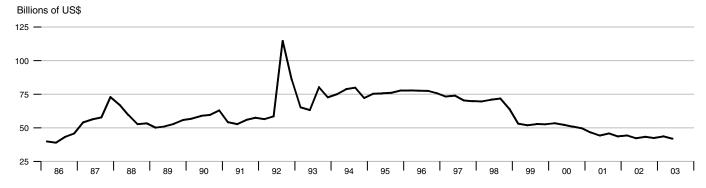
International Trade - Goods and Services



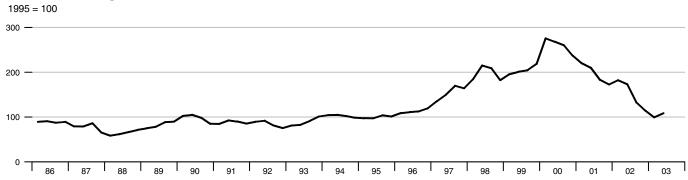
Current Account Balance



Foreign Exchange Reserves

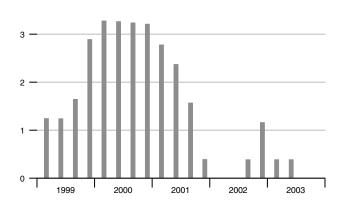


Stock Exchange Index - CDAX



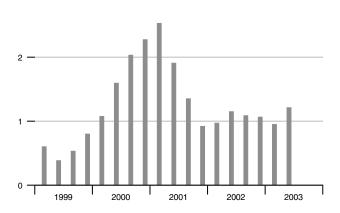
Real GDP

Percent change from year ago



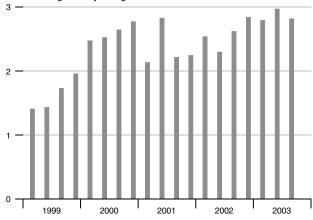
Employment

Percent change from year ago



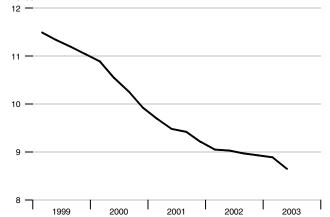
Consumer Price Index

Percent change from year ago



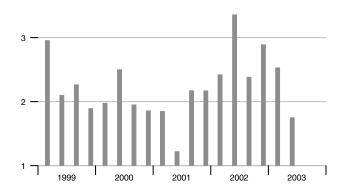
Unemployment Rate

Percent



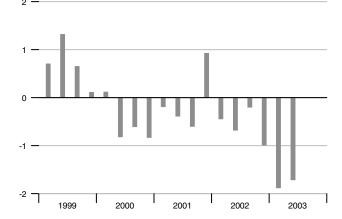
Hourly Earnings

Percent change from year ago

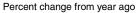


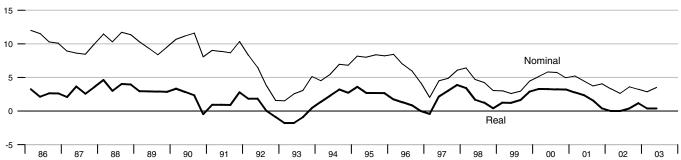
Current Account Balance

Percent of GDP



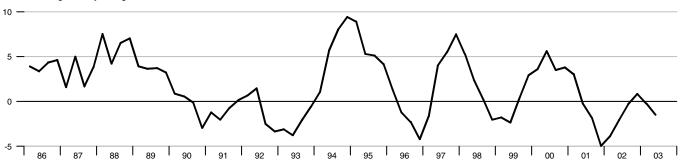
GDP





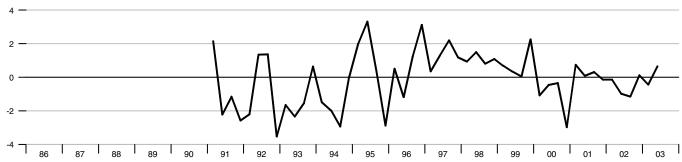
Industrial Production

Percent change from year ago



Retail Sales

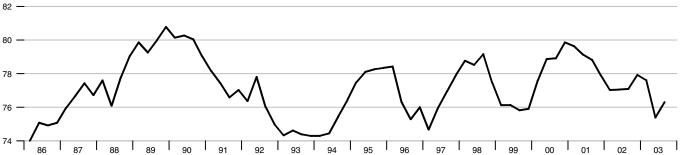
Percent change from year ago



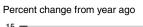
Capacity Utilization

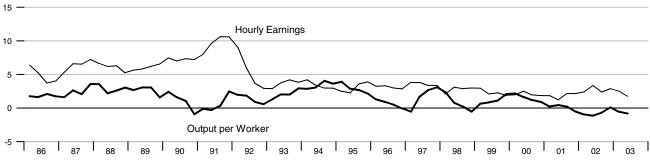


Percent

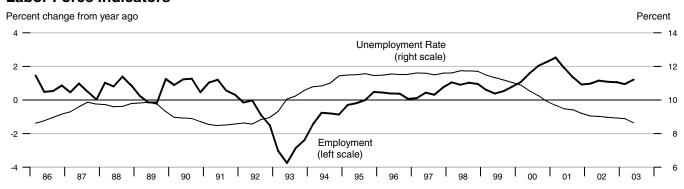


Hourly Earnings and Output per Worker



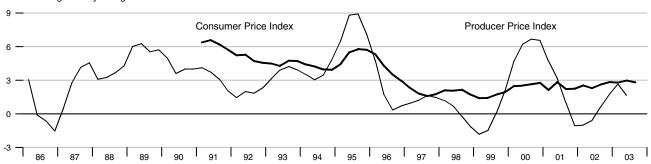


Labor Force Indicators

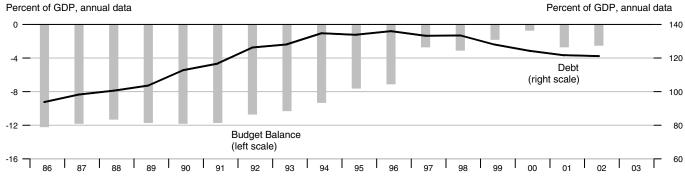


Inflation

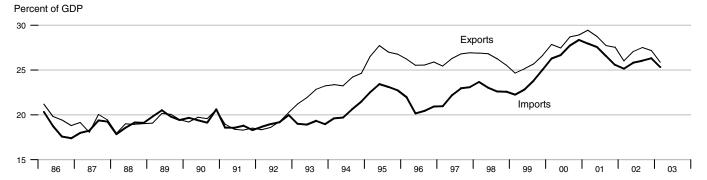
Percent change from year ago



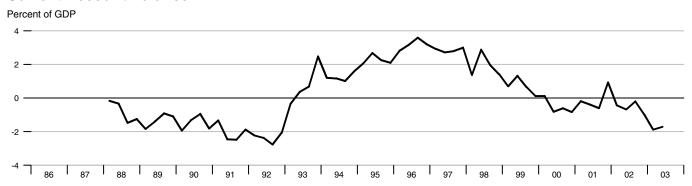
Government Debt and Budget Balance



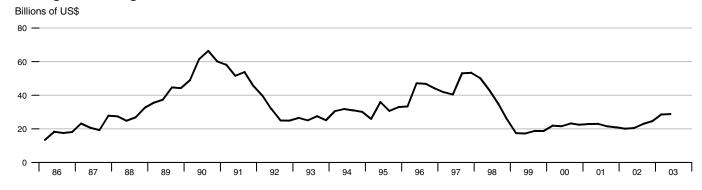
International Trade - Goods and Services



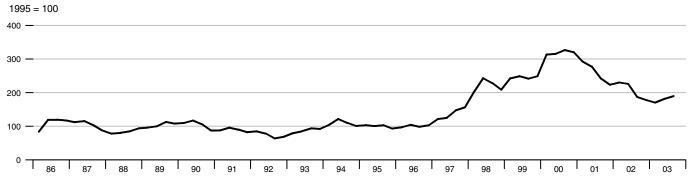
Current Account Balance



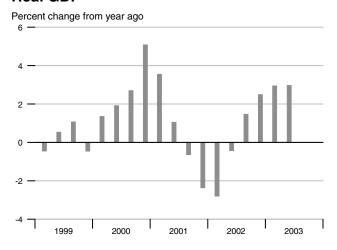
Foreign Exchange Reserves



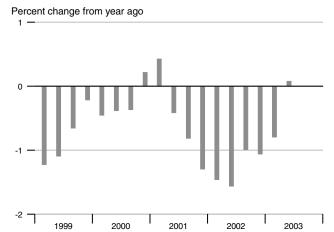
Stock Exchange Index - Milan Stock Exchange



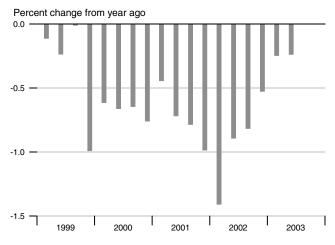
Real GDP



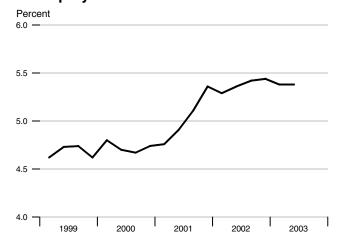
Employment



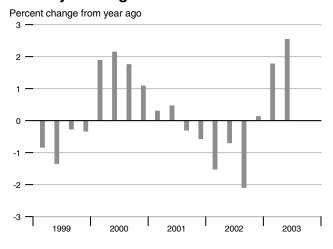
Consumer Price Index



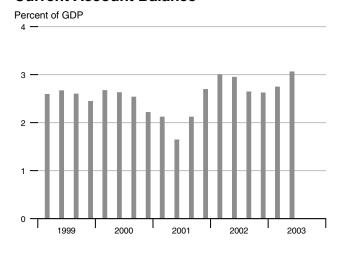
Unemployment Rate



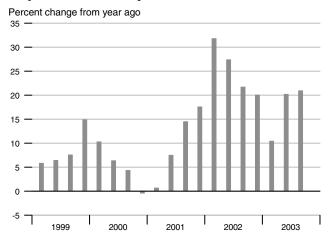
Monthly Earnings



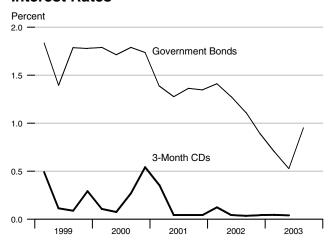
Current Account Balance



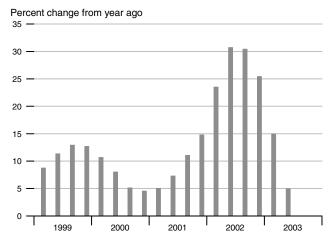
Adjusted Monetary Base



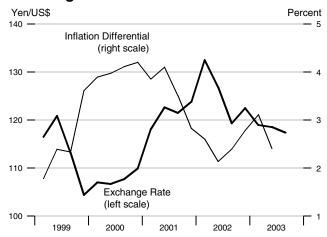
Interest Rates



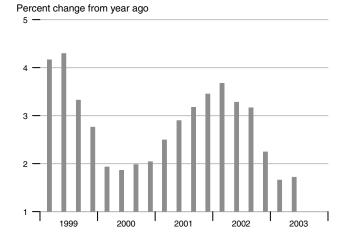
M1



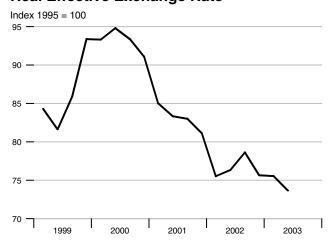
Exchange Rate and Inflation Differential



M2

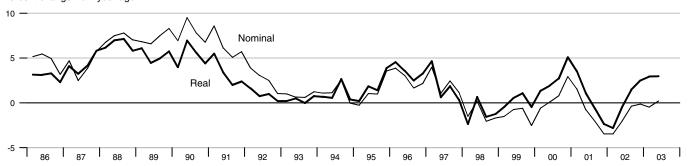


Real Effective Exchange Rate



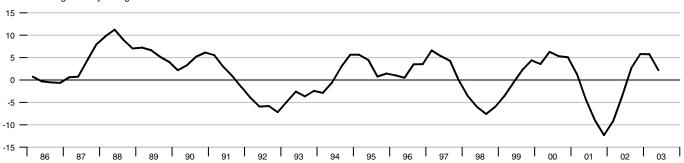
GDP





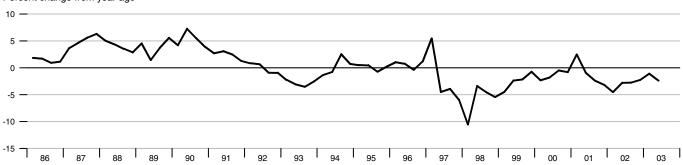
Industrial Production



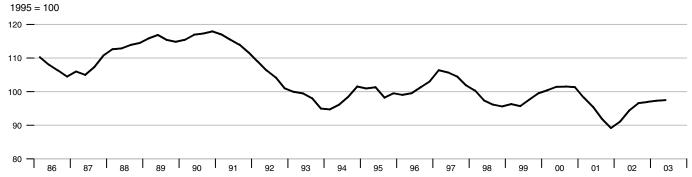


Retail Sales

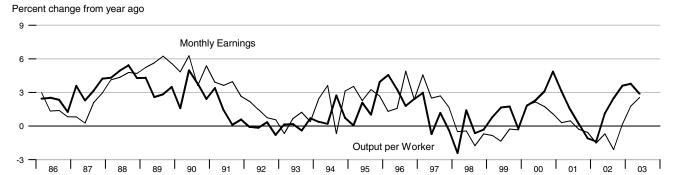
Percent change from year ago



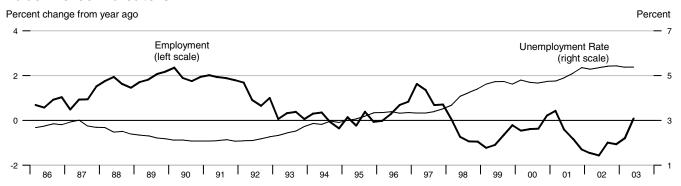
Capacity Utilization



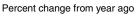
Monthly Earnings and Output per Worker

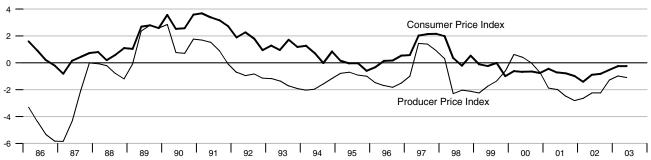


Labor Force Indicators

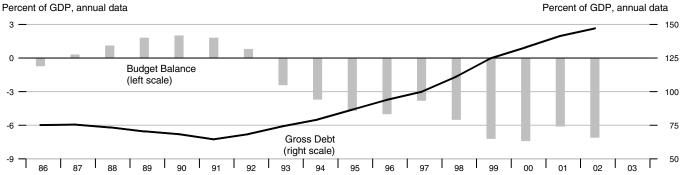


Inflation



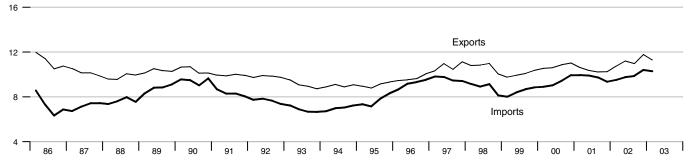


Government Debt and Budget Balance

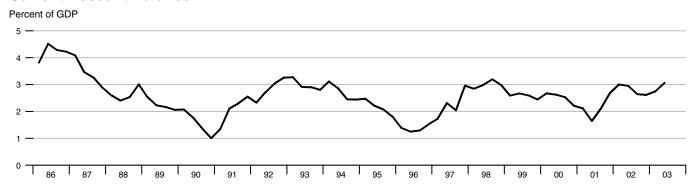


International Trade - Goods and Services

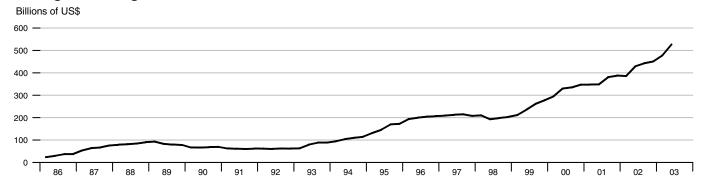




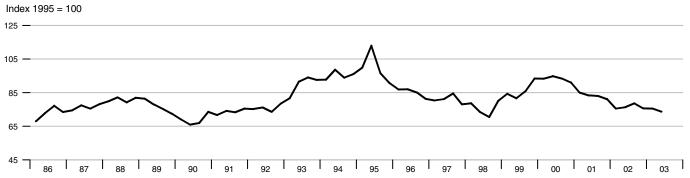
Current Account Balance



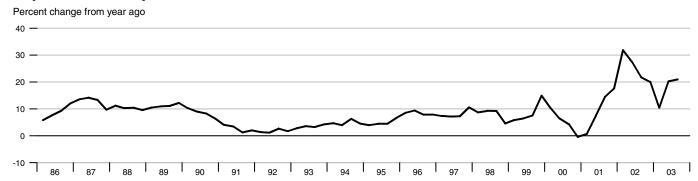
Foreign Exchange Reserves



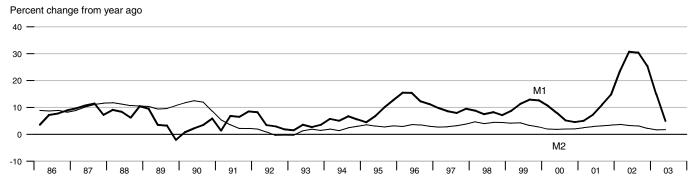
Real Effective Exchange Rate



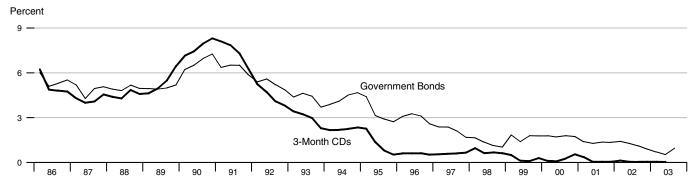
Adjusted Monetary Base



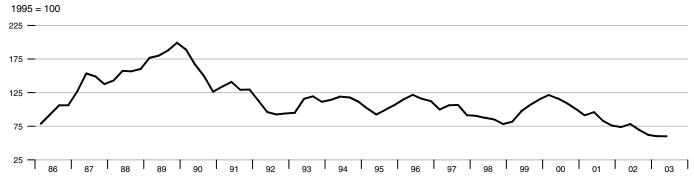
Monetary Aggregates



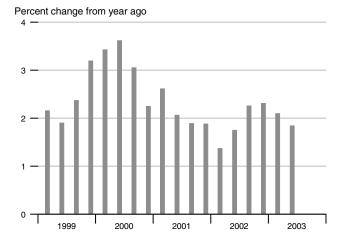
Interest Rates



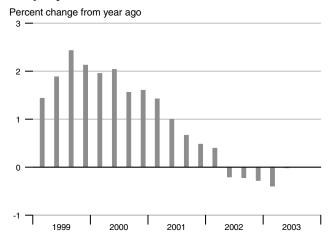
Stock Exchange Index - Tokyo Stock Exchange



Real GDP

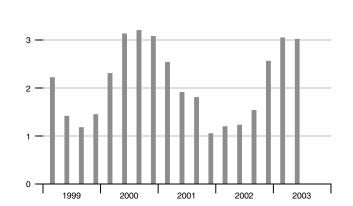


Employment



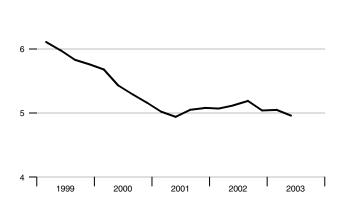
Consumer Price Index

Percent change from year ago

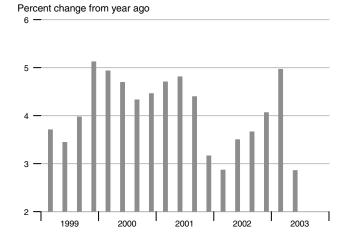


Unemployment Rate

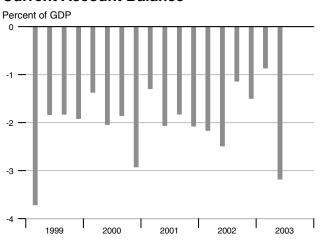
Percent



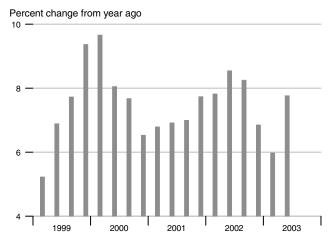
Weekly Earnings



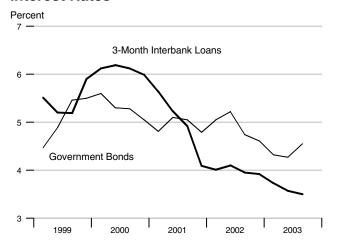
Current Account Balance



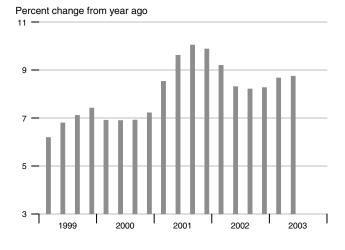
M0



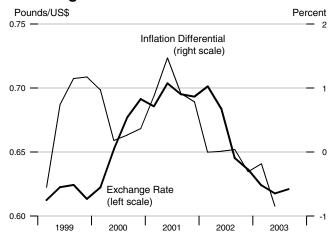
Interest Rates



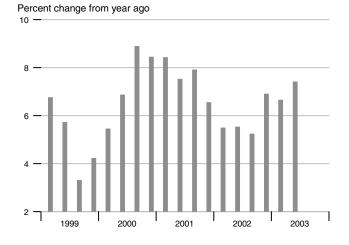
M2



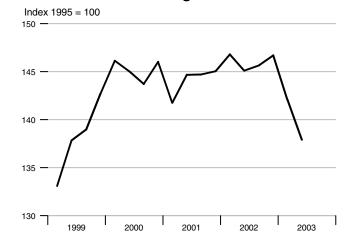
Exchange Rate and Inflation Differential



M4

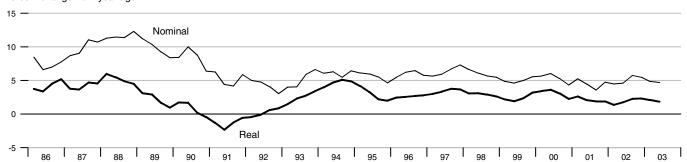


Real Effective Exchange Rate



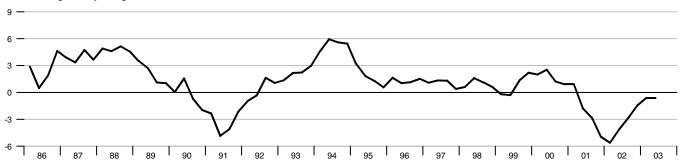
GDP

Percent change from year ago



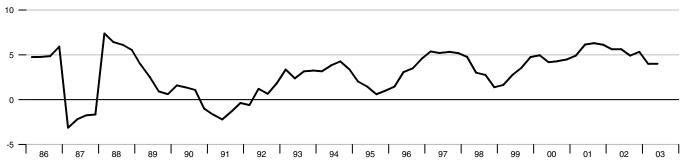
Industrial Production

Percent change from year ago

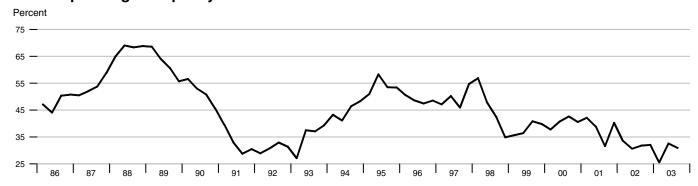


Retail Sales

Percent change from year ago

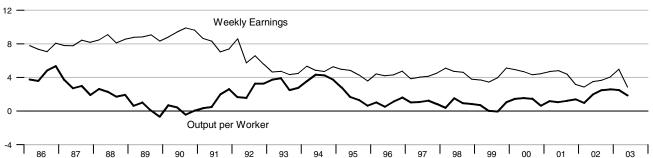


Firms Operating at Capacity

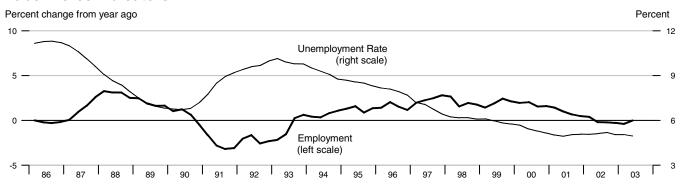


Weekly Earnings and Output per Worker

Percent change from year ago

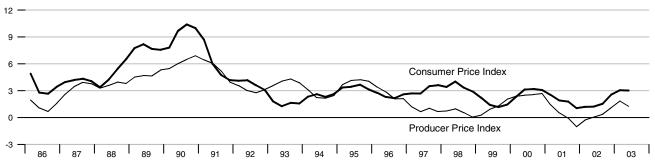


Labor Force Indicators

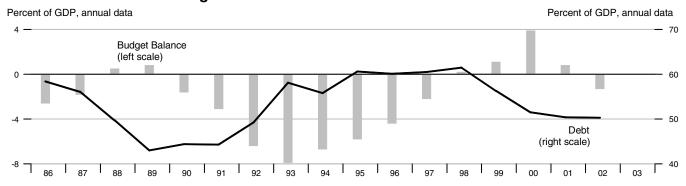


Inflation

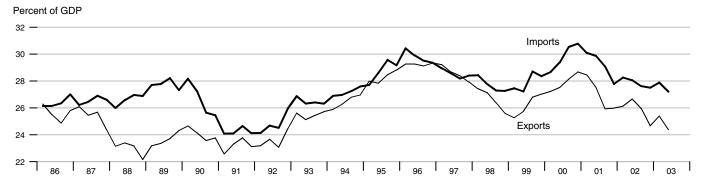
Percent change from year ago



Government Debt and Budget Balance

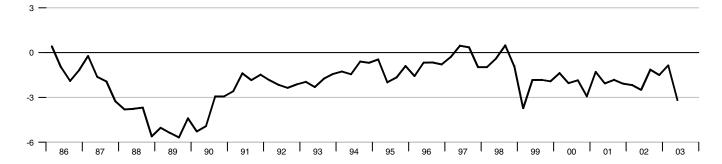


International Trade - Goods and Services

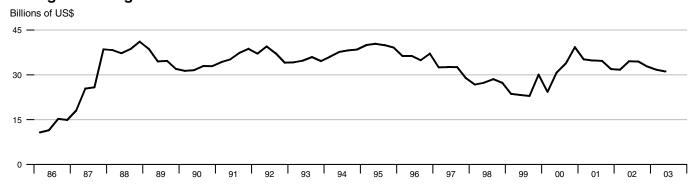


Current Account Balance

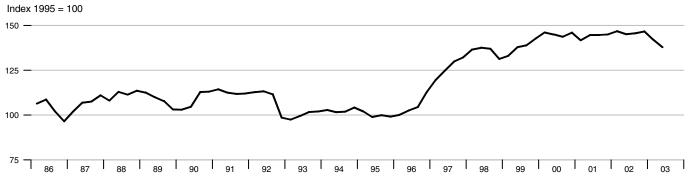




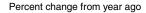
Foreign Exchange Reserves

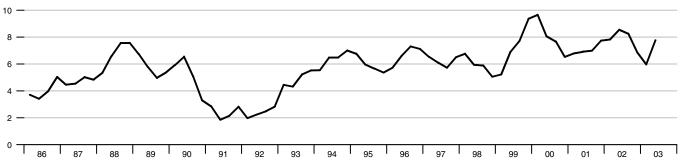


Real Effective Exchange Rate



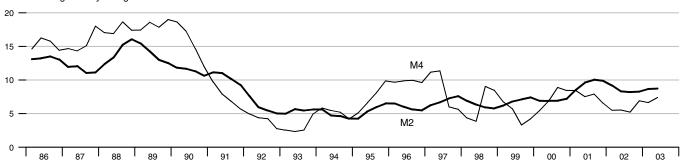
MO





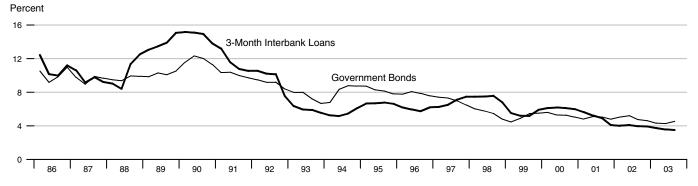
Monetary Aggregates



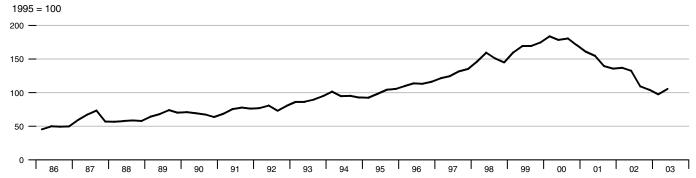


Interest Rates

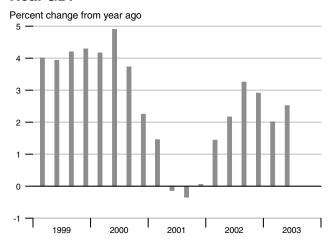
iiileiesi nalei



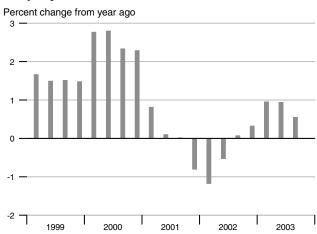
Stock Exchange Index - Financial Times Stock Exchange



Real GDP

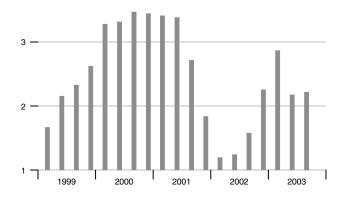


Employment



Consumer Price Index





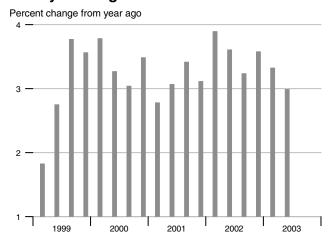
Unemployment Rate

Percent

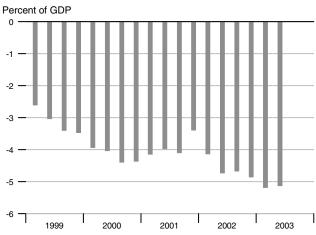




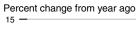
Hourly Earnings

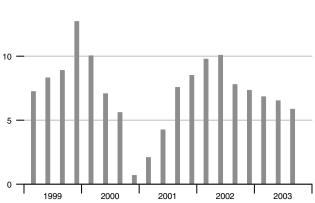


Current Account Balance

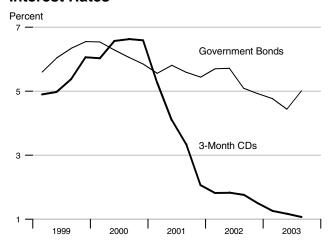


Adjusted Monetary Base



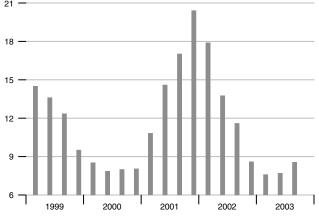


Interest Rates

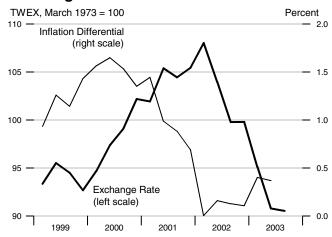


MZM

Percent change from year ago

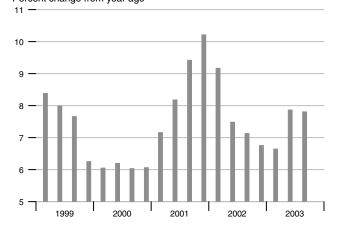


Exchange Rate and Inflation Differential

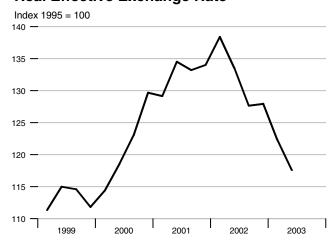


M2

Percent change from year ago

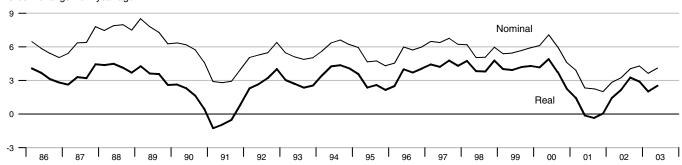


Real Effective Exchange Rate



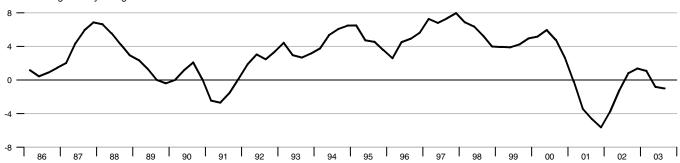
GDP

Percent change from year ago



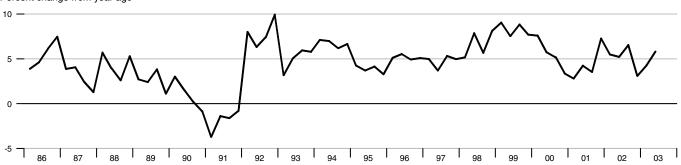
Industrial Production

Percent change from year ago

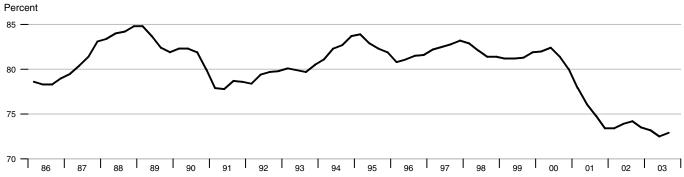


Retail Sales

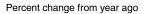
Percent change from year ago

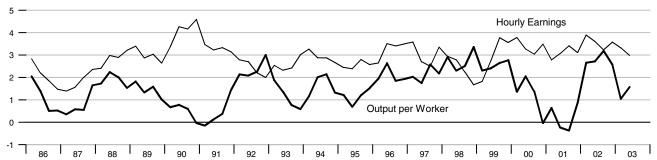


Capacity Utilization

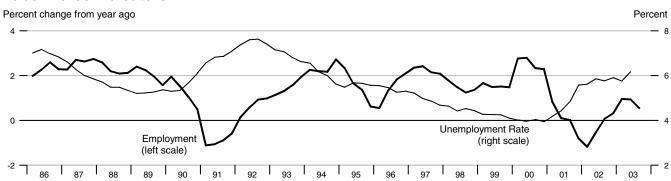


Hourly Earnings and Output per Worker



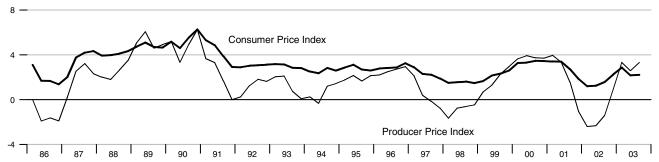


Labor Force Indicators

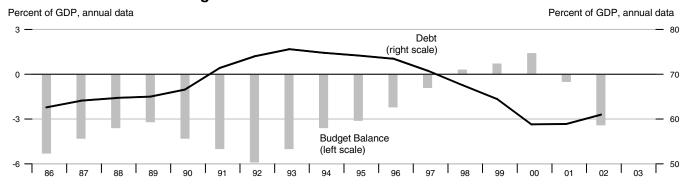


Inflation

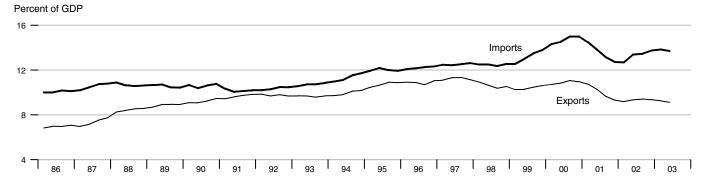
Percent change from year ago



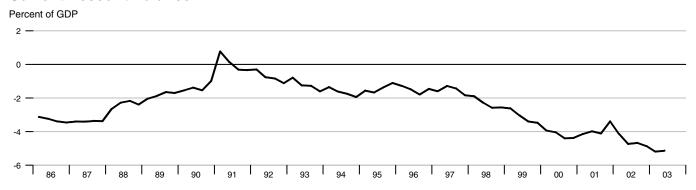
Government Debt and Budget Balance



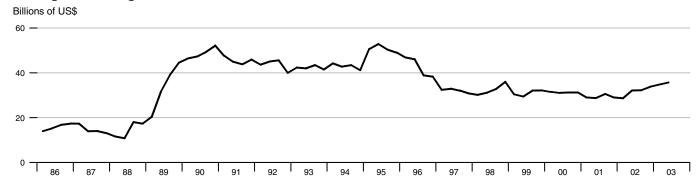
International Trade - Goods and Services



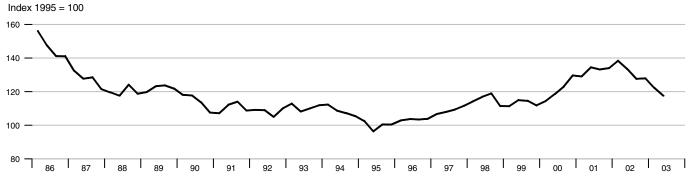
Current Account Balance



Foreign Exchange Reserves

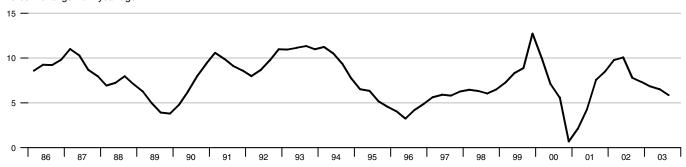


Real Effective Exchange Rate



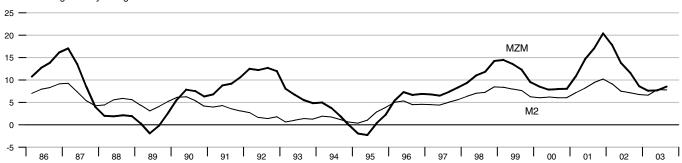
Adjusted Monetary Base

Percent change from year ago

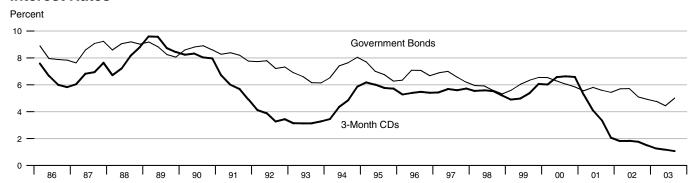


Monetary Aggregates

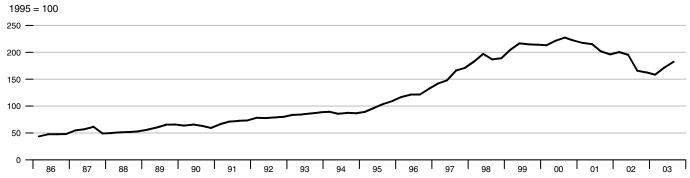




Interest Rates



Stock Exchange Index - New York Stock Exchange



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 balance, earnings, employment, government debt and budget balance, gross domestic product (GDP), industrial production, merchandise trade, the producer price index, and unemployment include Greece. The series for interest rates, monetary aggregates, the real effective exchange rate, retail sales, and the stock exchange index incorporate Greece starting in January 2001.

Euro-area interest rates prior to December 1998 are calculated on the basis of national government yields weighted by GDP. Starting in 1999, short-term rates are euro interbank offered rates. Long-term rates are calculated on the basis of national government bond yields weighted by the nominal outstanding amounts of government bonds in each maturity band.

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

Third quarter 1990: current account balance, international trade, and unemployment.

First quarter 1991: consumer price index, GDP, industrial production, output per worker.

Third quarter 1992: capacity utilization. First quarter 1993: stock exchange index. Third quarter 1993: employment.

First quarter 1995: 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, beverage, 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 households excluding those mainly engaged in agriculture, forestry, and fisheries for Japan; all households except pensioners dependent on state pension 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 harmonized index of consumer prices.

Current Account Balance is the sum of merchandise and service exports and income receipts on domestic assets abroad minus the sum of merchandise and service imports and income payments from 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 euro area; hourly earnings in manufacturing excluding construction for France, hourly earnings in industry excluding construction 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, **TWEX**, is used. This is a weighted average of the exchange value of the U.S. dollar relative to the major international currencies—the euro, Canadian dollar, Japanese yen, British pound, Swiss franc, Australian dollar, and Swedish kronor. Prior to 1999, the currencies of the euro-area countries (with the exception of Greece) are used instead of the euro.

Real Effective Exchange Rate uses normalized unit labor costs in manufacturing. The weighting scheme used to construct the rates, for all except the euro area, is based on disaggregated data for trade among 21 industrial countries

in manufactured goods for 1995. For the euro area the weights relate to the trade of 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 an 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 Reserve data are 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 currencies held vis-à-vis the U.S. dollar.

Government Budget Balance is the difference between general government current receipts and total outlays. Total outlays consist of current expenditures and net capital expenditures. Government Debt incorporates all financial liabilities of the general government sector. The general government sector consolidates the accounts of the central, state, local, and social security sectors.

Inflation Differential is the U.S. inflation rate minus the foreign inflation rate, as measured by the consumer price index. For the U.S. chart on page 41, the inflation differential is the U.S. inflation rate minus a weighted average of the inflation rates in countries whose currencies are used in the major currency trade-weighted exchange rate index. Starting in 1999, the euro-area harmonized consumer price index is used for the euro area. Prior to 1999, the inflation rates for the individual euro area countries (excluding Greece and Luxembourg)

Industrial Production measures the change in the volume of output in the mining, manufacturing, oil, electricity, gas, and water industries.

The **Short-Term Interest Rate** table on page 4 uses the relevant 3-month interest rate shown in the country pages.

The **Long-Term Interest Rate** table on page 4 uses the government bond rate. The government bond rate is a composite of yields on federal government bonds with maturities of more than 10 years for the United States; long-term public and semi-public sector bonds for France; 7- to 15-year public sector bonds for Germany; 15- to 20-year government bonds through 1990 and 10-year government bonds starting in 1991 for Italy; and 10-year government bonds for Canada, the euro area, Japan, and the United Kingdom.

The **Reserve Money** table on page 4 refers to the adjusted monetary base for Japan and the United States; reserve money for Canada; and M0 for the United Kingdom. **Reserve Money** is currency in circulation, deposits of the deposit money banks, and demand deposits of other residents (with the exception of the central government) with the monetary authority.

Adjusted Monetary Base

Japan: currency in circulation and current deposits at the Bank of Japan. United States: the sum of currency in circulation outside Federal Reserve banks and the U.S. Treasury, deposits of depository financial institutions at Federal Reserve banks, and an adjustment for the effects of changes in statutory reserve requirements on the quantity of base money held by depositories.

M0

United Kingdom: notes and coins in circulation outside the Bank of England and bankers' operational deposits at the Bank of England.

M1

Canada: currency in circulation and chartered bank net demand deposits. Japan: cash, currency in circulation, and deposit money. Euro area: currency in circulation and overnight deposits.

MZM

United States: currency in circulation, travelers' checks, total publicly-held checkable deposits minus cash items in the process of collection and Federal Reserve float, savings deposits, shares in retail money market mutual funds (funds with initial investments of less than \$50,000), net of retirement accounts, and institutional money market mutual funds.

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M2

Canada: M1 plus all checkable notice deposits and personal term deposits. United Kingdom: currency in circulation and sterling retail deposits with the U.K. banks and building societies.

United States: MZM less institutional money market mutual funds plus small denomination (less than \$100,000) time deposits.

M2 + CDs

Japan: M1 plus private deposits, public deposits less demand deposits, and certificates of deposit.

M3

Euro area: M1 plus deposits with a maturity up to 2 years, deposits redeemable at notice up to 3 months, repurchase agreements, money market funds, and debt securities up to 2 years.

M4

United Kingdom: M2 plus wholesale deposits with the U.K. banks and building societies.

Output Per Worker is the ratio of real GDP to employment.

Producer Price Index covers manufacturing for Canada and the United Kingdom; and total industry for Japan and the United States. Data for the euro area, France, Germany, and Italy are based on the harmonized index of total industry excluding construction.

Retail Sales are based on a volume index. The percent change in retail sales for the United States is based on the Standard Industrial Classification system through 1992 and the North American Industrial Classification System from 1993 on.

Stock Exchange Index refers to all share prices except for the United Kingdom, which excludes financial firms.

Unemployment Rate is the standardized unemployment rate. It is the percentage of the civilian labor force that is unemployed. The unemployed are all persons of working age who are without work, readily available for work, and actively seeking work. The standardized rate may differ from the national unemployment rate calculations.

Sources

Abbreviations

Board of Governors of the Federal Reserve System (BOG)

Bureau of Economic Analysis, U.S. Department of Commerce (BEA)

Bureau of Labor Statistics, U.S. Department of Labor (BLS)

International Monetary Fund, International Financial Statistics (IMF)

Organization for Economic Cooperation and Development,

Economic Outlook (OECD1)

Main Economic Indicators (OECD2)

National Accounts Quarterly (OECD3)

Canada

Bank of Canada: M1 and M2.

BOG: exchange rate.

IMF: foreign exchange reserves, merchandise and service trade, real effective exchange rate, and reserve money.

OECD1: government debt and budget balance.

OECD2: capacity utilization, consumer price index, current account balance, GDP, hourly earnings, industrial production, interest rates, producer price index, retail sales, stock exchange index, and unemployment rate.

Statistics Canada: employment.

Euro Area

Eurostat: capacity utilization, consumer price index, current account balance, employment, GDP, interest rates, merchandise trade, producer price index, and retail sales.

Haver Analytics: synthetic euro exchange rate.

IMF: real effective exchange rate.

OECD1: government debt and budget balance.

OECD2: hourly earnings, industrial production, M1, M3, stock exchange index, and unemployment.

France

BOG: exchange rate.

Eurostat: capacity utilization, consumer price index, and producer price index.

IMF: foreign exchange reserves, merchandise and service trade, and real effective exchange rate.

Institut National de la Statistique et des Etudes Economiques: employment.

OECD1: government debt and budget balance.

OECD2: current account balance, GDP, hourly earnings, industrial production, retail sales, interest rates, stock exchange index, and unemployment.

Germany

BOG: exchange rate.

Bundesanstalt Fur Arbeit: employment.

Eurostat: capacity utilization, consumer price index, and producer price index.

IMF: foreign exchange reserves, merchandise and service trade, and real effective exchange rate.

OECD1: government debt and budget balance.

OECD2: current account balance, GDP, hourly earnings, industrial production, M1, M3, retail sales, interest rates, stock exchange index, and unemployment.

Italy

BOG: exchange rate.

Eurostat: capacity utilization, consumer price index, and producer price index. IMF: foreign exchange reserves, merchandise and service trade, and real effective exchange rate.

Instituto Nazionale di Statistica: employment.

OECD1: government debt and budget balance.

OECD2: current account balance, GDP, hourly earnings, industrial production, long-term interest rates, retail sales, stock exchange index, and unemployment.

Japan

Bank of Japan: adjusted monetary base and long-term interest rate.

BOG: exchange rate.

IMF: foreign exchange reserves, merchandise and service trade, and real effective exchange rate.

OECD1: government debt and budget balance.

OECD2: capacity utilization, consumer price index, current account balance, employment, GDP, hourly earnings, industrial production, M1, M2, producer price index, retail sales, short-term interest rate, stock exchange index, and unemployment.

United Kingdom

Bank of England: M2.

BOG: exchange rate.

IMF: foreign exchange reserves, merchandise and service trade, and real effective exchange rate.

OECD1: government debt and budget balance.

OECD2: capacity utilization, consumer price index, current account balance, GDP, industrial production, interest rates, M4, producer price index, retail sales, stock exchange index, unemployment, and weekly earnings.

U.K. Office for National Statistics: employment and M0.

United States

BOG: capacity utilization, exchange rate, industrial production index, M2, and interest rates.

BEA: GDP, current account balance, merchandise and service trade, and retail sales

BLS: employment, consumer price index, and producer price index.

Federal Reserve Bank of St. Louis: adjusted monetary base and MZM. IMF: foreign exchange reserves and real effective exchange rate.

OECD1: government debt and budget balance.

OECD2: hourly earnings, stock exchange index, and unemployment.