

# Global Themes and Risks

## May 2009

<b>Abby Joseph Cohen, CFA</b>	Goldman, Sachs & Co.	1-212-902-4095	abby.cohen@gs.com
<b>Michael A. Moran, CFA</b>	Goldman, Sachs & Co.	1-212-357-3512	michael.moran@gs.com
<b>Amy C. Semaya</b>	Goldman, Sachs & Co.	1-212-902-7009	amy.semaya@gs.com

The Goldman Sachs Group, Inc. does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Customers in the US can receive independent, third-party research on the company or companies covered in this report, at no cost to them, where such research is available. Customers can access this independent research at <http://www.independentresearch.gs.com> or call 1-866-727-7000.

For Reg AC certification, see the end of the text. Other important disclosures follow the Reg AC certification, or go to [www.gs.com/research/hedge.html](http://www.gs.com/research/hedge.html).

Analysts employed by non-US affiliates are not registered/qualified as research analysts with FINRA in the US.

# Composition of US GDP, 2003-2010

## Recession affecting all sectors of private economy

	Growth Rates							
	2003	2004	2005	2006	2007	2008(E)	2009(E)	2010(E)
GDP	2.5 %	3.6 %	2.9 %	2.8 %	2.0 %	1.1 %	(3.0) %	1.2 %
Domestic Final Demand	2.8	4.1	3.0	2.6	1.4	(0.3)	(3.6)	1.0
Personal Consumption	2.8	3.6	3.0	3.0	2.8	0.2	(0.4)	1.0
→ Residential Fixed Investment	8.4	10.0	6.3	(7.1)	(17.9)	(20.8)	(21.1)	(0.1)
Business Fixed Investment	1.0	5.8	7.2	7.5	4.9	1.6	(20.8)	(8.5)
Government	6.8	4.2	1.2	2.3	1.6	6.0	4.9	4.6
→ Exports	1.3	9.7	7.0	9.1	8.5	6.2	(15.9)	(1.1)
Imports	4.1	11.3	5.9	6.0	2.2	(3.5)	(16.5)	(1.3)

Source: Goldman Sachs Economics Research.

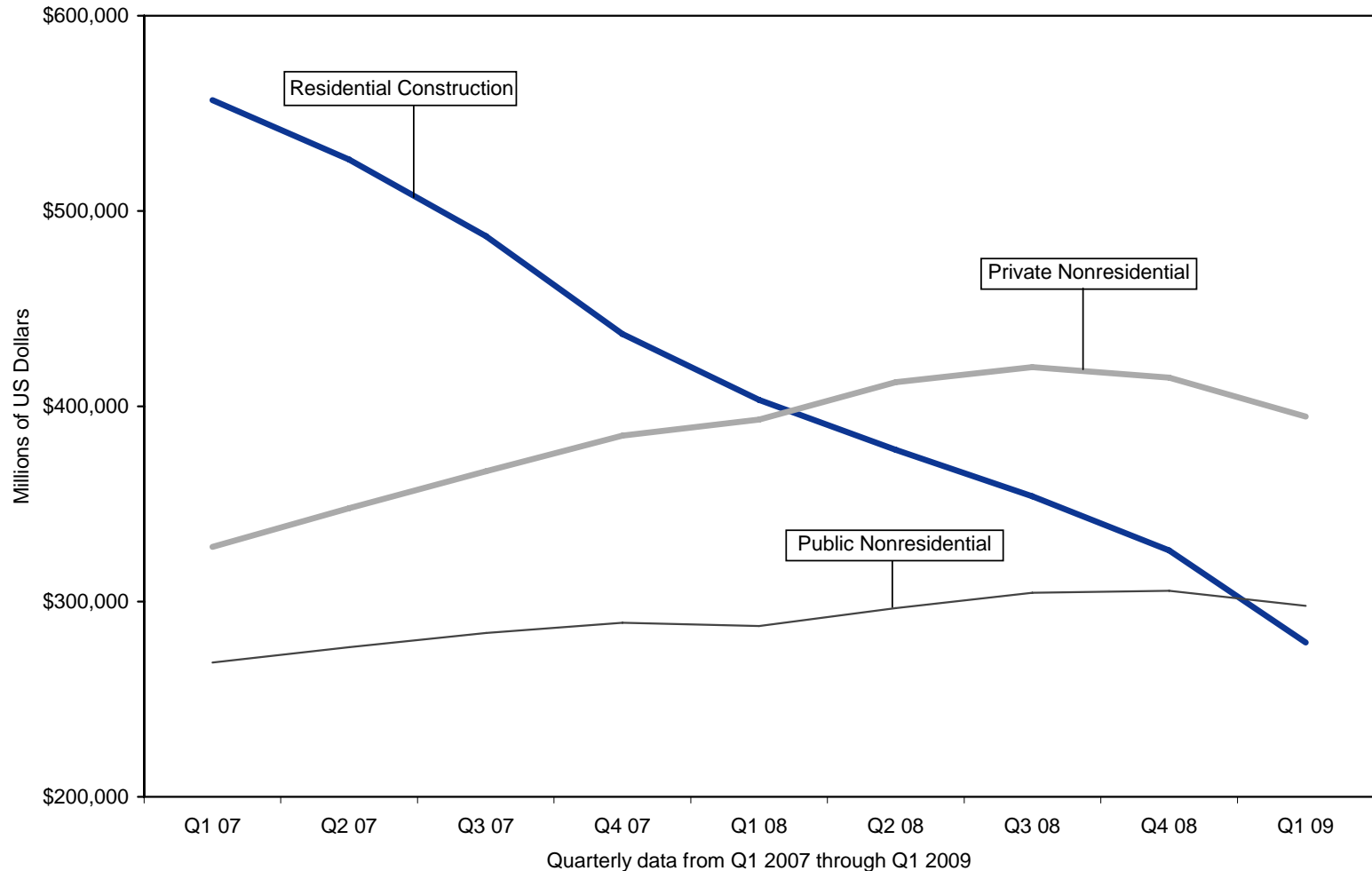
# Composition of US GDP, 2008-2009

	Growth Rates							
	2008				2009 E			
	Q1	Q2	Q3	Q4	Q1 E	Q2 E	Q3 E	Q4 E
GDP	0.9 %	2.8 %	(0.5) %	(6.3) %	(6.1) %	(3.0) %	1.0 %	1.0 %
Domestic Final Demand	0.1	(0.1)	(1.5)	(5.9)	(7.8)	(2.6)	1.0	0.8
Personal Consumption	0.9	1.2	(3.8)	(4.3)	2.2	1.0	1.0	0.5
→ Residential Fixed Investment	(25.0)	(13.3)	(16.1)	(22.8)	(38.0)	(15.0)	(5.0)	0.0
Business Fixed Investment	2.4	2.5	(1.7)	(21.7)	(37.9)	(20.0)	(15.0)	(10.0)
Government	5.9	6.6	13.8	7.0	(4.0)	7.5	7.5	5.0
→ Exports	5.1	12.3	3.0	(23.6)	(30.0)	(15.0)	(10.0)	(2.5)
Imports	(0.8)	(7.3)	(3.5)	(17.5)	(34.1)	(10.0)	(7.5)	(2.5)

Source: Goldman Sachs Economics Research.

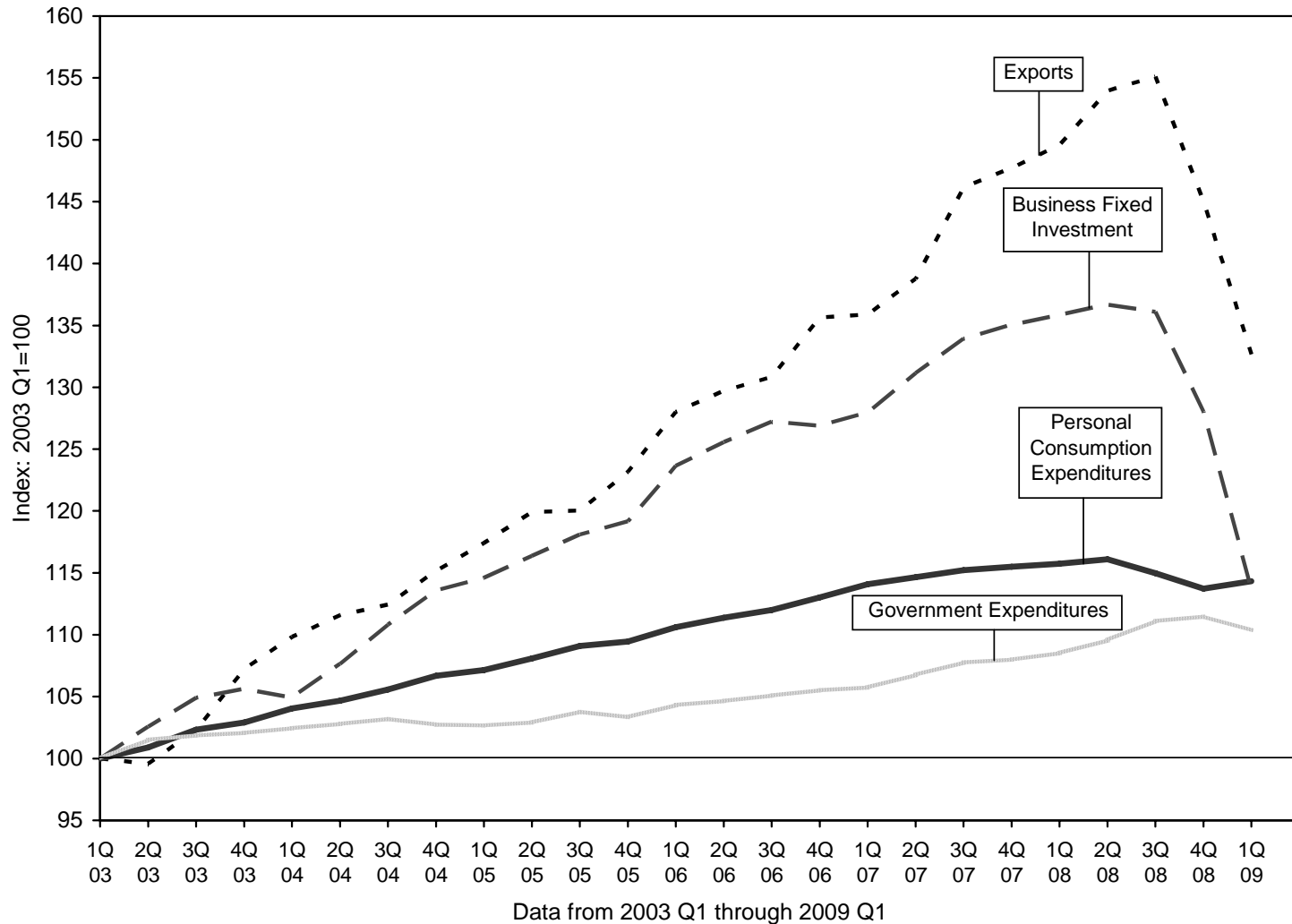
# Residential and nonresidential construction

## Stimulus package targets public construction spending



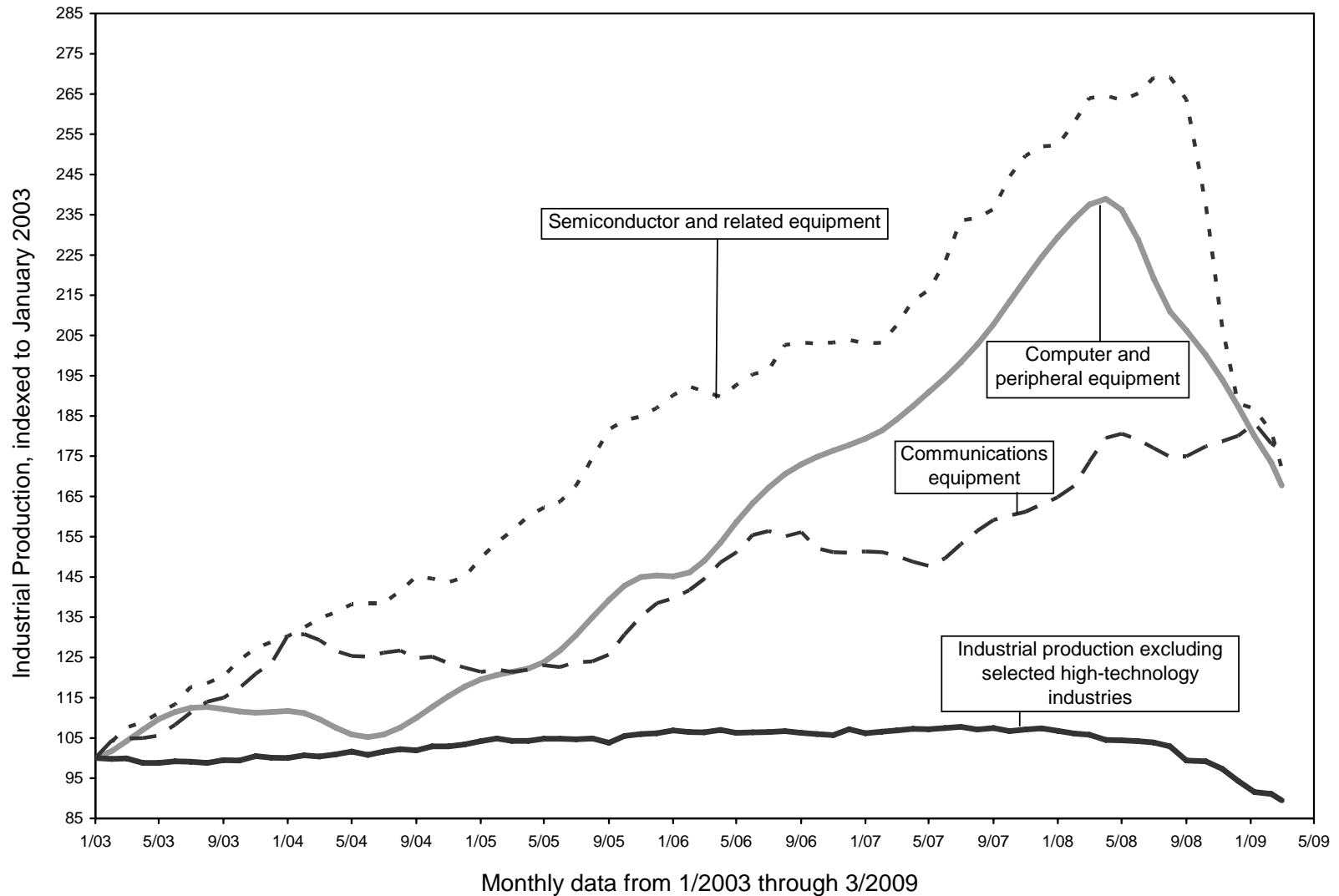
Source: US Department of Commerce.

# Exports and BFI growth have led all other sectors since 2003



Source: Bureau of Economic Analysis.

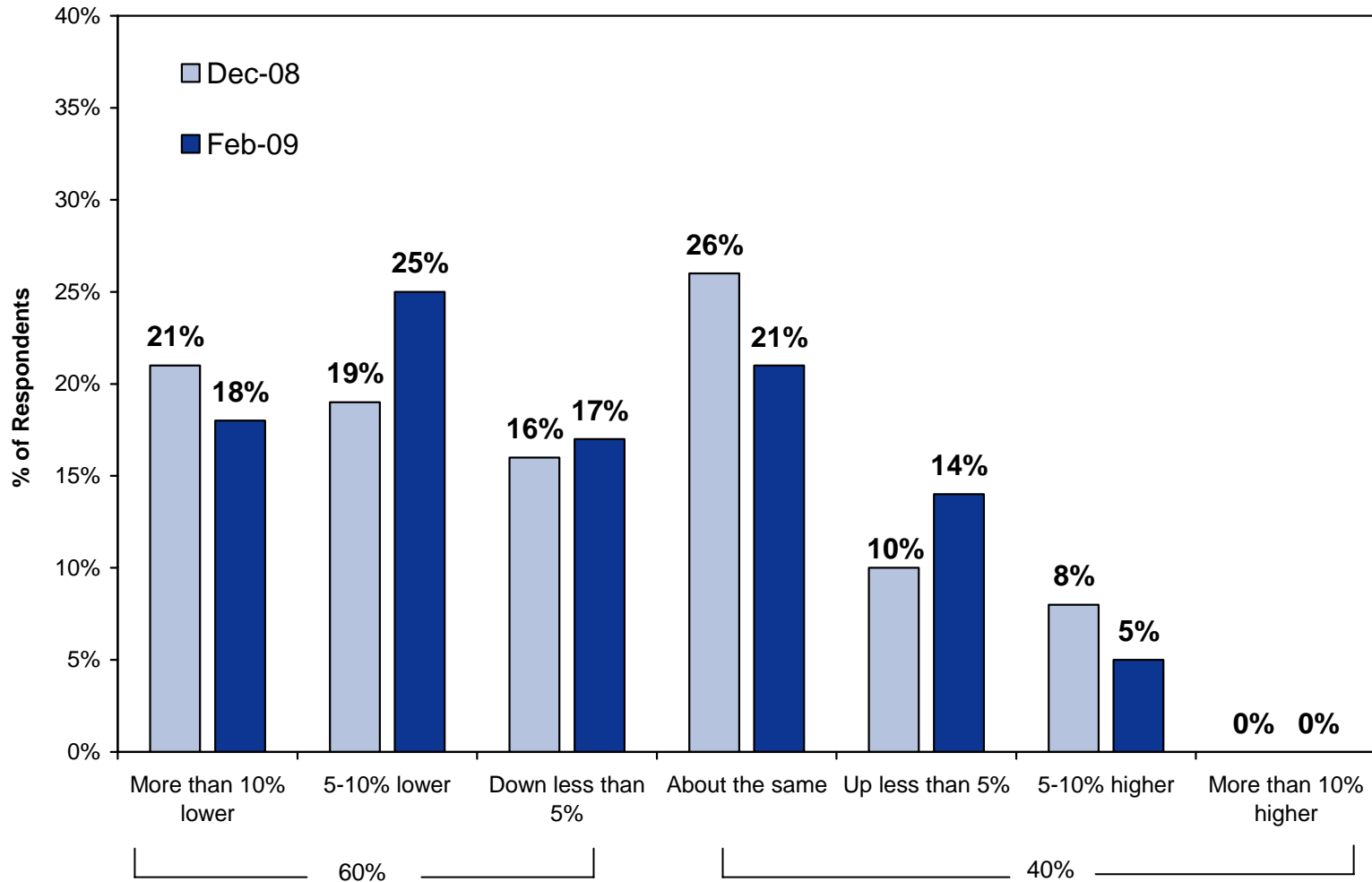
# Technology and capex have weakened sharply since mid-2008



Source: Federal Reserve Board.

# Total IT spending no longer a source of strength

## Fewer than 20% of companies expect to increase spending in 2009

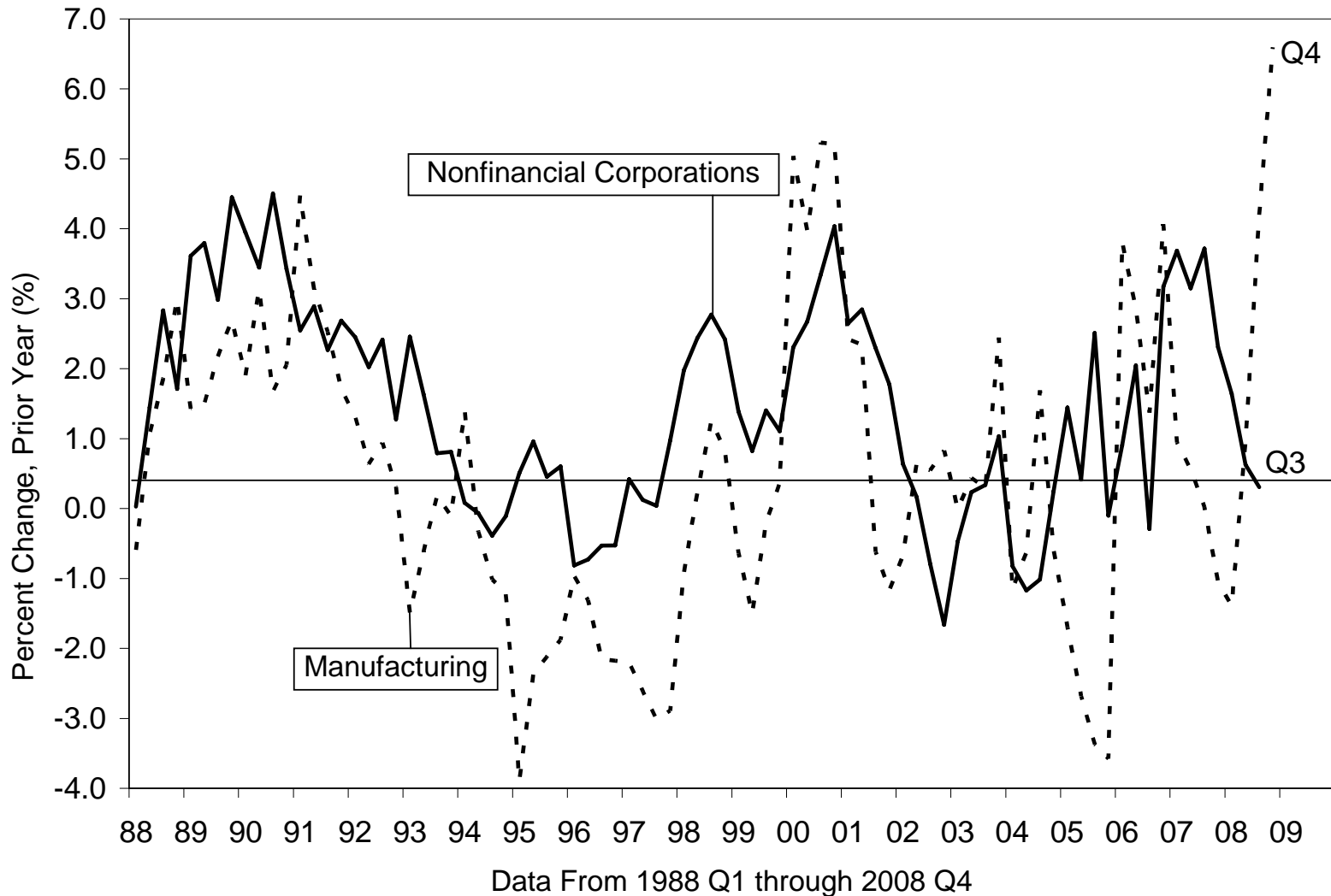


As of the December 2008 and February 2009 surveys

Source: Goldman Sachs IT Spending Survey, March 2009.

# Unit labor costs remain controlled in most industries

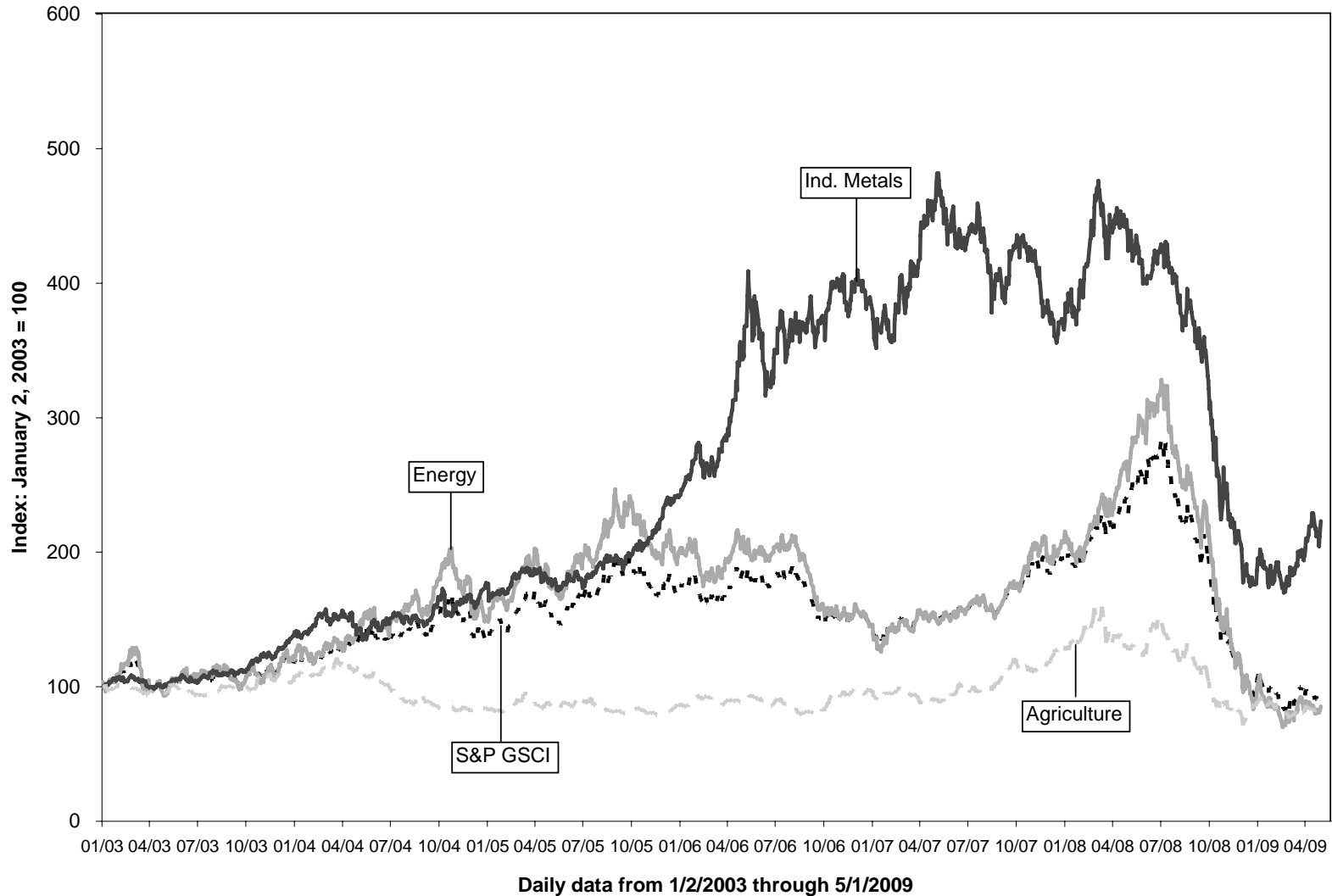
2008 Q4 surge arithmetically linked to drop in production



Source: Bureau of Labor Statistics.

# Commodity returns

Sharp price declines after mid-2008 in all categories



Source: Goldman Sachs Commodity Research.

# Commodity returns and forecasts, S&P GSCI™

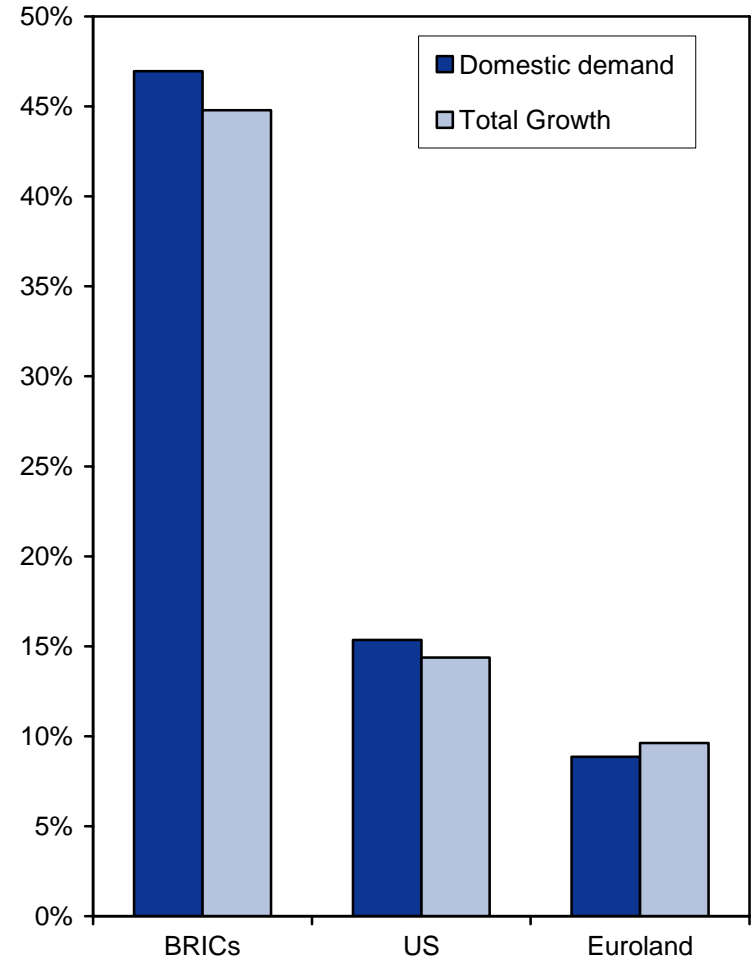
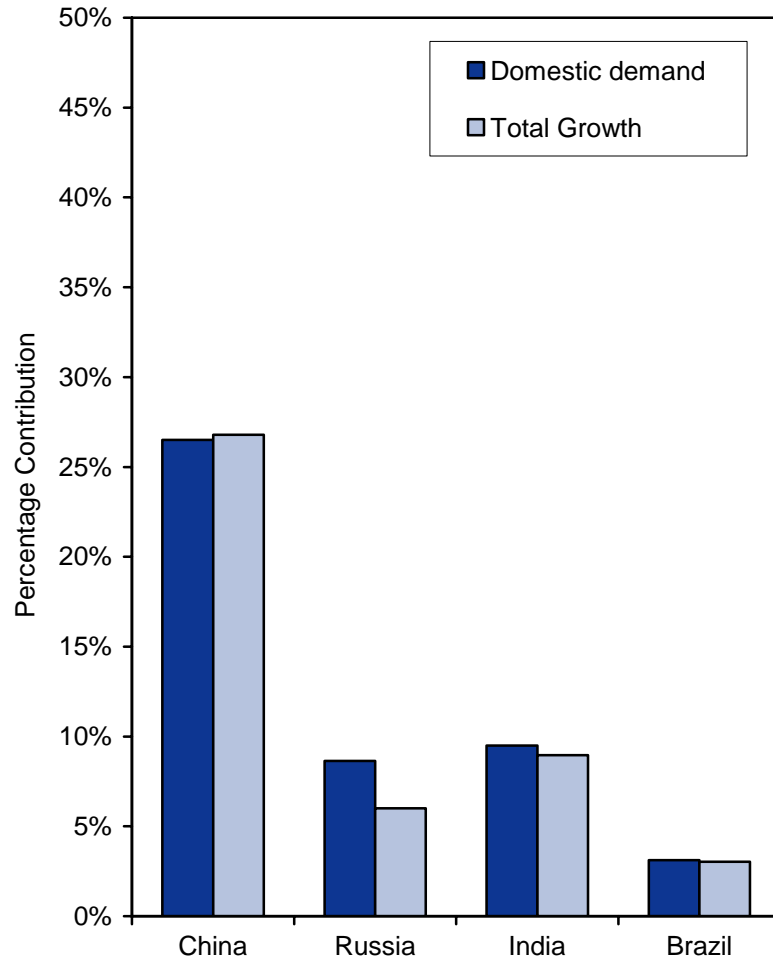
Prices likely to increase when global demand improves

	Current Weight (%)	Returns (%)							12-Month Forward Forecast
		2003	2004	2005	2006	2007	2008	2009 YTD*	
S&P GSCI	100.0	20.7	17.3	25.5	(15.1)	36.2	(41.1)	(10.8)	9.3
Energy	65.2	24.6	26.1	31.1	(26.8)	44.8	(45.9)	(16.6)	10.0
Ind. Metals	6.4	40.0	27.5	35.8	60.9	(5.3)	(48.9)	14.1	(5.0)
Prec. Metals	3.8	19.5	5.6	18.6	24.1	28.0	0.5	1.4	5.0
Agriculture	18.8	6.6	(20.2)	2.4	13.3	36.6	(23.4)	0.1	14.0
Livestock	5.8	0.0	25.5	3.5	(6.7)	1.2	(26.5)	(12.0)	5.0

\* As of 5/1/2009.

# Contributions to global growth, 2000-2008

Incremental growth has come from the US and emerging economies



Source: Source: World Bank, Goldman Sachs Economics Research.

# Global growth outlook

Declines are now occurring in most economies; stabilization is coming

(\$ Billions)

	2005 GDP		Growth Rates				
	Current Dollars	2005	2006	2007	2008(E)	2009(E)	2010(E)
US	12,456	2.9 %	2.8 %	2.0 %	1.1 %	(3.0) %	1.2 %
Eurozone	10,025	1.8	3.0	2.6	0.7	(3.7)	0.7
Germany	2,806	1.0	3.2	2.6	1.0	(5.2)	0.9
France	2,141	1.9	2.4	2.1	0.7	(2.9)	0.6
Italy	1,778	0.7	1.9	1.4	(0.9)	(3.3)	0.5
Japan	4,599	1.9	2.0	2.4	(0.6)	(5.3)	1.1
United Kingdom	2,239	2.1	2.8	3.0	0.7	(2.6)	1.5
China	2,244	10.4	11.7	13.0	9.0	8.3	10.9
Canada	1,136	2.9	3.1	2.7	0.5	(1.9)	1.8
Korea	789	4.2	5.1	5.0	2.5	(3.0)	2.9
Australia	710	2.8	2.8	4.0	2.1	(0.2)	2.2

Source: Goldman Sachs Economics Research.

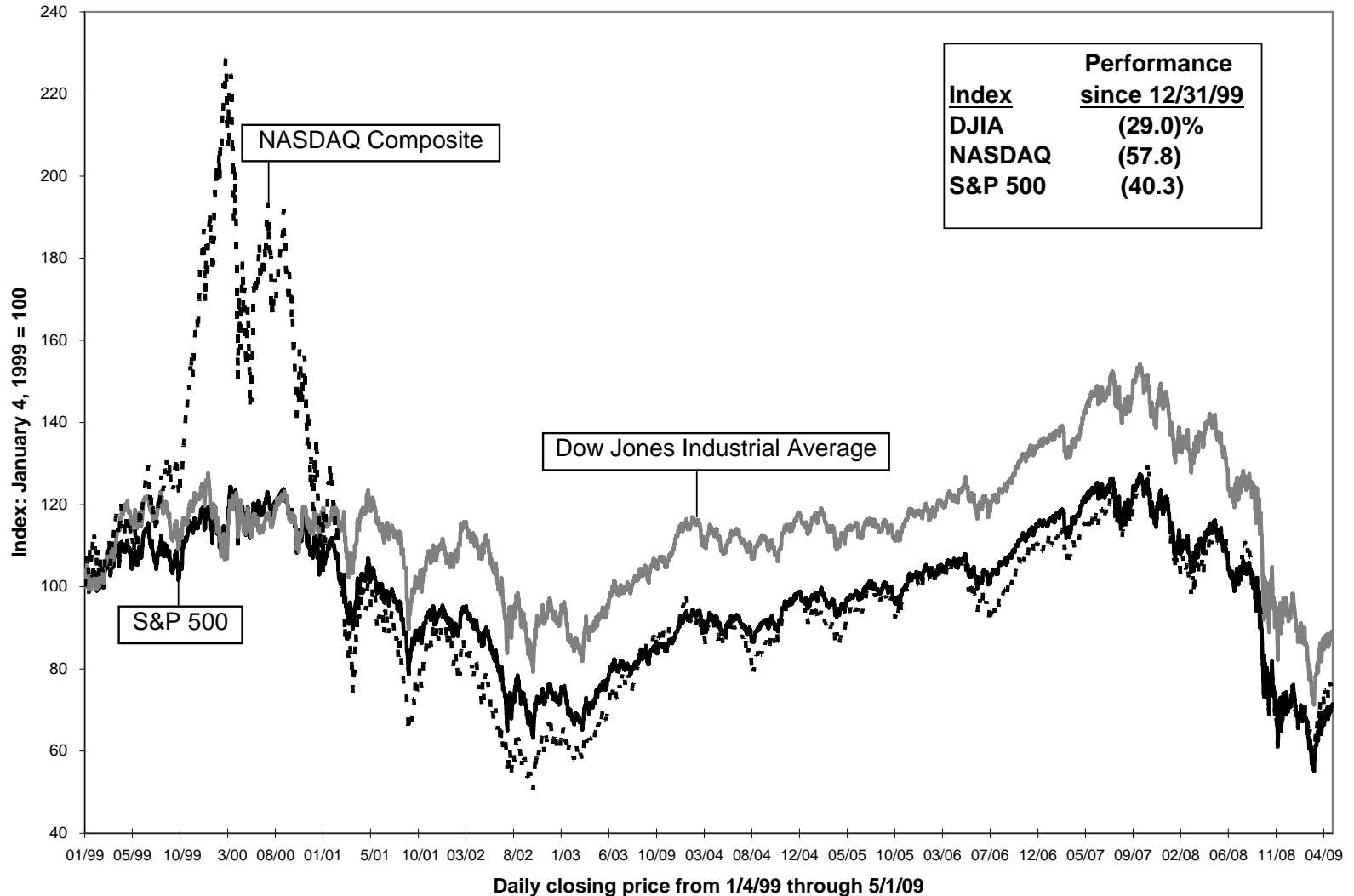
# Global inflation outlook

## Inflation has dropped sharply in 2009

	Consumer Prices (% change, yoy)					
	2005	2006	2007	2008(E)	2009(E)	2010(E)
US	3.4 %	3.2 %	2.9 %	3.8 %	(0.8) %	0.5 %
Eurozone	2.2	2.2	2.1	3.3	(0.1)	1.2
Germany	1.9	1.8	2.3	2.8	0.1	1.2
France	0.6	1.9	1.6	3.2	(0.1)	1.0
Italy	2.1	2.8	2.0	3.5	0.2	1.5
Japan	(0.3)	0.2	0.1	1.4	(1.8)	(1.5)
United Kingdom	2.1	2.3	2.4	3.6	1.4	2.4
China	1.8	1.5	4.8	5.9	(0.3)	1.5
Canada	2.2	2.0	2.1	2.4	0.2	1.6
Korea	2.7	2.2	2.5	4.7	2.6	2.5
Australia	2.7	3.5	2.3	4.4	1.9	2.9

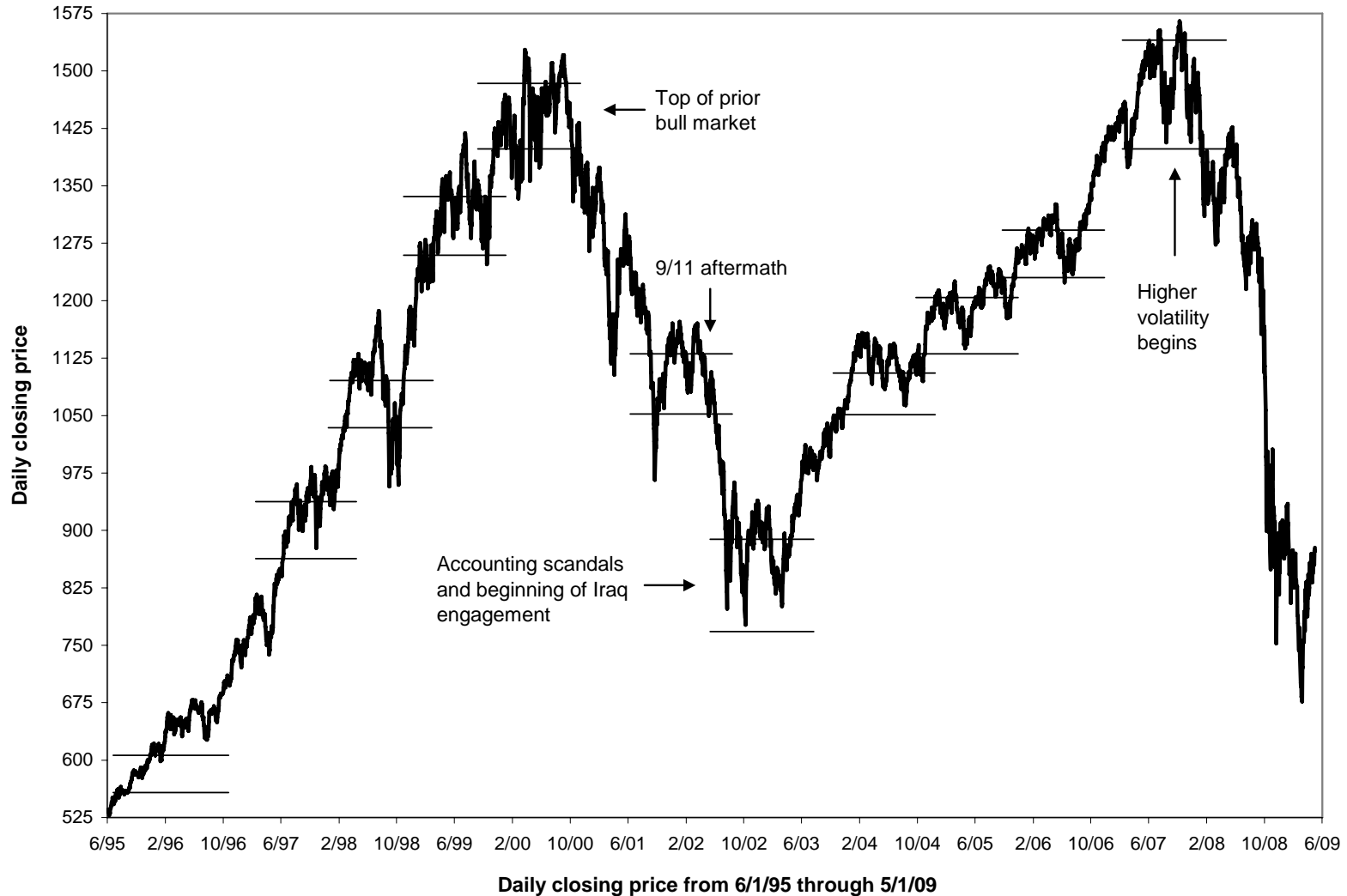
Source: Goldman Sachs Economics Research.

# Stock prices reached new highs in October 2007 before retreating NASDAQ was the outlier in 1999-2000



Source: Standard & Poor's, Dow Jones, National Association of Securities Dealers Inc.

# S&P 500 performance: Staircase pattern June 1995 – May 2009



Source: Standard & Poor's, FactSet, Goldman Sachs Global Markets Institute.

## A quick look: 2002 vs. now

	2002 YE	2009 Q1	2002 - 2009 Q1 % Change
Nominal GDP, \$ billions	\$10,469.6	\$14,075.5	34.4 %
S&P 500 Operating Earnings, per share	46.04	40.00	(13.1)
S&P 500 Price	875.40	877.52 (a)	0.2

(a) Closing price as of 5/1/2009.

Inflation and P/E multiples<sup>(a)</sup>

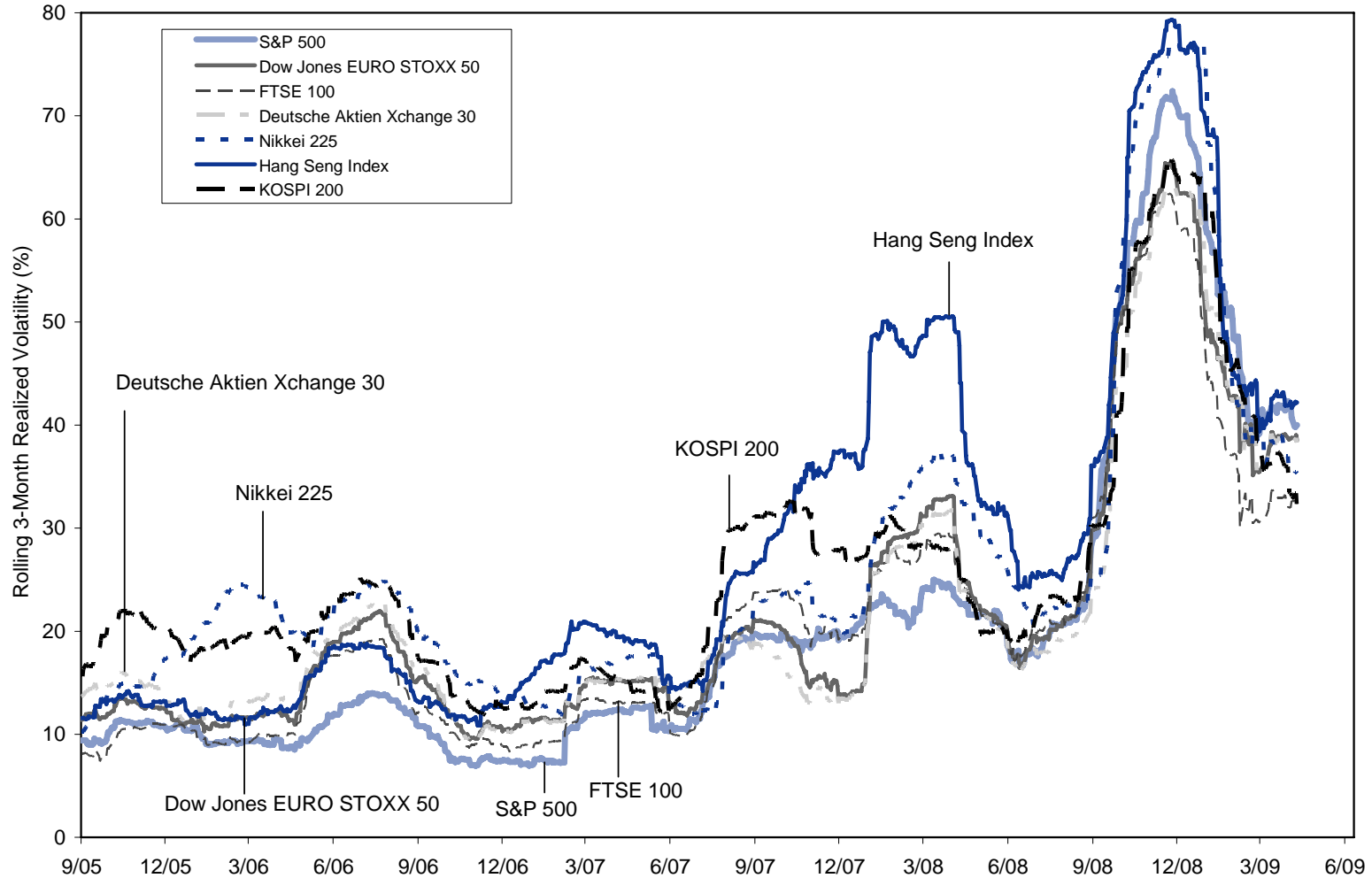
The S&P 500 now at 13.1X 2009 estimated median EPS

Inflation	Average S&P 500 P/E
Less than 2.5%	18.6 X
2.5% - 3.5%	17.6
3.5% - 4.5%	12.1
4.5% - 5.5%	14.2
5.5% - 6.5%	12.8
6.5% - 7.5%	10.0
Greater than 7.5%	8.6

(a) For the period 1950-2007.

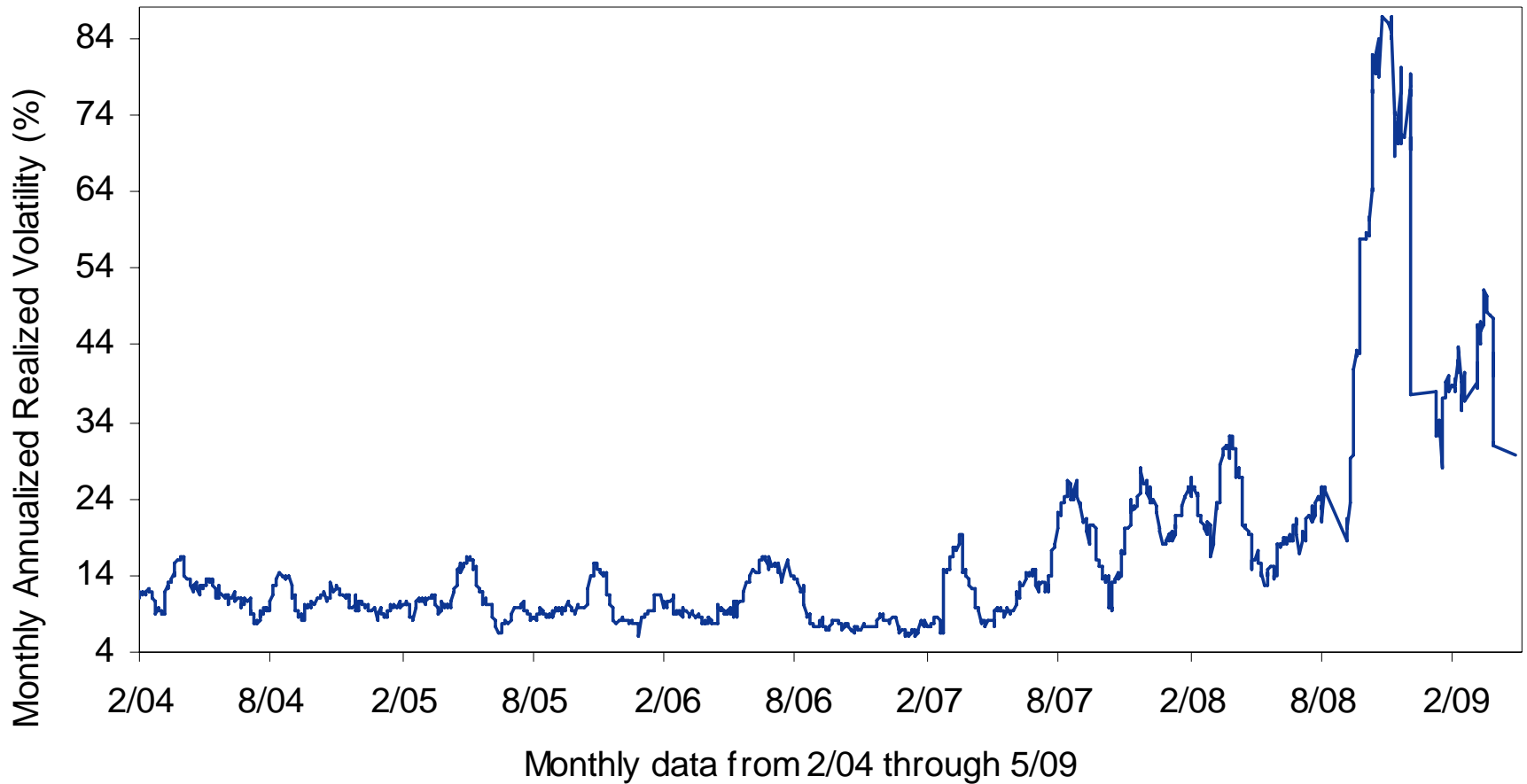
# Realized volatility for major indices

## Reduced volatility but still above historical averages



Source: Goldman Sachs Options Research.

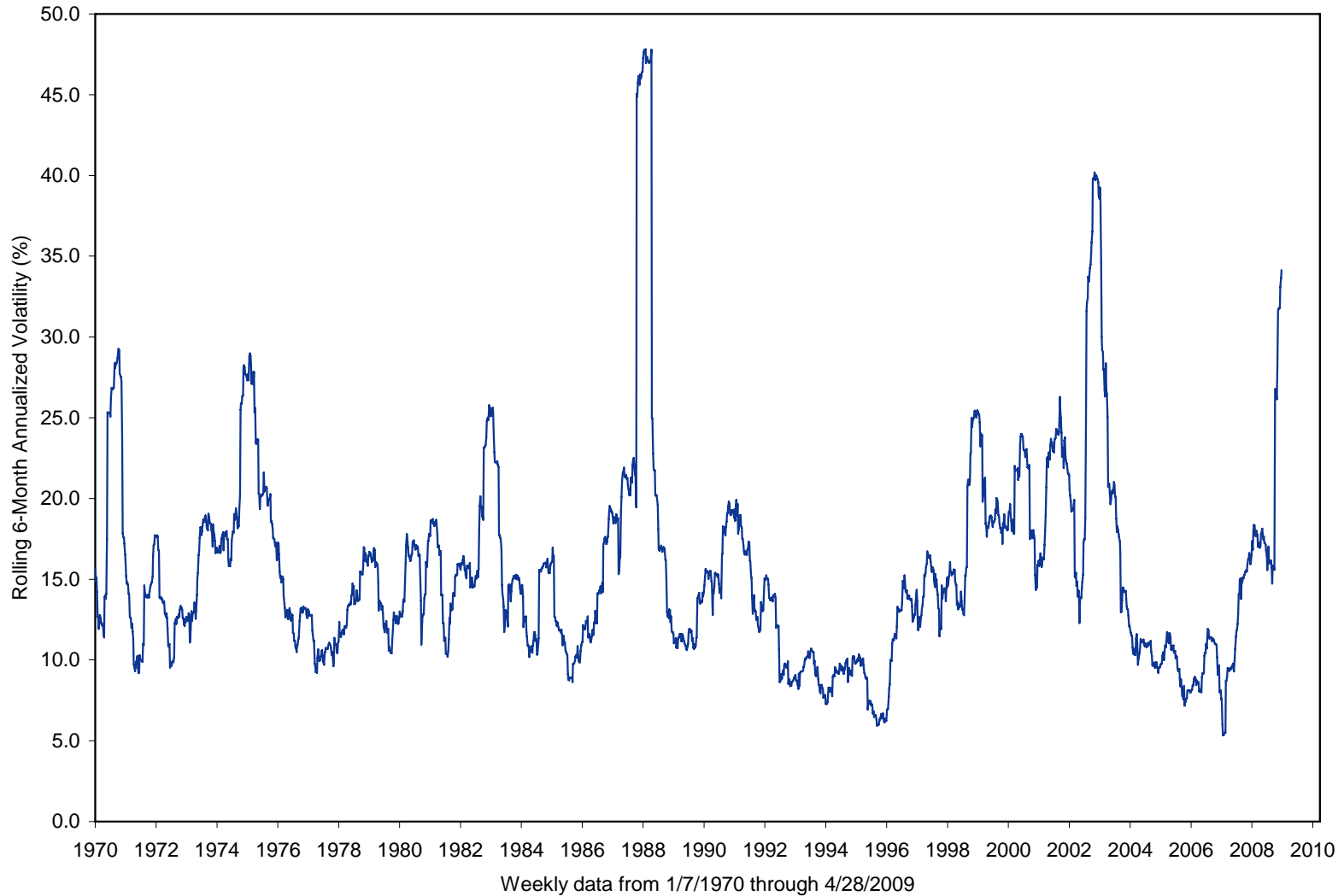
# Recent volatility of the S&P 500



Source: Goldman Sachs Equity Derivatives Research.

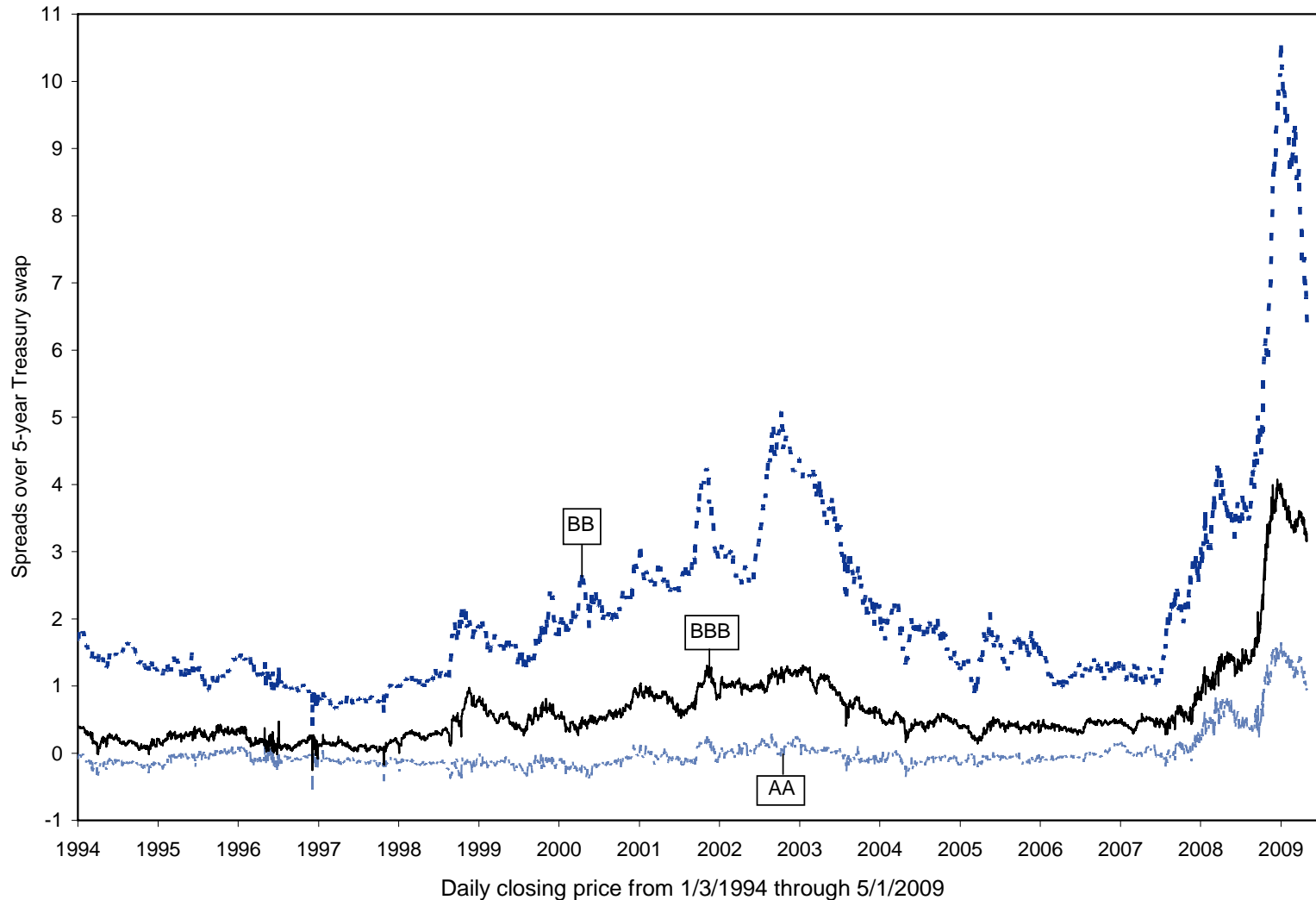
# Volatility of the S&P 500

## Extremely low levels in 2004 – mid-2007



Source: Goldman Sachs Equity Derivatives Research.

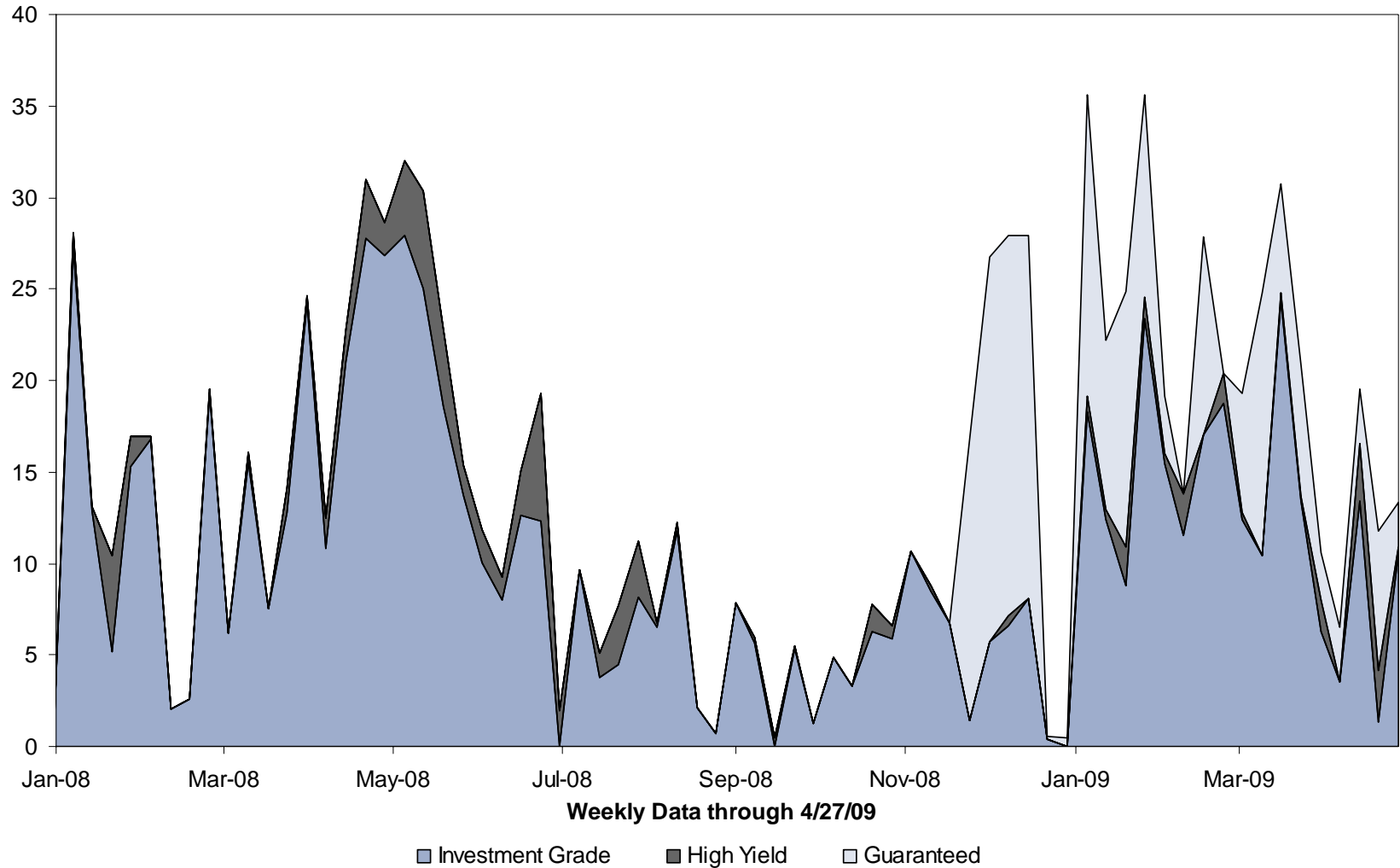
# Corporate bond spreads were abnormally narrow for lower-quality issues until mid-2007



Source: Bloomberg, Goldman Sachs Credit Strategy.

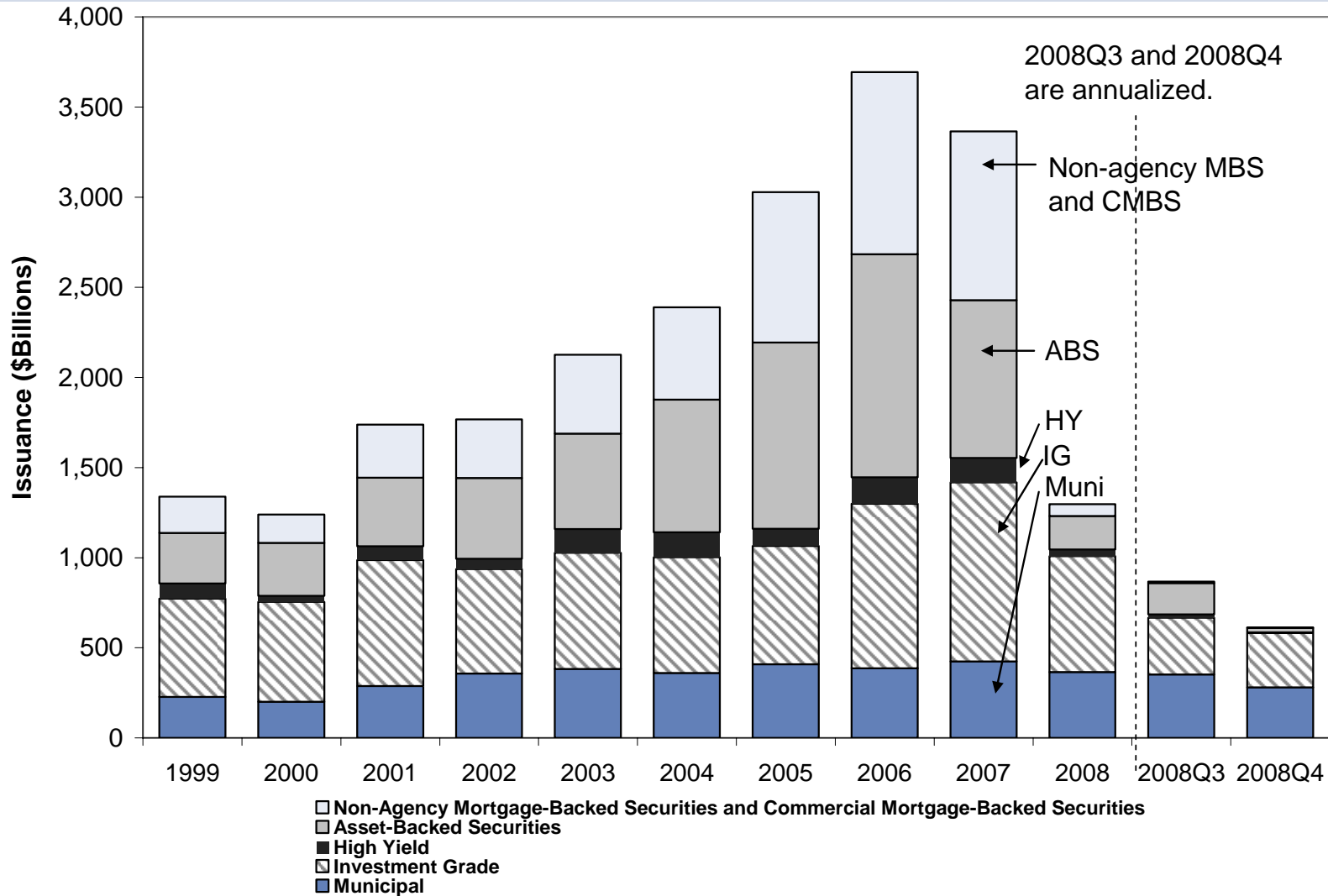
# New bond issuance without government guarantees has improved

Gains seen in both high yield and investment grade in 2009



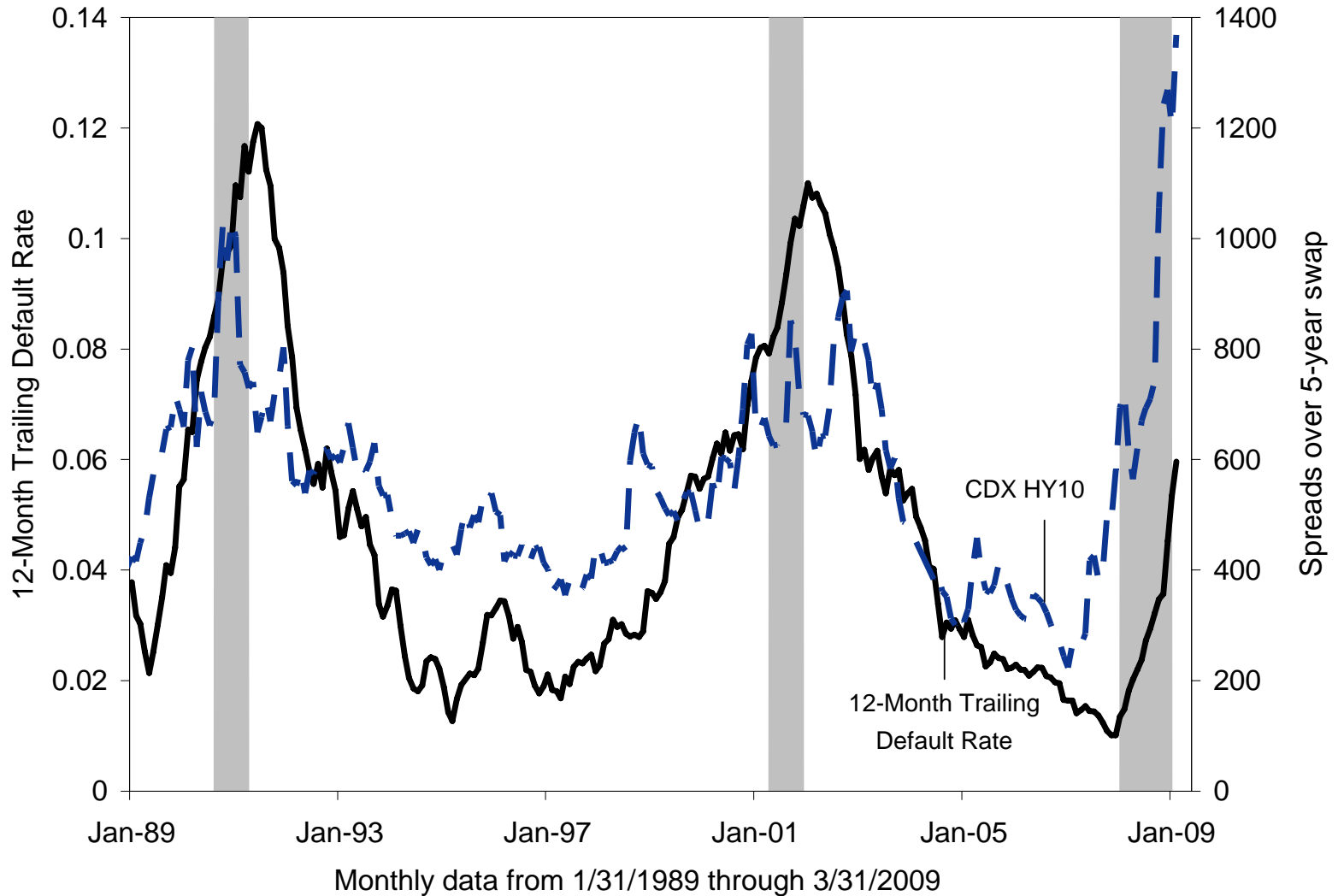
Source: Goldman Sachs Credit Strategy.

# New debt issuance sharply curtailed in 2008 Mortgage and asset-backed issues most affected



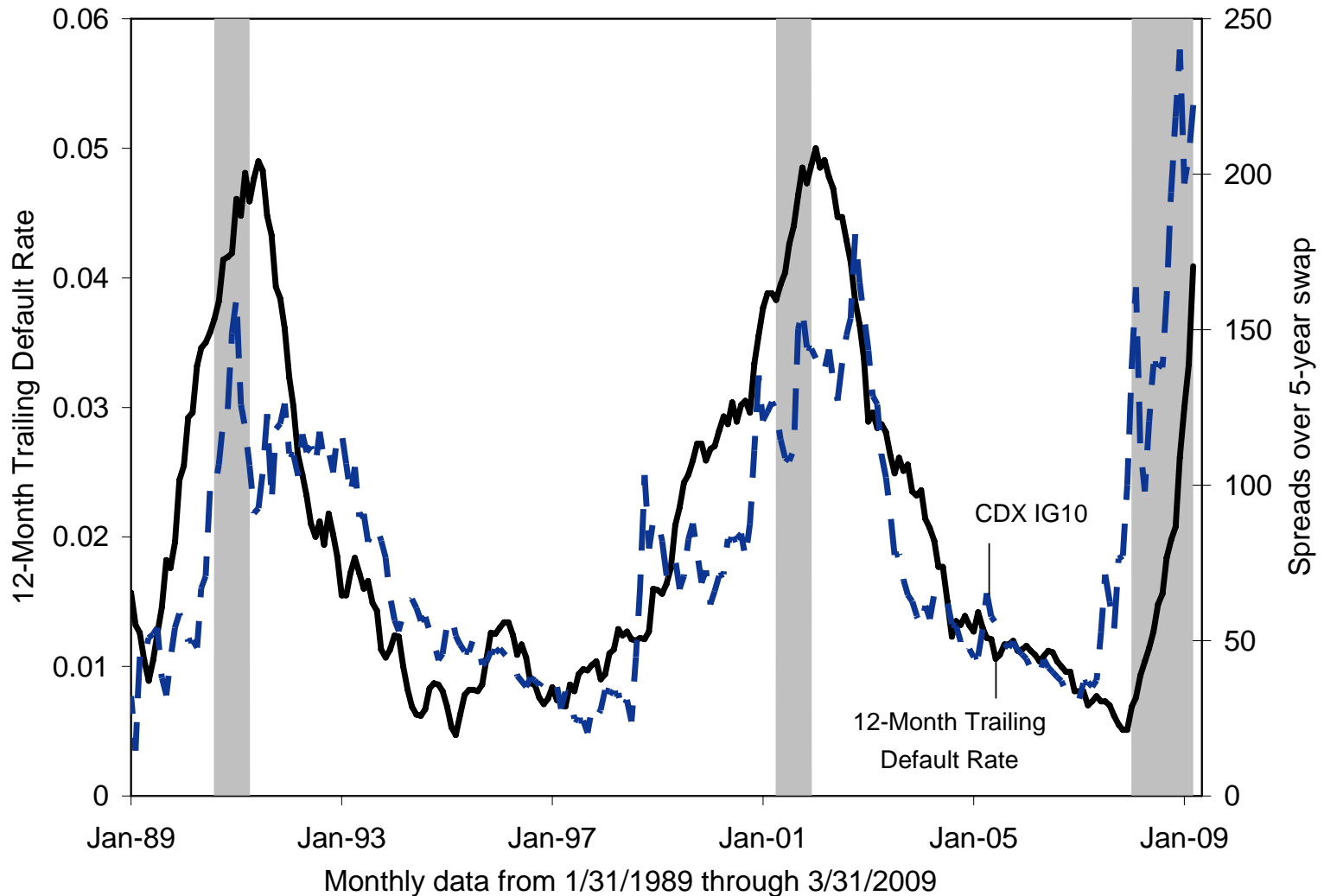
Source: Goldman Sachs Credit Strategy.

# High yield bond spreads are at extreme levels although default rate is not



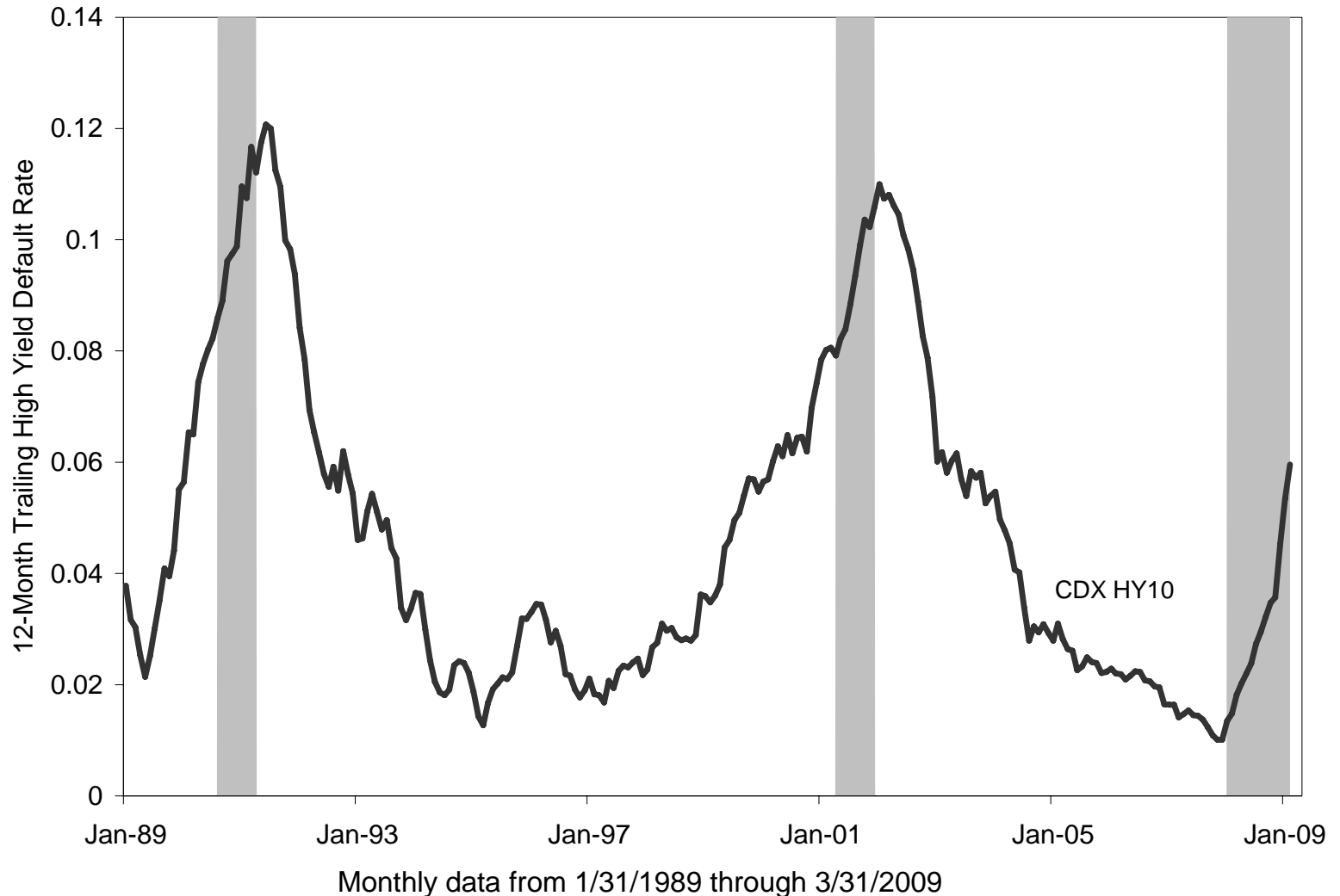
Source: Goldman Sachs Credit Strategy.

# Investment grade spreads are at average recession levels although default rate is not



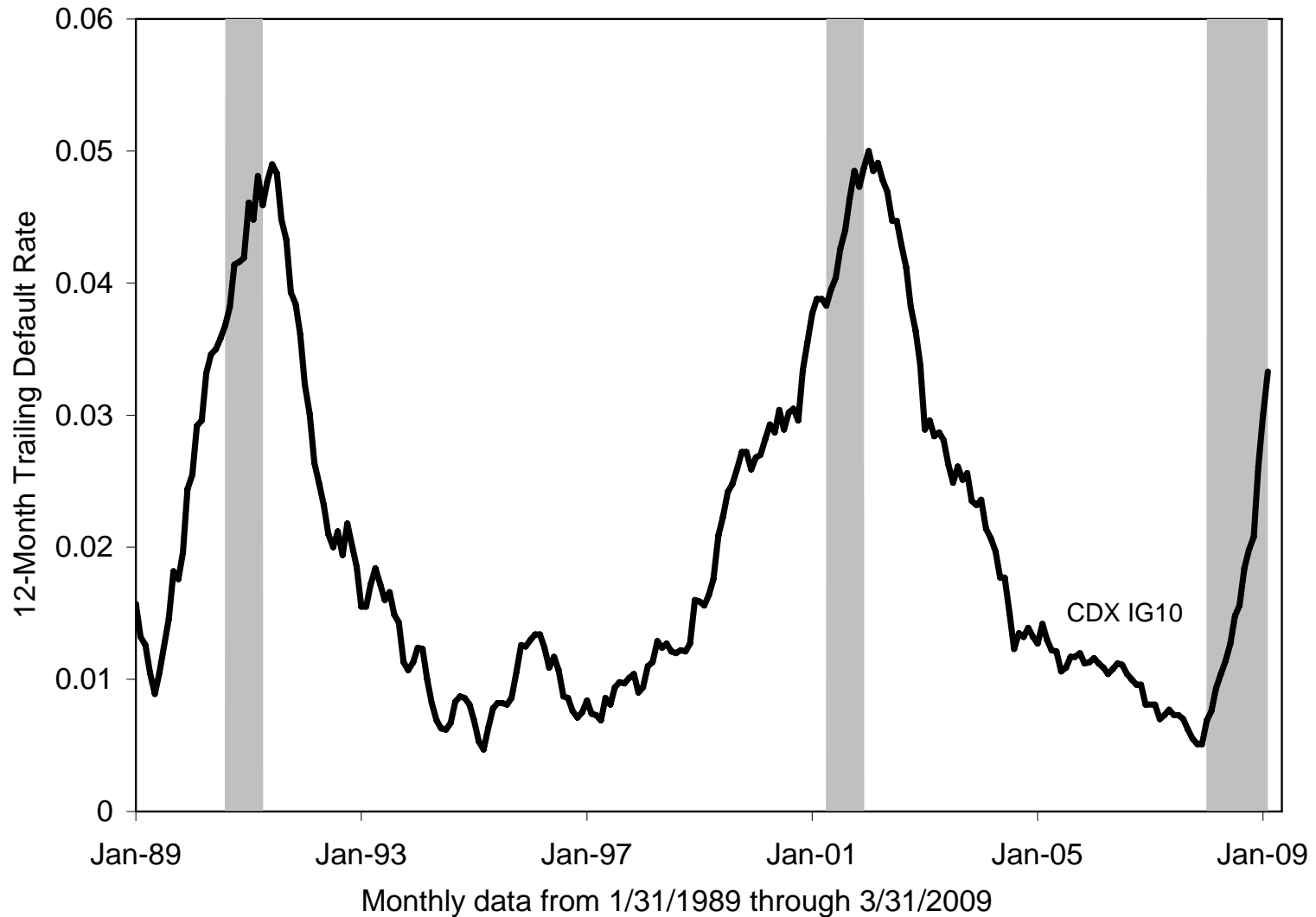
Source: Goldman Sachs Credit Strategy.

# High yield default rate is dramatically lower than prior pre-recession levels



Source: Goldman Sachs Credit Strategy.

# Investment grade default rate has moved higher



Source: Goldman Sachs Credit Strategy.

# Reasons cited by banks for tightening credit standards C&I loans

Reasons	Mean Score			
	July 2008	October 2008	January 2009	April 2009
Worsening conditions in borrower's industry	2.10	2.12	2.35	2.21
Reduced risk tolerance	2.08	2.25	2.12	1.98
Decreased liquidity in secondary markets	1.54	1.74	1.57	1.63
→ Increase in defaults by borrowers	1.41	1.47	1.43	1.37

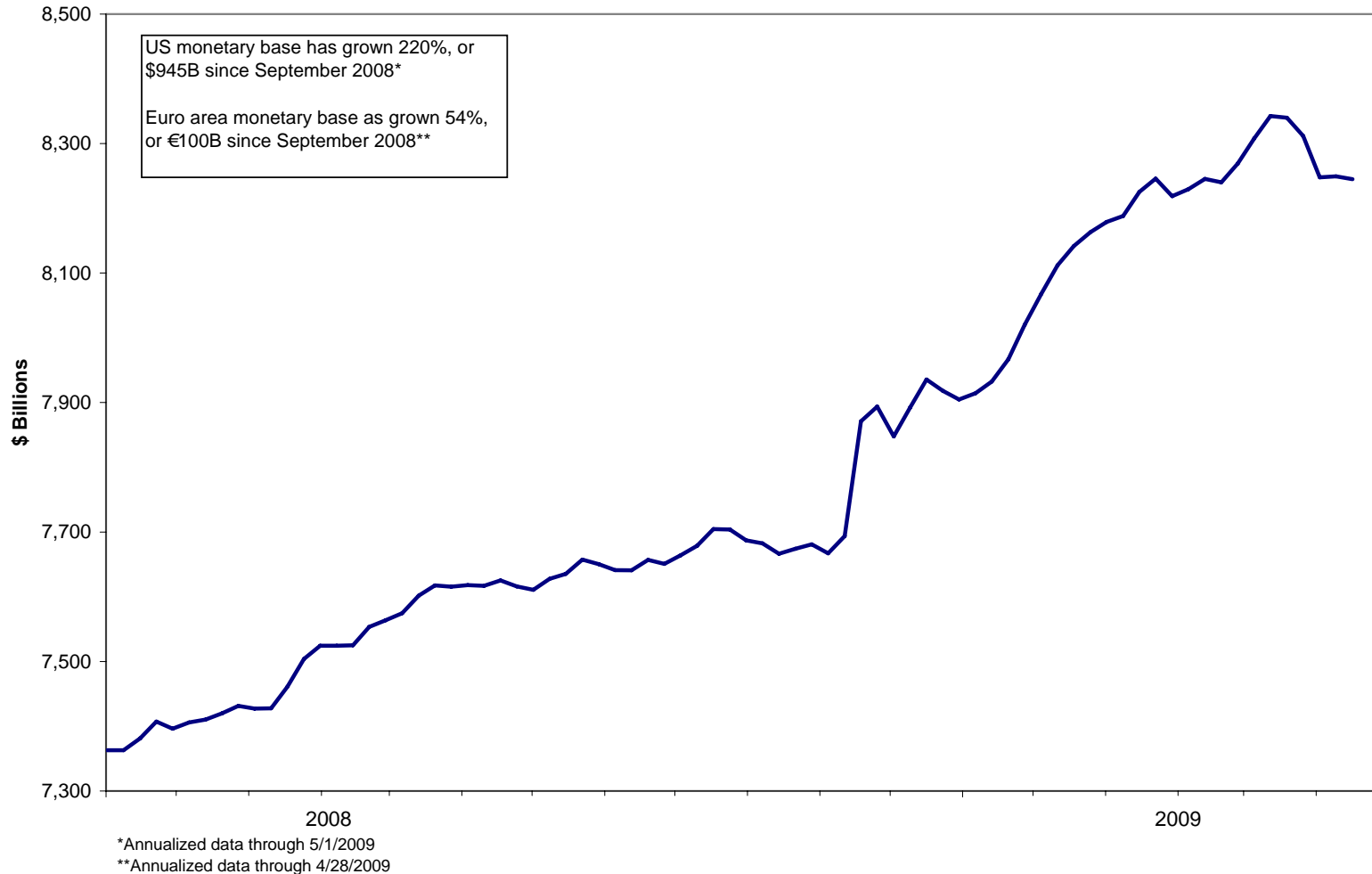
- 1 = not important
- 2 = somewhat important
- 3 = very important

# Sharp expansion of M2 money supply

## Aggressive actions by the US Fed not matched abroad

**M2**

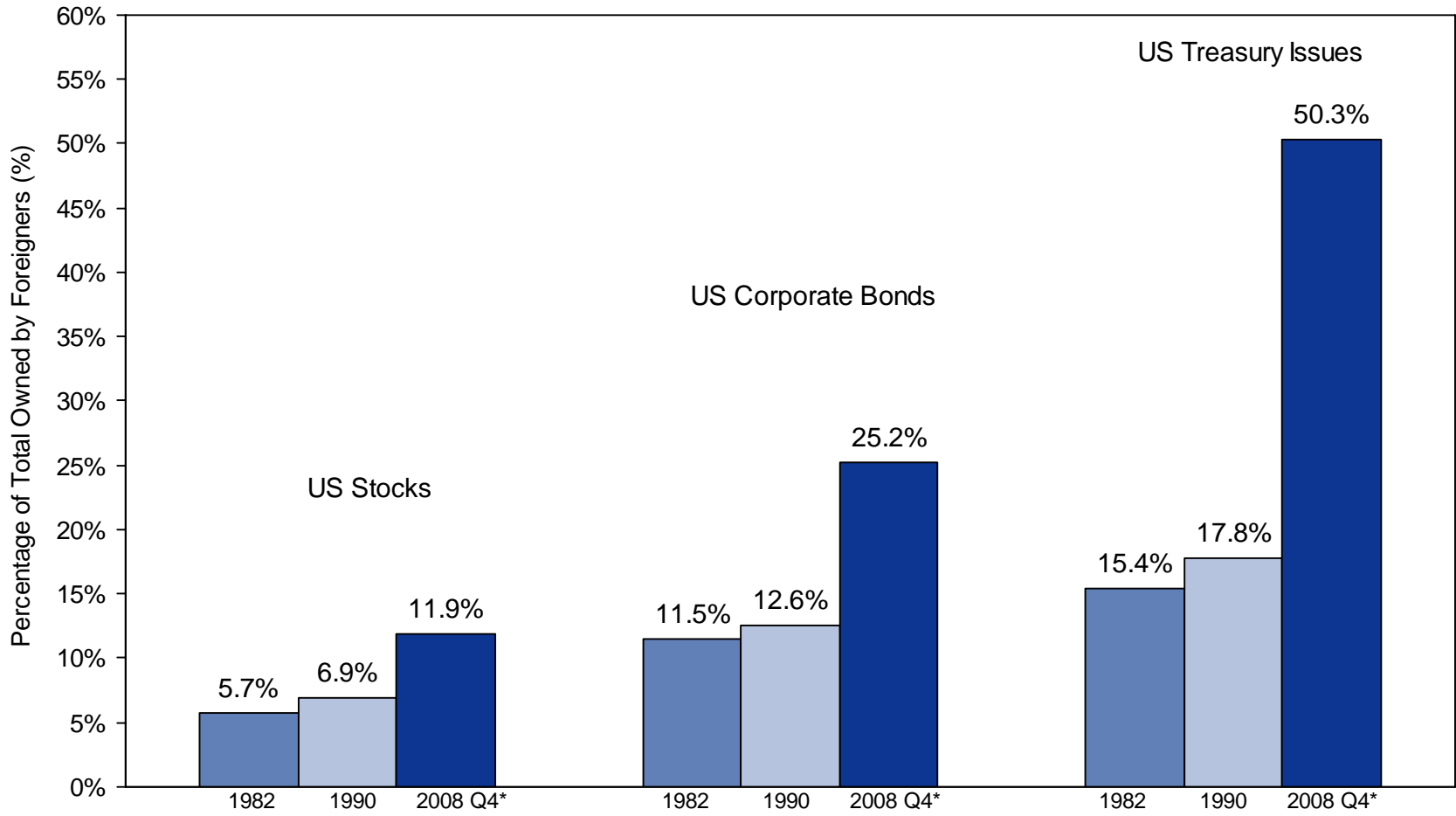
Averages of Daily Figures, Seasonally Adjusted



Source: Federal Reserve Bank of St. Louis, European Central Bank, Goldman Sachs Global Markets Institute.

# Foreign ownership of US stocks and bonds

## A smaller proportion of stocks than bonds



\*Data for 2008 Q4 are preliminary.

# Foreign net purchases of US equities

## Little portfolio interest in 2008

(\$ Billions)

	1993	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Europe	\$10.7	\$68.2	\$98.1	\$164.7	\$88.1	\$32.9	\$21.4	\$19.6	\$39.6	\$97.1	\$89.3	\$11.6
United Kingdom	4.6	24.0	42.9	58.7	38.5	15.2	0.7	15.2	19.8	75.8	69.5	29.9
Canada	(3.2)	(4.7)	(0.3)	6.0	11.0	8.2	11.7	1.3	16.5	11.8	8.1	7.4
Latin America-Caribbean	5.7	0.8	5.2	(17.8)	(5.2)	(15.4)	(0.9)	0.6	15.3	37.2	49.4	(39.3)
Asia	7.9	(13.8)	3.4	21.7	22.5	21.4	2.8	6.2	10.2	3.5	44.0	65.3
Hong Kong	1.1	(2.2)	(0.2)	0.2	0.7	1.8	0.8	(0.8)	1.1	(0.5)	35.4	27.5
Japan	3.8	(1.2)	5.7	2.1	6.8	12.3	(2.2)	2.8	0.1	(0.7)	(5.0)	21.4
Singapore	3.1	(8.4)	(0.9)	10.8	13.1	8.2	3.5	(1.7)	7.2	(4.5)	(2.5)	4.7
Australia	(0.1)	(0.6)	0.9	1.4	0.1	3.0	(0.6)	0.3	0.1	1.0	4.8	0.3
<b>Total</b>	<b>\$21.6</b>	<b>\$50.0</b>	<b>\$107.5</b>	<b>\$174.9</b>	<b>\$116.4</b>	<b>\$50.2</b>	<b>\$34.7</b>	<b>\$28.5</b>	<b>\$82.0</b>	<b>\$150.4</b>	<b>\$195.5</b>	<b>\$40.8</b>

	2008			
	Q1	Q2	Q3	Q4 (a)
Europe	\$3.1	\$4.5	\$7.6	(\$3.5)
United Kingdom	(6.0)	13.6	17.5	4.9
Canada	1.8	4.0	0.8	0.7
Latin America-Caribbean	(9.2)	(20.9)	5.9	(15.1)
Asia	37.6	13.6	(7.4)	21.5
Hong Kong	9.8	12.4	2.3	3.0
Japan	5.0	1.9	1.8	12.7
Singapore	11.0	(1.4)	(10.3)	5.5
Australia	0.5	1.6	(0.3)	(1.4)
<b>Total</b>	<b>\$31.3</b>	<b>\$2.6</b>	<b>\$4.8</b>	<b>\$2.1</b>

(a) 2008 data are preliminary and not annualized.

Source: US Department of the Treasury.

# US capital flows continue

New direct investment has been shifting toward Asia, away from Europe

(\$ Billions)

	2000	2001	2002	2003	2004	2005	Average, 2004-2005 (a)	2006	2007	Q1	2008		
											Q2	Q3	Q4
All Countries	\$142.6	\$124.9	\$134.9	\$129.4	\$294.9	\$15.4	\$155.1	\$221.7	\$313.8	\$95.7	\$83.7	\$56.6	\$62.6
Canada	16.9	16.8	15.0	17.3	24.0	13.6	18.8	8.1	22.8	12.5	2.2	2.5	3.7
Europe	78.0	65.6	79.5	87.5	137.3	(29.0)	54.1	131.4	197.3	47.4	51.1	37.4	39.0
Latin America	23.2	25.7	15.2	3.9	32.4	74.0	53.2	40.6	33.7	21.7	12.5	7.2	11.7
Asia and Pacific	22.4	12.9	23.3	16.6	97.0	24.4	60.7	32.4	54.4	11.3	18.4	7.5	5.1
Europe / A&P	3.5x	5.1x	3.4x	5.3x			0.9 x	4.1 x	3.6 x	4.2 x	2.8 x	5.0 x	7.6 x

(a) The timing of flows in 2004-2005 were affected by a tax change that encouraged flows to be accelerated into the second half of 2004, boosting the amounts for 2004 and reducing those for 2005. We view the average of the two years to be more meaningful than the results for individual years.

# Capital flows into the United States

## Europe remains the largest capital provider of direct investment

(\$ Billions)

	2000	2001	2002	2003	2004	2005	2006	2007	2008			
									Q1	Q2	Q3	Q4
All Countries	\$314.0	\$159.5	\$74.5	\$53.1	\$135.8	\$104.8	\$236.7	\$232.8	\$79.7	\$107.1	\$56.2	\$77.9
Canada	27.3	9.2	4.6	7.1	33.2	14.9	18.1	36.9	94.5	11.5	0.9	1.6
Europe	251.0	140.7	45.4	22.8	80.7	77.9	181.4	144.9	45.6	57.3	51.6	69.0
Latin America	12.7	8.2	10.3	9.2	(2.9)	(3.2)	9.8	(0.6)	6.4	18.5	2.9	(0.6)
Asia and Pacific	19.9	2.1	13.0	13.8	24.8	13.1	24.8	49.2	15.5	18.7	1.9	8.9

Source: US Department of Commerce.

# Foreign holdings of US Treasury securities

## Asian governments are key; increased UK participation largely due to petrodollars

	Jan-01	Jan-02	Jan-03	Jan-04	Jan-05	Jan-06	Jan-07	Jan-08	Feb-09
Japan	30.9%	30.2%	31.0%	37.1%	35.6%	31.9%	29.4%	24.4%	20.9%
China (ex. Hong Kong)	6.1	7.5	9.7	10.0	11.7	15.3	18.9	20.5	23.5
United Kingdom	4.7	4.5	6.5	5.8	5.3	7.7	4.9	6.7	4.1
OPEC	4.8	4.6	3.9	2.8	3.5	4.4	5.2	5.9	5.7
Caribbean (a)	3.1	3.7	3.9	3.0	4.9	3.1	3.5	4.6	6.0
Hong Kong	3.9	4.5	4.0	3.5	2.4	2.2	2.6	2.3	2.4
Germany	4.7	4.3	2.9	3.2	2.8	2.3	2.3	1.8	1.8
Taiwan	3.4	3.3	3.0	3.4	3.6	3.4	2.8	1.6	2.3
Switzerland	1.7	1.8	2.8	2.9	2.1	1.5	1.6	1.6	2.2
Korea	2.8	3.1	3.0	3.8	2.8	3.5	2.9	1.8	1.1
<b>Total foreign holdings</b> (\$ billions)	<b>\$1,010.8</b>	<b>\$1,029.6</b>	<b>\$1,240.7</b>	<b>\$1,568.5</b>	<b>\$1,908.6</b>	<b>\$2,045.1</b>	<b>\$2,132.4</b>	<b>\$2,399.3</b>	<b>\$3,162.0</b>
<b>Total government</b> as % of foreign holdings	<b>61.0%</b>	<b>59.9%</b>	<b>62.1%</b>	<b>61.3%</b>	<b>64.9%</b>	<b>63.3%</b>	<b>68.0%</b>	<b>70.4%</b>	<b>69.5%</b>

(a) Caribbean includes Bahamas, Bermuda, Cayman Islands, Netherlands Antilles, and Panama.

# Foreign net purchases of US Treasuries

## Large purchases from United Kingdom since 2004 linked to petrodollars and global asset management located in London

(\$ Billions)

	1993	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008			
												Q1	Q2	Q3	Q4(a)
Europe	(\$2.4)	\$23.8	(\$38.2)	(\$50.7)	(\$20.6)	\$43.7	\$48.7	\$88.4	\$173.6	\$99.0	\$177.3	\$50.8	\$69.6	\$53.2	\$23.0
Netherlands	(0.5)	(5.5)	2.1	2.1	(6.7)	(17.0)	0.4	(3.2)	(6.1)	0.7	1.5	(0.9)	0.5	(3.3)	(1.1)
United Kingdom	6.2	14.4	(20.2)	(33.7)	(7.3)	61.6	32.8	78.7	134.1	91.8	208.6	38.5	80.1	54.3	15.7
Latin America-Caribbean	(4.6)	(3.7)	(7.5)	(4.9)	4.3	20.0	17.1	33.5	68.4	12.0	88.1	(1.7)	20.3	11.7	(10.6)
Asia	20.6	27.4	29.4	1.6	36.3	55.7	181.1	214.8	68.3	68.7	(69.3)	46.63	3.9	30.8	17.6
China	0.5	2.6	8.2	(4.0)	19.1	24.1	30.4	18.9	37.4	40.6	(8.0)	20.2	24.2	36.1	4.2
Hong Kong	2.4	9.7	0.9	(0.3)	7.2	(9.1)	6.1	1.1	12.3	16.3	2.0	6.7	1.7	0.9	(3.1)
Japan	17.1	13.0	20.1	10.6	16.1	30.5	146.5	166.4	(5.0)	1.3	(48.7)	19.4	(12.7)	(6.2)	5.6
Australia	(3.2)	(2.2)	1.6	1.4	1.4	3.3	6.6	(2.2)	0.1	(2.6)	(1.4)	(0.6)	(0.5)	(0.3)	(1.6)
<b>Total</b>	<b>\$23.6</b>	<b>\$49.0</b>	<b>(\$10.0)</b>	<b>(\$54.0)</b>	<b>\$18.5</b>	<b>\$119.9</b>	<b>\$263.6</b>	<b>\$352.1</b>	<b>\$338.1</b>	<b>\$195.5</b>	<b>\$198.0</b>	<b>\$100.0</b>	<b>\$106.4</b>	<b>\$87.6</b>	<b>\$22.0</b>

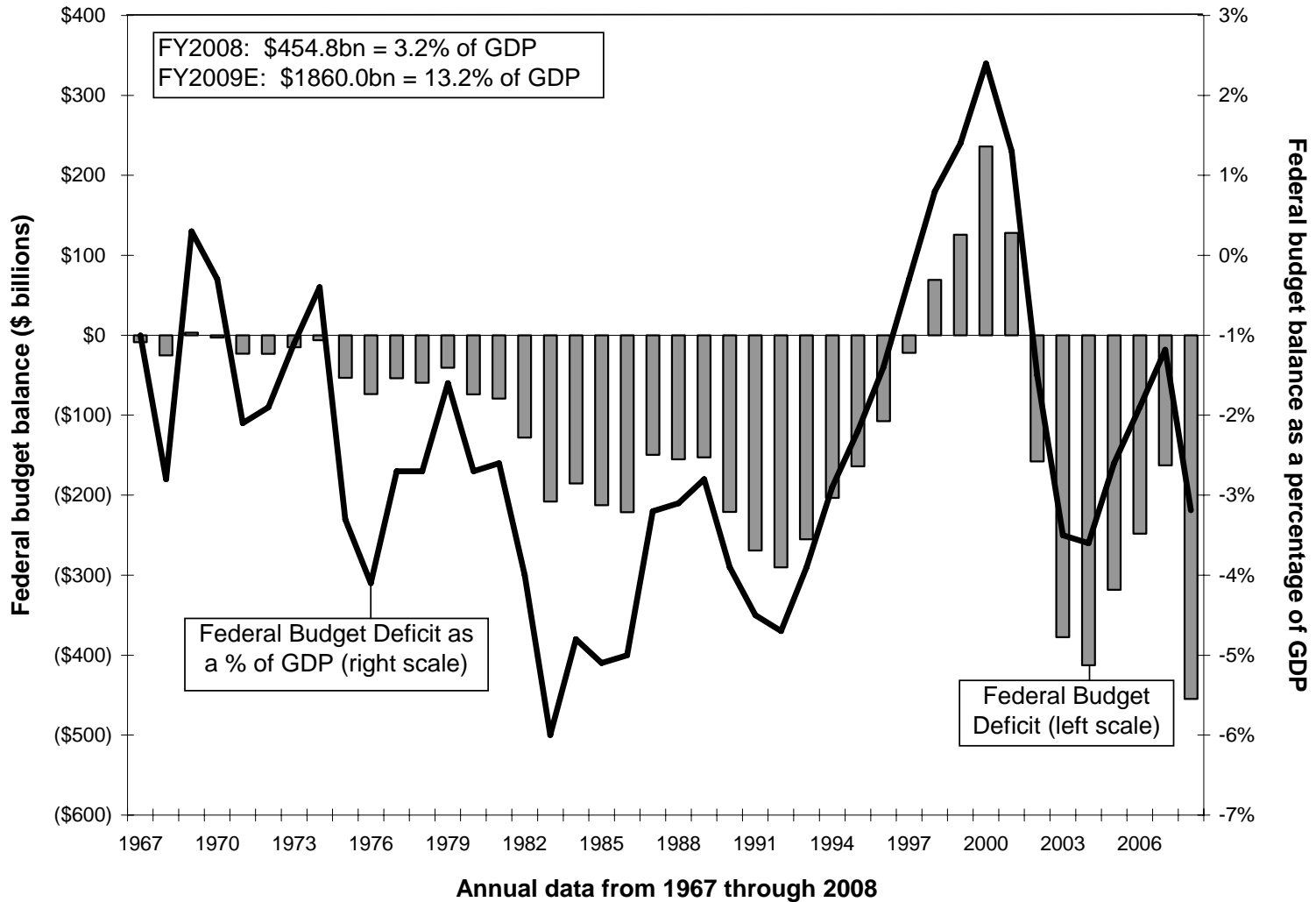
(a) 2008 data are preliminary and not annualized.

# Some large numbers remain out of balance

- US budget deficit worsened even during period of strong economic growth and tax revenues through mid-2007. Government spending data frequently adjusted upward as Bush administration made new requests for the military.
- US trade deficit reflects many factors, including differences in economic growth rates between the United States and its trade customers, and petroleum imports. The trade deficit declined from historical levels beginning in 2006 as exports accelerated in response to global conditions and the long-term decline of the dollar relative to some other senior currencies. Faster export growth had been seen in categories such as information technology, industrial materials, heavy equipment, and specialized services. Recession and sharp declines in petroleum prices are now curtailing US imports.
- The challenges of climate change and environmental degradation are increasingly on the radar screens of investors. US government policymakers have intensified their activities, aiming to influence global decisions.

# Federal budget deficit has worsened since the late 1990s

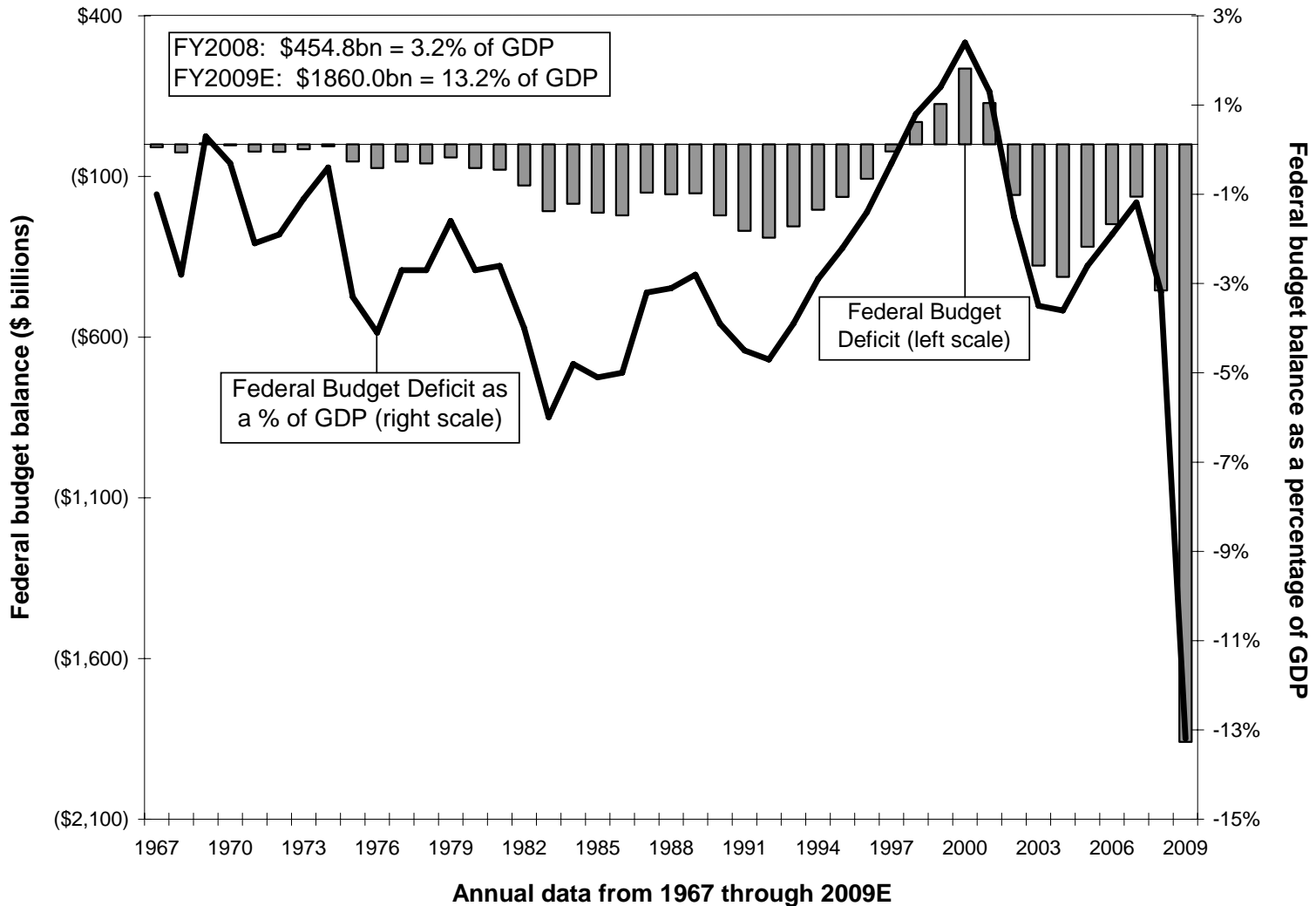
2008 within norms for most industrial nations as % of GDP



Source: US Department of the Treasury, Goldman Sachs Global Markets Institute.

# Federal budget deficit has worsened since the late 1990s

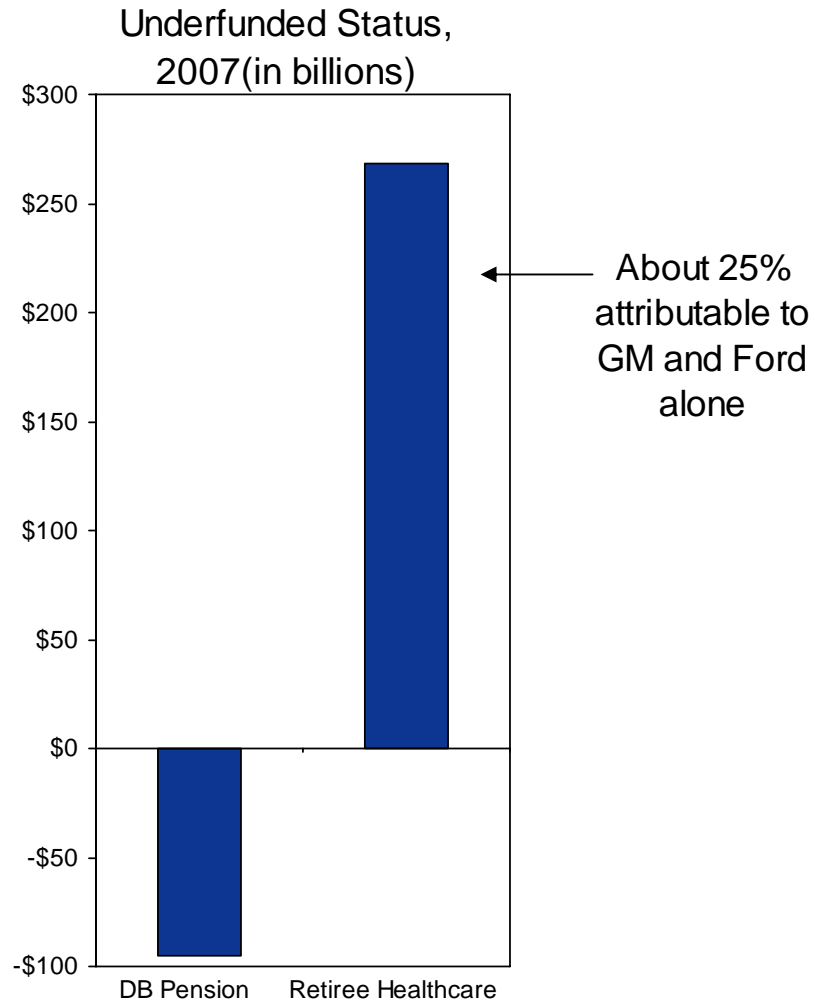
## 2009 reflects recession and countercyclical spending



Source: US Department of the Treasury, Goldman Sachs Global Markets Institute.

# Retiree healthcare bigger issue than pensions for corporations

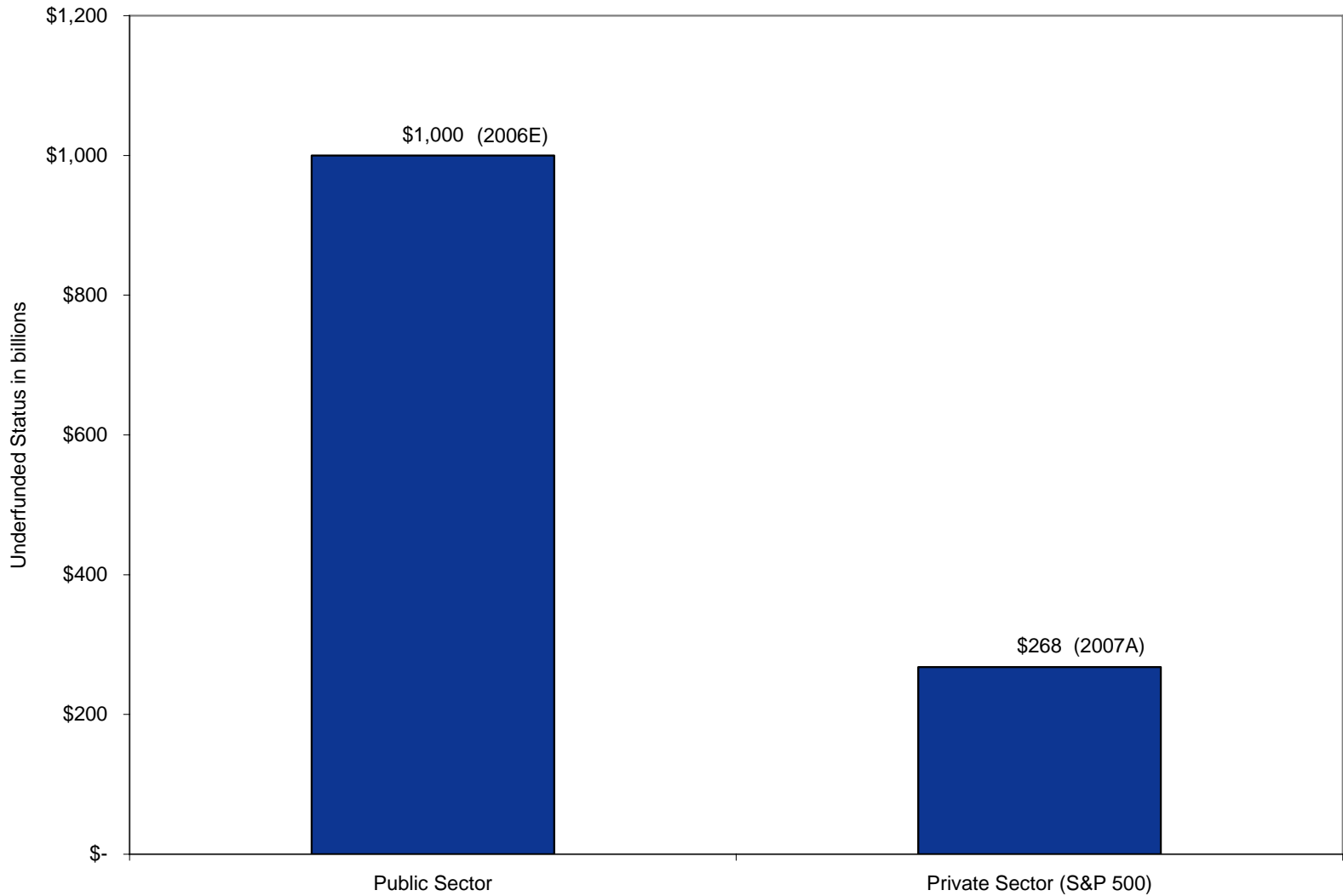
## Underfunding highly concentrated in unionized companies



Source: Company reports, Goldman Sachs Global Markets Institute.

# Public retiree healthcare is bigger issue

## Public plans are more underfunded than private plans



Source: Company reports, Goldman Sachs Global Markets Institute.

# Public retiree health care obligations

Disclosures now required by GASB 45

State/Commonwealth	Estimated GASB 45 retiree health care liability (in billions)
California	\$40 - \$70
New York	47
Michigan	30
Maryland	20
Ohio	19
Massachusetts	7.6 - 13.3

# Share of US foreign trade

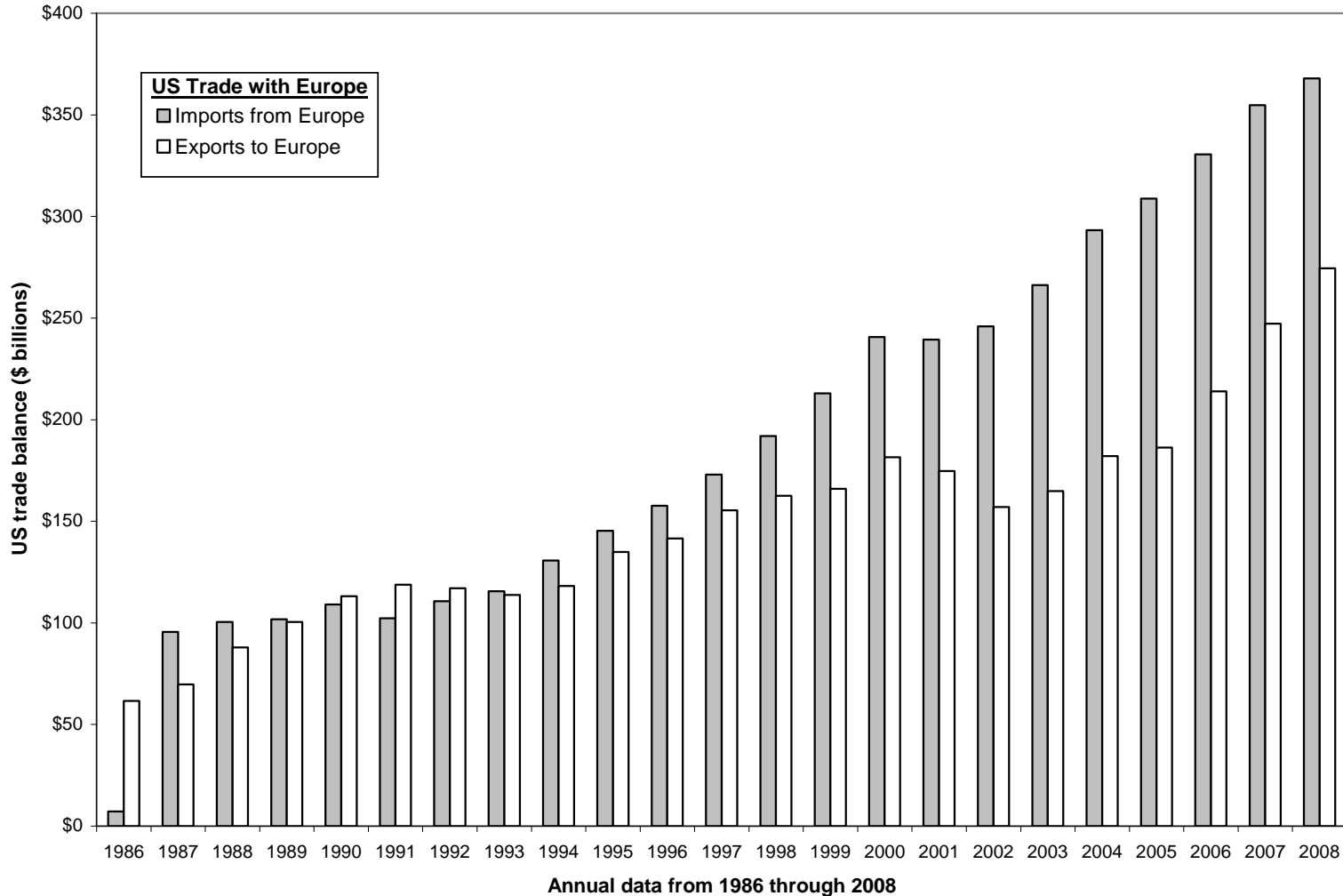
## February 2008 through January 2009

	US Exports to		US Imports from	
	\$Billions	% Share	\$Billions	% Share
North America	\$404.7	31.6 %	\$537.9	26.2 %
European Union	270.9	21.2	361.7	17.6
Japan	65.4	5.1	135.8	6.6
Central/South America	136.8	10.7	155.2	7.6
China	69.8	5.5	336.4	16.4
Korea	33.8	2.6	47.8	2.3
<b>Total</b>	<b>\$1,279.4</b>	<b>100</b>	<b>\$2,055.0</b>	<b>100</b>

Aggregate trade deficit of \$775.6 billion.

# US trade with European Union

US exports to Europe began to grow in 2006 for first time since 2000:  
 \$90.8 billion deficit in last 12 months, down from \$122.3 in 2005

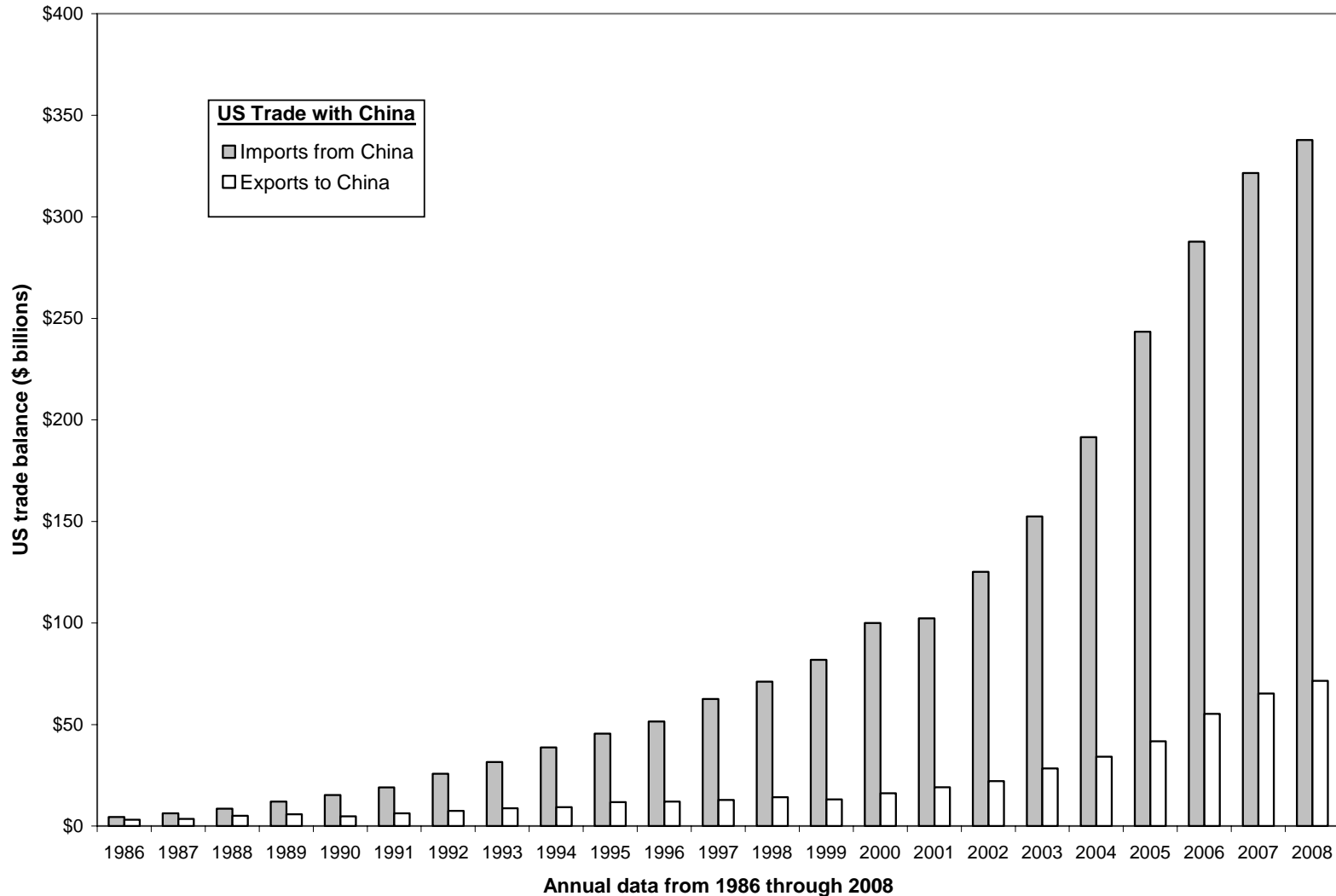


\*Annual data reflect composition of the EU at that time

Source: Goldman Sachs Global Markets Institute, US Department of Commerce.

# US trade with China

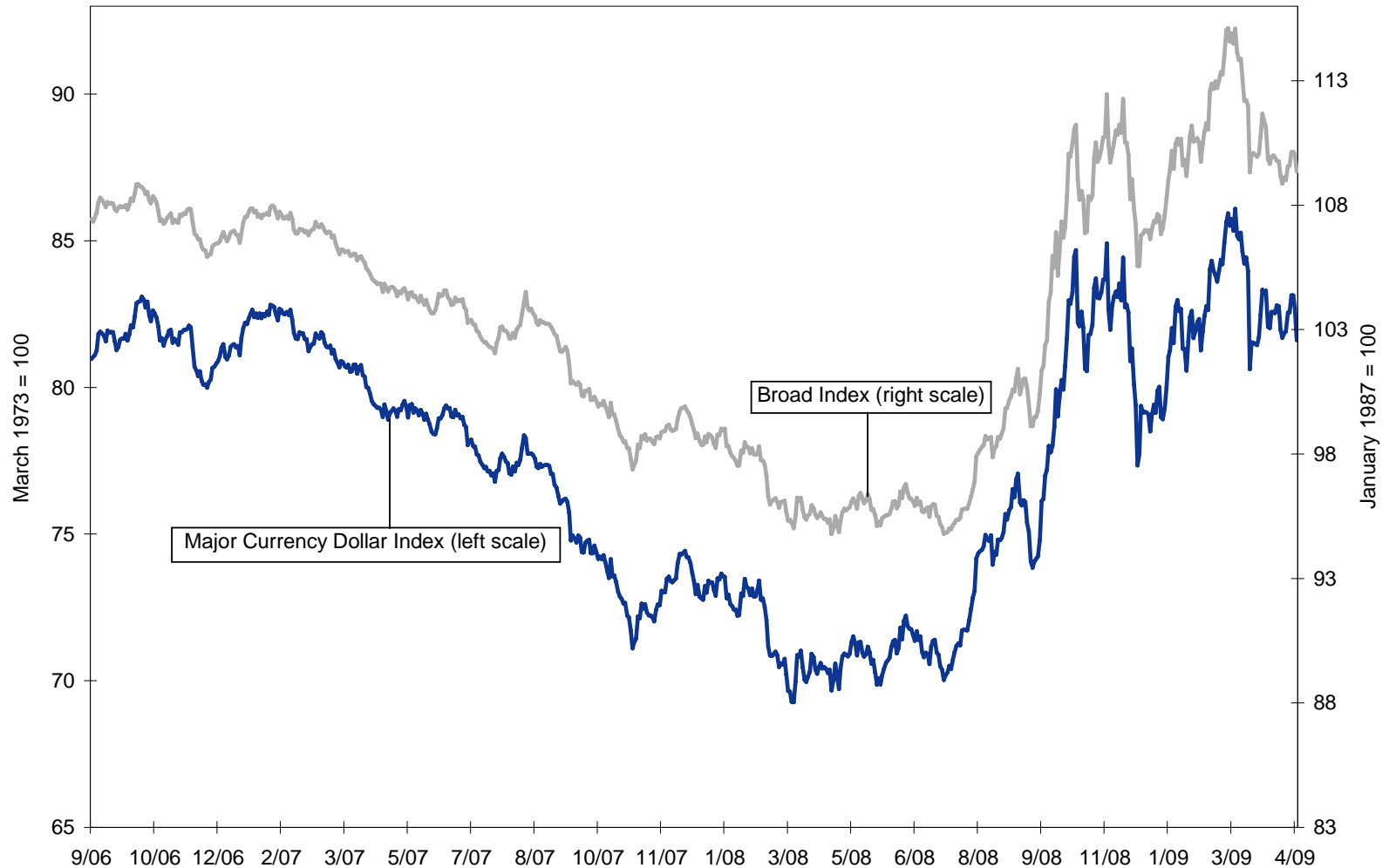
Explosion of imports, modest exports: \$266.6 billion deficit in last 12 months



Source: Goldman Sachs Global Markets Institute, US Department of Commerce.

# Trade-weighted exchange rate indexes

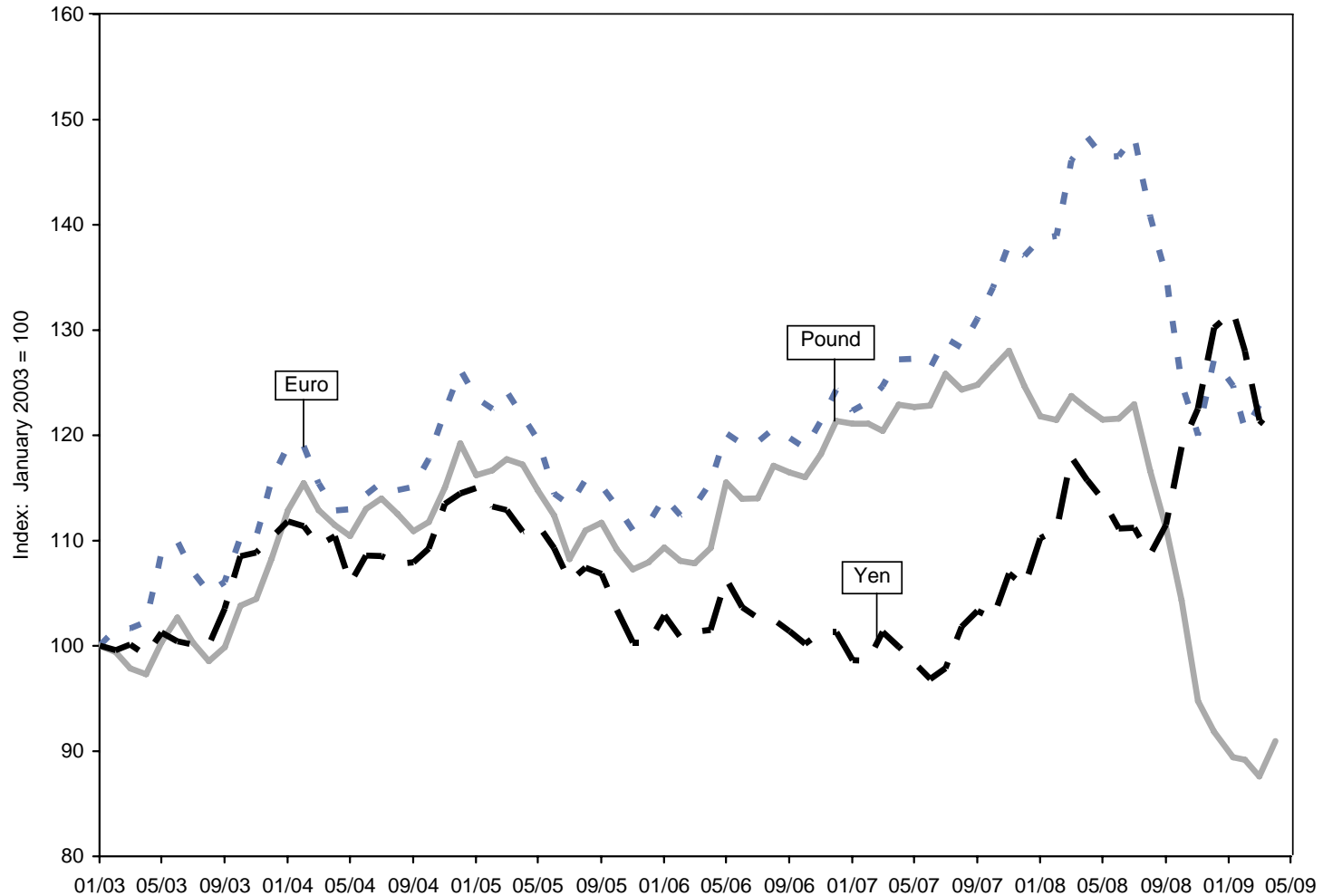
## Reversal of the dollar's multiyear decline



Source: Federal Reserve Bank of St. Louis.

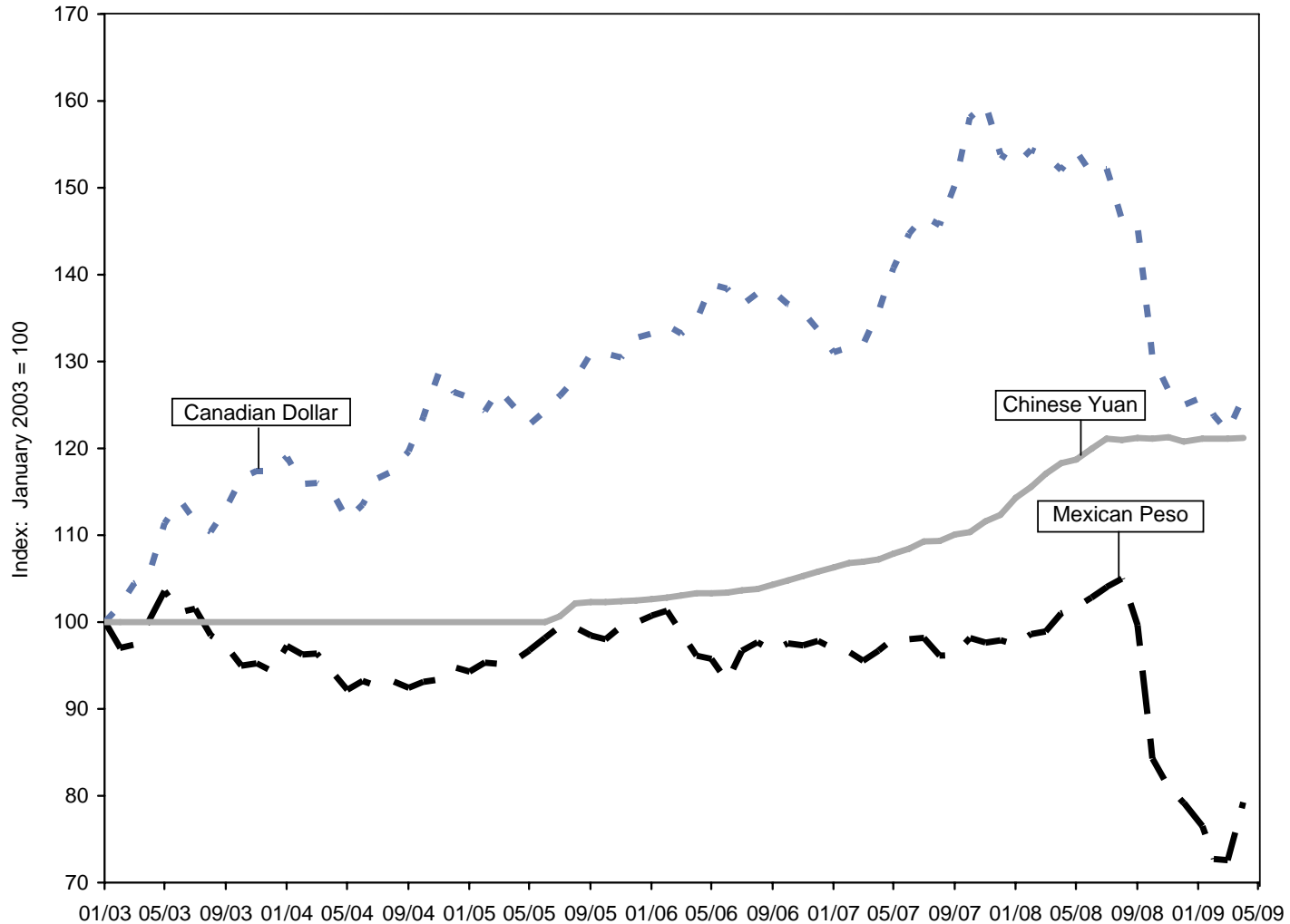
# Selected foreign exchange rates

US dollar has risen relative to several senior currencies, but not the yen



Source: Federal Reserve Board, Goldman Sachs Global Markets Institute.

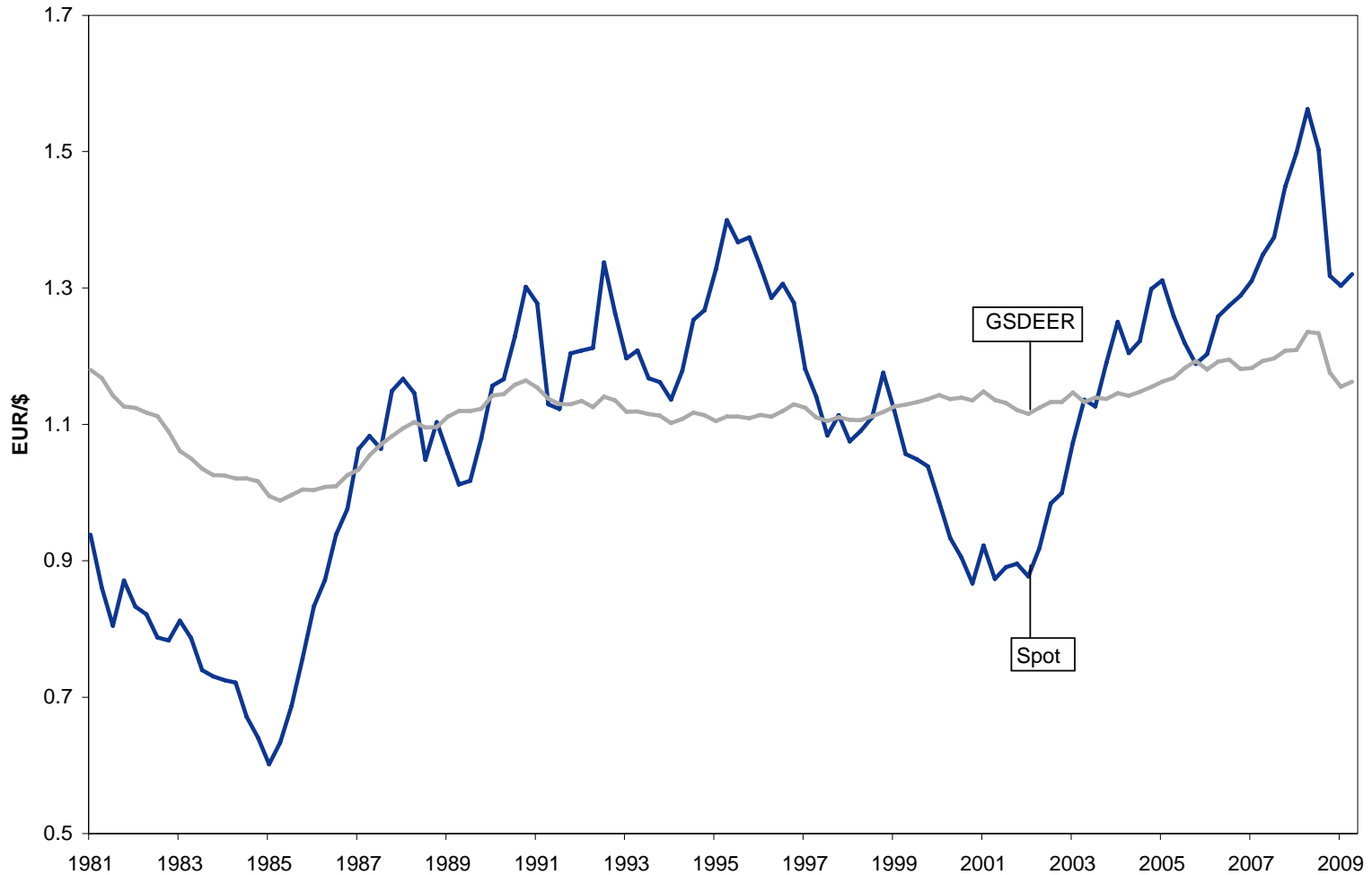
# Selected foreign exchange rates US dollar relative to currencies of key trading partners



Source: Federal Reserve Board, Goldman Sachs Global Markets Institute.

# US dollar approaching fair value

## Spot price v. GS model of foreign exchange values



Quarterly data from 1/1/1981 through 4/1/2009

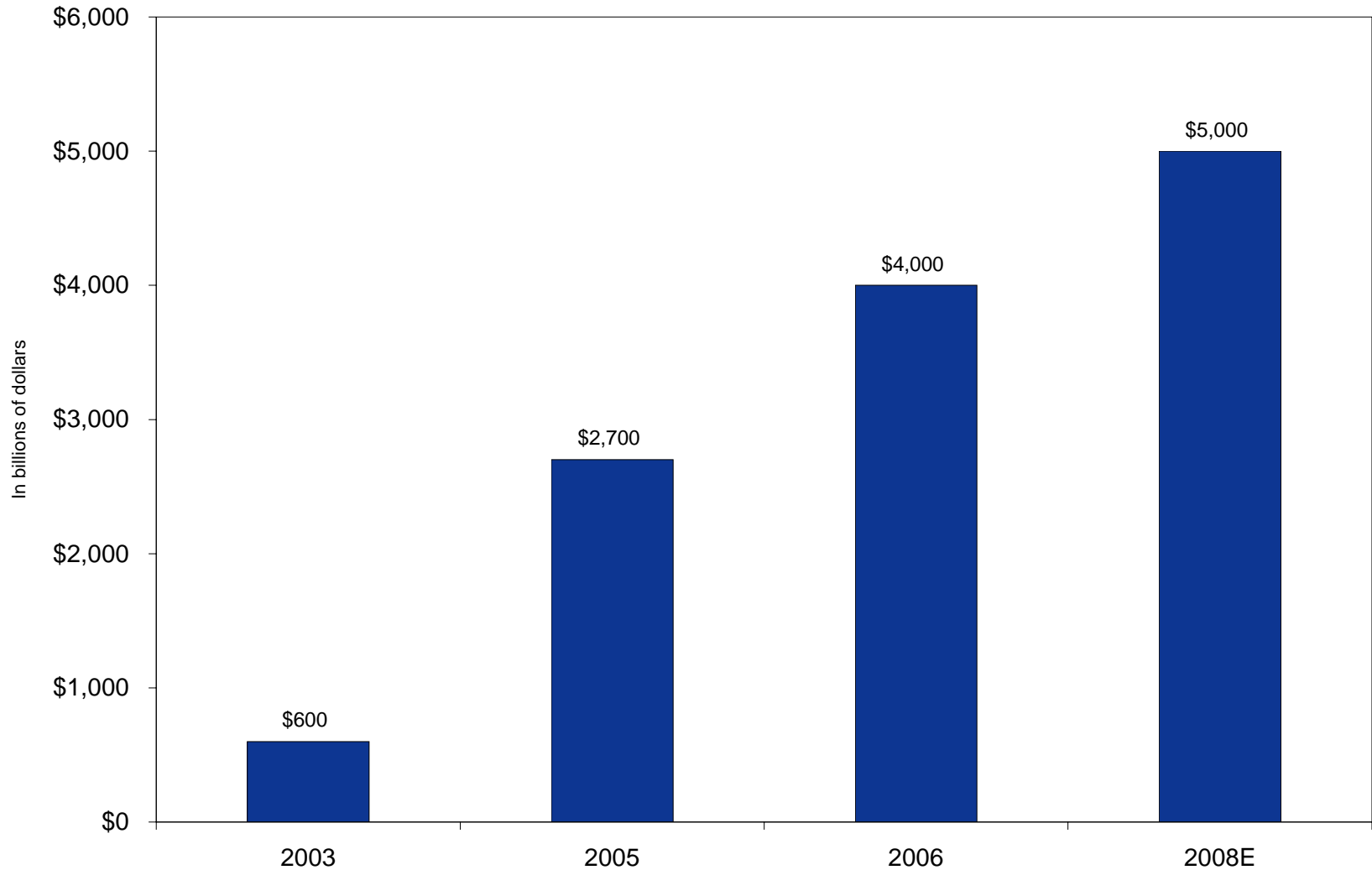
Source: Goldman Sachs Economics Research.

## Environmental awareness is growing for both corporations and investors

- Large increase in ESG investment: Environmental, Social Responsibility, and Governance. Has this reached critical mass?
- Pension funds must focus on fiduciary responsibilities: Does “green” investing generate good returns? What are the long-term liabilities of ignoring environmental issues?
- Corporations look to become good citizens and enhance competitive position.
- Outsourcing of industrial production to nations with higher energy intensity and lower environmental standards. What are the global implications?

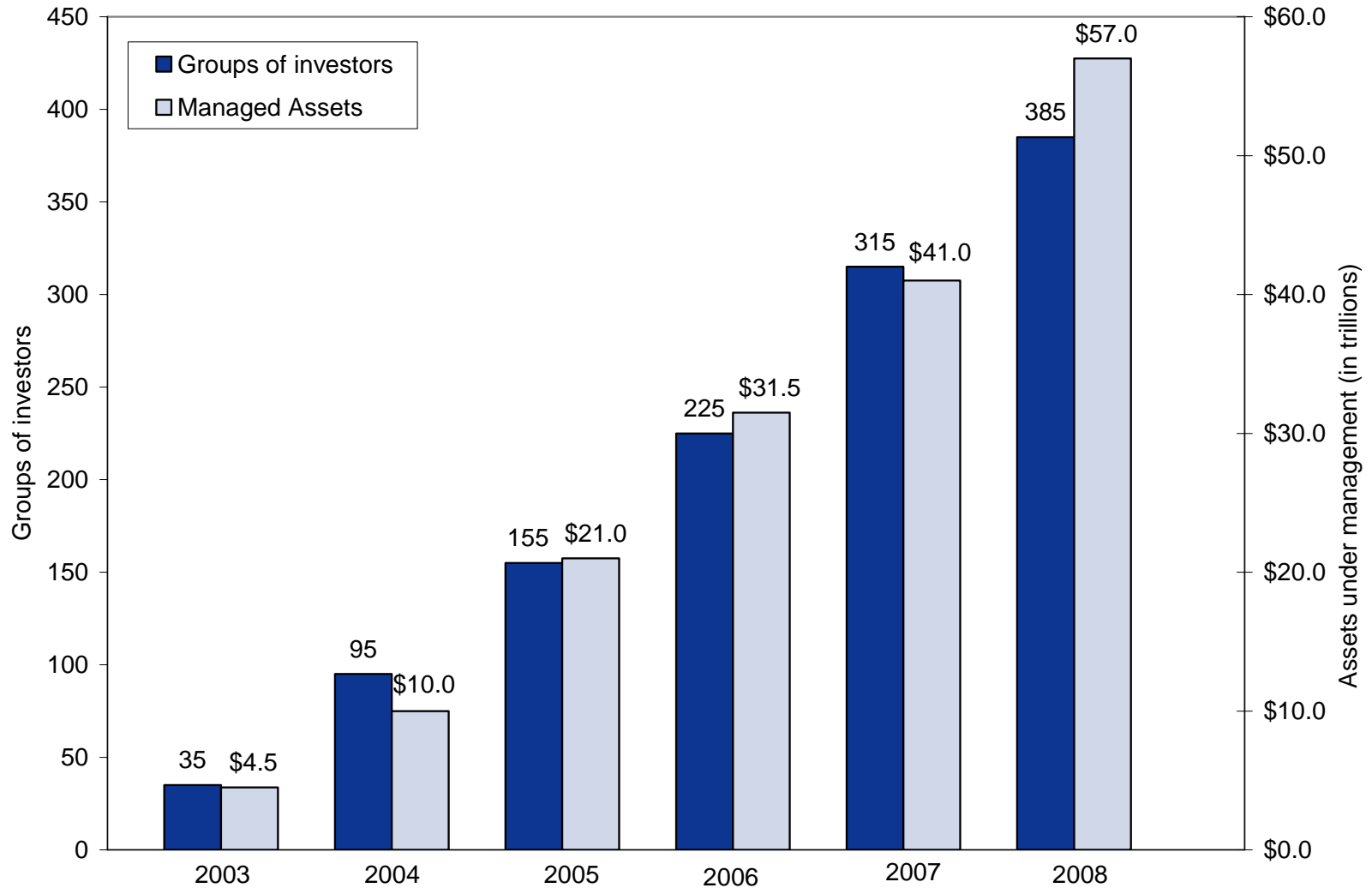
# Assets controlled by INCR participants

\$5.0 trillion in total assets in early 2008



Source: Investor Network on Climate Risk, CERES.

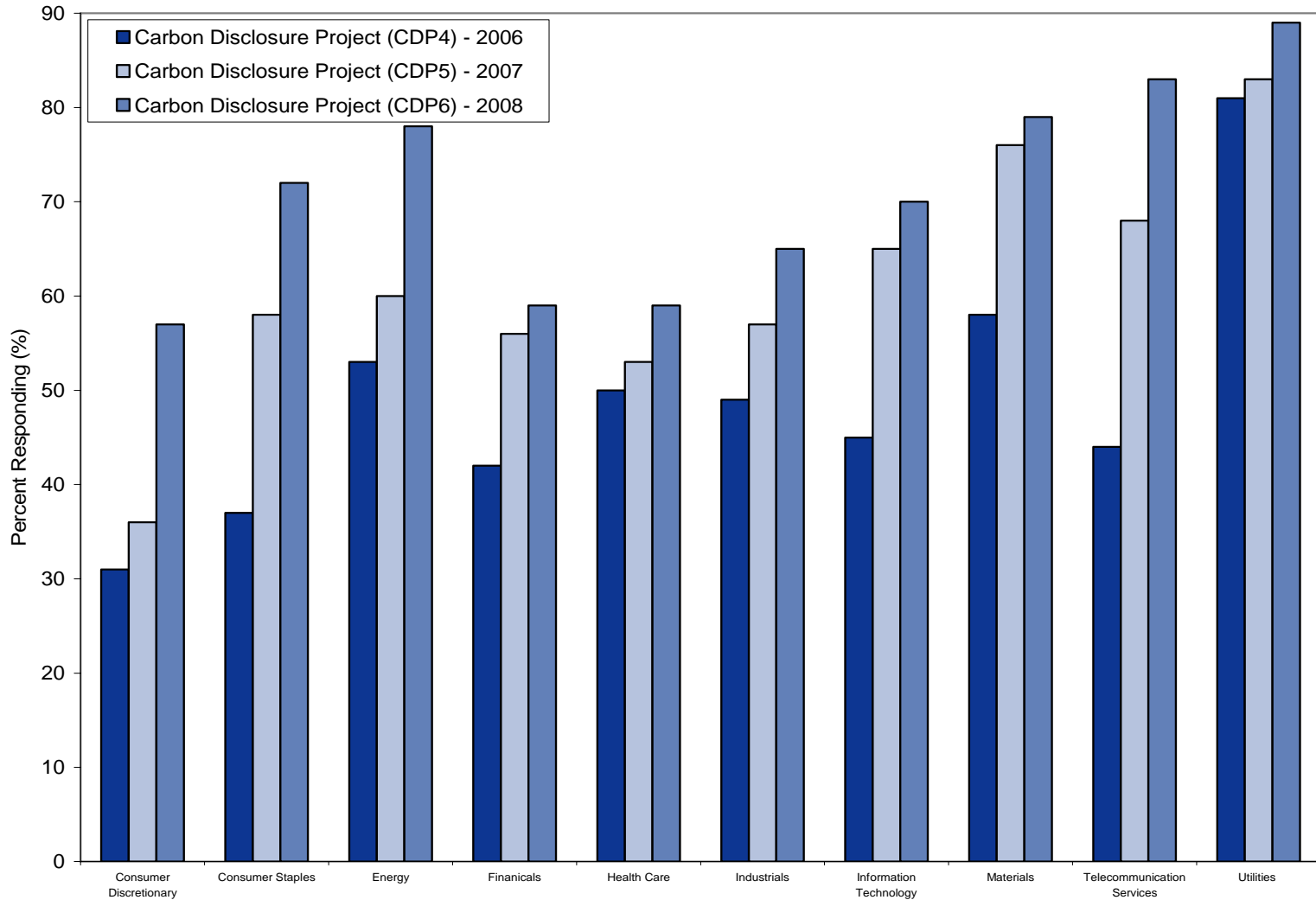
# More investor groups participating in the CDP Demanding more information from public companies



Source: Carbon Disclosure Project.

# CDP response rate

## Higher response rates in every economic sector



Source: Carbon Disclosure Project.

# Environmental-related disclosures

## Companies in every economic sector affected by this issue

Ticker	Company	Market Capitalization (\$ Millions)	Significant Policy Initiatives
<b>Consumer Discretionary</b>			
F	Ford Motor Co.	\$5,235.3	<p>Reduced global operational energy used by 30 percent and CO<sub>2</sub> emissions by 39 percent since 2000.</p> <p>Targeted CO<sub>2</sub> emissions reduction for U.S. and EU vehicles by 30 percent relative to 2006 models to be reached by 2020.</p> <p>Joined the U.S. Climate Action Partnership (USCAP) to advocate for climate change policy in the United States.</p> <p>Long-term targets, include reducing emissions by 60 to 80 percent from current levels by 2050.</p> <p>Set goals to incorporate fuel-saving technologies into product lines for 2012 through 2020 by cutting vehicles' weight with smaller engines, creating hybrid models, and introducing smaller-displacement turbocharged gasoline engines with fuel saving direct-injection technologies.</p> <p>For 2020 through 2030 will invest in a range of internal combustion and fuel cell vehicles, enabling the most viable option renewable fuel source to emerge.</p> <p>In 2007, devised the "Blueprint for sustainability," a CO<sub>2</sub> reduction strategy, that includes a series of goals for next several years.</p> <p>Produced 1.5 million vehicles that run on bio-ethanol in Brazil.</p>
GM	General Motors Corp.	\$3,685.7	<p>Global facilities decreased CO<sub>2</sub> by 15.5 percent compared to 2000 emissions. This surpassed the 8 percent reduction from 2000 through 2005.</p> <p>Reduced composite greenhouse gas by 82 percent from 1990 through 2006 in the U.S.</p> <p>In 2005, U.S. operations recycled 1.634 million metric tons of waste.</p> <p>Joined the U.S. Environmental Protection Agency's Climate Leaders Program in 2001. Recognized in January 2005 for achieving CO<sub>2</sub> emissions reduction from North American facilities by 10 percent from 2000 to 2005. Established a new target for a 17 percent reduction for North American facilities for 2005 through 2010.</p>
<b>Consumer Staples</b>			
GIS	General Mills Inc.	\$21,247.8	<p>Nearly eliminated uses of ozone-depleting substances from operations.</p> <p>88 percent of total waste was reused or recycled.</p> <p>Spent approximately 50 percent of packaging dollars on recycled materials in 2006.</p>
WMT	Wal-Mart Stores Inc.	\$214,401.7	<p>Announced in 2006 that refrigerator cases will be retrofitted in over 500 stores, which was expected to reduce CO<sub>2</sub> emissions by 35 million pounds per year.</p> <p>In February 2007, installed motion sensor-activated LED case lighting in new Wal-Mart stores and Super centers. Between January and July of 2007, these installations saved approximately 66 percent of the energy used for lighting.</p> <p>Installed smaller and more efficient diesel engines in trucks making overnight trips in May 2006. Expected to eliminate approximately 100,000 metric tons of CO<sub>2</sub> emissions and reduce consumption of diesel fuel by 10 million gallons.</p> <p>Invested approximately \$500 million annually in sustainable technologies and innovations; greenhouse gases at Sam's Clubs and distribution centers around the world are expected to be reduced by 20 percent by 2012.</p> <p>Applied better aerodynamics and decreased package size to improved fuel mile efficiency for its fleet.</p> <p>With the Carbon Disclosure project, working to influence suppliers to reduce CO<sub>2</sub> emissions. Established and met 2005 CO<sub>2</sub> baseline goal, which was reported to the carbon disclosure project.</p> <p>Established 3 goals to increase alternative fuel usage through the Alternative Fuels Network. The 3 goals are (1) raise ethanol use to 75 million gallons, (2) increase consumption of bio-diesel by 2.6 million and (3) provide incentives for renewable and alternative fuel innovation.</p>

Source: Company reports through 2007.



# Environmental-related disclosures (cont'd)

## Companies in every economic sector affected by this issue

Ticker	Company	Market Capitalization (\$ Millions)	Significant Policy Initiatives
<b>Energy</b>			
DVN	Devon Energy Corp.	\$32,431.6	<p>Reduced emissions to 6 billion cubic feet of methane or 2.6 million tons of CO<sub>2</sub> equivalent in 2005 by taking measures to reduce greenhouse gas production and transportation options since 1990.</p> <p>Since 1994, implemented more than 200 emission-reduction projects that resulted in a reduction of more than 8 million tons of CO<sub>2</sub> equivalent in Canada.</p> <p>Reduced water consumption by 18 percent after implementing a usage tracking system in 2001. Technological upgrades at Coleman Gas plant in southern Alberta allowed for 25 percent less water usage, as well as for 75 percent of the water used to be recycled.</p>
XOM	Exxon Mobil Corp.	\$379,577.8	<p>Reduced emissions of volatile organic compounds, such as nitrogen oxides and sulfur dioxide, from operations by 23 percent since 2004 and reduced greenhouse gas emission by 3 percent from 2006 levels.</p> <p>Invested over 1 billion in cogeneration projects for improved efficiency and reduced emissions since 2004.</p> <p>From 2006 to 2007, reduced 5 million metric tons of greenhouse gas emissions through actions taken to change operations and emissions measurement.</p> <p>Sponsored the Global Climate and Energy Project (GCEP) at Stanford University. In 2007, GCEP awarded \$15 million to support 3 new research programs that will study areas such as advanced transportation, batteries, solar energy, as well as develop an on-vehicle hydrogen production system, which will convert hydrogen to power within a vehicle's fuel cell. This technology could be 80 percent more fuel-efficient and emit 45 percent less CO<sub>2</sub> than today's internal combustion engine.</p>
<b>Financials</b>			
C	Citigroup Inc.	\$85,764.9	<p>In early 2006, pledged to reduce greenhouse gas emissions by 10 percent of 2005's baseline by 2011.</p> <p>Allocated \$10 billion to reduce environmental footprint. By 2011, will reduce GHG emissions. Purchased 52,283 MWh of green power for operations.</p> <p>Set goal to achieve environmental certification (Leadership in Energy and Environmental Design) for all new buildings.</p> <p>In 2006, made \$2 million in grants for sustainable enterprise, including climate-related programs in alternative energy and sustainable forestry and agriculture. Has been supporting projects such as the Ecologic Development Fund that work in Honduras and Panama to produce community-based carbon offsets and to support the reforestation of a reserve.</p>
WFC	Wells Fargo & Co.	\$100,592.4	<p>Committed to purchase 550 million kilowatt hours of renewable energy certificates each year for 3 years.</p> <p>Surpassed \$1 billion in financing for Leadership in Energy and Environmental Design (LEED) building projects.</p> <p>Committed to invest nearly \$400 million in renewable energy projects, including 8 utility-scale wind farms in 4 states.</p> <p>Collaborated with Build it Green, a nonprofit promoting energy- and resource-efficient buildings, to give customers tools and information about green home improvements.</p> <p>Financed nonprofits that built green affordable homes in low-to-moderate-income neighborhoods.</p> <p>Piloted an environmental rewards campaign giving customers financial incentives for buying energy-efficient appliances.</p>

Source: Company reports through 2007.

# Environmental-related disclosures (cont'd)

## Companies in every economic sector affected by this issue

Ticker	Company	Market Capitalization (\$ Millions)	Significant Policy Initiatives
<b>Health Care</b>			
JNJ	Johnson & Johnson	\$175,159.0	<p>Decreased CO<sub>2</sub> emissions by 12.7 percent or 88,000 tons per year from 1990 to 2007.</p> <p>Opened a 1.1-megawatt solar power system that covers 6.5 acres and will offset 17,000 tons of carbon emissions during its 25-year life.</p> <p>Committed \$97 million for the construction of 49 projects through the CO<sub>2</sub> reduction projects funding process.</p> <p>Committed to reduce the total CO<sub>2</sub> emissions per kilometer driven by 30 percent against a 2003 baseline by 2010.</p> <p>Incorporated 978 hybrids vehicles in the U.S. fleet since March 2008.</p> <p>Made enterprise-wide goals, set every five years, for biodiversity, compliance, energy use, environmental literacy, external manufacturing, paper and packaging, product stewardship, transparency, waste reduction and water use.</p> <p>Achieved a 10 percent reduction in non-hazardous waste by increasing recycling and reusing of waste and the number of composting projects since 2005.</p> <p>Reduced hazardous waste by 4 percent since 2005.</p>
MRK	Merck & Co. Inc.	\$63,031.6	<p>Decreased total CO<sub>2</sub> emission by 8 percent from 2004 to 2006.</p> <p>Announced a plan to reduce GHG emissions from global operations by 12 percent by 2012, using 2004 as its base year.</p> <p>Required that emissions must be offset by 100 percent to achieve the net 12 percent GHG reduction.</p> <p>Eliminated the use of coal-fired boilers at facilities.</p> <p>Implemented a greenhouse gas emissions reduction plan to reduce energy demand and is on target to reach a 25 percent reduction of energy intensity demand from the baseline year of 2004 by the end of 2008.</p>
<b>Industrials</b>			
CAT	Caterpillar Inc.	\$30,119.3	<p>Reduced greenhouse gas intensity by 38 percent from a 2002 base in 2007 and established a new goal to reduce absolute greenhouse gas emissions by 25 percent from base year of 2006 by 2010.</p> <p>Planned to increase energy efficiency by 25 percent and to use alternative energy sources for 20 percent energy needs by 2020.</p> <p>Established in 2005 a goal to recycle 70 percent of waste by 2010; which was achieved in 2007. In 2007, the rate of recycling was 86 percent.</p> <p>In 2007, launched a new sustainable facilities policy that requires facilities to be certified under Leadership in Energy and Environmental Design (LEED) or equivalent international standards. Plans are underway for more than a dozen new facilities designed to comply with the policy.</p>
LMT	Lockheed Martin Corp.	\$35,774.7	<p>Pledged to reduce greenhouse gas emissions by 30 percent per dollar revenue between 2001 and 2010.</p> <p>Invested more than \$40 million since 2001 in capital improvements to increase energy efficiency and lower emissions. More than 125 million kilowatt hours of energy was saved annually and reduced 96,000 metric tons of CO<sub>2</sub> emissions.</p> <p>Purchased 25 million kilowatt hours of renewable energy credits. The renewable energy credits offset or displaced 17,131 tons of greenhouse gases.</p> <p>Upgraded technology that saved about 4.2 million kilowatt hours and eliminated more than 2,200 metric tons of carbon emissions.</p> <p>Constructed buildings in California to comply with Leadership in Energy and Environmental Design (LEED) standards.</p>

Source: Company reports through 2007.

# Environmental-related disclosures (cont'd)

## Companies in every economic sector affected by this issue

Ticker	Company	Market Capitalization (\$ Millions)	Significant Policy Initiatives
<b>Industrials</b> RTN	Raytheon Co.	\$20,090.5	<p>Reduced greenhouse gases by 28 percent from 2002 to 2009 at the end of 2007.</p> <p>Avoided accumulating over 140,000 metric tons of carbon dioxide equivalent GHG emissions since 2002.</p> <p>In 2007, held internal summits on lean manufacturing and energy. Insights from these submits resulted in improved measures to eliminate materials restricted or prohibited by European Union standards.</p> <p>Invested in greener manufacturing methods. Invested in cleanup of past environmental contamination and was involved in 45 remediation projects.</p> <p>Reduced hazardous waste by 85 percent per billions dollars of revenue since 1998.</p> <p>In 2007, reduced hazardous waste by 20 percent, while 82 percent of hazardous waste was recycled, blended into fuels, treated or incinerated.</p> <p>Reduced sold waste per billions of revenue by 50 percent since 1998. In 2007, recycled 58 percent or 11,300 tons of solid waste, which prevented saving 30,000 metric tons of CO<sub>2</sub> equivalent GHG emissions to be emitted.</p> <p>Made changes to coating process that prevented production of volatile organize compounds and hazardous waste.</p>
UNP	Union Pacific Corp.	\$32,205.0	<p>Tested in 2002 the first diesel-battery hybrid switch locomotive that is estimated to reduce emissions of nitrogen oxides and particulate matter by 80 percent and reduce fuel consumption by 16 percent versus a conventional switch locomotive.</p> <p>Saved more than 21 million gallons of diesel fuel in 2007.</p> <p>In December 2006, began a year-long field test in the Los Angeles on a new emission reduction device for older locomotives.</p> <p>Equipped first freight with a set of oxidation catalyst or "Oxicat" converter devices. The devices converts diesel engine's exhaust flows, specifically the particulate matter, into water and carbon dioxide.</p> <p>In 2005, put into service 160 low emissions switch locomotives, the "Genset Switcher," that use modified, low-emissions EPA-certified "off-road" diesel engines. Reduced emissions of nitrogen oxides by 80 percent and particulate matter by 90 percent and achieved a 37 percent reduction in fuel consumption.</p> <p>Evaluating feasibility of Advanced Locomotive Emissions Control System (ALECS) in California. ALECS captures and treats, rather than being released into the air, diesel-related emissions.</p>
UPS	United Parcel Service Inc.	\$37,964.7	<p>Reduced CO<sub>2</sub> by 3,069,674 tons by employing fleets with emission reduction strategies.</p> <p>Invested over \$20 million to deploy alternative-fuel vehicles in its fleet.</p> <p>As of 2007, operated the largest private alternative fuel vehicle fleet in the entire transportation industry with more than 1,629 such vehicles.</p> <p>Tested a hydraulic hybrid delivery vehicle in 2007.</p> <p>Introduced Hybrid Electric Vehicles (HEVs) in Alabama and used the energy stored in this vehicle to provide 80 percent of the electricity needed to power the local sorting facility's conveyor system and lights. A second-generation HEV operated in Michigan or several months during 2004.</p> <p>In 2007, deployed 50 next-generation HEVs, expected improve fuel economy by 30 percent. Projected to save 24,400 gallons of fuel annually and reduce CO<sub>2</sub> emissions by 236 metric tons each year.</p> <p>Operated two full-size Zero-Emission Electric Vehicles in Manhattan, N.Y. Operated an electric package delivery car in Santiago, Chile, from 2001 to 2006 and tested 13 zero-emission electric minivans in downtown Los Angeles, California.</p> <p>In 2003, deployed DaimlerChrysler Sprinter fuel-cell vehicle in Stuttgart, Germany and deployed two additional fuel-cell vehicles with more advanced technology in 2004.</p>

Source: Company reports through 2007.



# Environmental-related disclosures (cont'd)

## Companies in every economic sector affected by this issue

Ticker	Company	Market Capitalization (\$ Millions)	Significant Policy Initiatives
<b>Industrials</b>			
UPS	United Parcel Service Inc.	\$37,964.7	<p>In California several facilities used "green" power for 50 percent of their electricity supply. In 2007, recycled 45,400 tons of solid-waste materials including metals, plastics, paper, corrugated materials, pallets and wood waste.</p> <p>In 2007, purchased 159,100 tons of materials with recycled content. This is the equivalent of removing 12,793 passenger cars from the road.</p> <p>Have several ongoing facility initiatives such as using Energy-efficient motors and low-friction belts for conveyer systems, pressurized heating systems and dock door seals to prevent the infiltration of outside air in cooler climates, and motion sensors and timers for office lighting to reduce the wasteful use of energy.</p>
<b>Information Technology</b>			
IBM	International Business Machines	\$124,929.8	<p>Devoted \$1 billion annually in 2007 to products and services that can increase the energy efficiency of the average data center by 42 percent.</p> <p>New microprocessor expected to double performance with unchanged power usage.</p> <p>From 1990 through 2006, saved 4.5 billion kwh of electricity, avoided nearly 3 million metric tons of CO<sub>2</sub> emissions through energy conservation actions.</p> <p>Procured renewable energy and renewable energy certificates, increasing amount from 11M kWh in 2001 to 368M kWh in 2006.</p> <p>From 2000 to 2006, IBM reduced perfluorocompound (PFC) emissions from its semiconductor manufacturing by 55 percent in metric tons of CO<sub>2</sub>.</p> <p>Reduced CO<sub>2</sub> emissions by 10.3 percent versus 4 percent goal.</p> <p>Reduced CO<sub>2</sub> emissions associated with energy use by 12 percent between 2005 and 2012.</p>
INTC	Intel Corp.	\$95,517.8	<p>On track to reduce greenhouse gas emissions per production unit by 30 percent from 2004 levels by 2010.</p> <p>In 2007, joined the Chicago Climate Exchange (CCX), a voluntary, legally binding greenhouse gas emissions reduction, registry, and trading program and committed to reduce greenhouse gas emissions by a minimum of 6 percent by 2010.</p> <p>Surpassed state goal to reduce energy consumption by 4 percent from 2002 through 2010.</p> <p>Used energy efficient system throughout operations that saved 90 million kilowatt-hours in 2007.</p> <p>Allocated funds for conservation and energy efficiency projects and since 2001, approved more than 250 improvement projects and saved over 500 million kWh of electricity.</p>
<b>Materials</b>			
AA	Alcoa Inc.	\$11,060.4	<p>Agreed to report greenhouses gas emissions from all large facilities by 2010, made progress on meeting emission targets for NOx and VOC with reductions of 50 and 44 percent, respectively.</p> <p>Reduced direct emissions by 33 percent from 1990 levels by closing three lignite-based power units in Texas in 2007.</p> <p>Achieved goal of reducing waste disposed in landfills by 2015 by 50 percent. In 2007, established a Climate Change Strategy Team in 1998 that set a target of reducing greenhouse gas emissions by 25 percent below 1990 levels by 2010.</p>

Source: Company reports through 2007.

# Environmental-related disclosures (cont'd)

## Companies in every economic sector affected by this issue

Ticker	Company	Market Capitalization (\$ Millions)	Significant Policy Initiatives
<b>Materials</b>			
MON	Monsanto Co.	\$51,502.2	<p>Joined the Chicago Climate Exchange a greenhouse gas emissions reduction, registry and trading program in 2007.</p> <p>Plans to reduce carbon emissions at major U.S. manufacturing sites by 6 percent from its 2000 levels by 2010.</p> <p>Plans to develop seeds that will reduce the amount of resources required to grow crops by 3 percent by 2030.</p> <p>Research pipeline includes new corn, soybean and cotton products that will rely on less land, use of energy, fertilizer and water per unit produced.</p> <p>Committed to growing sustainable yields by (1) developing better seeds to double yield for three core crops of corn, soybeans and cotton by 2030 compared to a base year of 2000 and (2) conserving resources by developing seeds that will reduce by one-third the amount of key resources required to grow by 2030.</p>
<b>Telecommunication Services</b>			
T	AT&T Inc.	\$153,630.5	<p>Refurbished and recycled nearly 3.9 million phones and recycled more than 911,000 pounds of accessories and batteries in 2007.</p> <p>Offers a national recycling program where consumers are invited to bring unwanted wireless phones, personal digital assistants (PDAs), accessories and batteries to AT&amp;T-owned retail stores.</p> <p>Established a policy to purchase low emissions vehicles or partial zero emissions vehicles for the company's fleet.</p> <p>Initiated a pilot program to test hybrid vehicles for service capabilities and potential energy-consumption benefits.</p> <p>In 2005, joined the California Climate Action Registry for operations in California. This registry helps companies and organizations track, publicly report and reduce emissions of the gases.</p> <p>Recycled used oil and antifreeze from its fleet of service vehicles and backup power generators to reduce energy usage, and waste.</p> <p>Promoted online paperless billing and printing double-sided phone bills.</p>
VZ	Verizon	\$82,384.9	<p>Decreased carbon intensity from 81.3 metric tons of CO<sub>2</sub> emissions per million dollars of revenue to 80.7 metric tons.</p> <p>Collected 1.1 million cell phones for refurbishing, donation and recycling.</p> <p>Working on improving 25 acres of grass and wetland habitat. The goal of the project, which started early in 2007, was to return the land to its native state. Have already planted 550 native trees and shrubs at the location.</p> <p>Reduced greenhouse gas emissions by 76,000 metric tons in 2007 through energy conservation measures.</p> <p>Deployed more than 7,000 energy-efficient "thin client" computers in 12 call centers during 2007 that resulted in a 30 percent decrease in energy usage.</p> <p>Rolled out power management software on 61,000 desktop systems nationwide that provided automatic shutdown and "sleep" functions. The move resulted in a 24 percent reduction in PC power consumption.</p> <p>In 2007, nearly 28 percent of \$11.6 million in expenditures for office supplies went toward products with recycled content.</p> <p>Installed hydrogen fuel cells for back-up power at two regeneration sites in Missouri and another in Texas. The fuel cells enhance the reliability of the sites, while reducing the number of batteries and the amount of energy required for cooling.</p> <p>Installed more energy efficient equipment as part of an upgrade to its fiber-optic network. The newer technology eliminates the need for nearly a third of the existing regeneration sites.</p>

Source: Company reports through 2007.

# Environmental-related disclosures (cont'd)

## Companies in every economic sector affected by this issue

Ticker	Company	Market Capitalization (\$ Millions)	Significant Policy Initiatives
<b>Utilities</b>			
ETR	Entergy Corp.	\$14,931.4	<p>Committed to stabilize CO<sub>2</sub> emissions at 20 percent below year 2000 levels from 2006 to 2010; CO<sub>2</sub> emissions for 2006 and 2007 were 7.2 percent better than the stabilization goal set for 2006 and 2007.</p> <p>Invested \$20.3 million in greenhouse gas emissions reduction projects in 2005.</p> <p>Provided \$250,000 in funding to Ducks Unlimited the world's largest private waterfowl and wetlands conservation organization.</p> <p>Sold or recovered more than 11.5 million pounds of scrap material, reducing the quantity of scrap sent to landfills in 2007.</p> <p>Recycled or sold 778,000 tons of coal ash, 78 percent of the 998,000 tons generated in 2007.</p>
TXU	TXU Corp.*	\$31,930.2	<p>Dedicated \$100 million to develop innovative energy efficiency and conservation products and services.</p> <p>Maintained the nation's largest non-profit urban tree farm. Through 2007, the TXU Energy Urban Tree Farm's volunteers planted approximately 10,000 trees.</p> <p>Sponsored the National Energy Education Development Project's solar energy education program, which helped local schools bring solar technology and energy lessons to the classroom and educated more than 36,000 students on renewable energy.</p> <p>Launched the TXU Energy Power Saver Challenge, a unique contest open to residential customers in Texas. The contest awards customers to manage energy consumption and costs, save electricity and money.</p>

\*TXU market cap as of 10/10/2007

# Regional initiatives in North America on Climate Change

Participants include entities in the US, Canada and Mexico

Initiative	Description	Announced	North American Participants
<b>Midwestern Regional Greenhouse Gas Reduction Accord</b>	Establishes regional greenhouse gas reduction targets that include a long-term target of 60 to 80 percent below 2007 emissions levels and develops a multi-sector cap-and-trade system that includes a greenhouse gas emissions reductions tracking system.	November 15, 2007	Wisconsin, Minnesota, Illinois, Indiana, Iowa, Michigan, Kansas, Ohio, South Dakota, Indiana, and Manitoba.
<b>Energy Security and Climate Stewardship Platform for the Midwest</b>	Establishes goals for improving energy efficiency, low-carbon transportation fuel accessibility, renewable electricity production, and carbon capture and storage development.	November 15, 2007	Wisconsin, Minnesota, South Dakota, Illinois, Indiana, Iowa, Kansas, Michigan, Missouri, Nebraska, North Dakota, Ohio, and Manitoba.
<b>Western Climate Initiative</b>	Members set regional emissions target (the regional greenhouse gas emissions target of 15 percent below 2005 levels by 2020 as of August 2007), as well as establishes a cap-and-trade program.	February 26, 2007	Arizona, British Columbia, California, Manitoba, Montana, New Mexico, Ontario, Oregon, Quebec, Utah, Washington, Alaska, Colorado, Idaho, Kansas, Nevada, Wyoming, Quebec, Saskatchewan, Baja California, Chihuahua, Coahuila, Nuevo Leon, Sonora, and Tamaulipas.
<b>Regional Greenhouse Gas Initiative (RGGI)</b>	A cooperative effort by 9 Northeast and Mid-Atlantic states to design a regional cap-and-trade program for carbon dioxide emissions from power plants. It is the first mandatory U.S. cap-and-trade program for carbon dioxide. The program will begin capping emissions at current levels in 2009, and then reducing emissions 10% by 2019.	December 20, 2005	Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont, District of Columbia, Pennsylvania, Ontario, Quebec, and New Brunswick.
<b>Clean and Diversified Energy Initiative</b>	The Western Governors' Association (WGA) creates the Clean and Diversified Energy Advisory Committee. The advisory committee identifies changes needed for state and federal policies to achieve 30,000 megawatts of new clean and diverse energy generation by 2015, a 20 percent increase in energy efficiency by 2020 and adequate transmission capacity for the region over the next 25 years.	June 22, 2004	New Mexico, California, Wyoming, Utah and North Dakota.

Source: State Press releases, Pew Center on Global Climate Change.

# State initiatives in 2008

## Not waiting for the US federal government

States	State Initiatives in 2008	Date	Action	Key items
<b>Massachusetts</b>	Governor Deval Patrick signs The Green Communities Act, requiring that electric utilities generate an increasing amount of electricity from renewable sources, growing one percentage each year beyond the 4 percent standard in 2009. The legislation also mandates that half the state's fleet to be hybrid or alternative fuel vehicles by 2018.	7/2/2008	Law	Renewable Portfolio Standards, Vehicle requirements
<b>Delaware</b>	Governor Ruth Ann Minner signs Senate Bill 263, authorizing the state to participate in the Regional Greenhouse Gas Initiative (RGGI), a cap-and-trade system. Participation in the RGGI will begin on January 1, 2009.	6/30/2008	Law	Cap-and-trade system
<b>Maryland</b>	Governor Martin O'Malley signs into law several pieces of energy and climate change legislation. The High Performance Buildings Act establishes green building standards for public buildings and the Empower Maryland Energy Efficiency Act of 2008 establishes goals of reducing per capita electricity consumption and peak energy demand by 2015.	4/24/2008	Law	Green building standards, Goals for energy consumption reduction
<b>Florida</b>	Governor Charlie Crist signs into law House Bill 7135, enacting new energy and climate change policies. The Florida Climate Protection Act authorizes the Department of Environmental Protection to develop an electric-utility greenhouse gas cap-and-trade program, which may begin operating in January 2010.	6/25/2008	Law	Several policies, i.e. developing cap-and-trade system
<b>California</b>	California's Air Resources Board announces a plan to help reduce state greenhouse gas emissions to 1990 levels by 2020, provisions include designing a cap-and-trade program and increasing renewable portfolio standards from 20 by 2010 to 33 percent by 2020.	6/26/2008	Proposal	Cap-and-trade system, Renewable Portfolio Standards
<b>New York</b>	The New York State Public Service Commission announces Energy Efficiency Portfolio Standards that requires electricity consumption to reduce by 15 percent below projected levels by 2015.	6/18/2008	Proposal	Energy Efficiency Portfolio Standards
<b>Utah</b>	Announces goal to reduce statewide GHG emissions to 2005 levels by 2020 through renewable energy sources, reduced energy demand and increased efficiency, as well as joining the Western Climate Initiative (WCI) GHG, a cap-and-trade program.	6/20/2008	Proposal	Cap-and-trade system

Source: State Press releases, Pew Center on Global Climate Change.

# State initiatives in 2008 (cont'd)

## Not waiting for the US federal government

States	State Initiatives in 2008	Date	Action	Key items
<b>Washington</b>	Adopted Emissions Performance Standard, a broad legislative package designed to reduce greenhouse gas emissions that includes a requirement that baseload electricity generation facilities meet a greenhouse gas emission limit of 1,100 pounds of CO2 per megawatt hour.	6/19/2008	Law	Greenhouse emission limit
<b>Ohio</b>	Governor Ted Strickland signs House Bill 554, a \$1.57 billion economic stimulus package that includes \$84 million appropriated over three years to low-carbon energy sources, such as wind, solar, geothermal, hydro, and solid waste energy.	6/12/2008	Law	Funding for low-carbon energy
<b>Connecticut</b>	Governor Jodi Rell signs House Bill 5600, setting a statewide Greenhouse Gas emissions reduction target of 10 percent below 1990 levels by 2020. CT will also participate in Regional Greenhouse Gas Initiative, a cap-and-trade system.	6/2/2008	Law	Emissions target, Cap-and-trade system
<b>Kansas</b>	Governor Kathleen Sebelius signs Executive Order 08-03, establishing the Kansas Energy and Environmental Policy Advisory Group. This 25-member group will recommend steps to reduce greenhouse gas emissions and propose a timetable for implementation.	3/21/2008	Law	Advisory group
<b>Vermont</b>	Governor Jim Douglas signs the Energy Efficiency and Affordability Act of 2008, establishing a statewide goal of producing 25 percent of the energy consumed from renewable sources by 2025.	3/20/2008	Law	State-wide goal
<b>New Mexico</b>	Governor Bill Richardson signs House Bill 305, strengthening the state's existing Efficient Use of Energy Act. The bill provides financial incentives to electric and gas utilities that reduce their customers' energy consumption. Also, the bill requires electric utilities to achieve energy-efficiency savings of at least five percent of 2005 sales by 2014, and 10 percent by 2020.	2/27/2008	Law	Legislation providing financial incentives and new mandates
<b>Iowa</b>	The Climate Change Advisory board, established by Governor Chet Culver in 2007, released its preliminary report recommending multiple scenarios for greenhouse gas reductions, such as reducing emissions by 50 percent by 2050. Specific policy options will be recommended by December 31, 2008.	1/1/2008	Proposal	Preliminary report

Source: State Press releases, Pew Center on Global Climate Change.

# State initiatives in 2007

## Not waiting for the US federal government

States	State Initiatives in 2007	Date	Action	Key items
<b>Montana</b>	Governor Brian Schweitzer announces participation in the Western Climate Initiative (WCI), a regional cap-and-trade system.	11/19/2007	Proposal	Cap-and-trade system
<b>Colorado</b>	Governor Bill Ritter announces Colorado's Climate Action Plan, establishing a statewide greenhouse gas emissions reductions targets of 20 percent below 2005 levels by 2020, and 80 percent by 2050.	11/5/2007	Proposal	Emissions target
<b>California</b>	The California Air Resources Board announces a set of measures to reduce greenhouse gas emissions to 1990 levels by 2020, as required by California law under AB 32.	10/26/2007	Proposal	Emissions target
<b>Alaska</b>	Governor Sarah Palin signs Administrative Order 238, establishing the Climate Change Sub-Cabinet that will recommend climate change policies.	9/14/2007	Law	Advisory group
<b>Virginia</b>	Governor Timothy M. Kaine releases the Virginia Energy Plan. Some of the plan's goals are to reduce the rate of growth in energy use by 40 percent and greenhouse gas emissions by 30 percent by 2025.	9/12/2007	Proposal	Energy reduction plan, emissions target
<b>Illinois</b>	Governor Rod Blagojevich signs the Public Act 095-0481, setting a statewide Renewable Energy Standard and an Energy Efficiency Portfolio Standard, for example utilities must produce a certain percentage of their power from renewable sources, starting with 2 percent in 2008 and increasing to 25 percent in 2025.	8/28/2007	Law	Renewable Energy Standards and Energy Efficiency Portfolio Standards
<b>North Carolina</b>	Governor Mike Easley signs into law S.L. 2007-397, establishing a Renewable Energy and Energy Efficiency Portfolio Standard. By 2021, electric public utilities must meet 12.5 percent of retail electricity demand through renewable energy or energy efficiency measures.	8/20/2007	Law	Renewable Energy Standards and Energy Efficiency Portfolio Standards
<b>Oregon</b>	Governor Ted Kulongoski signs House Bill 3543, setting greenhouse gas (GHG) emissions targets. GHG emissions must be reduced to 10 percent below 1990 levels by 2010 and to 75 percent below 1990 levels by 2050.	8/6/2007	Law	Emissions target
<b>Florida</b>	Governor Charlie Crist signs three climate change related executive orders. EO 07-126 sets GHG emission reduction targets for state agencies and departments of 10 percent below current levels by 2012 and increasing to 40 percent below current levels by 2025. EO 07-126 requires state-owned vehicles to be more fuel efficient by using ethanol and biodiesel fuels. EO 07-127 sets statewide GHG emission reduction targets of 2000 levels by 2017.	7/13/2007	Law	Emissions target, Vehicle mandates
<b>New Jersey</b>	Governor Jon S. Corzine signs into law the Global Warming Response Act, setting greenhouse gas emissions targets to 1990 levels by 2020 and to 80 percent below 2006 levels by 2050.	7/6/2007	Law	Emissions target
<b>Oregon</b>	Governor Ted Kulongoski signs House Bill 2210, mandating that all gasoline sold in the state must be blended with 10 percent ethanol after Oregon's ethanol production reaches 40 million gallons per year. All diesel fuel sold in the state must be blended with two percent biodiesel when the production of biodiesel from sources in Oregon, Washington, Idaho and Montana reaches a level of at least 5 million gallons per year.	7/3/2007	Law	Renewable Fuels Standard

Source: State Press releases, Pew Center on Global Climate Change.

# State initiatives in 2007 (cont'd)

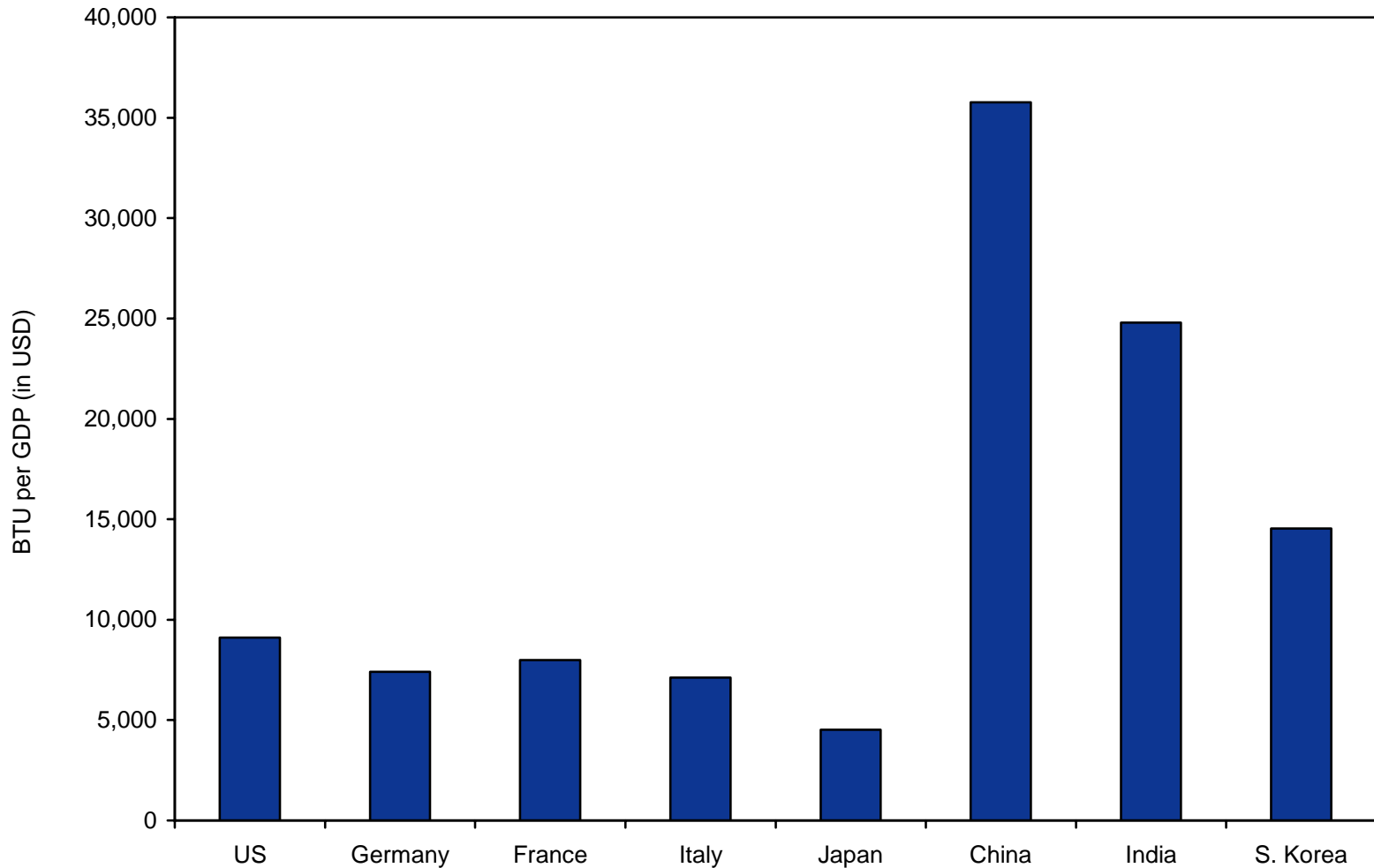
## Not waiting for the US federal government

States	State Initiatives in 2007	Date	Action	Key items
<b>Hawaii</b>	Governor Linda Lingle signs Act 234, mandating that statewide greenhouse gas emissions be reduced to 1990 levels by 2020.	6/30/2007	Law	Emissions target
<b>Minnesota</b>	Governor Tim Pawlenty signs the Next Generation Energy Act, establishing statewide greenhouse gas emission reduction goals to 15% by 2015, 30% by 2025, and 80% by 2050, based on 2005 levels.	5/25/2007	Law	Emissions target
<b>Utah</b>	Governor Jon Huntsman, Jr. announced that Utah will join the Western Regional Climate Action Initiative, a cap-and-trade program.	5/21/2007	Proposal	Cap-and-trade system
<b>New Hampshire</b>	Governor John Lynch signs House Bill 873, the Renewable Energy Act, establishing a renewable energy portfolio standard, as well as mandating that 25% of the state's electricity come from renewable sources by 2025.	5/11/2007	Law	Renewable Energy Portfolio Standards
<b>Washington</b>	Governor Christine Gregoire signs Senate Bill 6001, setting into law greenhouse gas emissions reductions goals and strategies that were originally announced in February 2007. Statewide emissions must be reduced to 1990 levels by 2020, 25 percent below 1990 levels by 2035, and 50 percent below 1990 levels by 2050.	5/3/2007	Law	Emissions target
<b>Maryland</b>	Governor Martin O'Malley signs the Maryland Clean Cars Act, pledging to adopt greenhouse gas standards for vehicles similar to California's, such as a 22 percent reduction of tailpipe greenhouse gas emissions for 2012 models.	4/24/2007	Law	Vehicle mandates
<b>Maryland</b>	Governor Martin O'Malley signs the Memorandum of Understanding for the Northeast Regional Greenhouse Gas Initiative (RGGI), joining the multi-state greenhouse gas emissions cap-and-trade program. RGGI aims to cap emissions at approximately current levels between 2009 and 2015, and then reduce this level 10% by 2019.	4/20/2007	Law	Cap-and-trade system
<b>Minnesota</b>	Announces the formation of the Minnesota Climate Change Advisory Group (MCCAG), a 51-member group that will develop a set of state-level policy recommendations for reducing or sequestering greenhouse gas emissions. The group will also identify opportunities to promote energy-efficient technologies and clean, renewable energy resources. The group's final report is due to the Governor and legislature by February 1, 2008.	4/20/2007	Proposal	Advisory group
<b>Wisconsin</b>	Governor Jim Doyle signs two new executive orders that address climate change and energy issues. The first executive order creates the Task Force on Global Warming, which will investigate the potential economic and environmental impacts of climate change and recommend solutions. The second executive order creates the Office of Energy Independence, which will coordinate efforts to bolster the state's bioindustry, energy efficiency, and energy independence initiatives.	4/5/2007	Law	Advisory groups
<b>Arkansas</b>	Governor Mike Beebe signs HB2460, establishing the Governor's Commission on Global Warming. The commission will study the potential impacts of climate change on the environment and economy, as well as make recommendations on global warming pollutant reduction goals. The Commission will report its findings by November 1, 2008.	4/3/2007	Law	Advisory group

Source: State Press releases, Pew Center on Global Climate Change.

# Energy intensity gap between developed and developing economies, 2005

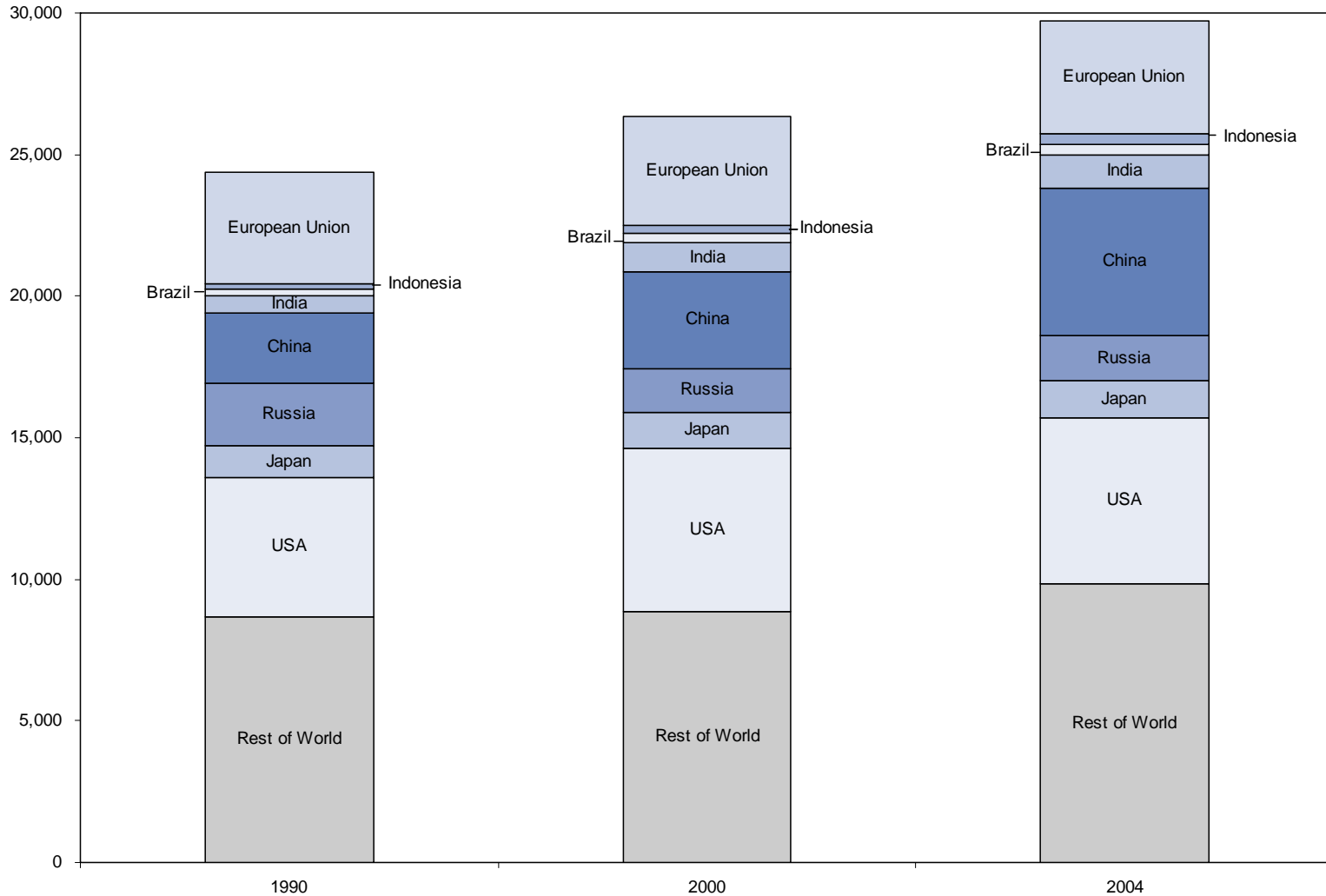
Energy-intensive activities are being outsourced along with pollution



Source: US Department of Energy.

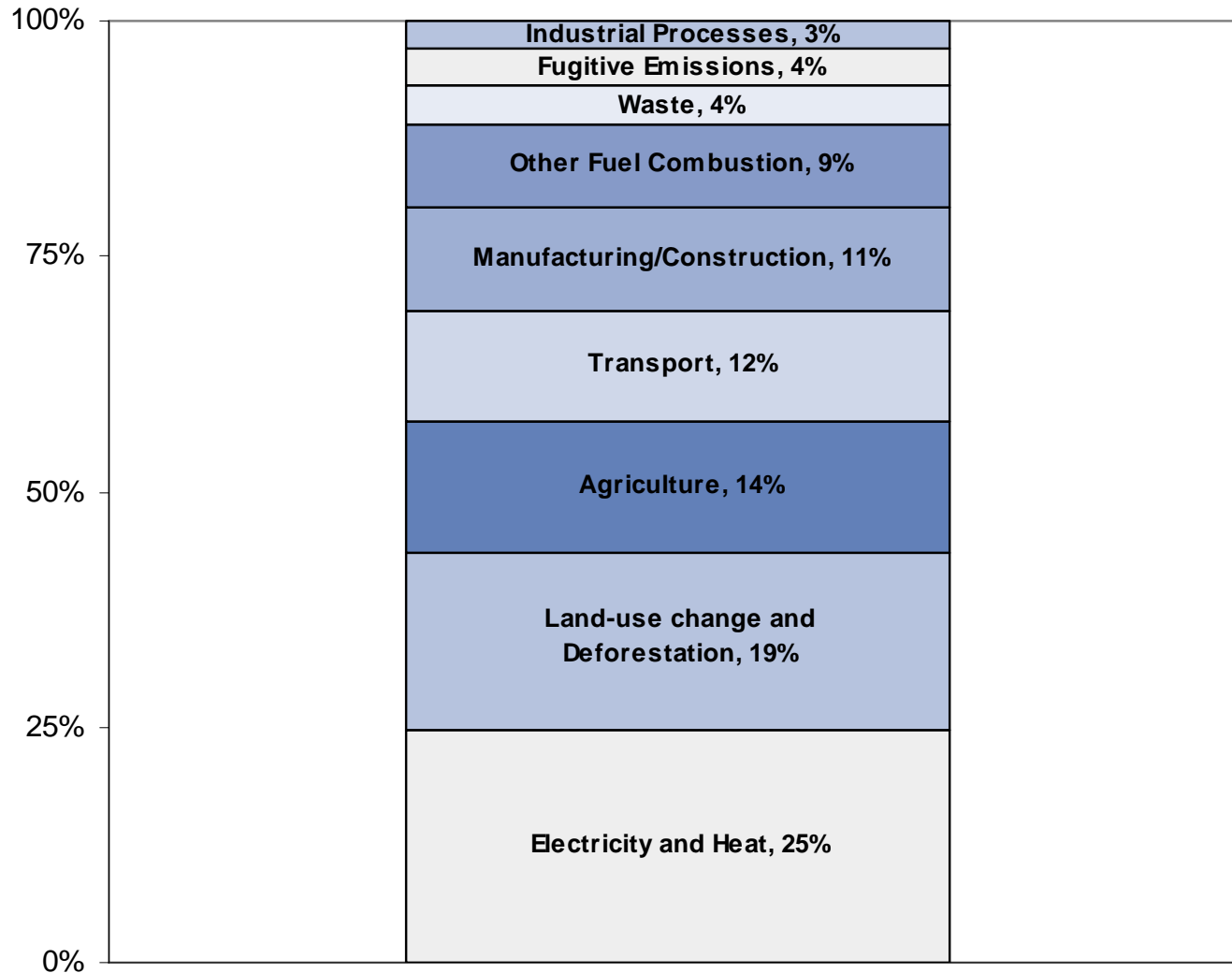
# Yearly GHG emissions (CO<sub>2</sub> only)

## Aggregate global emissions continue to grow



Source: UNFCCC, WRI.

# Composition of Global GHG emissions, 2005



Source: UNFCCC, WRI.

# Analyst certification

**I, Abby Joseph Cohen, hereby certify that all of the views expressed in this report accurately reflect my personal views about the subject company or companies and its or their securities. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed in this report.**



# Disclosures

**May 6, 2009**

# Disclosures

## Distribution of ratings/investment banking relationships

### Goldman Sachs Investment Research global coverage universe

	Rating Distribution			Investment Banking Relationships		
	Buy	Hold	Sell	Buy	Hold	Sell
Global	25%	53%	22%	54%	51%	43%

As of April 1, 2009, Goldman Sachs Global Investment Research had investment ratings on 2,718 equity securities. Goldman Sachs assigns stocks as Buys and Sells on various regional Investment Lists; stocks not so assigned are deemed Neutral. Such assignments equate to Buy, Hold and Sell for the purposes of the above disclosure required by NASD/NYSE rules. See 'Ratings, Coverage groups and views and related definitions' below.

## Regulatory disclosures

### Disclosures required by United States laws and regulations

See company-specific regulatory disclosures above for any of the following disclosures required as to companies referred to in this report: manager or co-manager in a pending transaction; 1% or other ownership; compensation for certain services; types of client relationships; managed/co-managed public offerings in prior periods; directorships; market making and/or specialist role.

The following are additional required disclosures: **Ownership and material conflicts of interest:** Goldman Sachs policy prohibits its analysts, professionals reporting to analysts and members of their households from owning securities of any company in the analyst's area of coverage. **Analyst compensation:** Analysts are paid in part based on the profitability of Goldman Sachs, which includes investment banking revenues. **Analyst as officer or director:** Goldman Sachs policy prohibits its analysts, persons reporting to analysts or members of their households from serving as an officer, director, advisory board member or employee of any company in the analyst's area of coverage. **Non-U.S. Analysts:** Non-U.S. analysts may not be associated persons of Goldman, Sachs & Co. and therefore may not be subject to NASD Rule 2711/NYSE Rules 472 restrictions on communications with subject company, public appearances and trading securities held by the analysts. **Distribution of ratings:** See the distribution of ratings disclosure above. **Price chart:** See the price chart, with changes of ratings and price targets in prior periods, above, or, if electronic format or if with respect to multiple companies which are the subject of this report, on the Goldman Sachs website at <http://www.gs.com/research/hedge.html>. Goldman, Sachs & Co. is a member of SIPC (<http://www.sipc.org>).

### Additional disclosures required under the laws and regulations of jurisdictions other than the United States

The following disclosures are those required by the jurisdiction indicated, except to the extent already made above pursuant to United States laws and regulations. **Australia:** This research, and any access to it, is intended only for "wholesale clients" within the meaning of the Australian Corporations Act. **Canada:** Goldman Sachs Canada Inc. has approved of, and agreed to take responsibility for, this research in Canada if and to the extent it relates to equity securities of Canadian issuers. Analysts may conduct site visits but are prohibited from accepting payment or reimbursement by the company of travel expenses for such visits. **Hong Kong:** Further information on the securities of covered companies referred to in this research may be obtained on request from Goldman Sachs (Asia) L.L.C. **India:** Further information on the subject company or companies referred to in this research may be obtained from Goldman Sachs (India) Securities Private Limited. **Japan:** See below. **Korea:** Further information on the subject company or companies referred to in this research may be obtained from Goldman Sachs (Asia) L.L.C., Seoul Branch. **Russia:** Research reports distributed in the Russian Federation are not advertising as defined in Russian law, but are information and analysis not having product promotion as their main purpose and do not provide appraisal within the meaning of the Russian Law on Appraisal. **Singapore:** Further information on the covered companies referred to in this research may be obtained from Goldman Sachs (Singapore) Pte. (Company Number: 198602165W). **Taiwan:** This material is for reference only and must not be reprinted without permission. Investors should carefully consider their own investment risk. Investment results are the responsibility of the individual investor. **United Kingdom:** Persons who would be categorized as retail clients in the United Kingdom, as such term is defined in the rules of the Financial Services Authority, should read this research in conjunction with prior Goldman Sachs research on the covered companies referred to herein and should refer to the risk warnings that have been sent to them by Goldman Sachs International. A copy of these risks warnings, and a glossary of certain financial terms used in this report, are available from Goldman Sachs International on request.

**European Union:** Disclosure information in relation to Article 4 (1) (d) and Article 6 (2) of the European Commission Directive 2003/126/EC is available at [http://www.gs.com/client\\_services/global\\_investment\\_research/europeanpolicy.html](http://www.gs.com/client_services/global_investment_research/europeanpolicy.html)

**Japan:** Goldman Sachs Japan Co., Ltd. is a Financial Instrument Dealer under the Financial Instrument and Exchange Law, registered with the Kanto Financial Bureau (Registration No. 69), and is a member of Japan Securities Dealers Association (JSDA) and Financial Futures Association of Japan (FFJAJ). Sales and purchase of equities are subject to commission pre-determined with clients plus consumption tax. See company-specific disclosures as to any applicable disclosures required by Japanese stock exchanges, the Japanese Securities Dealers Association or the Japanese Securities Finance Company.

## Ratings, coverage groups and views and related definitions

**Buy (B), Neutral (N), Sell (S)** – Analysts recommend stocks as Buys or Sells for inclusion on various regional Investment Lists. Being assigned a Buy or Sell on an Investment List is determined by a stock's return potential relative to its coverage group as described below. Any stock not assigned as a Buy or a Sell on an Investment List is deemed Neutral. Each regional Investment Review Committee manages various regional Investment Lists to a global guideline of 25%-35% of stocks as Buy and 10%-15% of stocks as Sell; however, the distribution of Buys and Sells in any particular coverage group may vary as determined by the regional Investment Review Committee. Regional Conviction Buy and Sell lists represent investment recommendations focused on either the size of the potential return or the likelihood of the realization of the return.

**Return potential** represents the price differential between the current share price and the price target expected during the time horizon associated with the price target. Price targets are required for all covered stocks. The return potential, price target and associated time horizon are stated in each report adding or reiterating an Investment List membership.

**Coverage groups and views:** A list of all stocks in each coverage group is available by primary analyst, stock and coverage group at <http://www.gs.com/research/hedge.html>. The analyst assigns one of the following coverage views which represents the analyst's investment outlook on the coverage group relative to the group's historical fundamentals and/or valuation. **Attractive (A)**. The investment outlook over the following 12 months is favorable relative to the coverage group's historical fundamentals and/or valuation. **Neutral (N)**. The investment outlook over the following 12 months is neutral relative to the coverage group's historical fundamentals and/or valuation. **Cautious (C)**. The investment outlook over the following 12 months is unfavorable relative to the coverage group's historical fundamentals and/or valuation.

**Not Rated (NR)**. The investment rating and target price, if any, have been removed pursuant to Goldman Sachs policy when Goldman Sachs is acting in an advisory capacity in a merger or strategic transaction involving this company and in certain other circumstances. **Rating Suspended (RS)**. Goldman Sachs Research has suspended the investment rating and price target, if any, for this stock, because there is not a sufficient fundamental basis for determining an investment rating or target. The previous investment rating and price target, if any, are no longer in effect for this stock and should not be relied upon. **Coverage Suspended (CS)**. Goldman Sachs has suspended coverage of this company. **Not Covered (NC)**. Goldman Sachs does not cover this company. **Not Available or Not Applicable (NA)**. The information is not available for display or is not applicable. **Not Meaningful (NM)**. The information is not meaningful and is therefore excluded.

## Ratings, coverage views and related definitions prior to June 26, 2006

Our rating system requires that analysts rank order the stocks in their coverage groups and assign one of three investment ratings (see definitions below) within a ratings distribution guideline of no more than 25% of the stocks should be rated Outperform and no fewer than 10% rated Underperform. The analyst assigns one of three coverage views (see definitions below), which represents the analyst's investment outlook on the coverage group relative to the group's historical fundamentals and valuation. Each coverage group, listing all stocks covered in that group, is available by primary analyst, stock and coverage group at <http://www.gs.com/research/hedge.html>.

## Definitions

**Outperform (OP)**. We expect this stock to outperform the median total return for the analyst's coverage universe over the next 12 months. **In-Line (IL)**. We expect this stock to perform in line with the median total return for the analyst's coverage universe over the next 12 months. **Underperform (U)**. We expect this stock to underperform the median total return for the analyst's coverage universe over the next 12 months.

**Coverage views: Attractive (A)**. The investment outlook over the following 12 months is favorable relative to the coverage group's historical fundamentals and/or valuation. **Neutral (N)**. The investment outlook over the following 12 months is neutral relative to the coverage group's historical fundamentals and/or valuation. **Cautious (C)**. The investment outlook over the following 12 months is unfavorable relative to the coverage group's historical fundamentals and/or valuation.

**Current Investment List (CIL)**. We expect stocks on this list to provide an absolute total return of approximately 15%-20% over the next 12 months. We only assign this designation to stocks rated Outperform. We require a 12-month price target for stocks with this designation. Each stock on the CIL will **automatically** come off the list after 90 days unless renewed by the covering analyst and the relevant Regional Investment Review Committee.

### Global product; distributing entities

The Global Investment Research Division of Goldman Sachs produces and distributes research products for clients of Goldman Sachs, and pursuant to certain contractual arrangements, on a global basis. Analysts based in Goldman Sachs offices around the world produce equity research on industries and companies, and research on macroeconomics, currencies, commodities and portfolio strategy.

This research is disseminated in Australia by Goldman Sachs JBWere Pty Ltd (ABN 21 006 797 897) on behalf of Goldman Sachs; in Canada by Goldman Sachs Canada Inc. regarding Canadian equities and by Goldman Sachs & Co. (all other research); in Germany by Goldman Sachs & Co. oHG; in Hong Kong by Goldman Sachs (Asia) L.L.C.; in India by Goldman Sachs (India) Securities Private Ltd.; in Japan by Goldman Sachs Japan Co., Ltd; in the Republic of Korea by Goldman Sachs (Asia) L.L.C., Seoul Branch; in New Zealand by Goldman Sachs JBWere (NZ) Limited on behalf of Goldman Sachs; in Singapore by Goldman Sachs (Singapore) Pte. (Company Number: 198602165W); and in the United States of America by Goldman, Sachs & Co. Goldman Sachs International has approved this research in connection with its distribution in the United Kingdom and European Union.

**European Union:** Goldman Sachs International, authorised and regulated by the Financial Services Authority, has approved this research in connection with its distribution in the European Union and United Kingdom; Goldman, Sachs & Co. oHG, regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht, may also be distributing research in Germany

### General disclosures in addition to specific disclosures required by certain jurisdictions

This research is for our clients only. Other than disclosures relating to Goldman Sachs, this research is based on current public information that we consider reliable, but we do not represent it is accurate or complete, and it should not be relied on as such. We seek to update our research as appropriate, but various regulations may prevent us from doing so. Other than certain industry reports published on a periodic basis, the large majority of reports are published at irregular intervals as appropriate in the analyst's judgment.

Goldman Sachs conducts a global full-service, integrated investment banking, investment management, and brokerage business. We have investment banking and other business relationships with a substantial percentage of the companies covered by our Global Investment Research Division.

Our salespeople, traders, and other professionals may provide oral or written market commentary or trading strategies to our clients and our proprietary trading desks that reflect opinions that are contrary to the opinions expressed in this research. Our asset management area, our proprietary trading desks and investing businesses may make investment decisions that are inconsistent with the recommendations or views expressed in this research.

We and our affiliates, officers, directors, and employees, excluding equity analysts, will from time to time have long or short positions in, act as principal in, and buy or sell, the securities or derivatives (including options and warrants) thereof of covered companies referred to in this research.

This research is not an offer to sell or the solicitation of an offer to buy any security in any jurisdiction where such an offer or solicitation would be illegal. It does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Clients should consider whether any advice or recommendation in this research is suitable for their particular circumstances and, if appropriate, seek professional advice, including tax advice. The price and value of the investments referred to in this research and the income from them may fluctuate. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur. Fluctuations in exchange rates could have adverse effects on the value or price of, or income derived from, certain investments.

Certain transactions, including those involving futures, options, and other derivatives, give rise to substantial risk and are not suitable for all investors. Investors should review current options disclosure documents which are available from Goldman Sachs sales representatives or at <http://www.theocc.com/publications/risks/riskchap1.jsp>. Transactions cost may be significant in option strategies calling for multiple purchase and sales of options such as spreads. Supporting documentation will be supplied upon request.

Our research is disseminated primarily electronically, and, in some cases, in printed form. Electronic research is simultaneously available to all clients.

Disclosure information is also available at <http://www.gs.com/research/hedge.html> or from Research Compliance, One New York Plaza, New York, NY 10004.

**Copyright 2009 The Goldman Sachs Group, Inc.**

No part of this material may be (i) copied, photocopied or duplicated in any form by any means or (ii) redistributed without the prior written consent of The Goldman Sachs Group, Inc.