

# Washington in Review

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**SSRL AND ALS, OCTOBER 2005**



# News Briefs

## Good

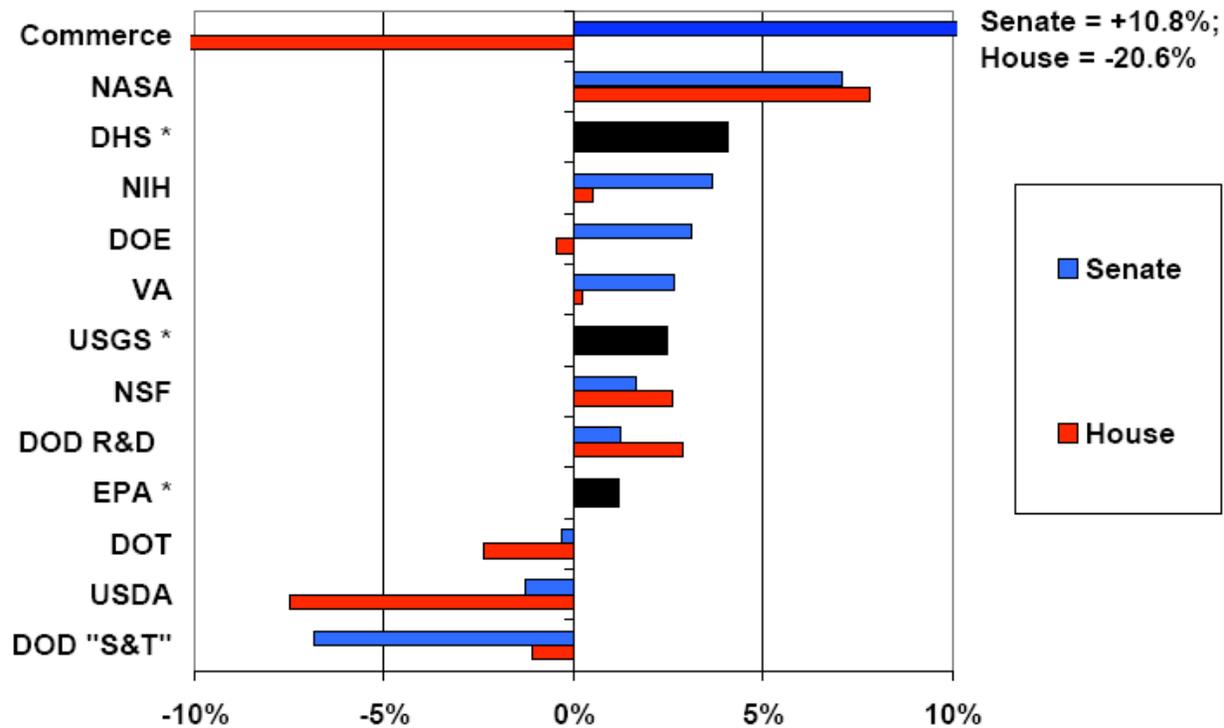
- Bodman, Sell, Domenici, Bingaman, Alexander Hobson
- Senate Dear Colleague: 68 Co-Signers!
- Under Secretary of Energy for Science
- Senate and House Energy Appropriations

## Bad

- Science, Commerce, State Appropriations Realignment
- Iraq War
- Katrina
- WH Rejection of Bench Marks Report
- Continuing Resolution

# October 2005 Snapshot of FY 2006

**FY 2006 R&D Appropriations (as of 10/05)**  
Percent Change from FY 2005



Source: AAAS estimates of R&D in FY 2006 House and Senate appropriations bills.

\* - USGS, EPA, and DHS are final FY 2006 appropriations.

DOD "S&T" = DOD R&D in "6.1" through "6.3" categories plus medical research.

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# Appropriations

## National Science Foundation

- FY04 \$5.61B
- FY05 \$5.47B -2.5%
- FY06
- Presidential Request \$5.61B +2.6%
- House Passed \$5.64B +3.1%
- Senate Approp. Comm. Passed \$5.53B +1.1%
- *Remaining FY06 Congressional Action: Full Senate Vote and Conference*



# Appropriations

## DOE Office of Science

- FY04 \$3.48B
- FY05 \$3.60B +3.3%
- FY06
- Presidential Request \$3.46B -3.9%
- House Passed \$3.66B +1.7%
- Senate Approp. Comm. Passed \$3.70B +2.8%
- *Remaining FY06 Congressional Action: Full Senate Vote and Conference*



# Appropriations

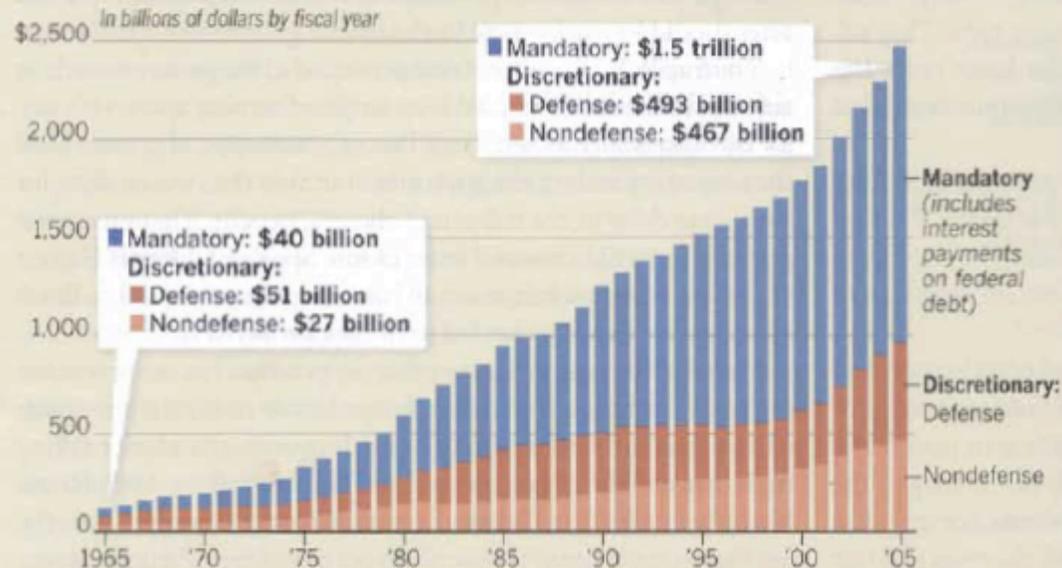
## DOD Basic & Applied Research (6.1 & 6.2)

- FY04 \$5.71B
- FY05 \$6.36B +11.5%
- FY06
- Request \$5.46B -14.2%
- House Passed \$6.50B +2.2%
- Senate No Action
- *Remaining FY06 Congressional Action: All Senate Action and Conference*

# Soaring Outlays

## The Spending Trend Lines

The majority of federal outlays now come from mandatory spending, which includes entitlement programs such as Medicare and Social Security, as well as interest payments on the national debt. Prospects for curtailing the growth of this category of spending are dim: Congress enacted a Medicare prescription drug benefit in 2003 that will take effect next year, and a package of modest entitlement cuts has been delayed in the aftermath of Katrina.



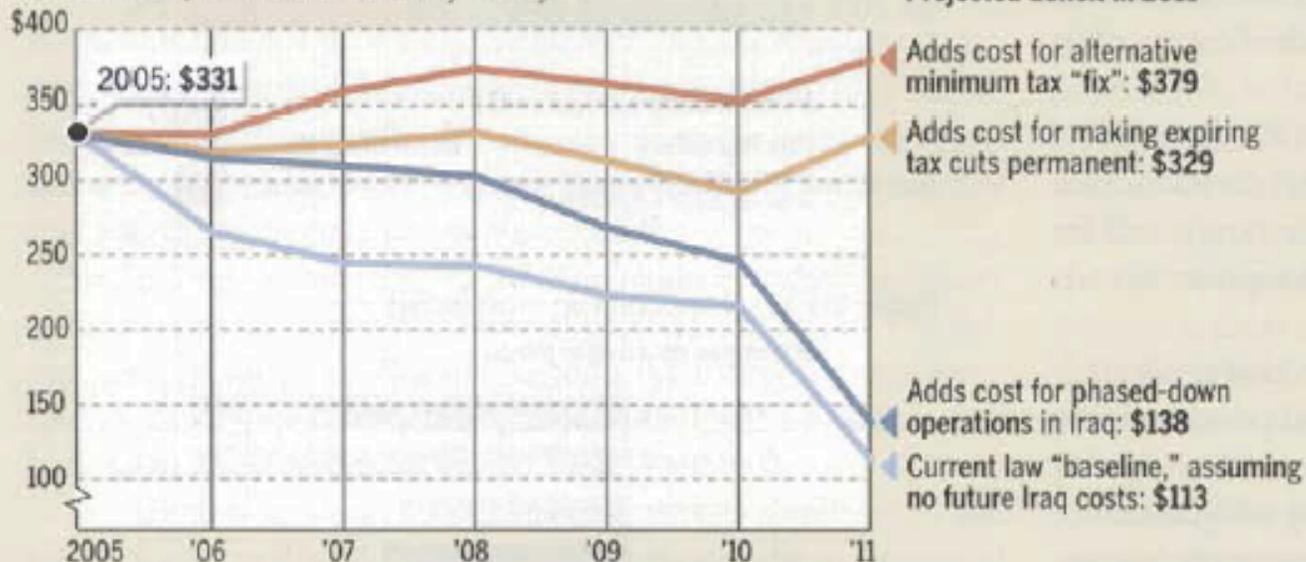
SOURCE: Office of Management and Budget; 2005 figures are estimates based on OMB's August mid-session review and do not include Hurricane Katrina-related outlays.

# Budgetary Free Fall

## A Taxing Deficit Projection

So-called baseline assumptions by the Congressional Budget Office show that the deficit will decline sharply if there were no additional spending on Iraq and if tax cuts are allowed to expire. When the cost of making the tax cuts permanent is included, the deficit worsens.

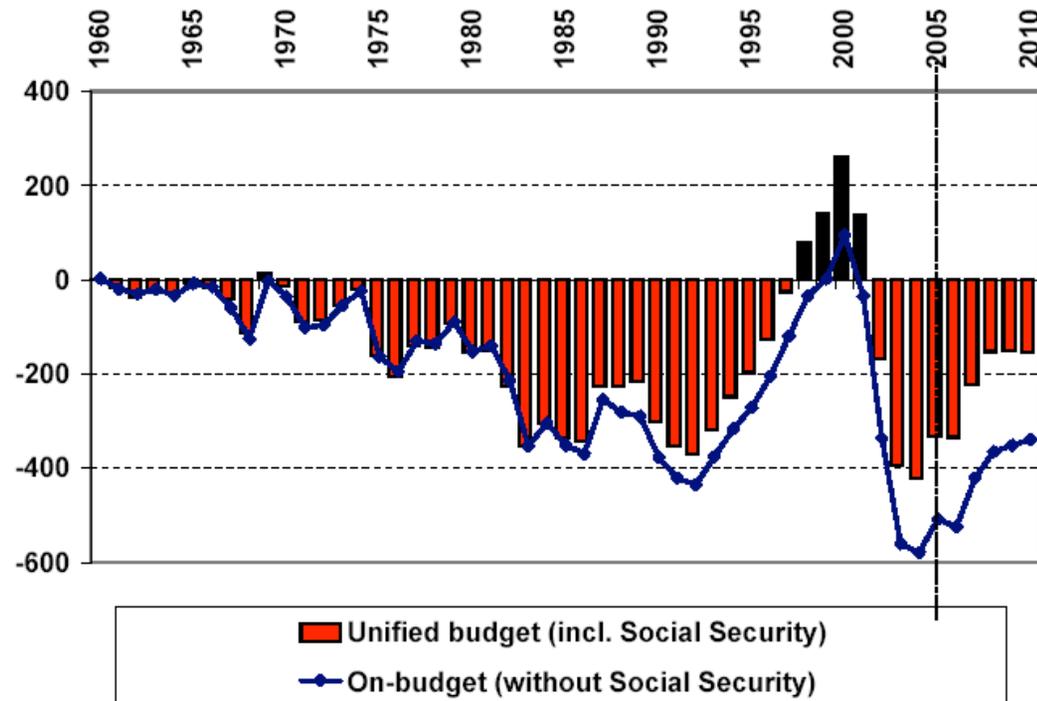
Annual deficit, in billions of dollars by fiscal year



SOURCE: Congressional Budget Office

# It Only Gets Worse!

**Federal Budget Deficit (or Surplus), FY 1960-2010**  
in billions of CONSTANT FY 2005 dollars



Data in fiscal years. Source: *Budget of the United States Government, FY 2006*  
updated with July 2005 Mid-Session Review. FY 2005 data are estimates. FY  
2006-2010 data are budget projections. FY 2006 - 2010 figures exclude Iraq  
occupation costs, extensions of expiring tax cuts, and Social Security reform.  
AUGUST '05 © 2005 AAAS



# Mortgaging The Future

## Majority of Debt Held By Overseas Investors

Figures from July 2005 show that a majority of marketable federal debt is now held by overseas investors. Foreign holdings of U.S. debt have doubled to \$2 trillion over the past five years. Some countries are increasing their holdings more rapidly than others. China, which has a sizable trade surplus with the United States, quadrupled its holdings of Treasury securities to \$242 billion in 2005 from \$60 billion in 2000.

### Foreign investors' holdings of U.S. marketable debt



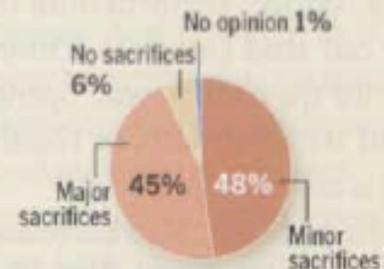
SOURCE: Treasury Department

# Paying for Katrina

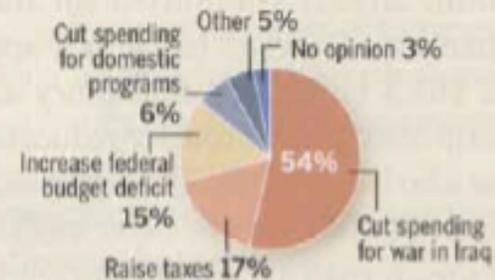
## The Katrina Cleanup

A Gallup Poll conducted Sept. 16-18 found that the public expects that Hurricane Katrina will require average Americans to make sacrifices in the form of higher taxes or cuts in government programs. More than half of those surveyed favored cutting spending in Iraq as a way to pay for hurricane relief and cleanup costs.

In order for the federal government to handle the problems caused by Hurricane Katrina, do you think the average American will have to make major sacrifices in the form of higher taxes or cuts in government programs that benefit them, minor sacrifices, or no sacrifices at all?



If you had to choose, which of the following would you say would be the best way for the government to pay for the problems caused by Hurricane Katrina: increase the federal budget deficit, raise taxes, cut spending for the war in Iraq, or cut spending for domestic programs, such as education and health care?

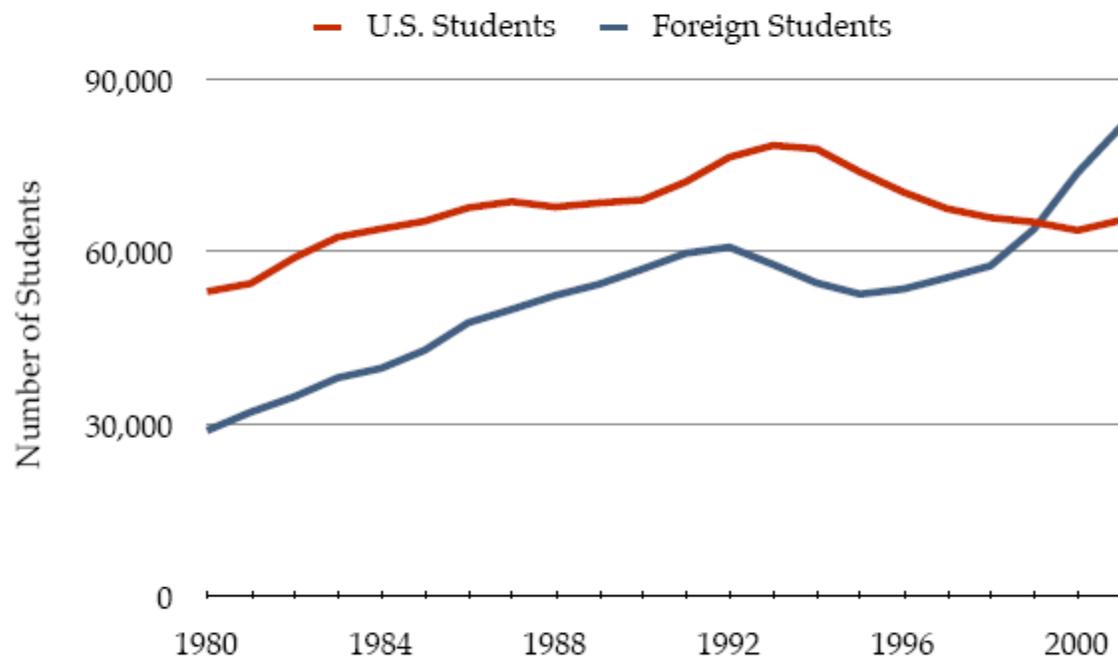


# Benchmarks

- Education
- Science and engineering (S&E) workforce
- Scientific knowledge
- Innovation
- Investment
- High-tech economic output

# Education

## U.S. GRADUATE INSTITUTIONS: FOREIGN STUDENTS OUTNUMBER U.S. STUDENTS

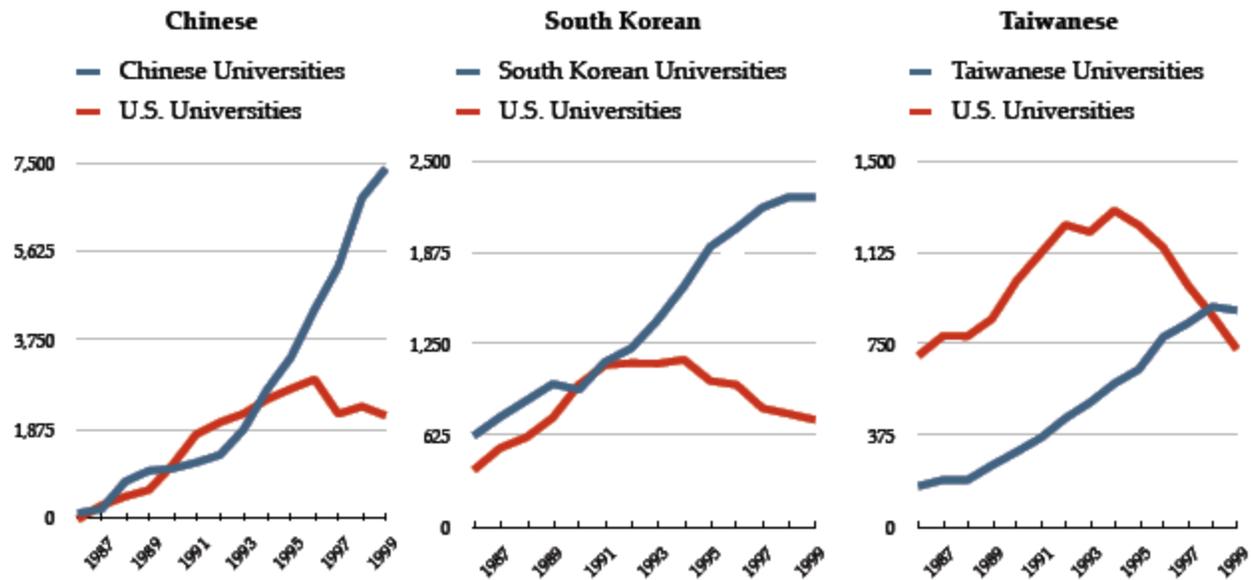


Source: National Science Foundation, *Graduate Students and Postdoctorates in Science and Engineering: Fall 2001*, Tables 8-9.  
Compiled by the APS Office of Public Affairs.

# Workforce

## ASIAN PHD. STUDENTS ARE STAYING AT HOME

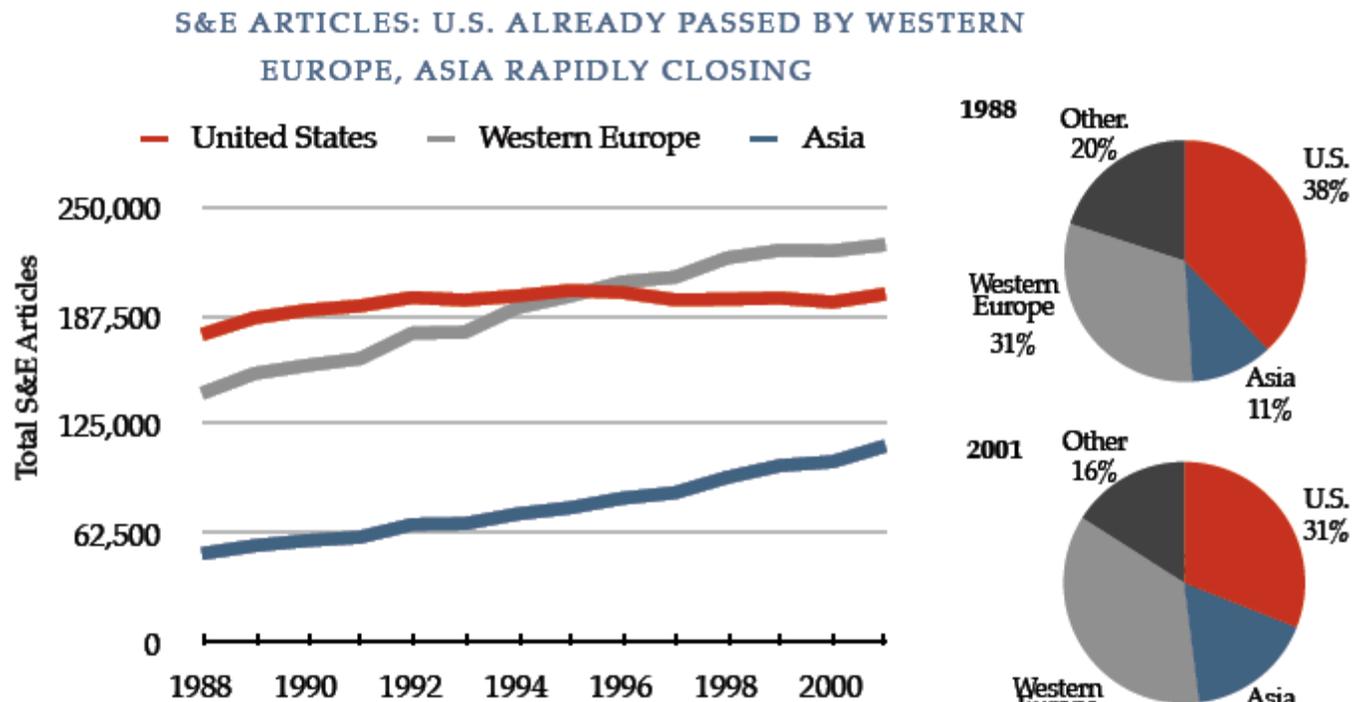
(1986 - 1999)



Source: National Science Foundation, *Science and Engineering Indicators 2002*, Appendix Table 2-41.

Adapted from Diana Hicks, "Asian countries strengthen their research," *Issues in Science and Technology*, Summer 2004.  
Compiled by the APS Office of Public Affairs.

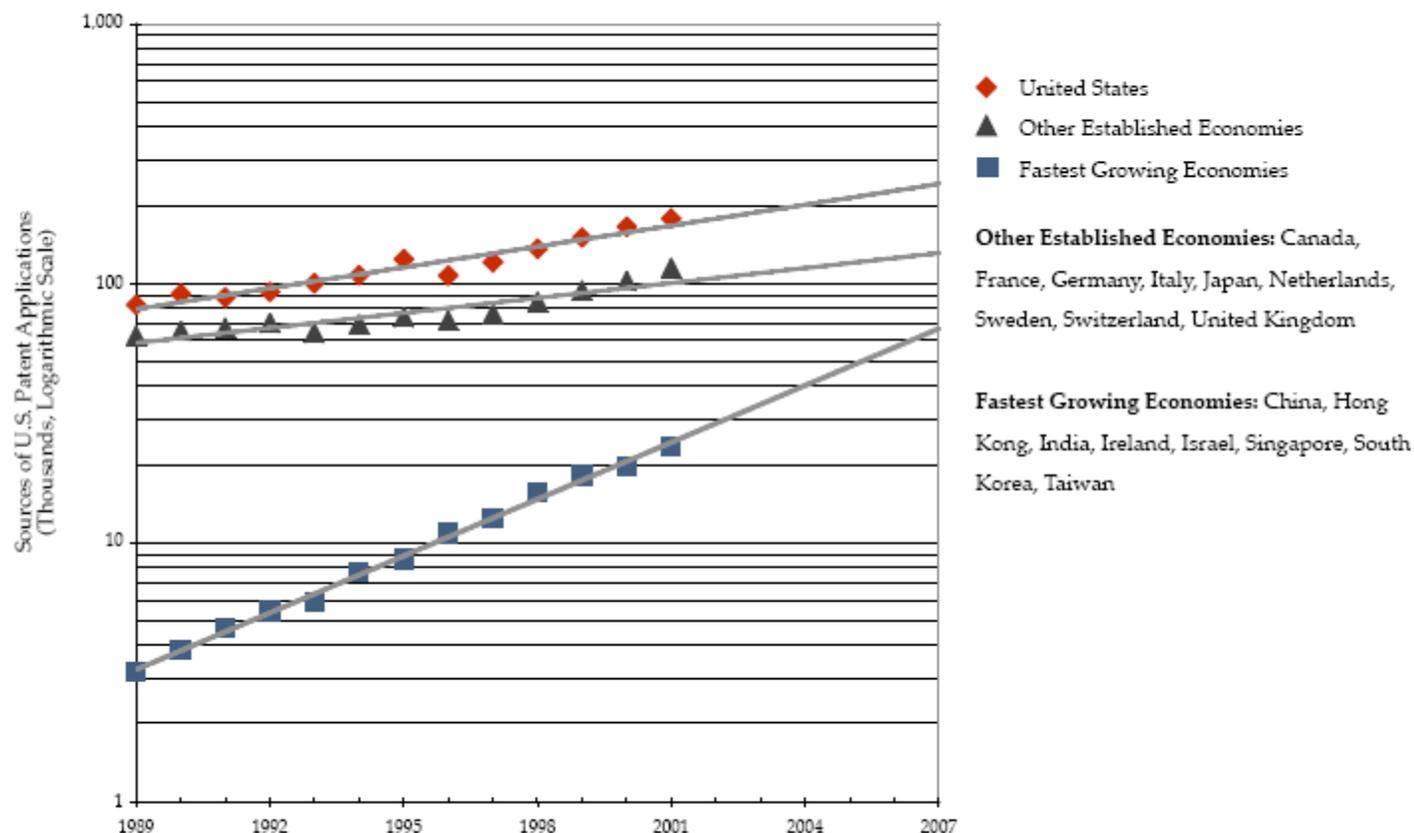
# Knowledge Creation and New Ideas



Source: National Science Foundation, *Science and Engineering Indicators 2004*. Appendix Table 5-35.  
Compiled by the APS Office of Public Affairs.

# Knowledge Creation and New Ideas

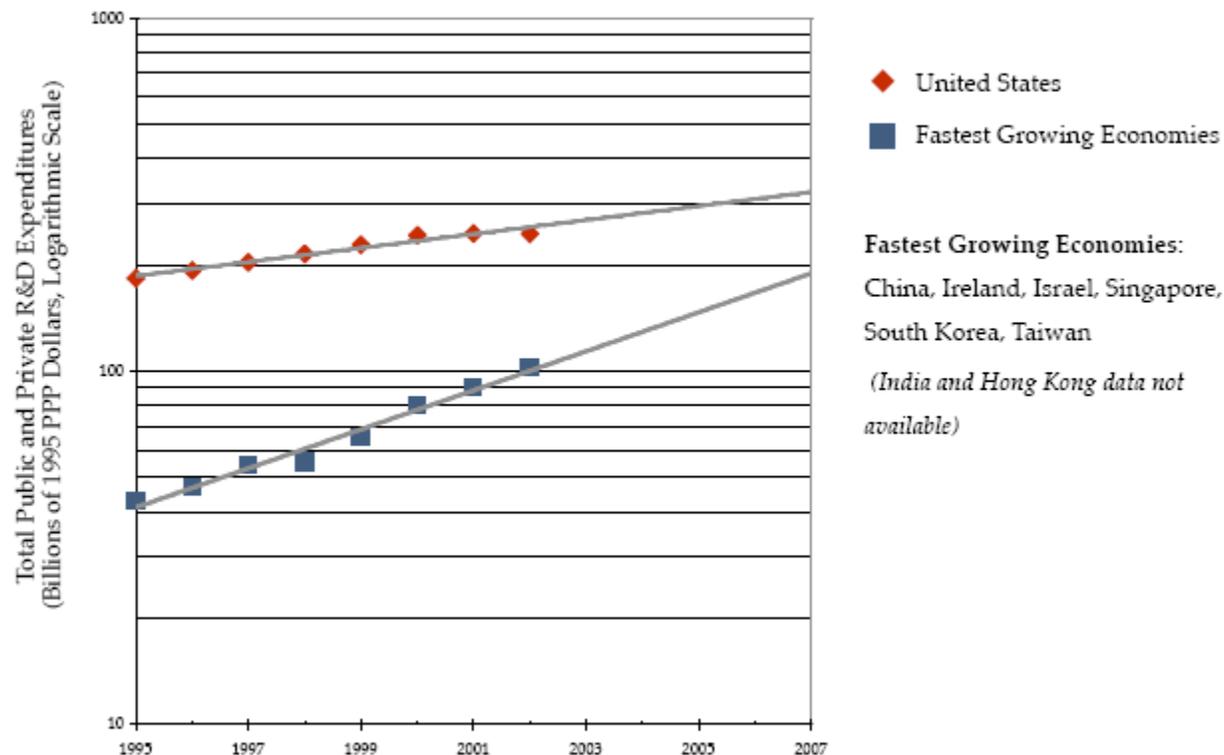
U.S. PATENT APPLICATIONS: FASTEST GROWING ECONOMIES  
GAINING ON U.S. RAPIDLY



Source: National Science Foundation, *Science and Engineering Indicators 2004*, Appendix Table 6-11.  
Compiled by the APS Office of Public Affairs

# R&D Investment

TOTAL R&D INVESTMENTS: FASTEST GROWING ECONOMIES GAINING RAPIDLY ON U.S.

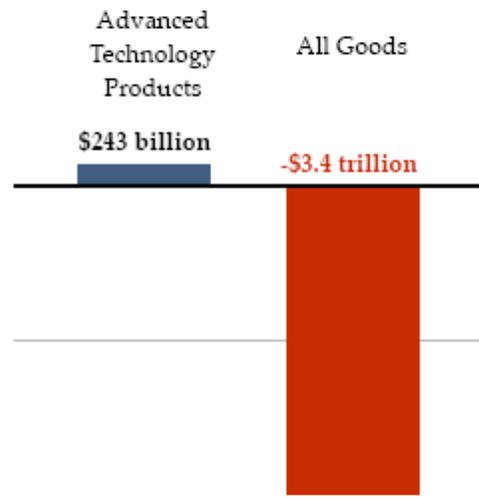


Source: Organisation for Economic Cooperation and Development, *Main Science and Technology Indicators*, May 2003.  
Compiled by the APS Office of Public Affairs

# High-Tech Economy

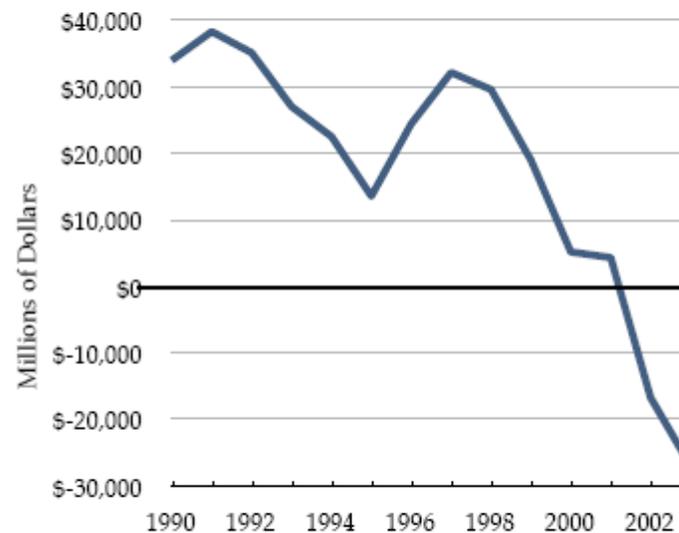
HIGH-TECH HAS  
DELIVERED FOR THE U.S.  
ECONOMY ...

Cumulative U.S. Trade Balance, 1990-2003



...BUT WILL IT  
CONTINUE?

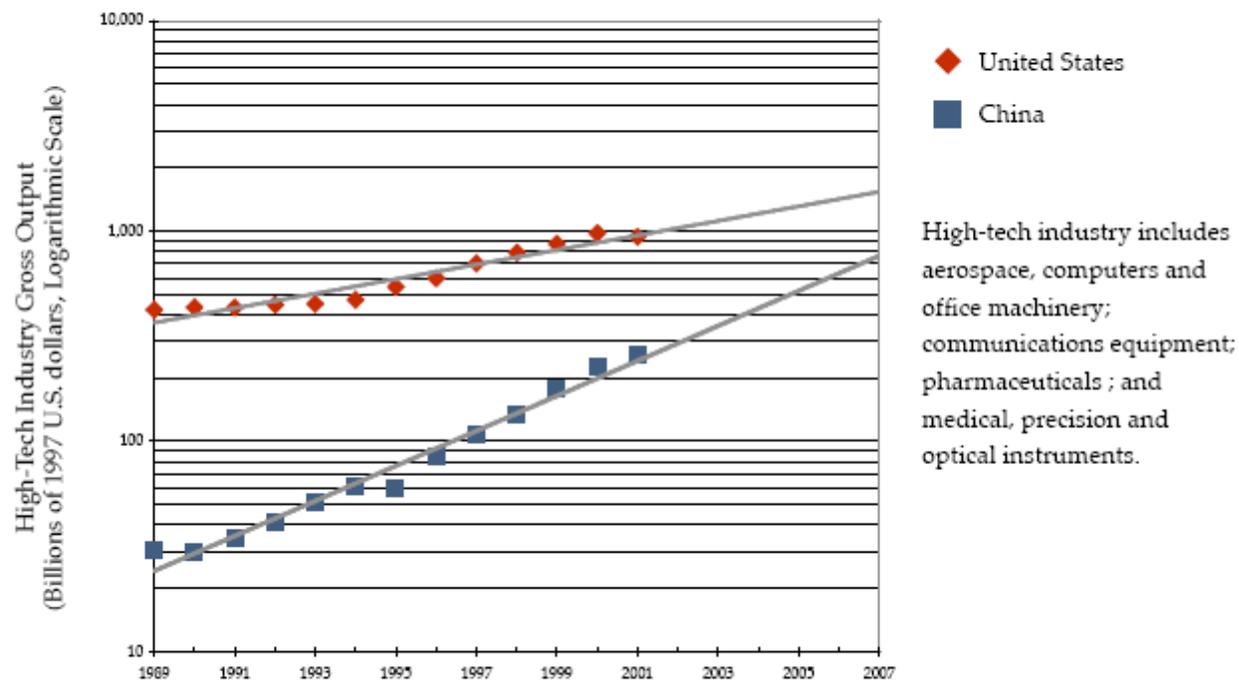
U.S. Trade Balance for High-Tech Products, 1990-2003



Source: U.S. Census Bureau Foreign Trade Statistics, *U.S. International Trade in Goods and Services*.  
Compiled by the APS Office of Public Affairs.

# High-Tech Economy

## HIGH-TECH INDUSTRY OUTPUT: CHINA RAPIDLY GAINING ON U.S.



Source: National Science Foundation, *Science and Engineering Indicators 2004*, Appendix Table 6-1.  
Compiled by the APS Office of Public Affairs

# Messages from Science

- Economic Growth and Jobs
- Competitiveness
- National Security
- Health Care
- Environment and Energy

# Message to Scientists

- Get engaged!
- Get political!
- Go public!
- Get real!

End of the Beginning  
or  
Beginning of the End

It's up to you!

