



# **What In the World Is Going On? An Economist's Eye View of Emerging International Economic Issues**

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# The Issues Menu

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- **Global Economy**
- **International Monetary System**
- **Federal Reserve System**
- **Subprime Mortgage Mess**
- **Global Energy Security Problem**
- **Global Climate Change Problem**
- **Carbon Emissions Trading**
- **Protectionist Seeds**



# Global GDP 2007

## (Current Exchange Rates)

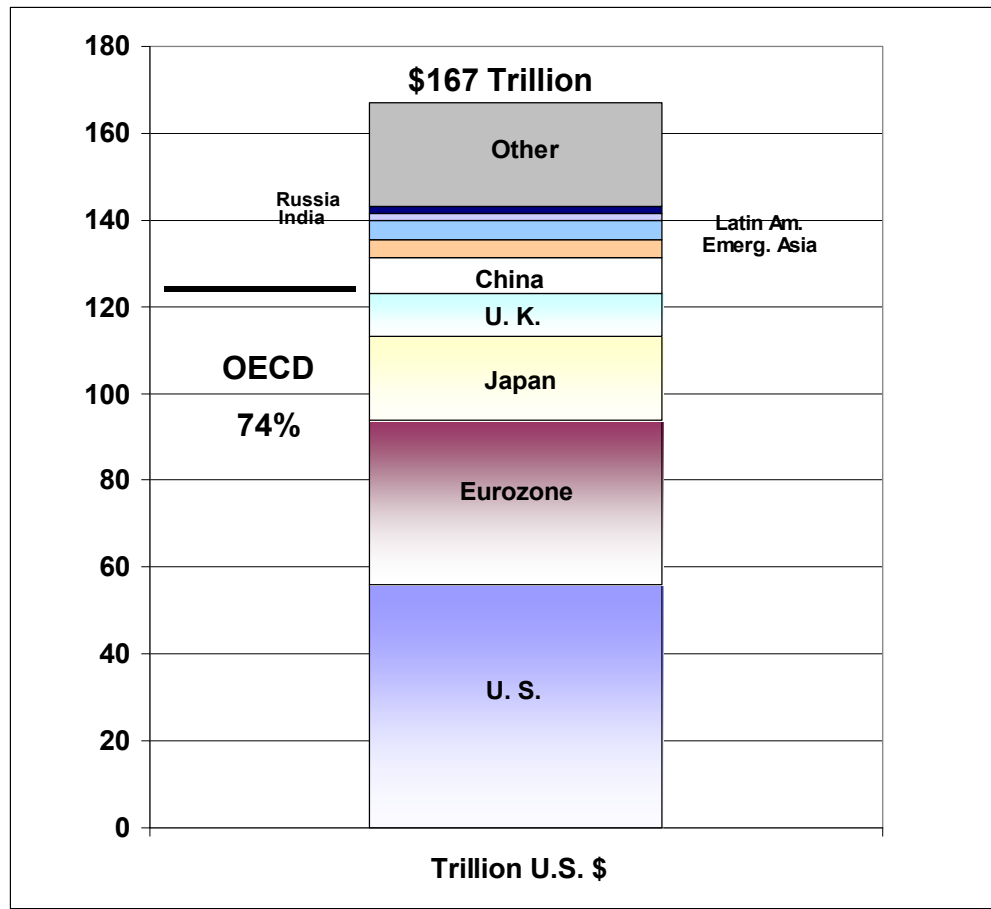
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| <u>Country</u> | <u>\$Trillion</u> |
|----------------|-------------------|
| US             | 13.8              |
| Japan          | 4.3               |
| Germany        | 3.3               |
| China          | 3.2               |
| France         | 2.5               |
| Italy          | 2.1               |
| Spain          | 1.4               |
| Canada         | 1.4               |
| India          | 1.3               |
| Russia         | 1.2               |
| S. Korea       | 1.0               |
| Mexico         | 0.9               |
| Saudi Arabia   | 0.4               |
| <u>World</u>   | <u>53.8</u>       |
| OECD           | 40.1              |

Source: Global Insight, November 30, 2007



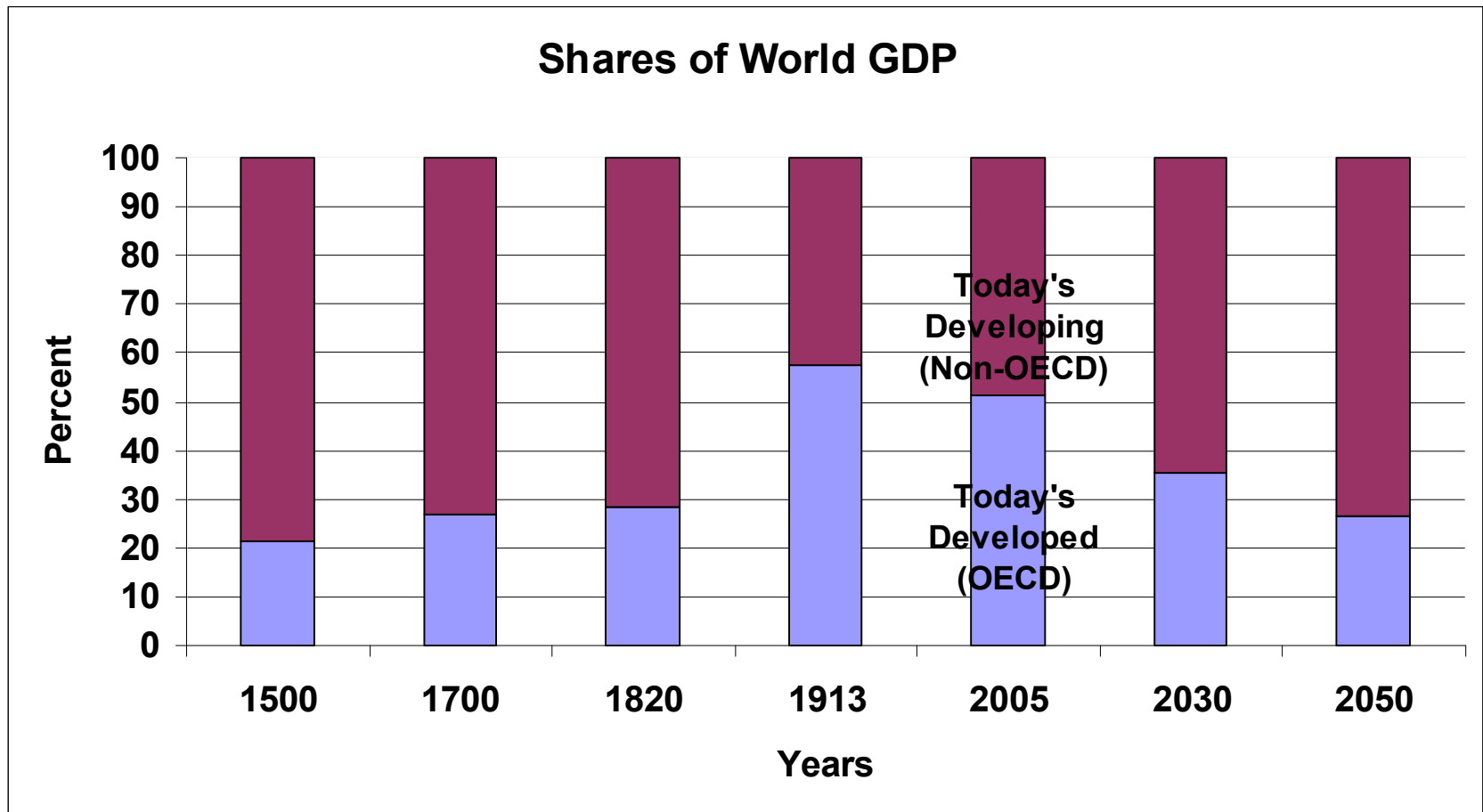
# Global Financial Assets 2007



Source: Mapping Global Capital Markets, Fourth Annual Report, McKinsey Global Institute January 2008.  
Includes equities, private debt, government debt and bank deposits



# Globalization A Transitional Power Shift



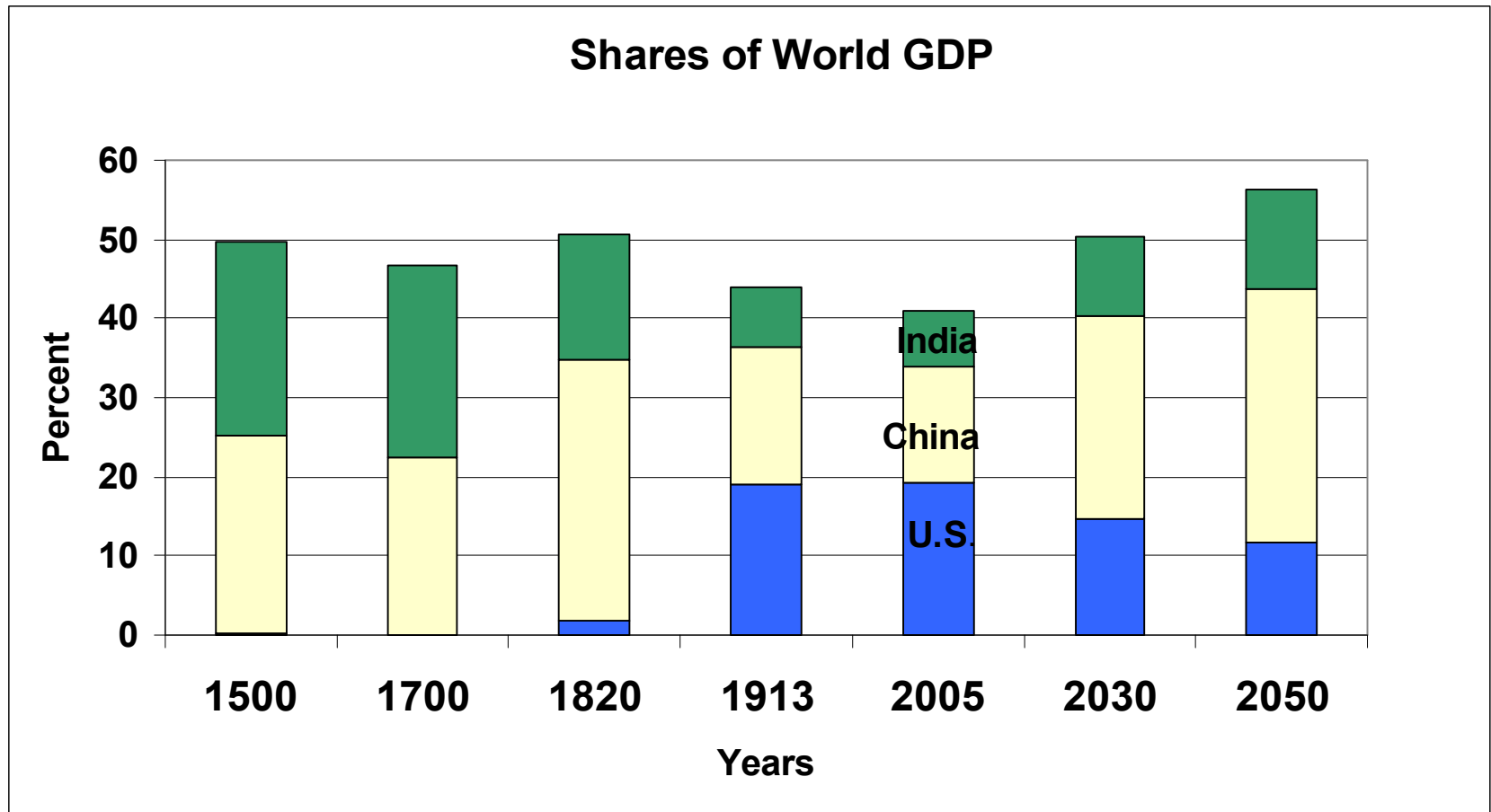
Source: *The World Economy*, OECD 2001, Angus Maddison; *DOE/EIA International Energy Outlook*, 2007, extrapolated to 2050



# Globalization

## A Transitional Power Shift

(Continued)

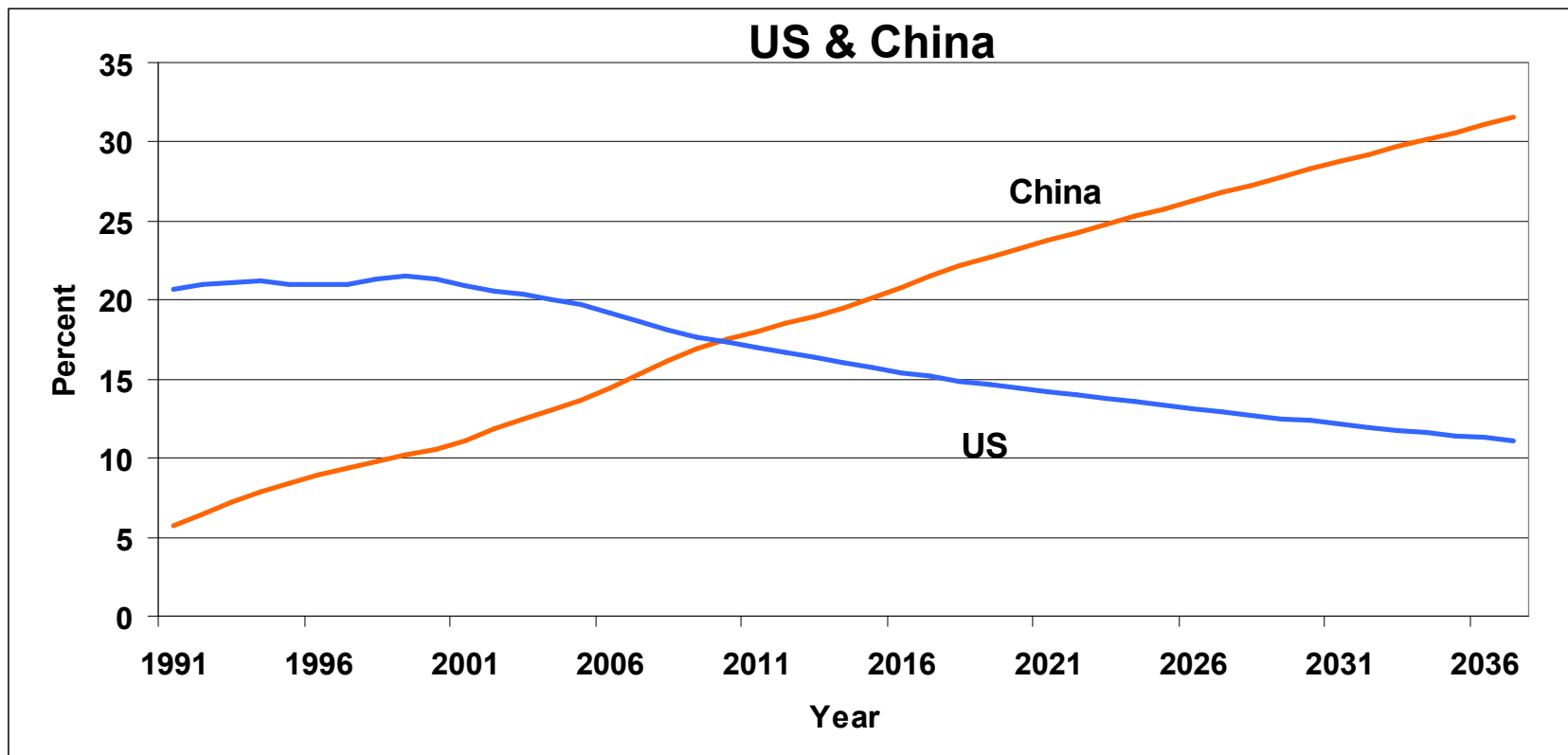


Source: *The World Economy*, OECD 2001, Angus Maddison; DOE/EIA International Energy Outlook, 2007, extrapolated to 2050



# Globalization A Transitional Power Shift (Continued)

## Shares of World GDP



Source: Global Insight, \$2000, PPP Basis

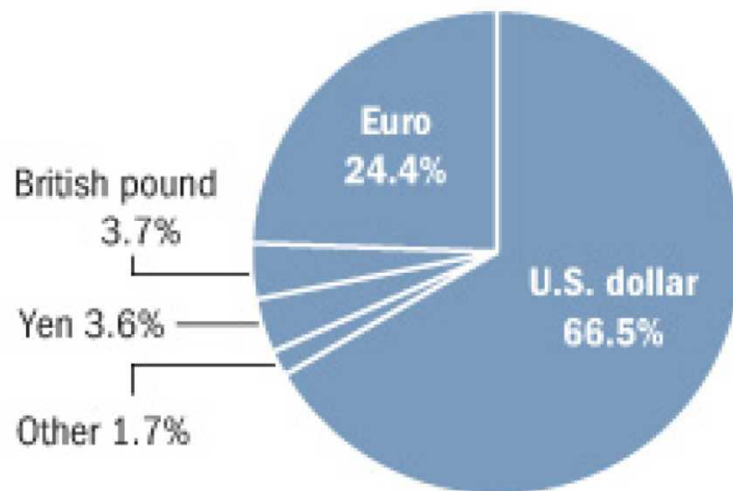


# Globalization

## A Transitional Power Shift

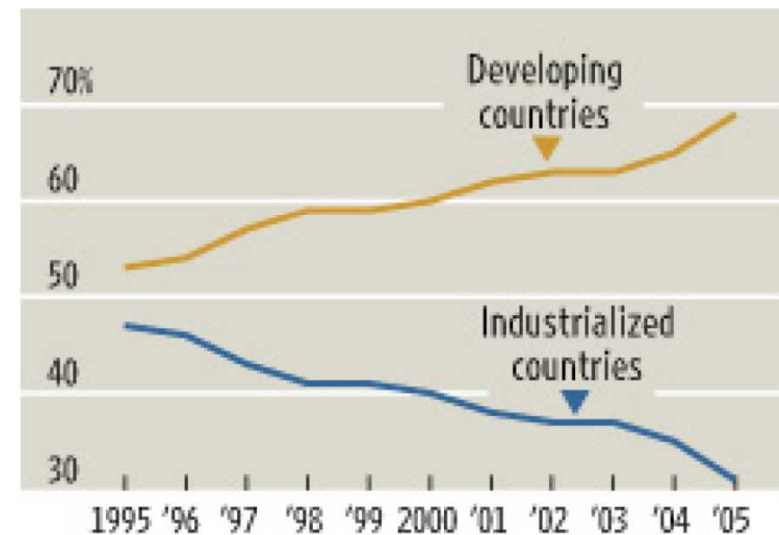
(Continued)

Share of global foreign exchange reserves for 2005, by currency



Source: IMF; Investment Strategies Group at Bank of America

Official reserve holdings as a share of the global total



*Our national economies are becoming increasingly intertwined*

Source: Wall Street Journal, 5/09/2006, P. 8



# Major Economic Policy Levers

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- **Fiscal Policy**
  - Taxes, spending, subsidies, etc.
- **Monetary Policy**
  - Change money supply relative to demand
  - Change interest rates (price of money)



# International Monetary System

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- **National based, run by Central Banks with varying degrees of independence**
  - **Sweden (1668), Bank of England (1694), Banque de France (1800), Federal Reserve System (1913), ECB (1998)**
  - **Control inflation; preventing recession; financial stability**
- **Money was historically tied to gold/silver, and most major countries adopted some form of the gold standard during the 1700s and 1800s**
- **Money today is “fiat” money—that is, backed by confidence in the issuing government**

$$M \text{ (money)} \times V \text{ (velocity)} = P \text{ (price)} \times T \text{ (transactions)}$$



# Federal Reserve System

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- **Responsibilities**
  - **Issues money and conducts monetary policy**
  - **Maintains the stability financial system**
  - **Supervises/regulates banks and protects consumers' credit rights**
  - **Provides financial services to the USG, the public, and financial institutions**



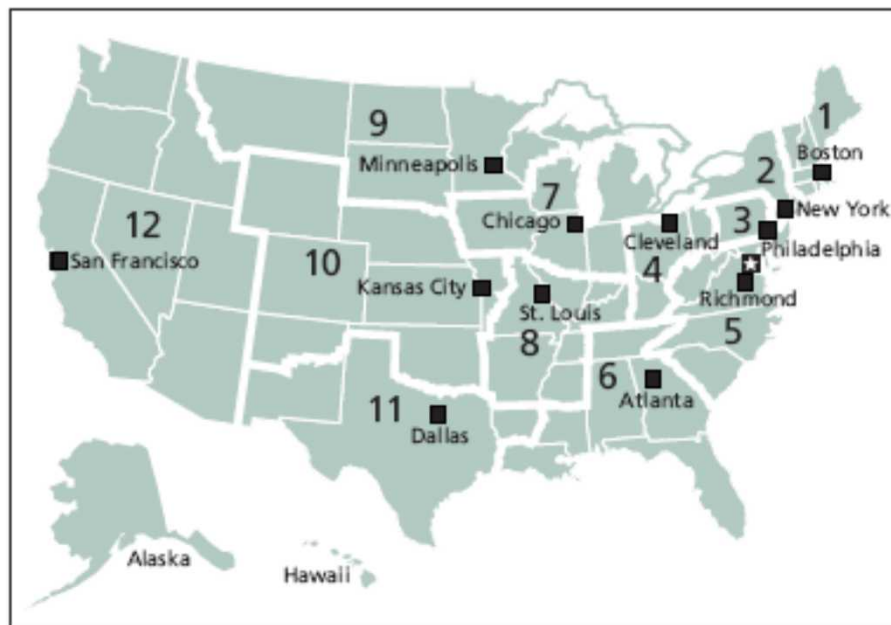
# Federal Reserve System (Continued)

- **Board of Governors (Federal Agency)**
  - Seven members appointed by Pres. confirmed by Senate; Chairman (Ben Bernanke) and Vice Chairman (Donald Kohn) also appointed/confirmed
  - Controls operation of 12 Federal Reserve Banks (+25 branches), several monetary and consumer advisory committees and U.S. member banks
    - » 2000 national bank members, 900 state banks, out of 7,700 commercial banks (3/2004)
  - Sets reserve requirements (percent of deposits to be held in reserve)
  - Discount window lending (credit extensions to depository institutions); Discount Rate
  - Some bank supervision resp. (also Comptroller Currency; FDIC)
  - Other
- **Federal Open Markets Committee (FOMC)**
  - Bd. Of Governors + President NY Fed and Presidents of 4 of other Fed Reserve Banks on rotating basis
  - Oversees open market operations (buying and selling money and bonds)—primary monetary policy tool
  - Federal Funds Rate

$$M \text{ (money)} \times V \text{ (velocity)} = P \text{ (price)} \times T \text{ (transactions)}$$

# Federal Reserve System Regional Banks

The Federal Reserve System



Source: The Federal Reserve System: Purposes & Functions, The Board of Governors Of the Federal Reserve System, Washington, DC, June 2005, p. 8



# Foreign Exchange Rates

- **Determined by many factors, but essentially the relative supply/demand and expectations for each currency**
  - International trade flows
  - International financial flows
  - Relative interest rates and inflation rates
  - Confidence in Central Banks' monetary policies and host government fiscal policies and legal frameworks
- **Central banks cooperate (under Fed leadership)**
  - To stabilize foreign exchange and the international financial system,
  - To help coordinate international banking and central bank rules/regulations/policies
- **But the system is changing**
  - New central banks (e.g. China) have growing financial assets/reserves
  - Some countries (e.g., Russia, some OPEC) want to move away from dependence on U.S. dollar

**Relative falling \$ = cheaper exports (increased sales)  
and more expensive imports (inflation)**



# The “Subprime Mortgage” Mess

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- **Financial institutions are creative and outgrew well intended regulations in pursuit of profit**
  - **Mortgage lending**
    - » **With low interest rates, rising housing prices became a “sure thing” and lending standards were ignored**
      - ✧ Teaser rate variable rate mortgage popularity with low/no down payment passed risk from lenders to borrowers
      - ✧ Brokers took a cut and passed the mortgage on
      - ✧ Lenders packaged mortgages as “securities” and sold them to get them off their books and get around reserve requirements
        - Used by hedge funds and others—considered “secure” and offered higher rates of return than traditional bonds
        - Sold around the world to banks and financial institutions
    - » **Worked fine until housing prices started to fall**
      - ✧ Marginal (recent) mortgages had negative equity
      - ✧ Rising variable rates when “teasers” expired created defaults

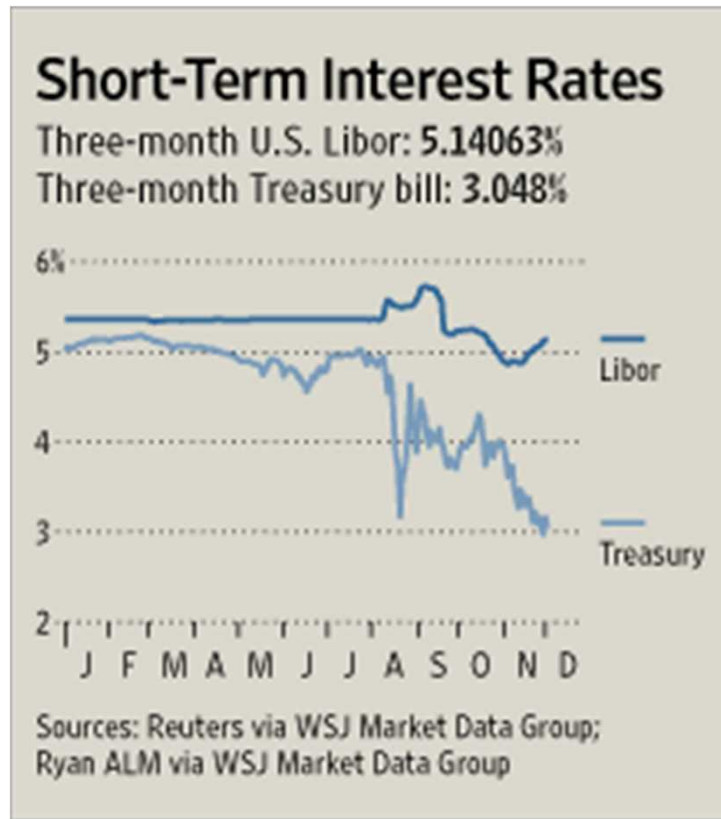


# The “Subprime Mortgage” Mess (Continued)

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- **Financial institutions are creative and outgrew well intended regulations in pursuit of profit (continued)**
  - **“Securitization” and “bets” extended to other debt/financial instruments**
    - » **Collateralized debt obligations, structured investment vehicles, conduits, etc., packaged debt as securities with little or no transparency**
    - » **Credit Default Swap “bets” (institutions selling each other insurance against bond defaults) were “easy money sure things,” unless the company/organization actually defaulted on the bond**
- **Led to “flight to quality”**

# Flight To Quality



Source: Wall Street Journal, 12/04/2007, p. C1



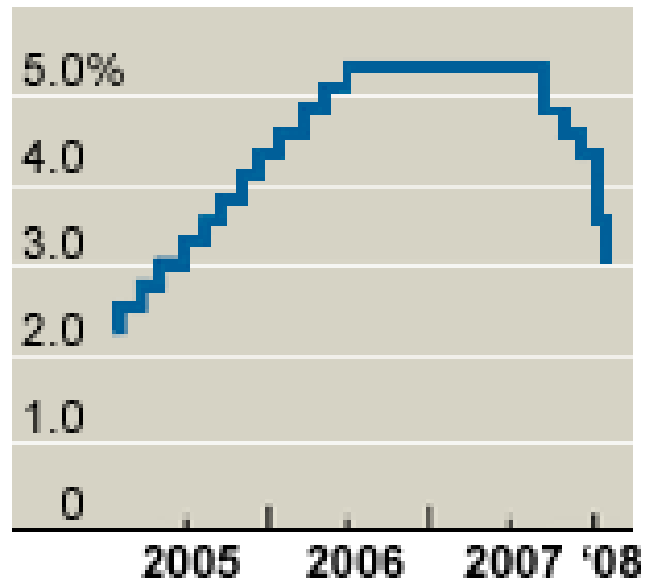
# The “Subprime Mortgage” Mess (Continued)

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- Financial institutions had to begin writing down their losses/bad debts, but difficult to know how much to write down
  - Lack of transparency (how many loans were “bad”)
  - Inaccurate risk pricing/ market value (some “securities” didn’t trade in open markets, so the companies valued them themselves)
  - Rating agencies may have violated standards
- Suddenly companies and financial institutions became afraid to lend to each other, which in the extreme, could shut down the financial system
- Fed now had two worries
  - Subprime failure would lead to recession (with falling housing prices and mortgage defaults, consumers would quit spending)
  - The US and global financial system would freeze (the major fear)
- Fed-USG solutions—add high quality liquidity to the markets (reduce discount rates ), reduce short term interest rates (Federal Funds rates), and attempt to reduce mortgage defaults (USG)

# Federal Funds Rates

## FED-FUNDS TARGET RATE



Note: Chart begins at Jan. 30, 2005

Source: Federal Reserve



# Current Situation

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- **Financial community knows that it must improve regulations and transparency, and it will**
  - **Federal Reserve support; European leaders pushing for tougher global bank/financial market regulations, utilizing Swiss Financial Stability Forum and IMF**
  - **U.S. Probes by FBI, SEC, Justice and some state's Attorneys General**
  - **S&P/rating agency bond/security downgrades**
  - **Losses will have to be recognized and written off**
- **Seeds of inflationary cycle potentially sown**
  - **All else equal, increasing money supply (reducing short term interest rates) stimulates inflation; monetary policy works with 6-9 month lag**
  - **USG working on stimulus package to put money into economy by summer**
- **The US dollar can fall further**
  - **Reducing short term US interest rates can reduce relative \$ value**
  - **Fear of longer term inflation can reduce dollar (shift from dollars to more stable currency)**
- **The Fed may be the center of the world monetary system, but other established central banks are important (ECB, Bank of England, etc.)**
- **Will make monetary policy management very complex over the next couple of years**
  - **Especially given the new US President and Congress in 2009 that will want to changes the fiscal policies of the last eight years**



# Some Central Bank and FOREX Divergence



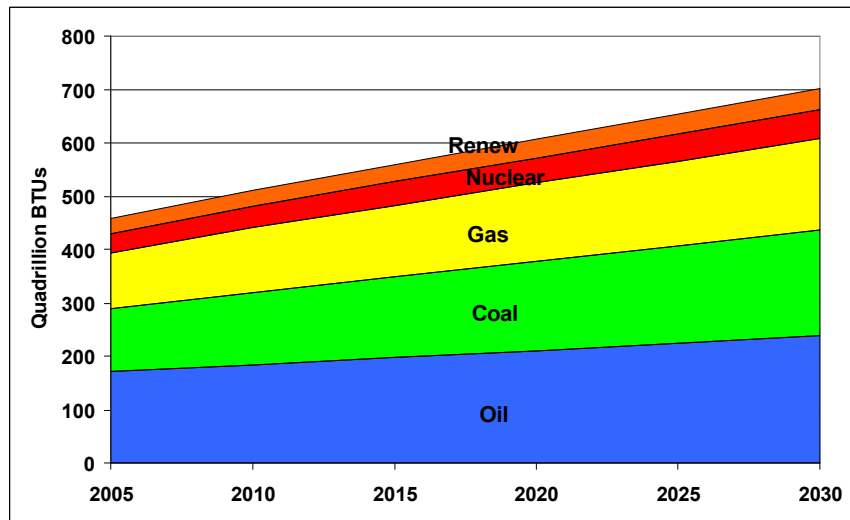
Source: Wall Street Journal, 1/28/2008, P. A1



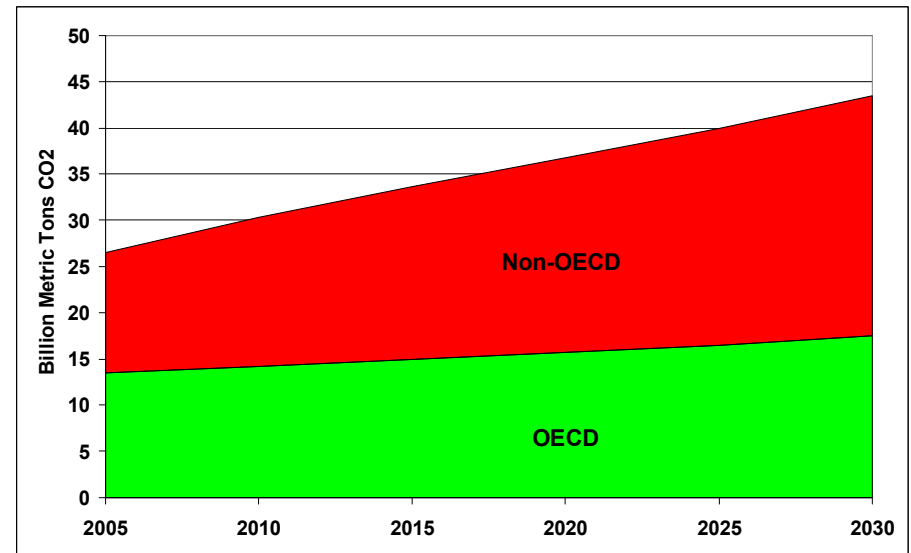
Source: Wall Street Journal, January 31, 2008, P. C 14

# Between 2005 and 2030, World Energy Demand and Carbon Emissions Will Grow 55 Percent

## Energy Demand



## Carbon Dioxide Emissions



**and Developing Countries will Account for 4/5 of the Increase**

Source: USDOE EIA IEO 2007 Reference Case

# The World's Proven Fossil Fuel Reserves are Geographically Concentrated

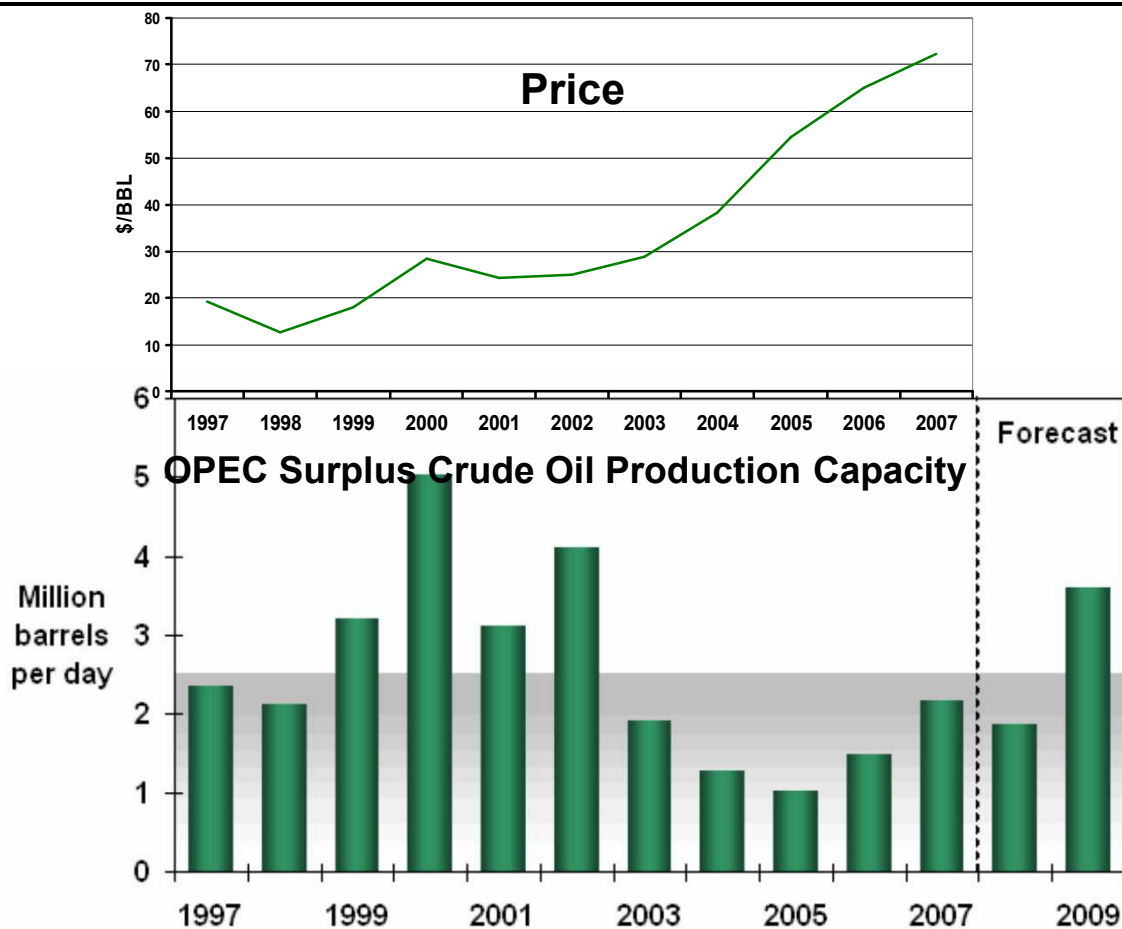
(Percent Share)

| Region           | Oil | Gas | Coal |
|------------------|-----|-----|------|
| Key Persian Gulf | 55  | 41  | < 1  |
| Saudi            | 20  | 4   | 0    |
| Iran             | 10  | 16  | < 1  |
| Iraq             | 9   | 2   | 0    |
| Kuwait           | 8   | < 1 | 0    |
| UAE              | 7   | 3   | 0    |
| Qatar            | 1   | 15  | 0    |
| Canada           | 14  | < 1 | < 1  |
| Venezuela        | 6   | 2   | < 1  |
| Russia           | 5   | 27  | 17   |
| U.S.             | 2   | 3   | 27   |
| China            | 1   | 1   | 13   |
| India            | < 1 | < 1 | 10   |
| ROW              | 17  | 24  | 32   |
| Total            | 100 | 100 | 100  |

Source: Oil & Gas Journal 1/1/07; EIA Int. Energy Ann. 6/21/07.

**And National Oil Companies Own 70-80% of Proven Oil Reserves**

# Surplus OPEC Oil Production Capacity Drives Market Prices

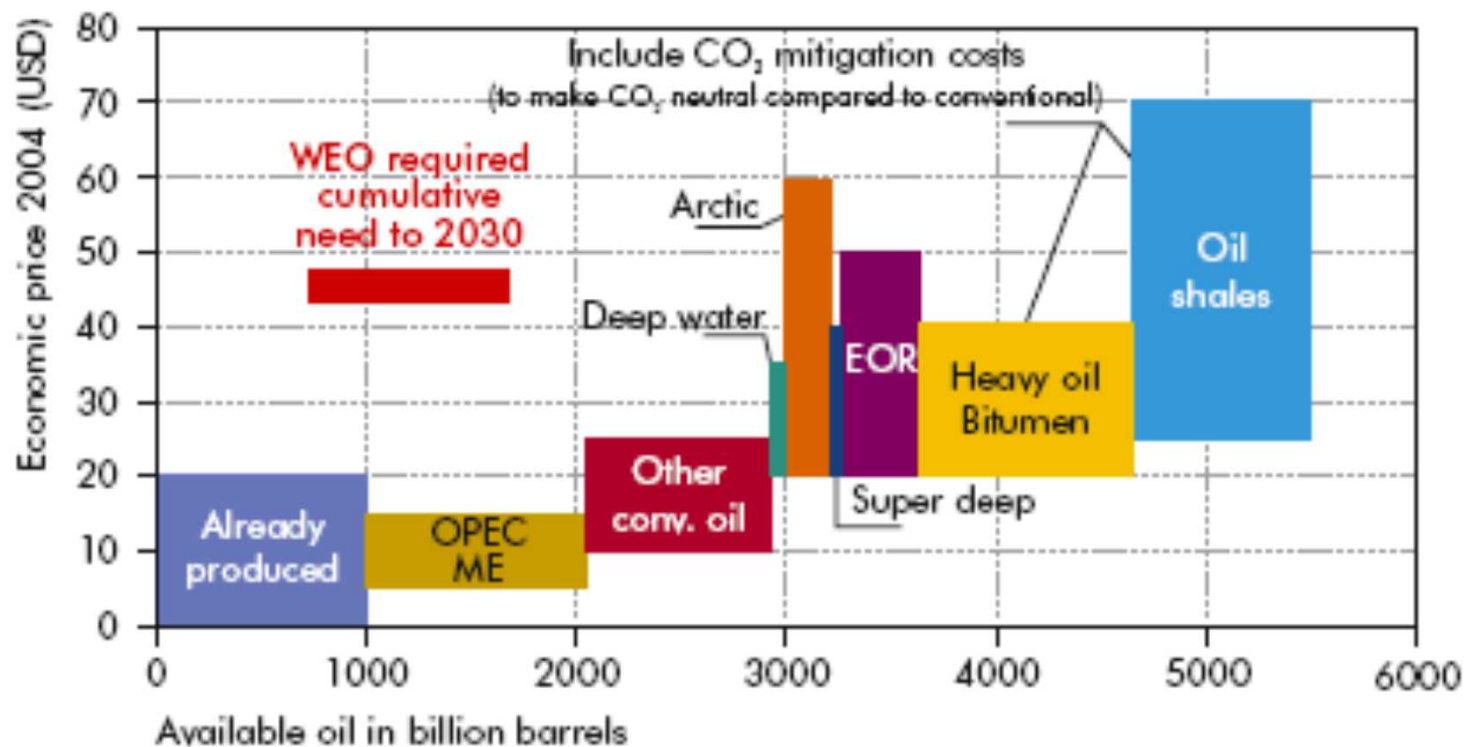


Note: Shaded area represents 1997-2007 average (2.5 million barrels per day)

# A Wide Range of Prospects for Alternative Liquid Fuels, But They Will Take Time to Develop

## IEA's Oil Cost Curve

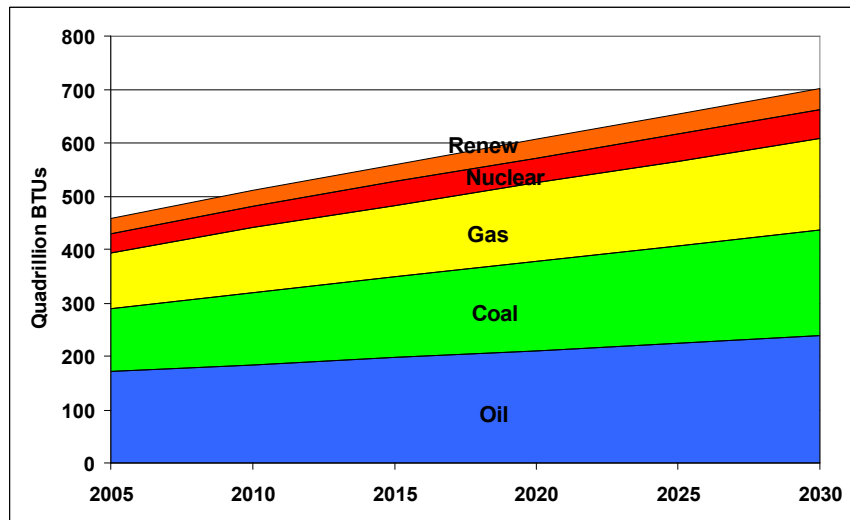
**Figure ES.1 • Oil cost curve, including technological progress: availability of oil resources as a function of economic price**



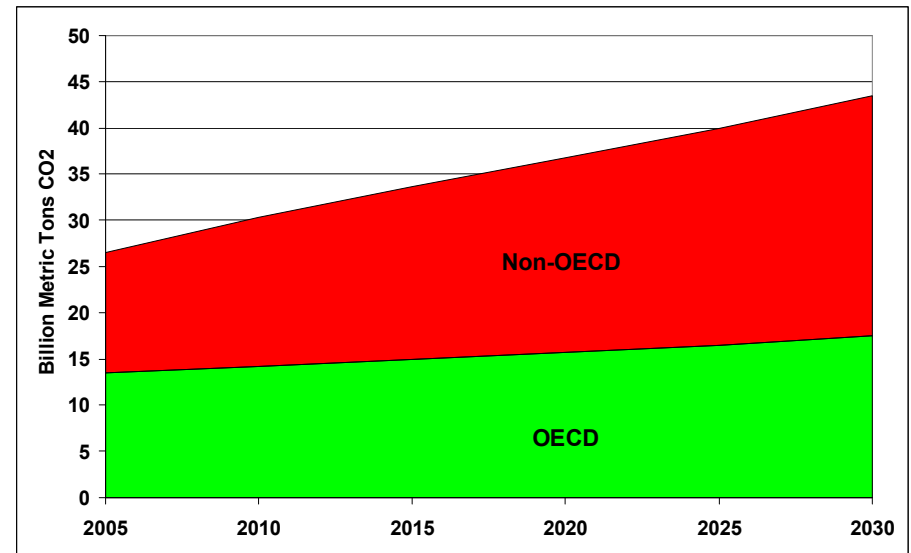
Source: Resources to Reserves, Oil and Gas Technologies for the Energy Markets of the Future, OECD/IEA 2005, P. 17

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## Energy Demand



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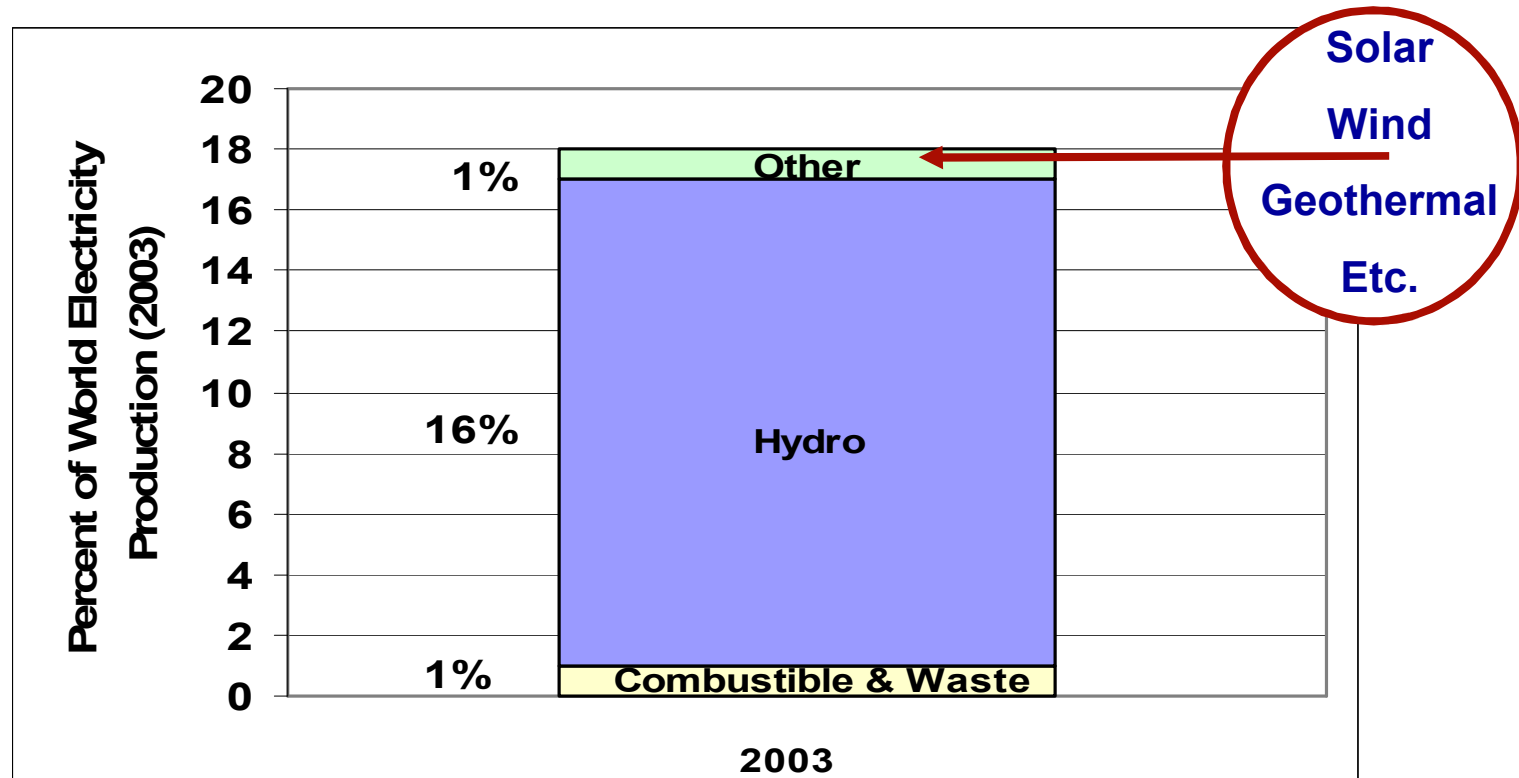


# The Climate Change Policy Problem is Enormous

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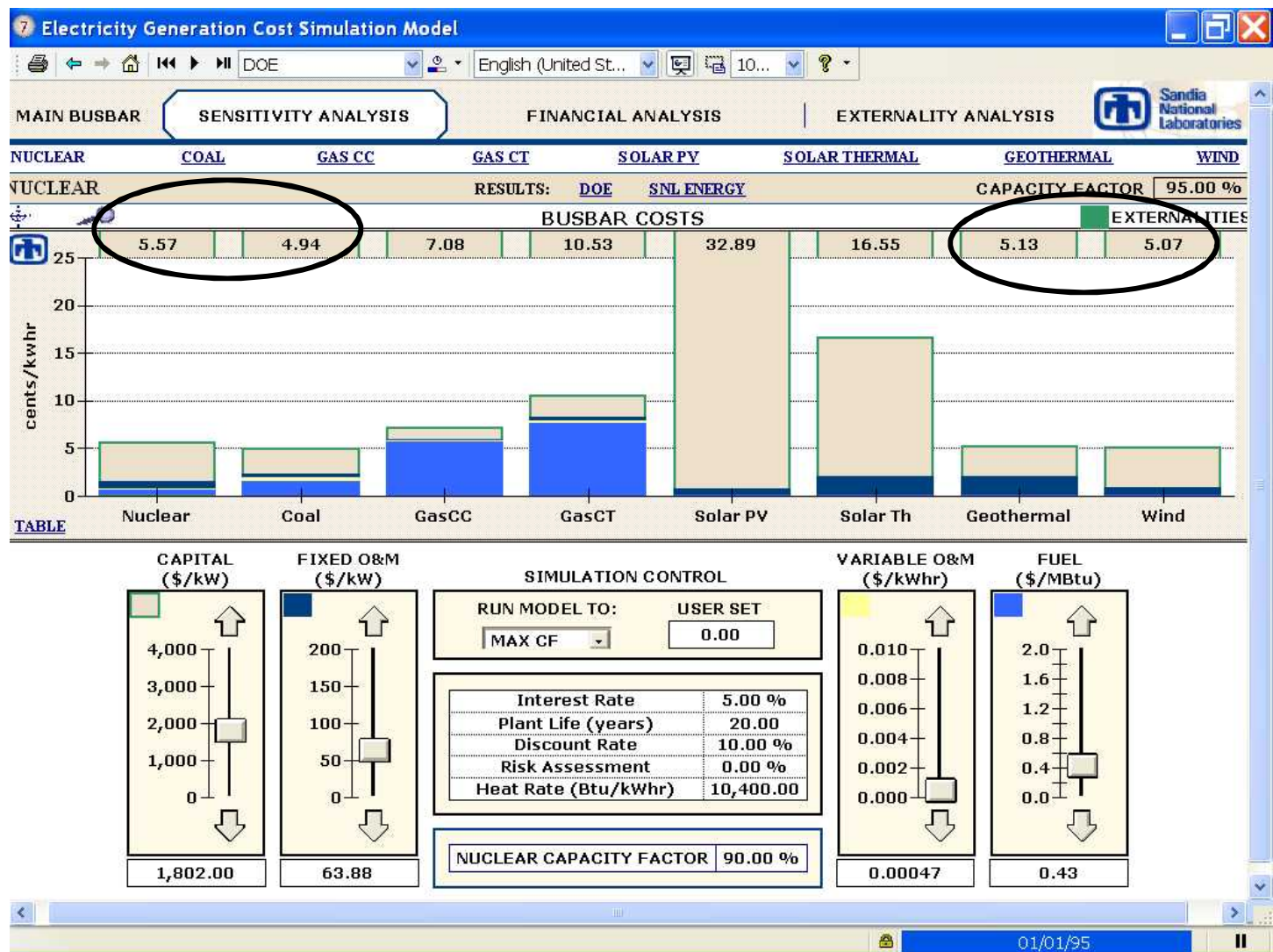
- The theoretical climate change relationship is between atmospheric concentrations of GHG and climate change, not annual emissions
- According to the Intergovernmental Panel on Climate Change, stabilizing atmospheric concentration of GHG at current levels would require permanent emissions reductions of 60% or more below current levels
  - Kyoto Protocols: Industrialized countries agreed to reduce emissions, on average, 5.2% from 1990 levels by 2008-2012

# Current Renewable Electricity is Largely Hydro



Source: Renewables In Global Energy Supply, IEA Fact Sheet 2006

# New Nuclear Electricity Plants are Cost Competitive in US, Depending on Capital Cost and Perceived Risk





# Carbon Emissions Trading vs. Taxes As Policy Instruments

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- **Carbon taxes**
  - Send clear price signals to accelerate clean technology development and reduce fossil fuel use
  - Do not specify the quantities of carbon to be emitted
- **Carbon trading**
  - Creates a new financial instrument—a government guaranteed right to emit carbon
  - Specifies politically determined emissions quantities
  - Does not specify (hides) the price
  - Would involve \$billions/\$trillions and likely would attract financial market investment from pension funds, hedge funds, mutual funds, etc.
  - What happens when/if governments decide to make large quantity changes or that they do not like where the financial flows are going (e.g., from the US and EU to China, India and Russia)?



# Protectionist Seeds

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- “National champion” utility company mergers: Gas de France--Suez (Enel); E.On--Endesa (Gas Natural)
- ChevronTexaco—UNOCAL (CNOOC); Dubai Ports World--Peninsular & Oriental Steam Navigation Co.
- China/emerging markets competitive threats
  - Low cost manufacturing, “low value” Yuan “management”
- Foreign currency devaluations
- Sovereign Wealth Funds
- U.S. and Europe considering “carbon” import fee
- **Domestic politics vs. international competition and economics:??**

# Protectionist Seeds (Continued)

## Turning Away?

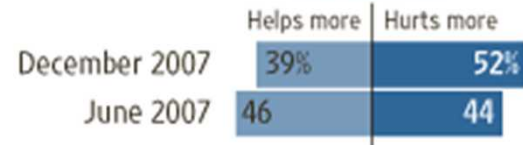
Poll numbers point to an increasingly negative attitude among Americans on the issues of globalization and immigration.

### All adults

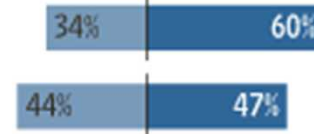
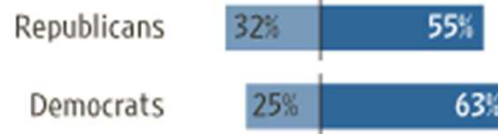
#### GLOBALIZATION



#### IMMIGRATION



### December 2007 by party



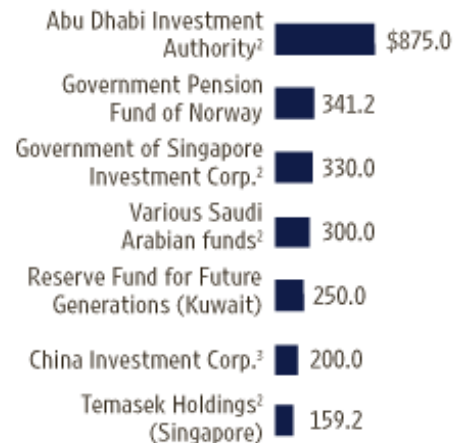
Note: Globalization question for 2007 was asked of only half the respondents

Source: WSJ/NBC News telephone polls of 1,008 adults in December and June 2007, and 2,007 adults in June 1997; margin of error for December 2007 full sample: +/-3.1 percentage points; margins of error for subgroups are larger

Source: Wall Street Journal, December 20, 2007, P. A13

# Sovereign Wealth Funds

Estimated assets of sovereign wealth funds in billions



Sources: McKinsey Global Institute; Morgan Stanley

## Sovereign Salvation

Recent investments in major financial-services firms

### UBS

G.I.C. (Singapore)

\$9.8 billion

### Citigroup

Abu Dhabi Investment Authority

7.5

### Morgan Stanley

China Investment Corp.

5.0

### Merrill Lynch

Temasek Holdings (Singapore)

4.4

### Bear Stearns\*

Citic Securities (China)

\$1.0

\*\$1 billion in cross-investments by Citic and Bear in each other

Source: Bank disclosures



# Emerging International Economic Issues and Prospects

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- **Growing global economic, financial and monetary interdependency, with political resistance to be overcome, leading to longer term**
  - **Economic competitiveness**
  - **Global prosperity and improved quality of life**
  - **Reduced relative global U.S. role and responsibilities, though with appropriate public policies, a very gradual reduction**
- **Concentrated fossil energy resource ownership with prospects for supply manipulation, energy supply interruptions and price swings, leading to longer term**
  - **Advanced, more secure energy technologies**
- **Uncertainty of global climate change (how much, how fast and where) requiring global collective action beyond current geopolitical capabilities, leading to longer term**
  - **Advanced, cleaner energy technologies**
  - **Improved adaptation capabilities**
  - **Some political public policy misfires**
  - **And still, climate change**

**Will require greater international political economic openness, competition and collaboration**



# Backup

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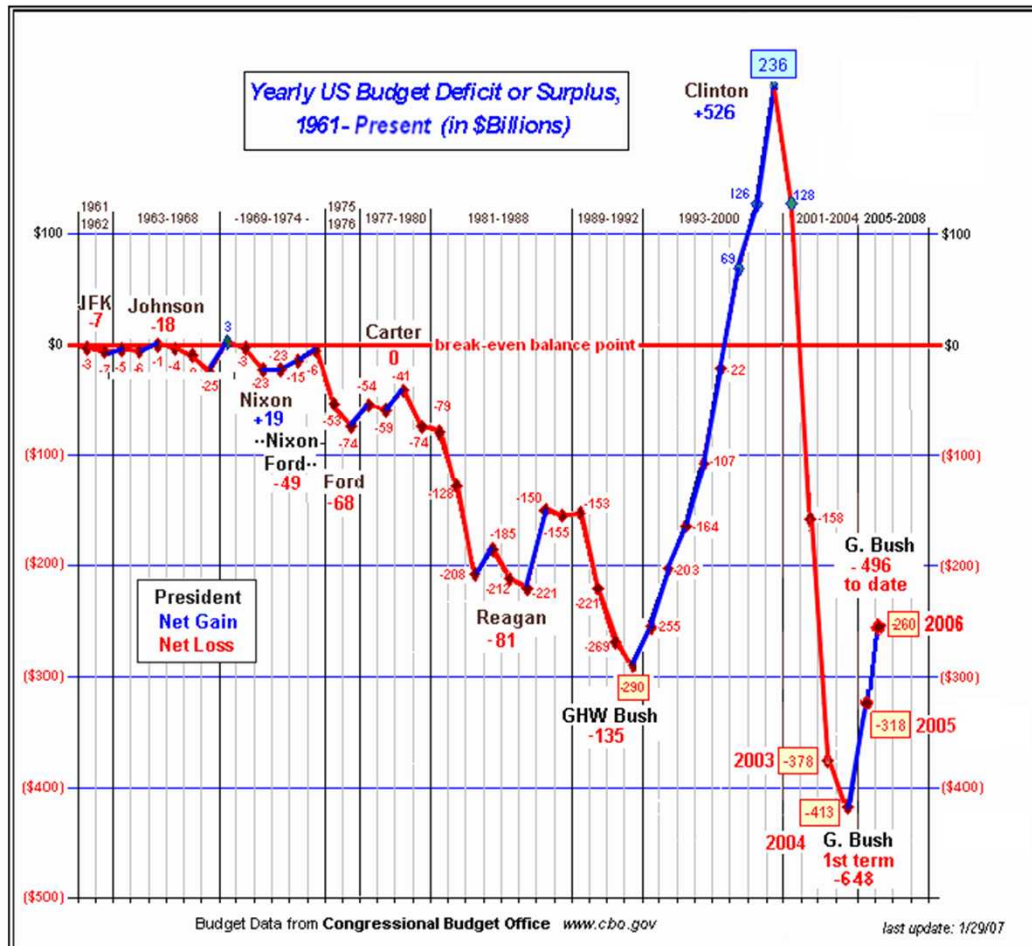
# U.S. Debt and Budget Deficit

U.S. Debt:

Public: \$5

+ Intgovt Debt: \$4

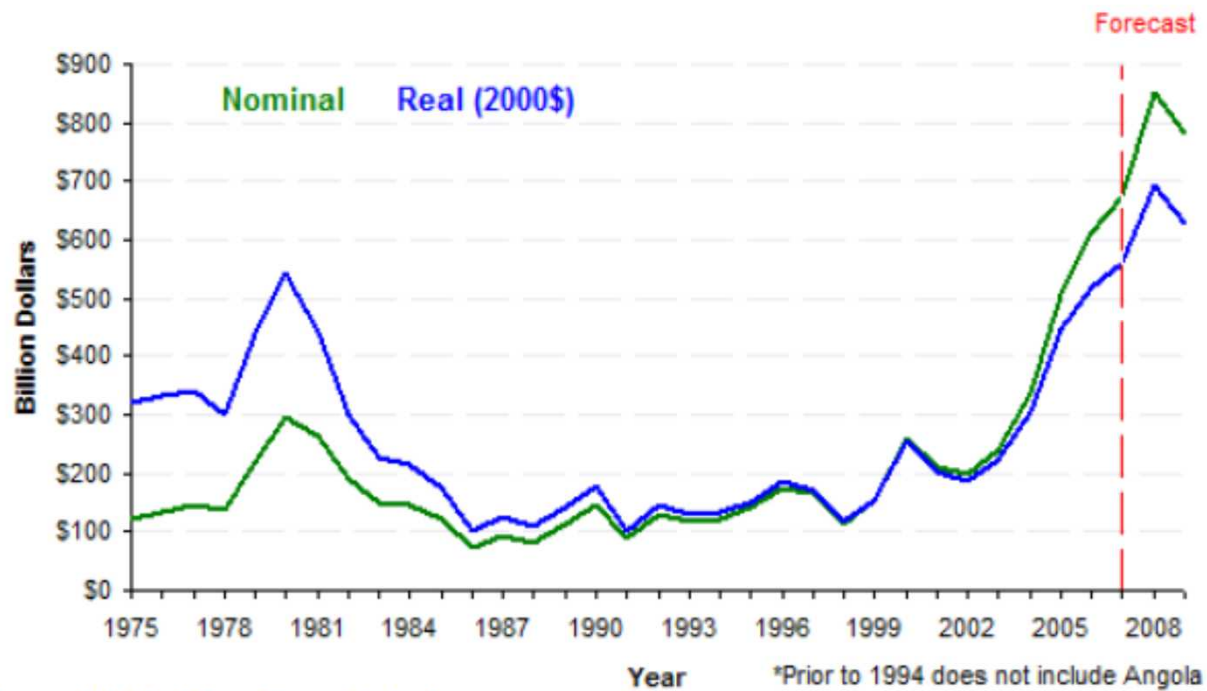
+ Unfunded: \$50



Source: US Congressional Budget Office



### OPEC Net Oil Export Revenues\*

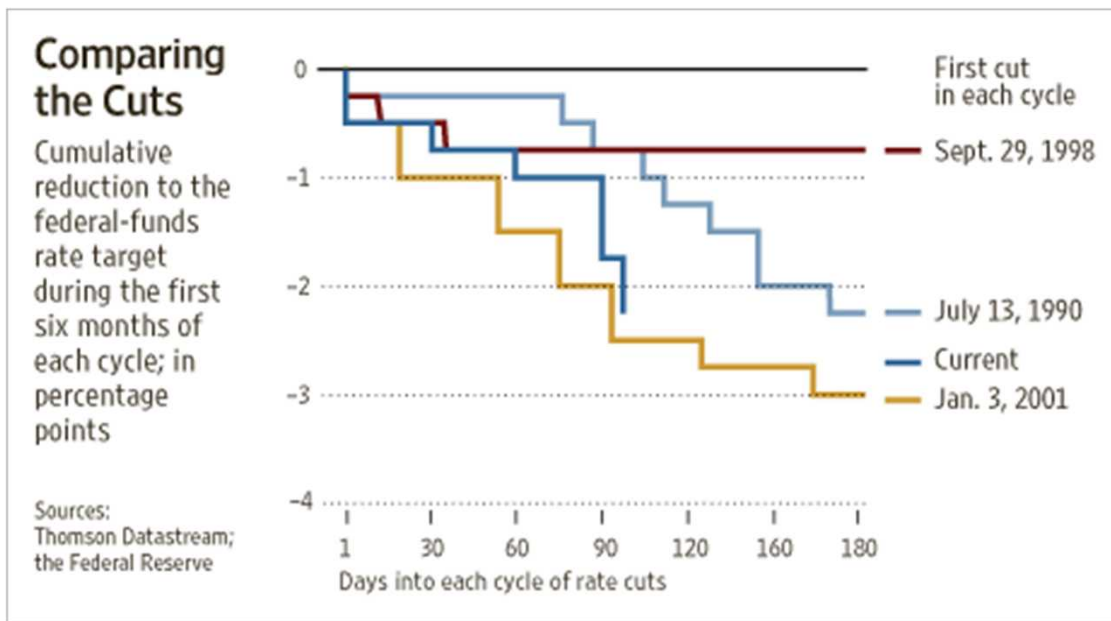


Source: EIA Short Term Energy Outlook

\*Prior to 1994 does not include Angola or Ecuador

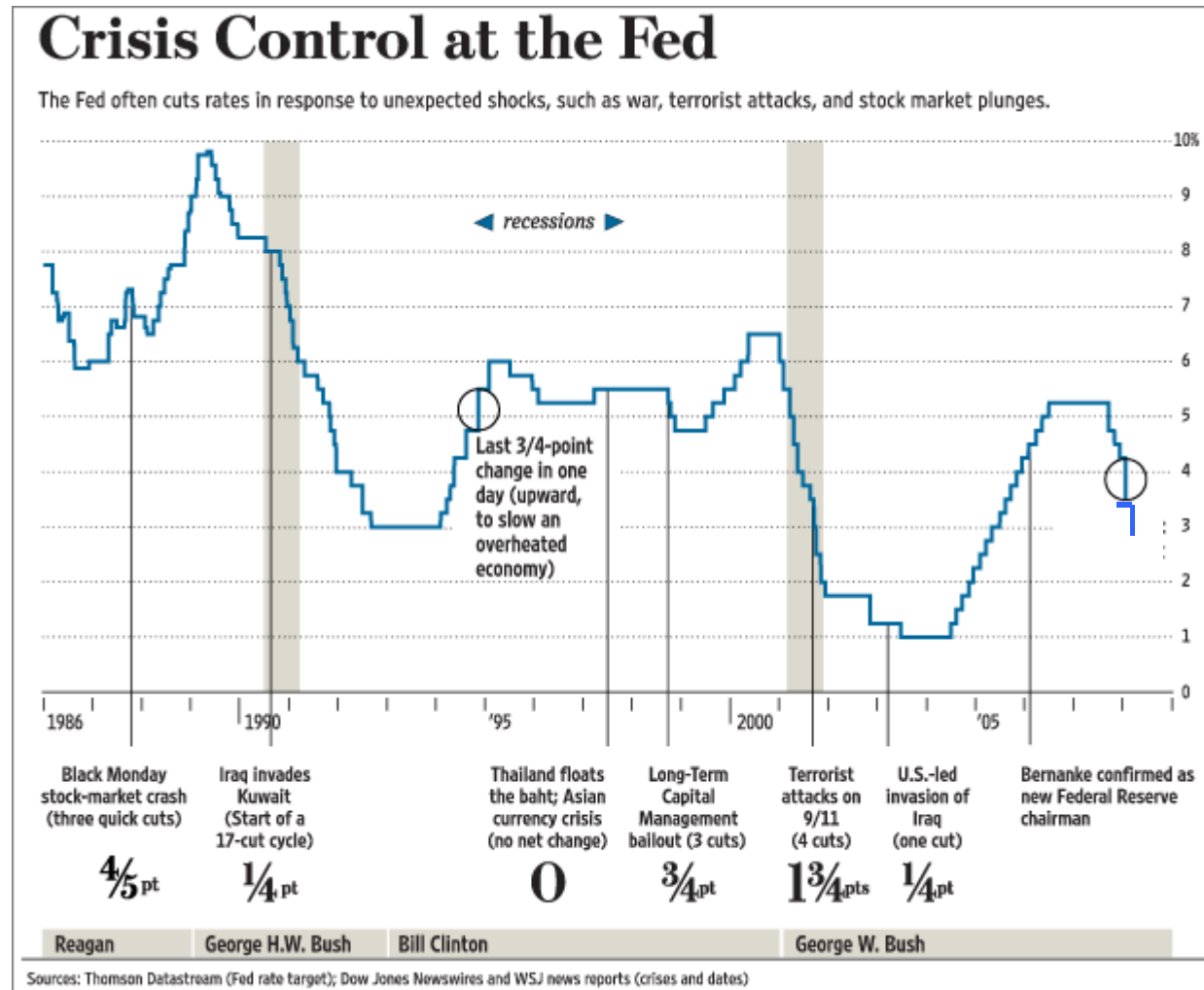
Source; EIA OPEC Revenues Fact Sheet, January 8, 2008;

# Federal Funds Rates Historical Trends



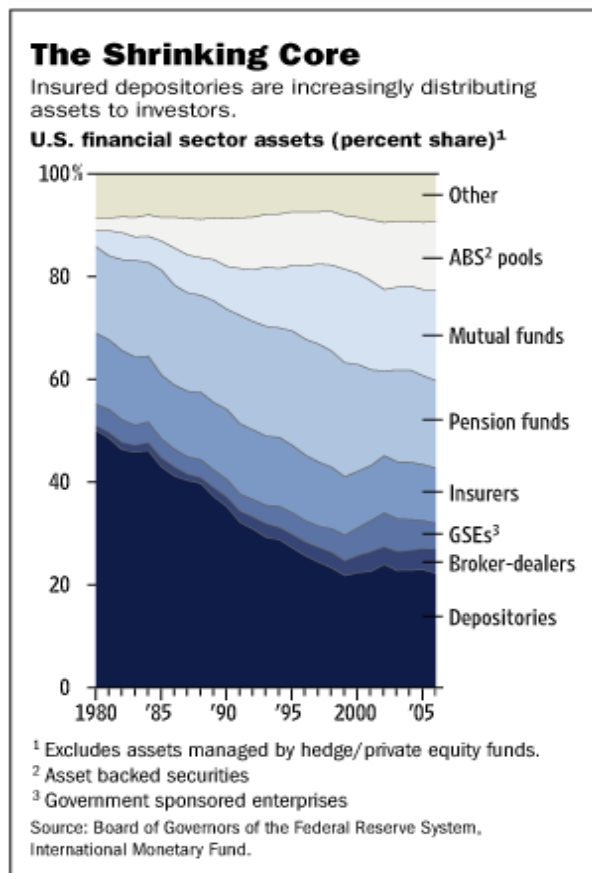
Source: Wall Street Journal, January 31, 2008, P. A1

# Federal Funds Rates



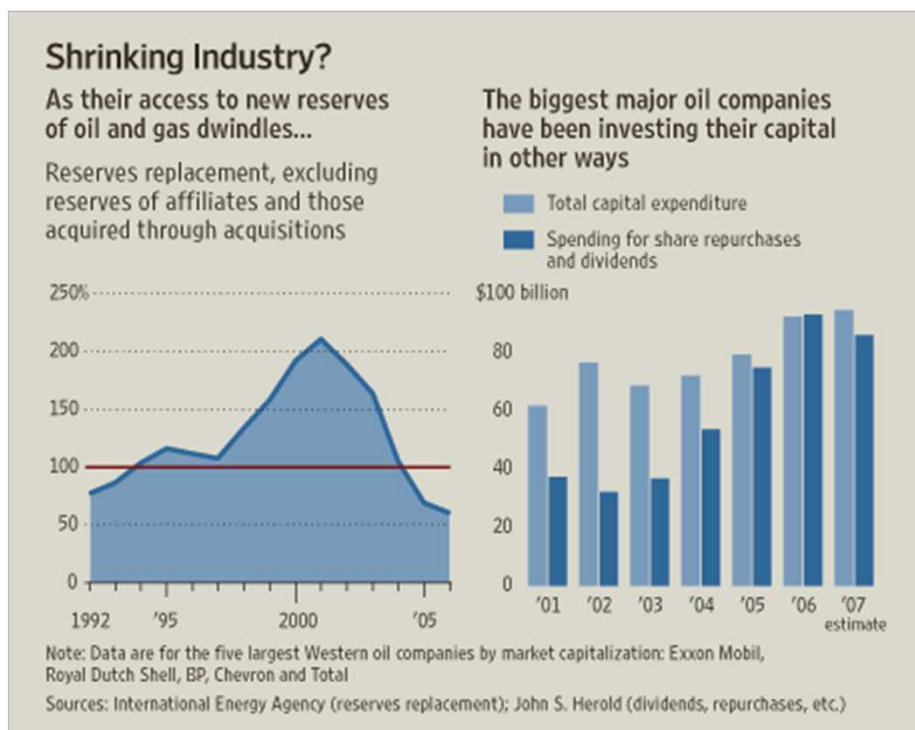
Source: Wall Street Journal, January 23, 2008, p. A1.

# Control of the Domestic/International Financial System is Shifting



Source: Federal Reserve System and IMF

# Top Five Western Oil Companies Reserve Replacement and Capital Expenditures



Source: Wall Street Journal, January 31, 2008, P. A10