

The U.S. and Global Economic Environment

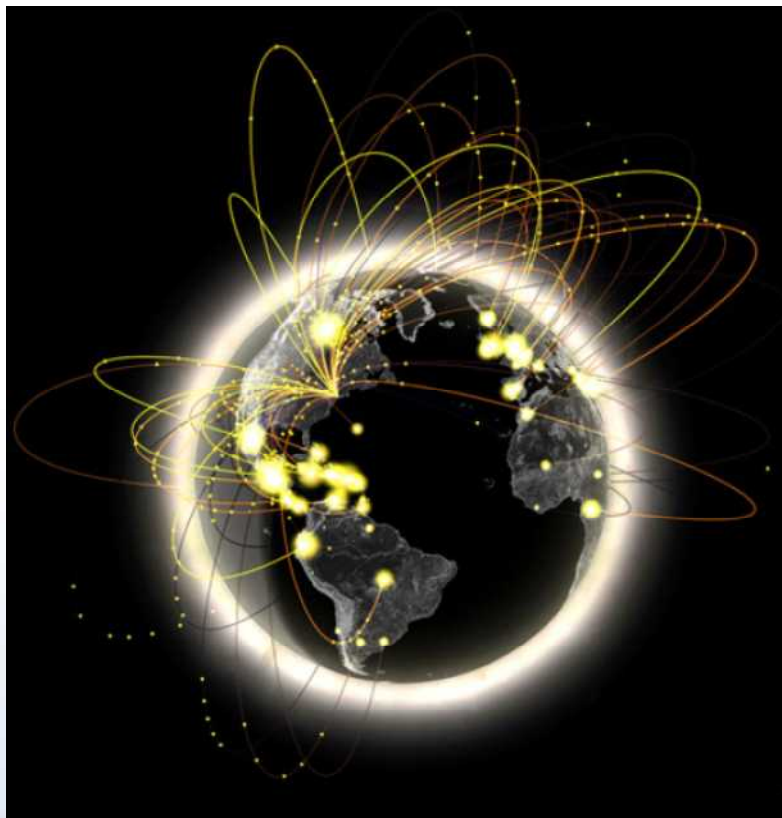
Albuquerque Del Norte Rotary Club

October 19, 2011

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Sandia National Laboratories is a multi-program laboratory managed and operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.

A More Open and Interdependent Global Framework



- **Countries not immune to effects of domestic policies outside their borders**
 - Food price increases from U.S. corn ethanol
 - Coal, oil, other commodity prices driven by China, India, U.S. economic growth and domestic public policies
 - U.S. housing bubble
- **Scope for national public policies with major economic/financial impact is becoming more limited**
 - Financial markets “über alles”
 - Can’t afford costs/returns out of line with competitor countries
 - Greater need for decision-making speed
 - Cost of mistakes will grow
- **Protectionist pressures**
 - Chinese accused of undervaluing currency

Source: New York Talk Exchange, Total IP Traffic From New York in 24 hours

U.S. Is the Center of the World Economy But a Transitional Shift Is Underway

2010 World GDP

(Current Exchange Rates)

<u>Country</u>	<u>\$Trillion</u>	<u>World %</u>
U.S.*	14.7	23
China	5.9	9
Japan*	5.5	9
Germany*	3.3	5
France*	2.6	4
UK*	2.2	4
Brazil	2.1	3
Italy*	2.0	3
India	1.7	3
Canada*	1.6	3
OECD**	42.9	68
<u>World</u>	<u>63.2</u>	

2010 World Population

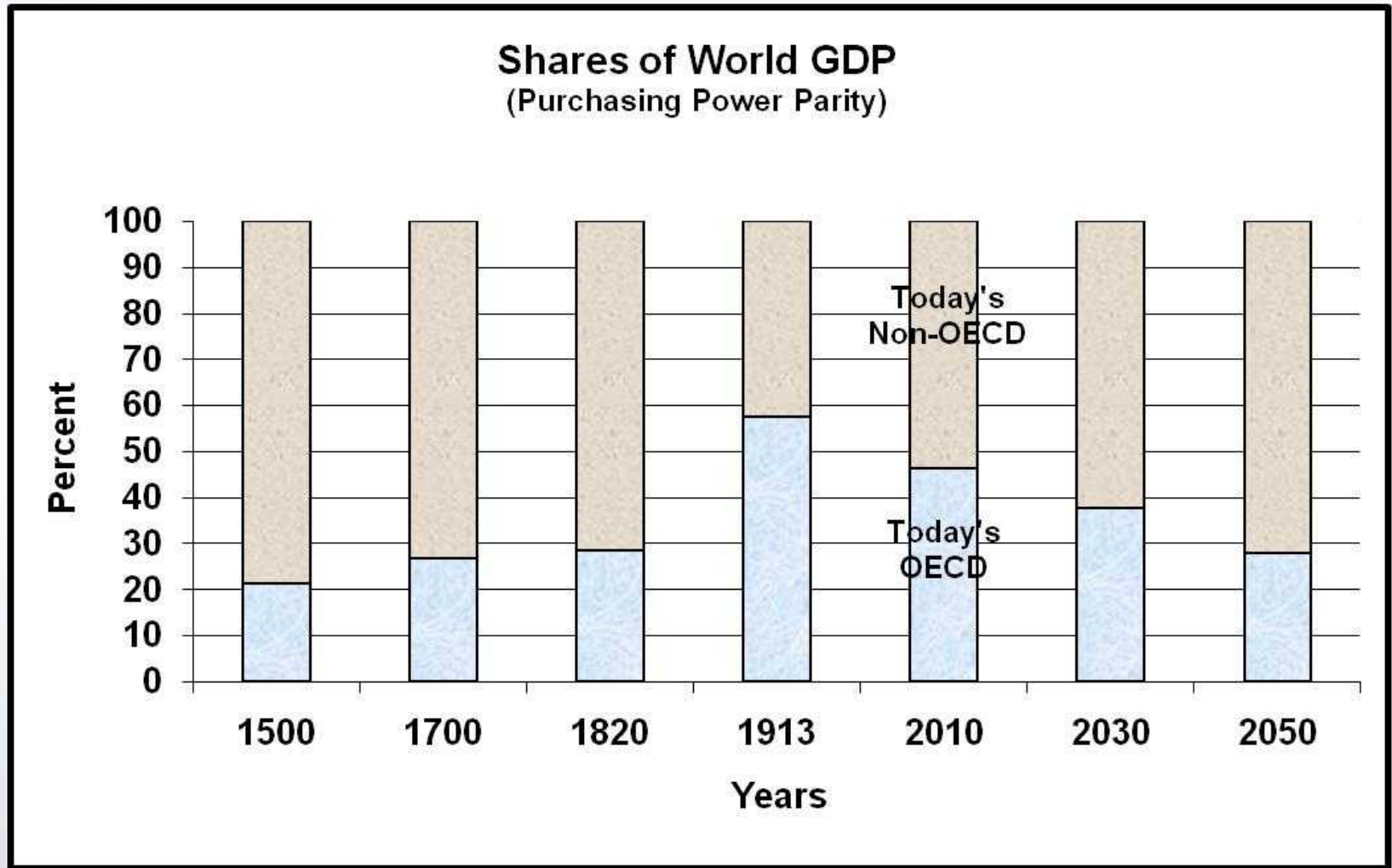
<u>Country</u>	<u>Population</u> (Million)	<u>World %</u>
China	1,371	20
India	1,225	18
U.S.*	311	5
Indonesia	240	4
Brazil	195	3
Pakistan	185	3
Bangladesh	165	2
Nigeria	148	2
Russia	140	2
Japan*	128	2
OECD**	1,223	18
<u>World</u>	<u>6,938</u>	

* Indicates a developed country

** Organization for Economic Cooperation and Development

Source: 2010 GDP data and population from Global Insight World Overview, June 2011

A Transitional Shift



Source: *The World Economy*, OECD 2001, Angus Maddison; *IHS Global Insight Detailed Forecast*, June 2011, extrapolated to 2050, \$2005 PPP basis

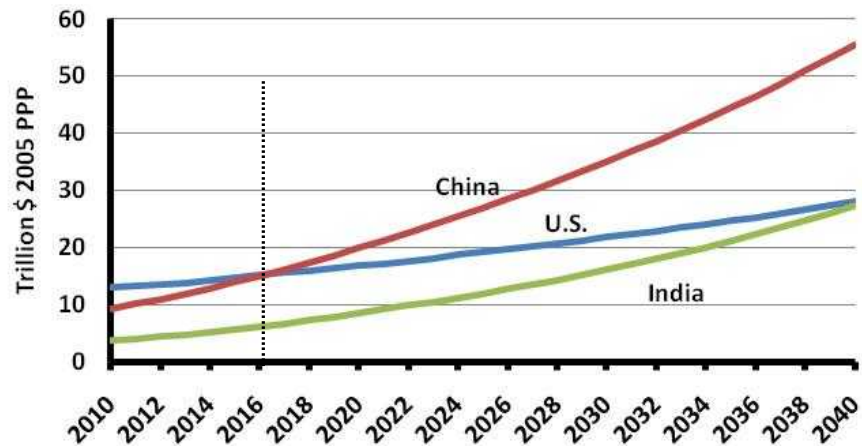


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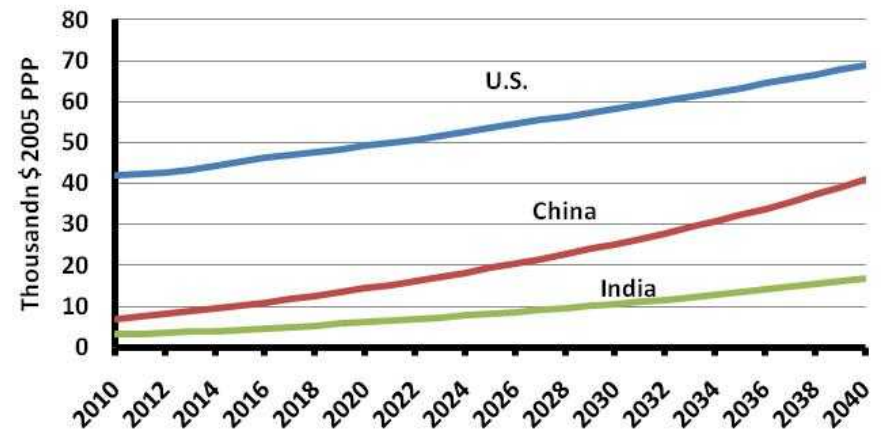
China and U.S. Real GDP

(Real \$2005 PPP)

Real Total GDP

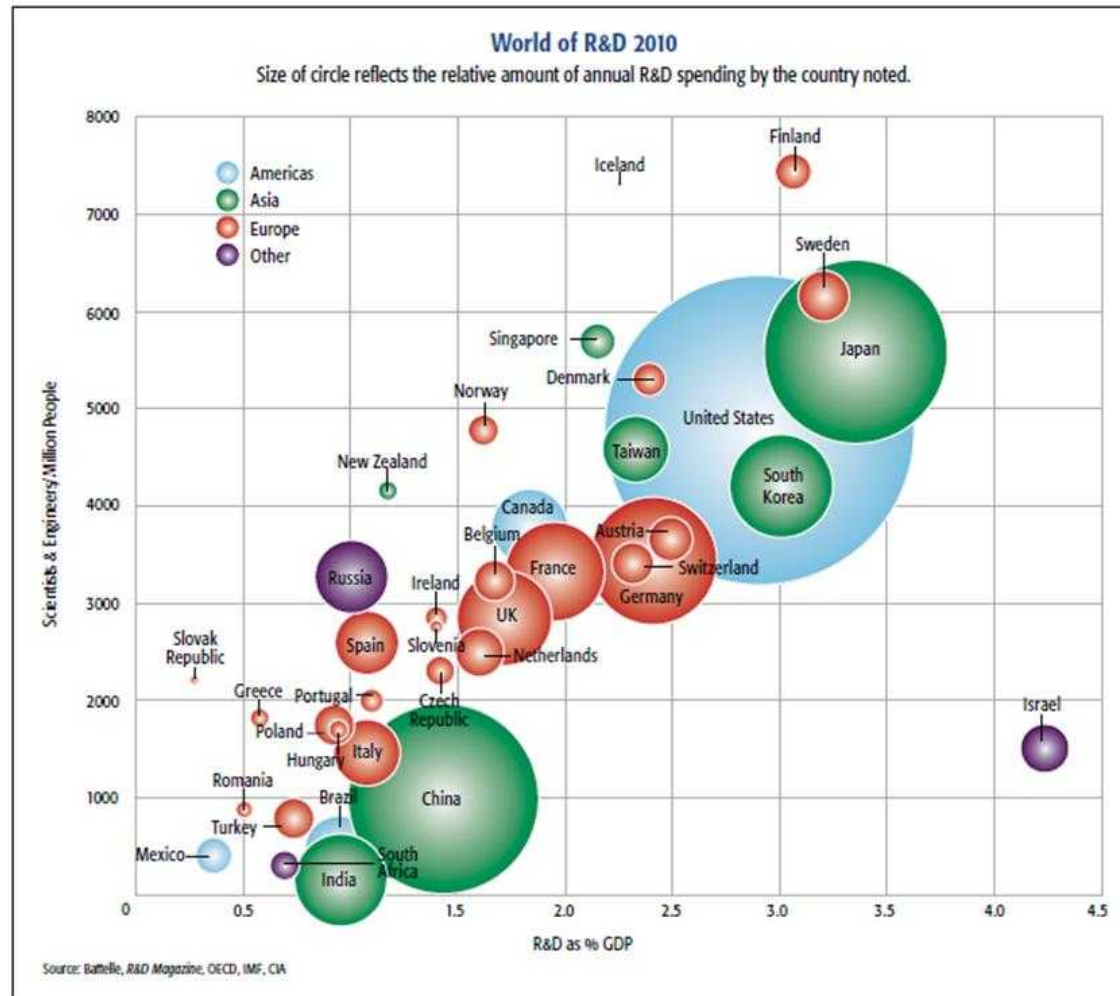


Real Per Capita GDP

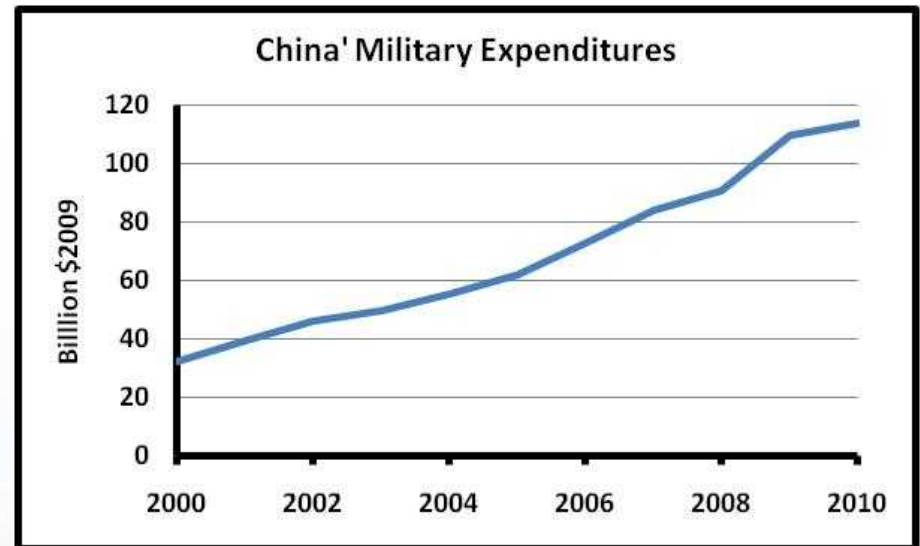
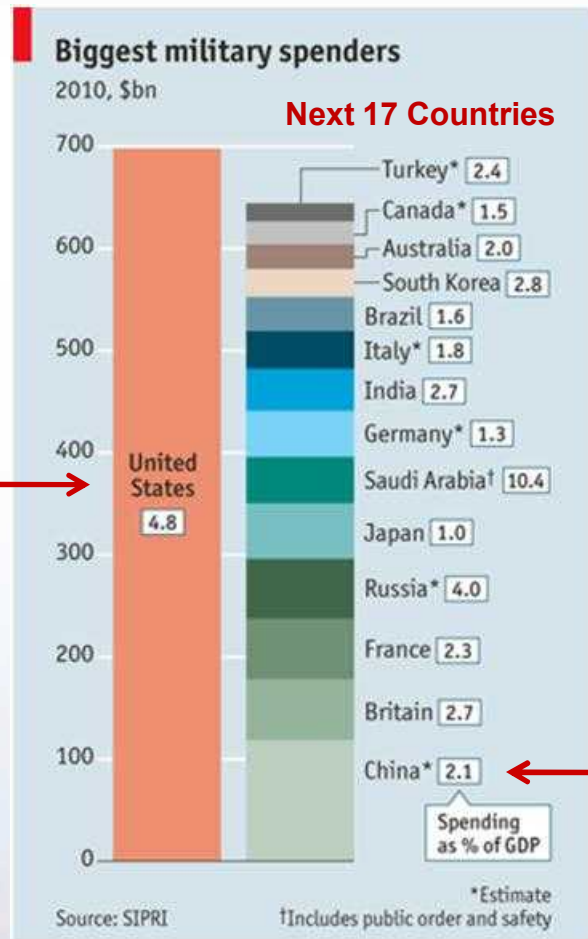


Source: IHS Global Insight Detailed Forecast, August 2011

2010 Global R&D Funding



2010 Military Spending



Source: The Economist, June 8, 2011 on-line; SIPRI Military Expenditures Database on-line



International Monetary System: A Confidence Game

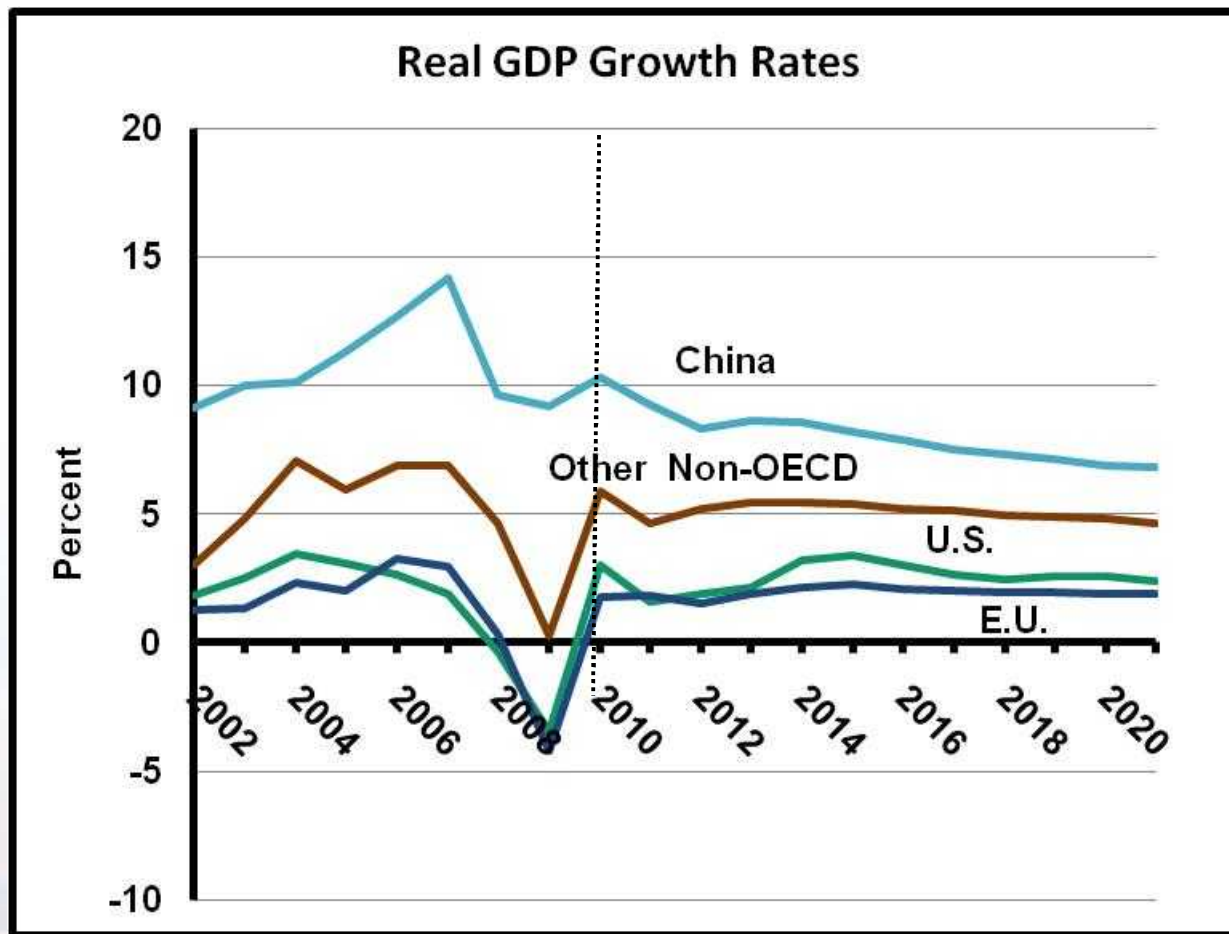
- **Nation based, run by central banks (172) with varying degrees of independence**
 - Sweden (1668), Bank of England (1694), Banque de France (1800), Federal Reserve System (1913), ECB (1998)
 - Central bank mandates differ, but generally aim to
 - ◆ Control inflation; prevent recession; provide financial stability
 - Several coordination institutions
 - ◆ Bank for International Settlements (1930), International Monetary Fund (1945), Financial Stability Forum (1999)
- **Money historically tied to gold/silver**
 - Most major countries adopted a gold standard during 1700s-1800s
 - ◆ On again, off again until early 1970s
 - US abandoned the gold standard in 1971; every major international currency followed
- **Money today is “fiat” money—that is, backed by confidence in the issuing government**



Why Government Budget Deficits and Debt Matter

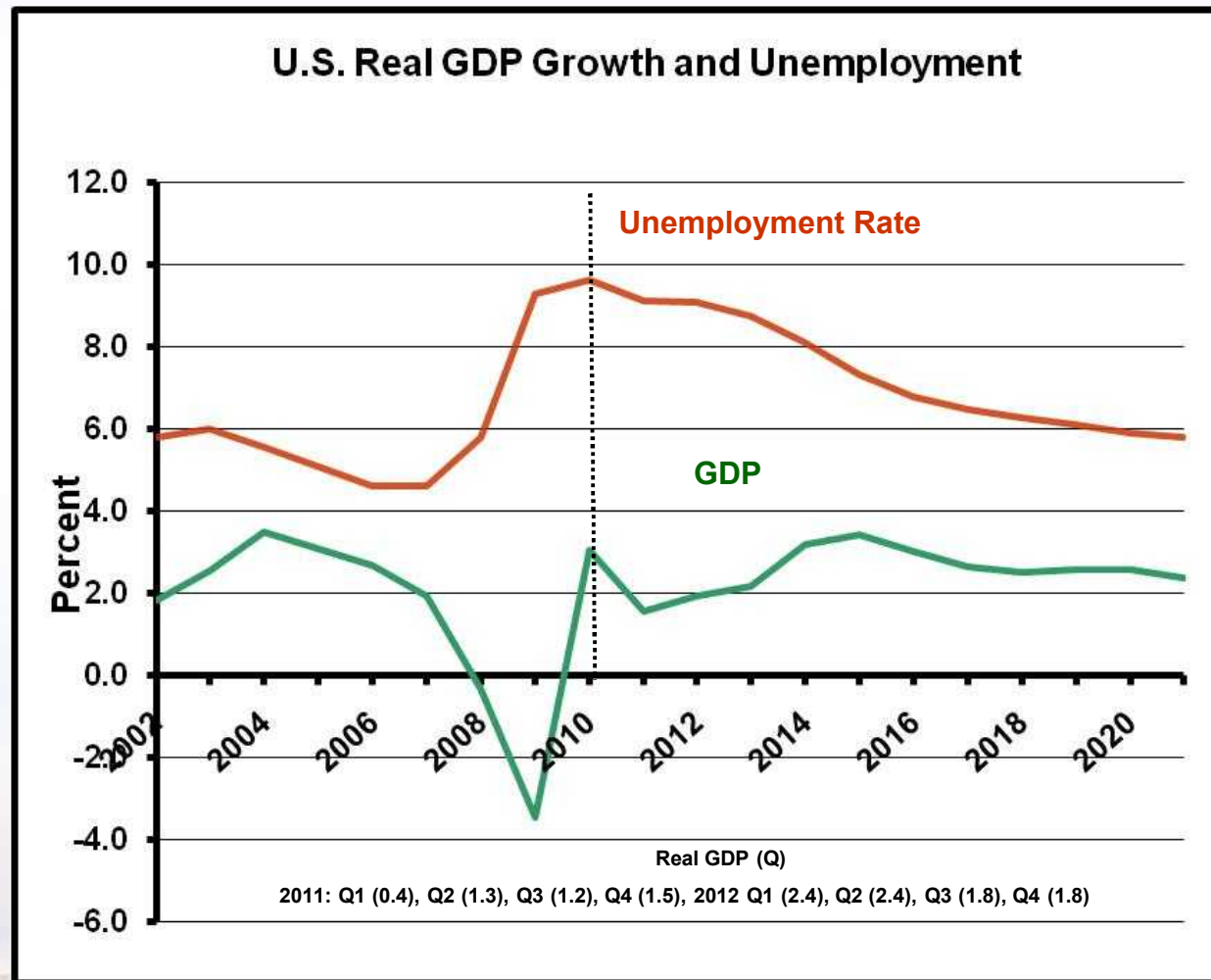
- **Budget deficits are financed by government debt**
 - Growing deficits → more debt financing → increases deficits
- **Budget deficits → inflation**
 - Higher inflation expectations → higher interest rates demanded on debt
 - Higher interest rates increase deficits
 - Greater interest payments
 - Slow down economic growth
 - Reduces government tax receipts, increases government safety net payments
 - Falling currency value (\$)
 - Pressure central bank (Fed) to raise interest rates
- **Loss of confidence in govt ability to manage fiscal/monetary policies**
 - Much higher interest rates; govt may not be able to borrow to pay its bills

Outlook For World Economic Growth



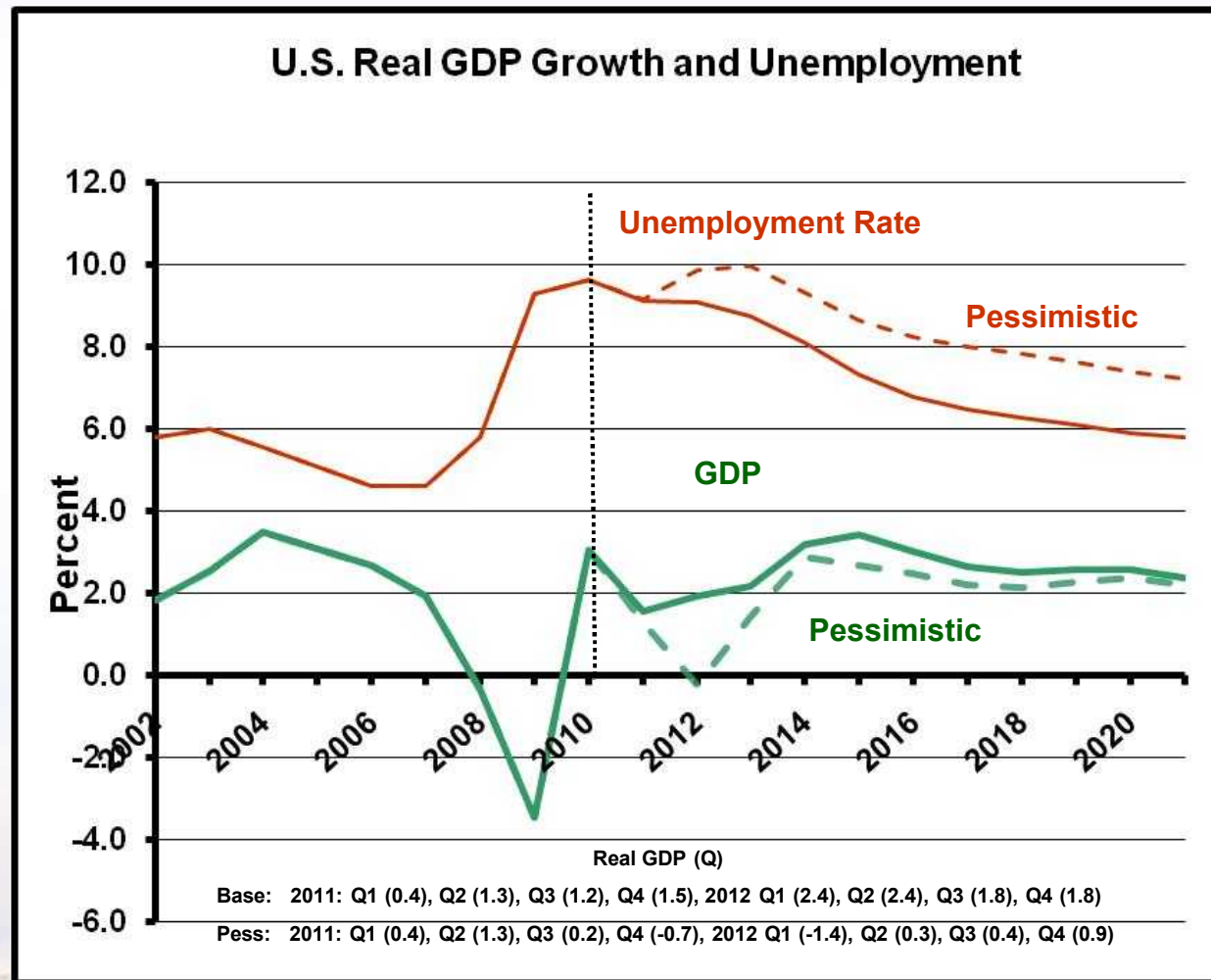
Source: IHS Global Insight World Overview Base Case, August 2011

Outlook for U.S. Economic Growth & Unemployment



Source: IHS Global Insight, Short Term Forecast August 2011

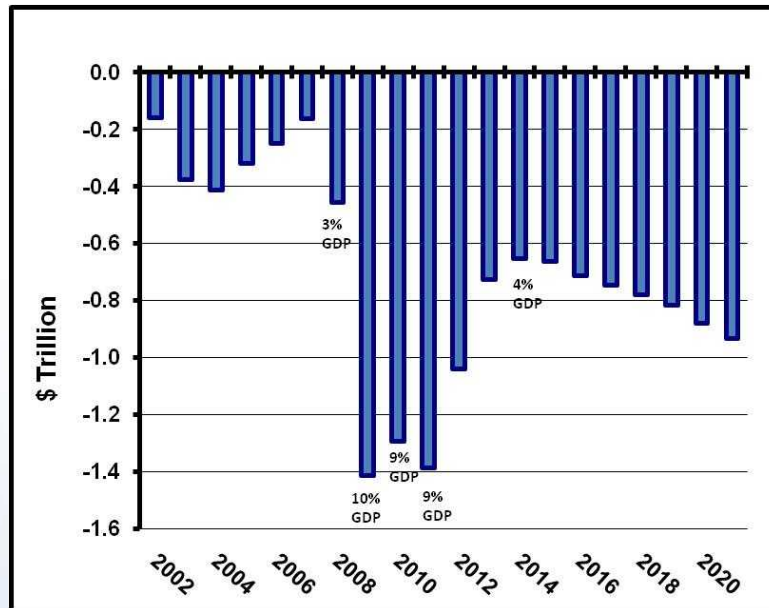
Outlook for U.S. Economic Growth & Unemployment



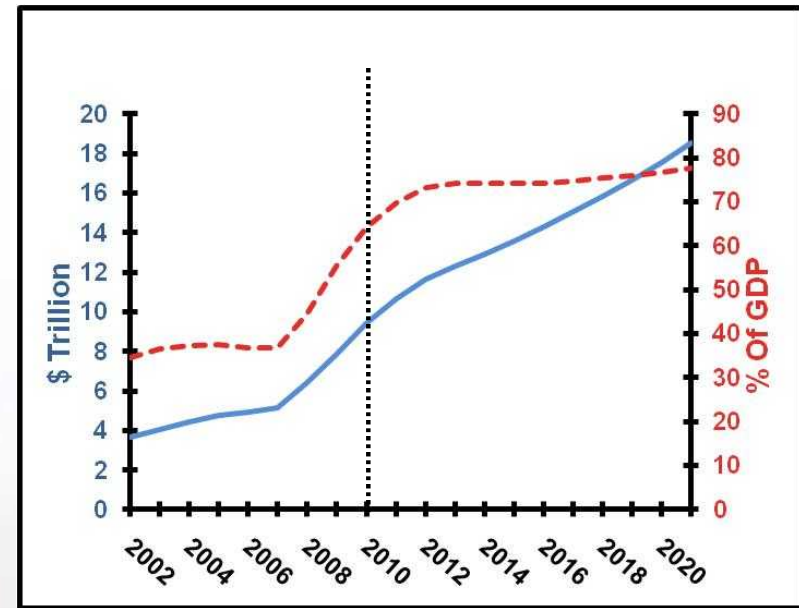
Source: IHS Global Insight, Short Term Forecast August 2011

U.S. Federal Budget Deficit and Debt

Budget Deficit



Publicly Held Federal Debt



Source: IHS Global Insight Short Term Forecast August 2011

Estimated 2010 Fiscal Balances and Debt Ratios

Fiscal Balance

	<u>Country</u>	<u>Percent</u>
1	Ireland	-32.8
2	Mozambique	-14.6
3	Greece	-10.5
4	Venezuela	-10.4
5	Botswana	-10.2
6	United Kingdom	-10.1
7	Japan	-9.8
8	Spain	-9.3
9	Portugal	-9.1
10	United States	-8.8
11	Egypt	-8.6
12	Slovakia	-7.9
17	France	-7.0
19	Pakistan	-6.3
26	Canada	-5.5
36	India	-4.7
49	Russia	-4.2
64	Germany	-3.3
89	China	-1.6

Debt Ratios

		<u>Debt*/GDP</u>	<u>Govt. Debt**</u>
<u>Rank</u>	<u>Country</u>	<u>%</u>	<u>Held Externally %</u>
1	Japan	226	15
5	Greece	144	84
8	Italy	118	54
11	Ireland	94	
14	France	84	
15	Portugal	83	53
19	Germany	79	45
23	U. K.	77	32
27	U. S.	64	30
28	Spain	63	
32	Brazil	61	
35	<u>World</u>	<u>59</u>	
44	India	56	
86	Canada	34	
112	China	18	

* Public Debt

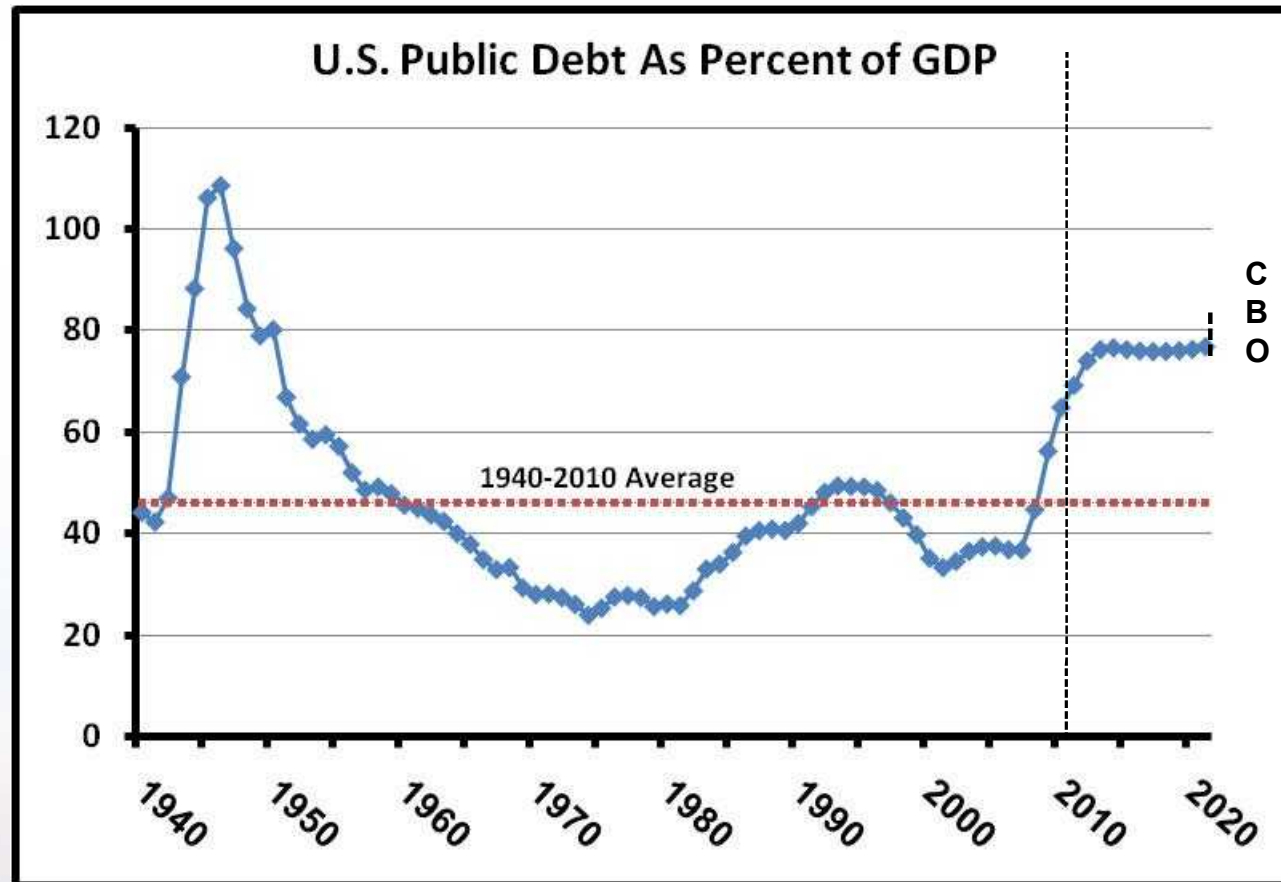
**Gross Debt

Sources: IHS Global Insight World Overview & U.S. Short Term Forecast Base Case June 2011. Based on available data for 121 countries. CIA World Factbook On-Line; IHS Global Insight Short Term Forecast June 2011 & Global Economic Outlook 6/21/11.



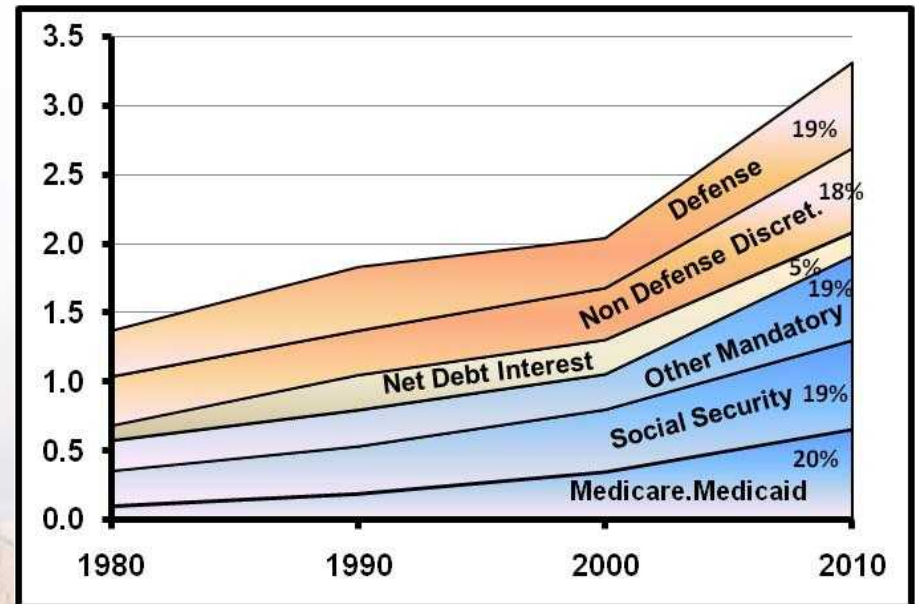
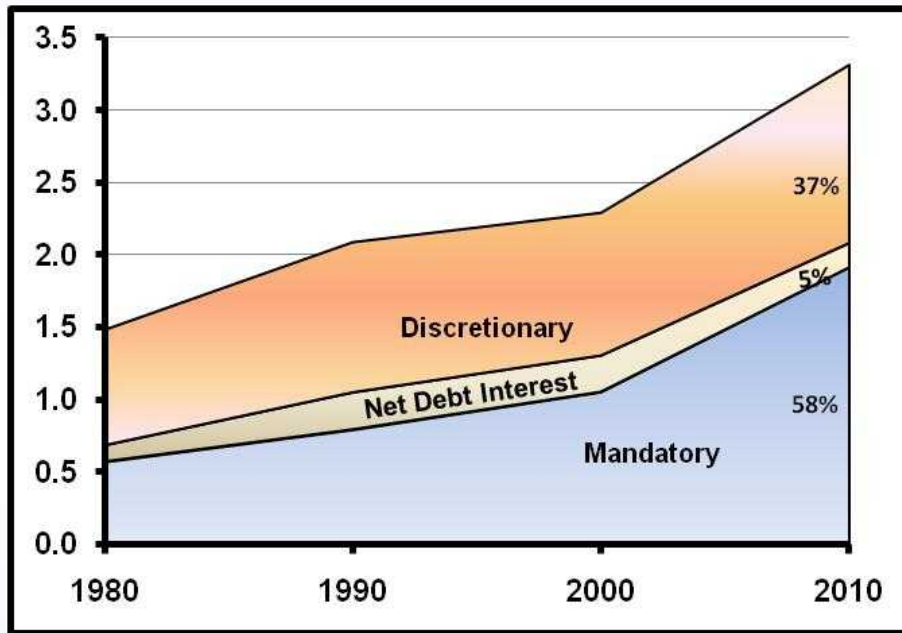
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U.S. Public Debt as a Percent of GDP



Source: Budget of the United States Historical Tables, IHS Global Insight Short Term Forecast August 2011, and CBO's 2011 Long-Term Budget Outlook June 2011

U.S. Federal Budget (Trillion \$2005)



Source: Historical Tables, Budget of the US Government, FY 2011, Office of Management and Budget, P 142, 147-161



So Where Are We?

- **Economic recovery, but cautions remain**

- U.S. still has high unemployment, consumer debt overhang; housing, commercial real estate, bad bank asset overhang; states under economic stress; lower oil prices could help
 - Double dip?
- Europe has weak economic growth and fiscal uncertainty (debt/deficits) in fringe countries (e.g., Greece, Portugal, Ireland, Spain, Italy) that could trigger further bond market responses/need for bailouts
- Asian/developing countries--strong economic dynamism is a driver, but a delicate balance among growth, inflation and interest rates

- **U.S. government policy uncertainty**

- How will Budget Control Act 2011 be implemented & what will follow on?
 - Tax/spending priorities?
 - Payroll tax cuts & emergency unemployment benefits expire 1/1/2012
 - Fiscal stimulus
 - Bush tax cuts expire 1/1/2013, when sequestration could kick in
 - Next debt ceiling increase needed in 1st half 2013
 - Health care and banking & finance law implementation?
 - Medicare, Medicaid, Social Security?
- 2012 election campaigns well under way
- When will the markets and/or the Fed raise interest rates?
- U.S. AA+/AAA (and UK, Germany, France) debt ratings—for how long?
 - S&P reduced US to AA+ (8/5); Moody's & Fitch have warned, but not yet acted





US Economic Environment Going Forward

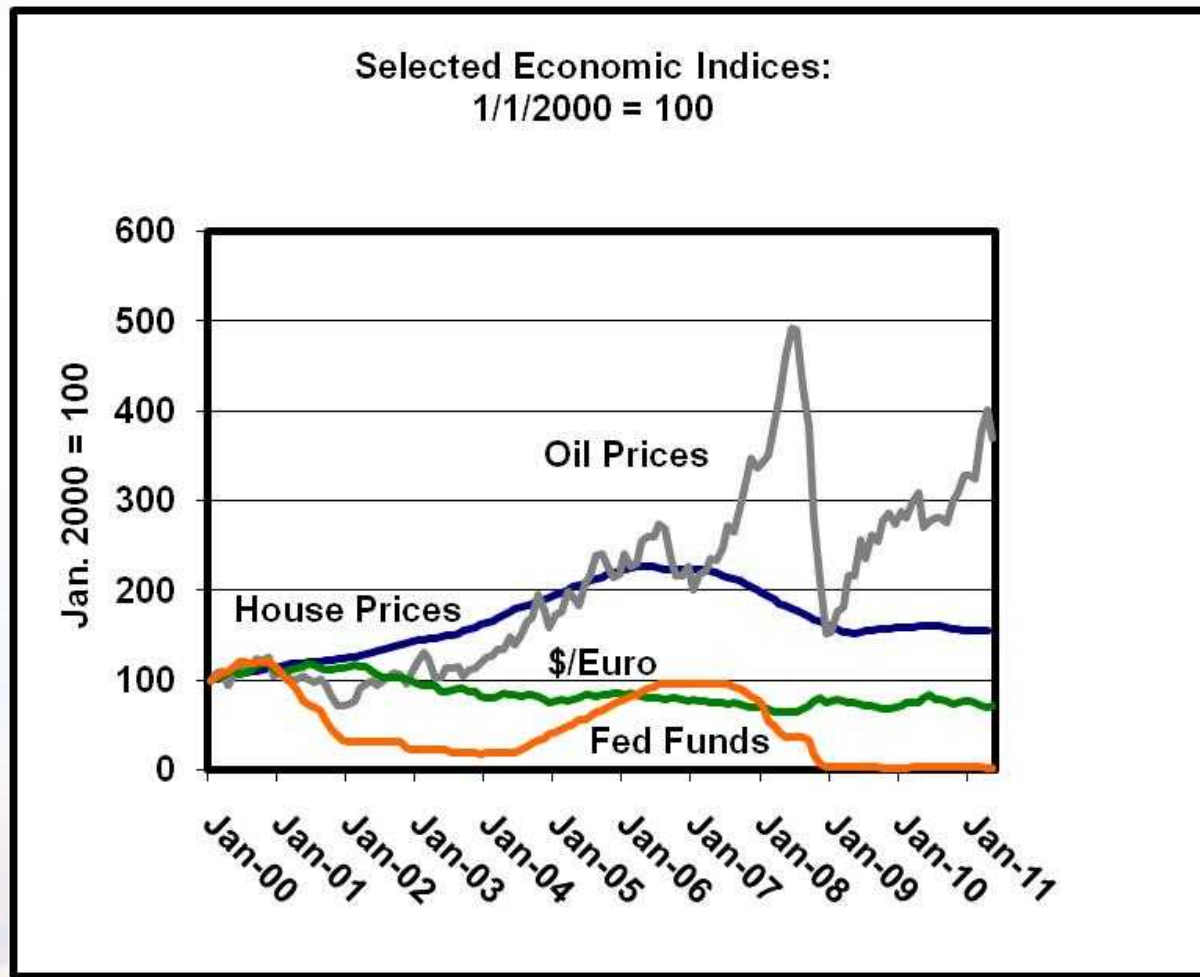
- **International economic/financial markets will affect major USG policies**
 - “Bad” domestic policies will be undone by the market place
 - Expectations will lead markets
 - Confidence in U.S. public policy and policy-makers will be critical
- **Continued debt/deficit issues will add pressure to**
 - Reduce US government spending, increase government efficiency
 - Improve US international competitiveness
 - Raise USG revenue (may conflict with ↑)
- **In a Framework of Political Economic Uncertainty**
 - Unemployment, state deficits, \$ value, interest rates, tax policy
 - ♦ *NM (2009) received \$27.5 B in total federal spending; 38.5% of NM gross state product (\$71.5 B)*
 - Aging population & social safety nets (“mandatory spending”) vs. discretionary spending
 - U.S. policy toward business and regulation
 - Restructuring/regulation U.S. & global financial markets
 - Difficult domestic political environment (House, Senate, White House)
 - Unanticipated national security events, natural disasters, etc. (US budget capacity?)



Backup



Anatomy of a Bubble



Source: Monthly Data for Effective Federal Funds Rate, Case-Schiller 10 City Housing Price Index, U.S. \$/Euro, Nominal WTI

Déjà Vu: A Few Previous Bubbles/Financial Crises

YEAR	COUNTRY/ REGION	PRECEDING SPECULATION IN	MONETARY EXPANSION FROM
1636-37	Dutch Republic	Dutch East India Co., Tulips	Coin Debasement
1720	England, France	South Sea Co; Miss. Co.	Sword Blade Bank, John Law Bank
1772	UK/Amsterdam	Housing, Turnpks, Canals; Dutch East India Co.	Chaining Accommodation Bills, Bank of Amsterdam
1837	U.S.	Cotton, Land	Wildcat Banks, Silver Retention
1873	U.S., Germany/Austria	Railroads, Securities Homesteading	Securities Bought on Margin
1890	England	Argentine Securities, Pvt. Cos. Going Public	Goschen Conversion
1893	U.S., Australia	Silver, Gold, Land	Silver/gold \$, Capital Inflow
1907	U.S., France Italy	Coffee, Union Pacific, Industrial Bank Borrowing	Trust Companies
1929	U.S.	Land to 1925, Stocks '28-9	Stocks Bought on Margin
1974-75	U.S.	Stocks, REITs, Office Buildings	Eurodollar Mkt. Flooding in 1970-71
1979-82	U.S., World	Third World Syndicated Loans, OPEC Price Rise, \$	Continuation of 74/75
1982-87	U.S.	Stocks, Luxury Housing, Office Bldg., \$	Capital Inflow
1990	Japan	Stocks, Real Estate	1986 Interest Rate Cut
1994-95	Mexico	Deregulation, Boom	Capital inflow, bank lending, Bank Privatization '91
1997-98	Thailand, Korea, Malaysia, Brazil Indonesia, Russia	Deregulation, Capital Inflow, Foreign Borrowing	Bank Lending, Construction Boom, Crony Capitalism

Source: Kindleberger, Charles, P and Albert, Robert, *Manias, Panics and Crashes*, Fifth Edition, John Wiles & Sons Inc, 2005, pp 256-265

Increasing Geopolitical Complexity

U.S. Needs Coalitions

Close Democratic Elections, Sound Bite Politics, Make Tough Decisions Difficult

China

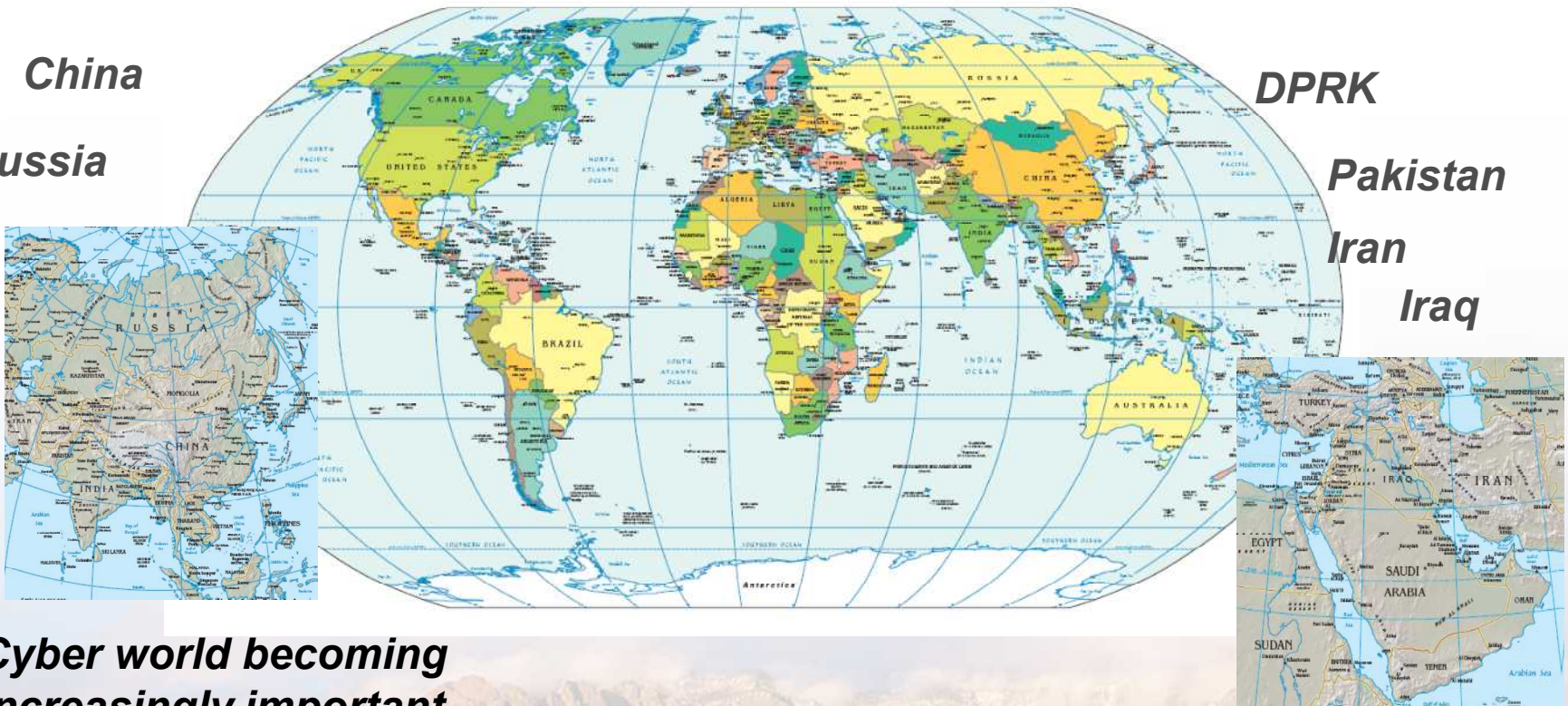
Russia

DPRK

Pakistan

Iran

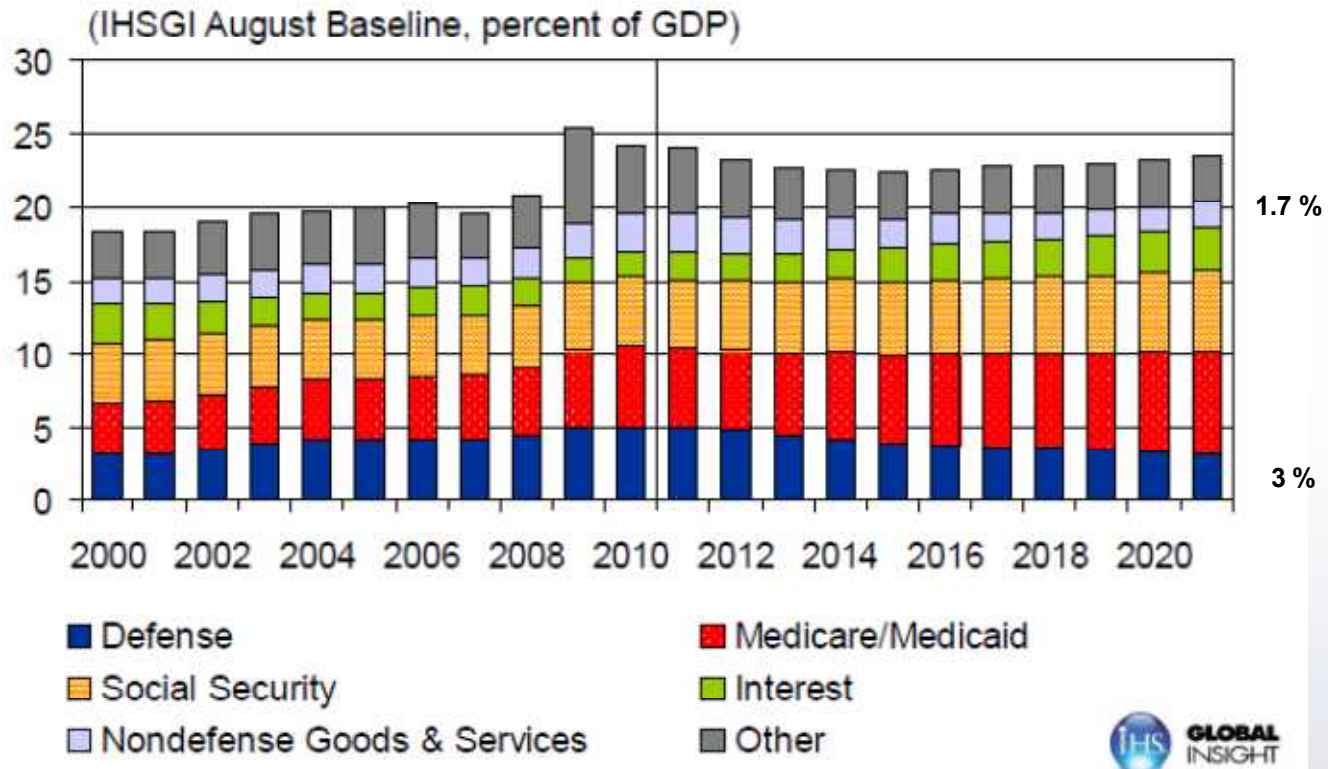
Iraq



Cyber world becoming increasingly important

Middle East/Arab Spring Outcome Critical to U.S. Security

One Federal Spending Scenario (IHS Global Insight Base Case)



Source: "The U.S. Economic Outlook: After the Debt Ceiling Fiasco," Nigel Gault, Chief Economist, IHS Global Insight, 8/18/2011. Defense spending would decline in real \$2005 from \$701 billion (FY11) to \$604 billion (FY21); non defense discretionary spending would decline from \$351 billion to \$306 billion over the same period.

Budget Control Act of 2011

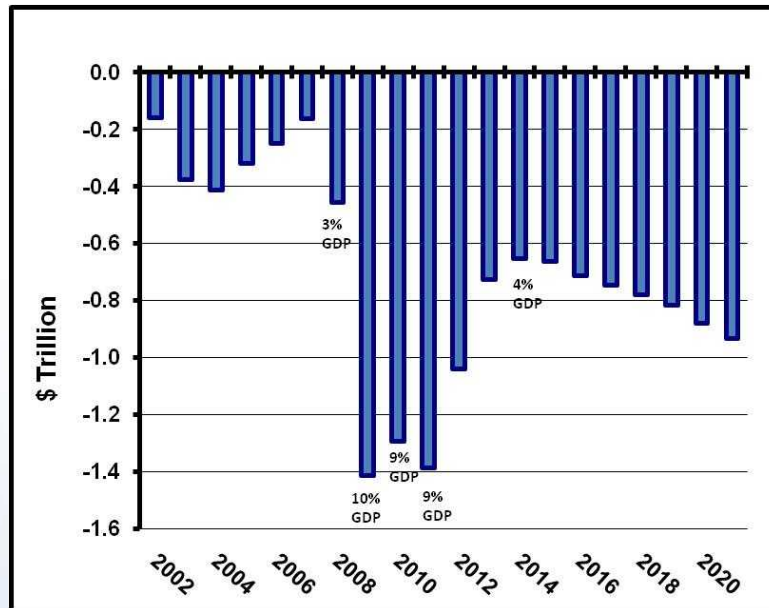
(P.L. 112-025)

- Passed House 269-161; Senate 74-26
- Part I: Reduced US discretionary spending (raised debt ceiling) by \$917 B over 10 years relative to adjusted 3/11 CBO baseline
 - Split between “security spending” and “non-security spending” in FY12/13, though program caps TBD
 - FY11 SS \$689 B NSS \$361 B (est.)
 - FY12 SS \$684 B NSS \$359 B Total \$1.043 T
 - FY13 Disc. Spend. (\$1.066 T) growing to 2021 (\$1.234T)
- Part II: Joint Congressional Committee (6Ds,6Rs) to agree on additional \$1.2T-\$1.5T cuts over 10 years by 11/23; Cong. vote by 12/23; debt ceiling raised an equivalent amount
 - If not, sequestration kicks in: DOD (050) vs. Other Discretionary (estimate)
 - FY 11 DOD \$530 B OD \$520 B (est.)
 - FY 13 DOD \$492 B OD \$447 B Total \$939 B
 - FY 21 DOD \$590 B OD \$536 B
 - All programs (Medicare, Social Security, etc.) and taxes on the table
- Lots of federal budget/program uncertainty through FY12- FY13

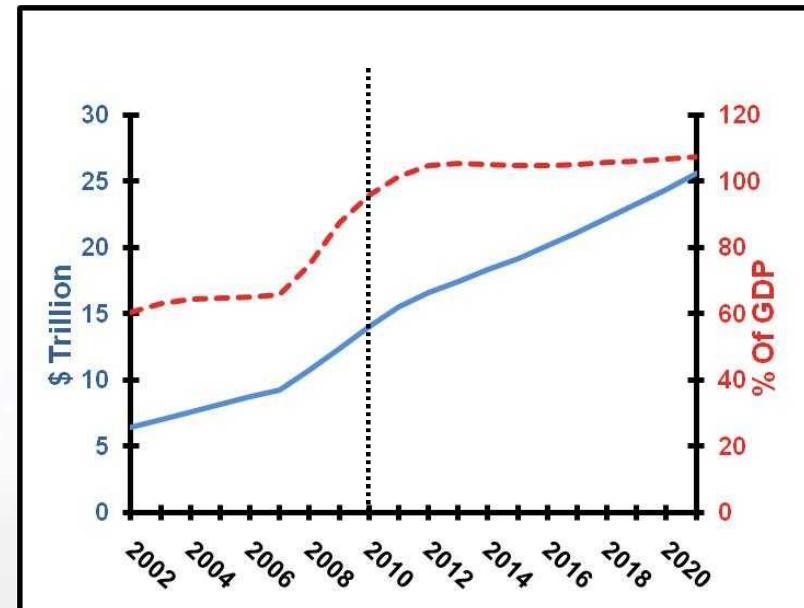
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U.S. Federal Budget Deficit and Debt

Budget Deficit



Total Federal Debt



Source: IHS Global Insight Short Term Forecast August 2011