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The Macroeconomics of US **Defense Spending**

Problems in Federal Spending, and Their Impact on National Security

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Contents

Part A: The Future Global	
Economic Outlook	5
Part B: Competitor Defense	
Spending	
Part C: Burden of Defense	
Spending on the Overall	
Economy	
Part D: Pressures on US	
Defense Spending in the	
Federal Budget and GDP	



Overview

This brief is a part of series prepared by the Burke Chair in Strategy on current issues in defense budgeting and strategy. Other briefs within this series include,

- "The Coming Challenges in Defense Planning, Programming and Budgeting"
- "The Uncertain Costs of War(s)"
- "'Unplanning' for Uncertainty"

This particular brief focuses on the interaction of the US federal budget and defense spending in the context of the macroeconomic realities with which the US is faced. It also compares US economic prospects and defense spending with those of the rest of the international community.

The first section of this brief analyzes the future global economic outlook with special emphasis given to the future implications of the recent Global Financial Crisis. This section draws heavily upon economic analysis presented in the IMF's World Economic Outlook and draws several key conclusions:

- First, the 2008 Financial Crisis had a more detrimental impact on "advanced" economies like the US than on "developing" economies like China and India, leading to wider projected disparities between the future GDP growth rates of the advanced and developing economies (Slides 6-7).
- Second, on the average developing economies are projected to enjoy fiscal surpluses in the near future, while the advanced economies will likely find themselves falling deeper into public debt (Slide 9).
- Third, if the IMF's economic projections come to be fulfilled, advanced economies like the US will find themselves with slower growth rates in fiscal balances than their developing economy counterparts, further implying that availability of funds for defense spending in advanced economies will decline relative to developing economies (Slide 10).



Overview

The second section of this brief analyzes the composition of global defense spending and trends in defense spending growth in key competitor nations vis-à-vis the US. This section draws primarily upon research performed by the Center for Arms Control and Non-Proliferation and the Stockholm International Peace Research Institute and arrives at three key findings:

- First, the US still maintains the lion's share of global defense spending—US annual defense spending dwarfs that of any other nation or coalition of nations (Slides 12-13).
- Second, while US defense spending has increased at a fast rate over the course of the past decade, defense spending in key competitor nations like China and Russia has increased at an even faster rate, narrowing the defense spending gap between the US and these nations to some extent (Slide 14).
- Third, this trend is likely to continue as a fiscal and macroeconomic realities in the near-term may be more favorable to the developing economies than to the US, further narrowing the gap between US and potential competitor nations' defense capabilities (Slides 16-21).

The third section of this brief analyzes US defense spending in relation to the greater US economy. This section's analysis is based primarily on CBO reports as well as the DOD's FY 2011 Budget Request, and arrives at three key conclusions:

- First, while US defense spending will experience real annual growth according to the FYDP, defense spending is projected to decline as a share of both GDP and total federal spending (Slide 23-25).
- Second, with the exception of the Clinton Era and the couple years preceding the Korean War, defense spending as a share of GDP is at its lowest point since WWII (Slide 26).
- Third and most importantly, defense spending does not impose a critical burden on the economy nor is it likely to be one of the primary drivers of growth in federal spending (Slides 29-31).

The fourth and final section of this brief analyzes the interaction of US defense spending and the federal budget, focusing particularly on health care, social security and public debt. This section draws on a number of sources to include the CBO, the OMB and the CBPP:

- First, growth in entitlements spending and debt service payments drives growth in federal spending (Slides 35-37).
- Second, in the absence of significant policy changes, the burden of entitlements and debt service spending as a share of both federal spending and GDP is expected to grow exponentially (Slides 38-44).
- Third, growth in deficit spending leads to a fiscal "quicksand" trap that encourages deeper deficit spending, and ultimately poses a significant national security risk (Slides 46-57).



Part A: The Future Global Economic Outlook

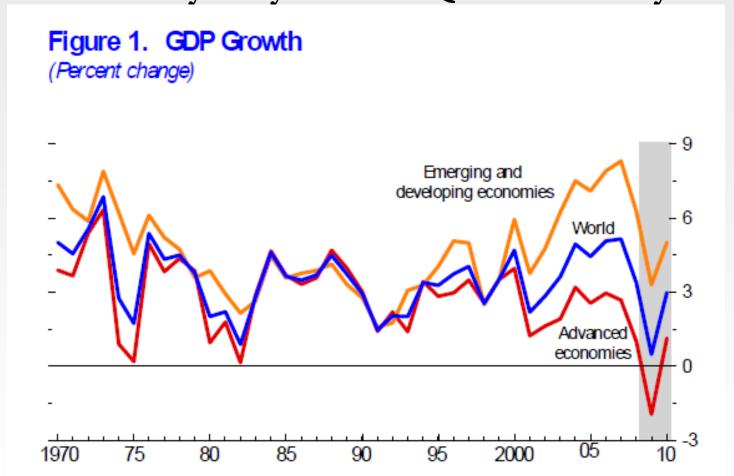
KEY POINTS:

- 1. The global economy has been significantly affected by the financial crisis;
- 2. Emerging economies will outpace the growth of the advanced economies, this disparity in growth has only been exacerbated by the financial crisis;
- 3. Commodity prices are also set to rise, which could further reduce gains in GDP as well as affect defense affairs
- 4. Debt will rise and revenues will fall for the governments of advanced economies while emerging economies will be more fiscally sound.

ANALYSIS: The US may experience a lesser degree of economic growth as it has experienced in the past. The fiscal squeeze that advanced economies may experience can have the ability to crowd-out discretionary spending. As such, the ability for advanced countries, such as the US, to spend increasing shares of GDP on discretionary budget titles may be extremely limited. As this report details, *the fiscal problems could be acute*.



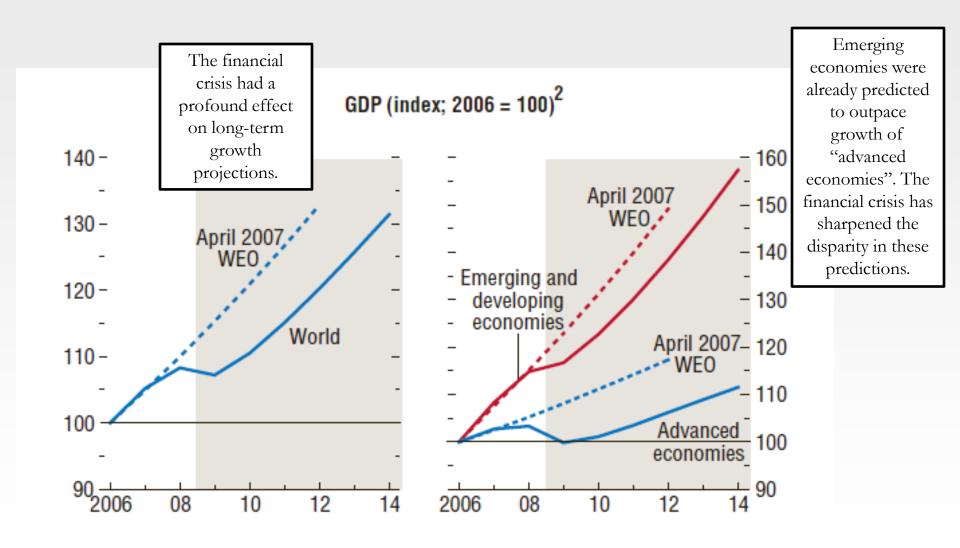
The United States Faces Key Resource Uncertainties— Recovery May Not Be Quick Or Easy



The financial crisis affected the "advanced world" more acutely than China and the "emerging economies".

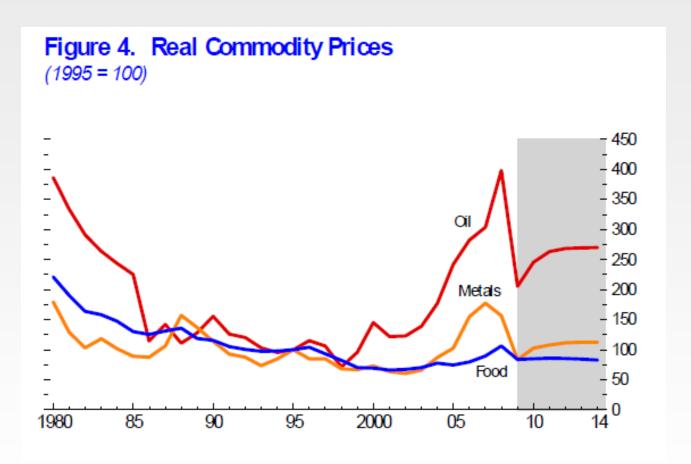


GDP Growth Rates May Be Modest





Commodity Prices May Increase and Hamper Growth



Many costs will escalate as commodity prices increase.

It will become more costly to transport goods and people across the globe, as oil prices increase.

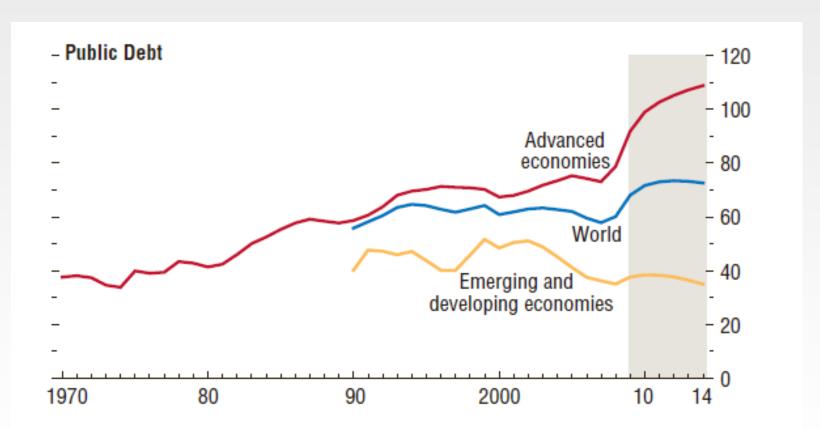
It will become more costly to manufacture as metals also increase.

The increase in commodities adds to inflationary pressure.

These commodity price fluctuations have a profound impact on the global economies, as well as defense affairs. Increases in the costs of raw goods have the ability to increase procurement costs. Also as commodity prices increase, especially oil, the Pentagon has to reprioritize budgetary line items to accommodate for such costs.



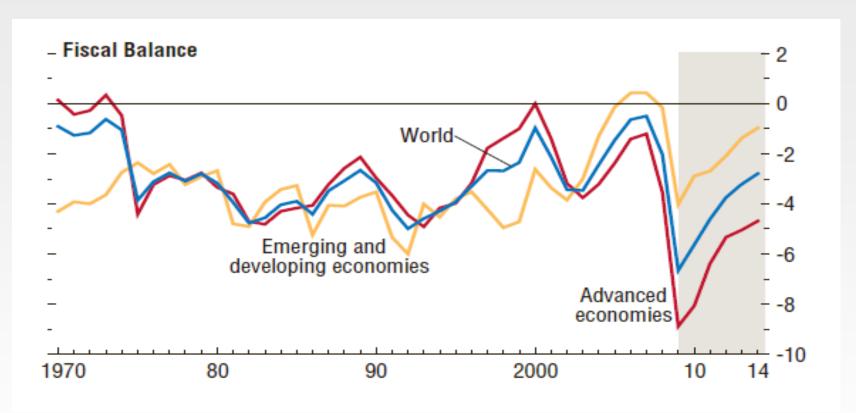
Public Debt in Advanced v. Emerging Economies; Advanced Economies are in Fiscal Trouble



The "advanced world" economies have seen a steady increase in public debt since 1970. Starting circa 2007, such economies may continue to experience dramatic increases in government-held debt while "emerging economies" experience moderate decreases.



The Emerging World May Have The Fiscal Advantage



The fiscal balances of emerging economies are better overall as compared to advanced economies. This graph illustrates such balances will be healthier overall for the emerging world. As such, the emerging economies would be able to outlay more money in the government without other mechanisms (such as printing money) in order to pay for said outlays. Accordingly, their capacity to spend on discretionary items, such as defense, will continue to increase.



Part B: Competitor Defense Spending

KEY POINTS:

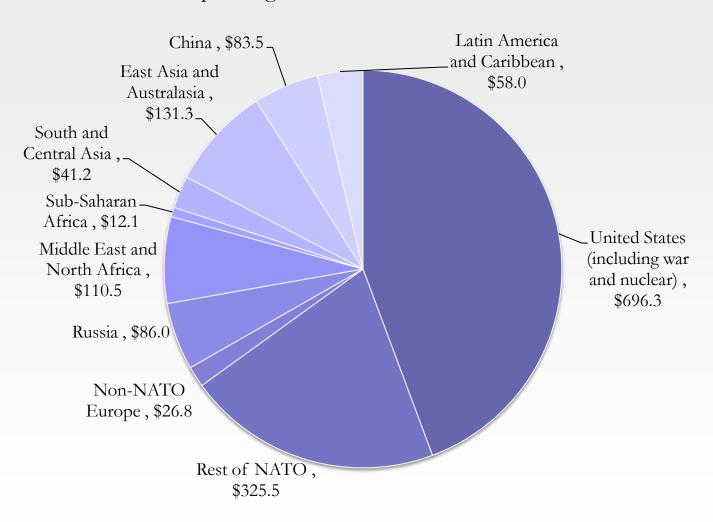
- 1. The US maintains the lion's share of defense spending globally.
- 2. However, key competitors—such as, China, Iran, and Russia—are dramatically increasing their defense spending.
- 3. China is likely to have steadily more money available to spend on its national defense.

ANALYSIS: No one country, nor even regional bloc of countries, has the ability to match US conventional and nuclear supremacy. However, the US will have to deal with competitors that seek to disrupt and erode this supremacy. Such competitors are increasing their defense expenditures exponentially (the actual numbers may even be higher than the "official" reporting by such governments and various organizations). Accordingly, these trends may be compounded by the analysis of "Part A" and "Part C" in this section. While the US may be limited in its ability to spend ever-increasing monies on national defense, its competitors may not be so limited by a long-term fiscal "squeeze".



The US Still Out-Spends the Globe on Defense

US Defense Spending v. The World in 2008 in US\$ Billions



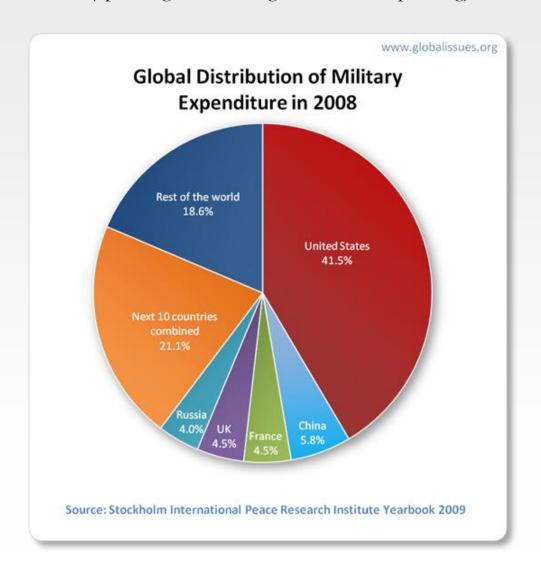
The US still leads the globe on spending for defense. Not a single state, nor regional bloc of states, spends as much.

Despite the increasing ability of emerging economies to spend on discretionary items, the US will, in all likelihood, continue to have the budgetary advantage in the medium-term future (not pictured).



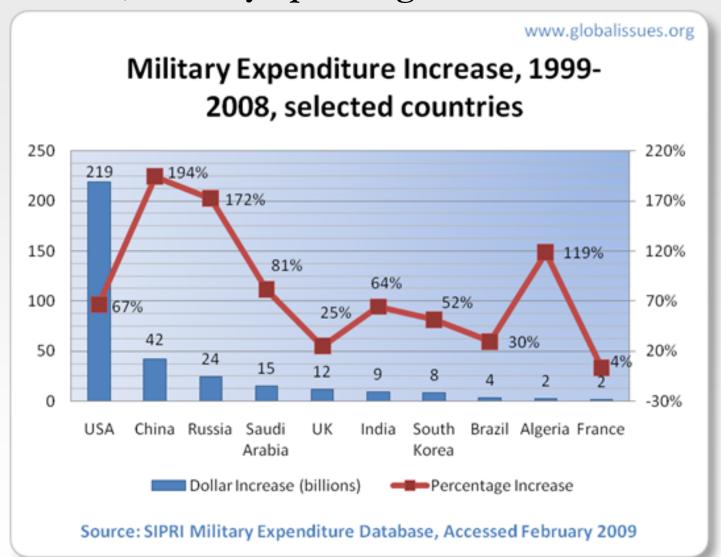
The US Still Out-Spends the Globe on Defense

(Spending in Percentages of Global Spending)





However, Military Spending is on the Rise Across the Globe

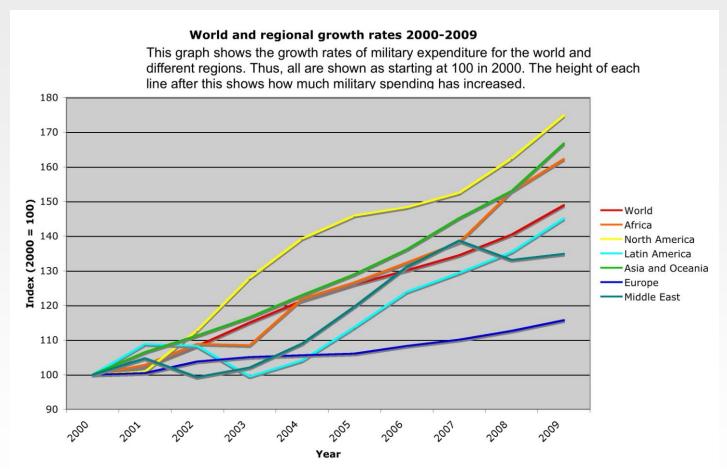


Potential competitors, such as China and Russia, almost doubled their spending on defense in recent years.

These increases were tied to the dramatic economic growth during this period (not pictured).



Defense Spending is on the Rise in Most Regions



Competitors, such as China and Russia, almost doubled their spending on defense in the recent years.

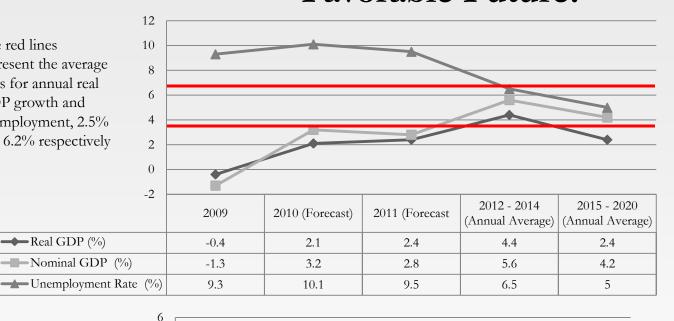
These increases were tied to the dramatic economic growth during this period (not pictured).



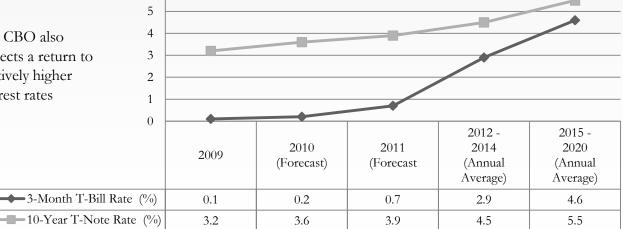
CBO's Macroeconomic Projections, 2009 – 2020: A Favorable Future?

The red lines represent the average rates for annual real GDP growth and unemployment, 2.5% and 6.2% respectively

Real GDP (%)



The CBO also projects a return to relatively higher interest rates



The CBO's projections for debt and budgetary are in part based upon its macroeconomic assumption, graphically depicted here.

As can be seen from these projections, the CBO maintains a fairly confident outlook and assumes a return to macroeconomic "normalcy," where key macroeconomic indicators return to their long run trends



But, This May Not Happen

- Nobel Laureate Economist Paul Krugman argues that the Financial Crisis, far from being a standard market correction, poses a greater long-run economic issue for the US
- Krugman argues that the post-Financial Crisis US faces a great risk of falling into the type of deflationary trap Japan fell into following the 1997 Asian Financial Crisis, and from which Japan has yet to fully recover
 - In this scenario, because relative price levels are falling (price deflation), consumers and investors hold onto their money as deflationary pressure causes the relative value of money to increase over the course of the deflationary period
 - This in turn perpetuates high unemployment rates, slow economic growth and further deflationary pressure



Some Uncertain Implications for National Security...

- The CBO's budgetary projections are largely based on assumptions of a relatively quick return to the historical, long-term US macroeconomic trends
- Near-zero inflation rates and continuing high unemployment rates suggest that economic recover might take (much) longer than the CBO expects
- Slow economic recover has highly adverse implications for short and long term growth in national debt (another security concern analyzed below) and could put pressure on Congress to reduce the Federal budget
- This could increase political and fiscal pressure for cuts in total National Defense spending, which would in turn force the DOD to reduce funding for titles important to the long-term strength of the US military such as
 - Procurement
 - R&D
 - End strength and personnel investments
- Highlighting the uncertainty in its projections, the CBO indicates that if the annual growth rate of real GDP was a mere 0.1% lower each year, the cumulative deficit for the 2011 − 2020 period would be a massive \$300 billion greater than its baseline projection suggests
- Lastly, one must keep in mind that the data provided in this are largely based on the CBO's assumptions; thus if the US economy falls short of the CBO's projections in the out years, many of the budgetary implications presented in the following analysis are only likely to become more adverse

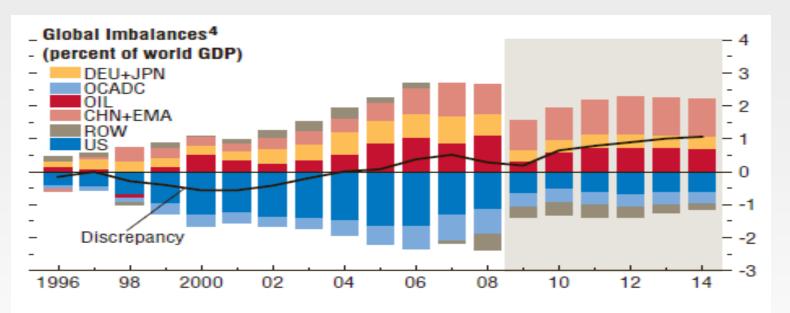


...And a Few "Certain" Implications for National Security

- US deficit spending and national debt will increase, at least in the short-term
- The DOD will face pressure to cut spending
- As mandatory spending on entitlements becomes a greater share of the DOD budget, the DOD will inevitably have to cut investment spending titles, Procurement and RDT&E
- Decreased near-term procurement and RDT&E funding will leave the DOD less prepared to face future defense challenges, especially given critical need for "reset" due to human and material wear and attrition from years of war in Iraq and Afghanistan



China and Developing States Projected to Keep a Favorable Trade Balance



Source: IMF staff estimates.

¹China, Germany, Hong Kong SAR, Indonesia, Japan, Korea, Malaysia, Philippines, Singapore, Taiwan Province of China, Thailand, and oil exporters (including Islamic Republic of Iran, Nigeria, Norway, Russia, Saudi Arabia, and Venezuela).

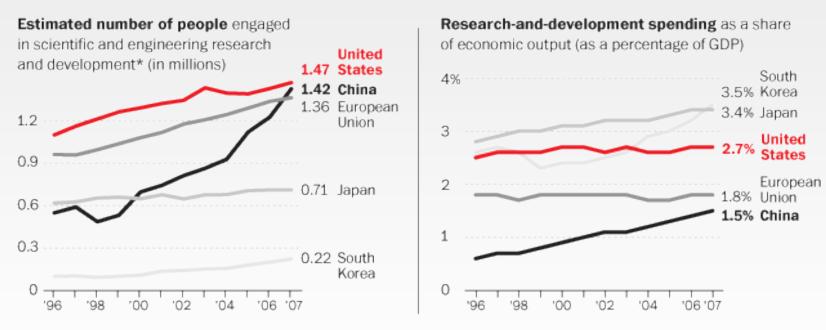
²Bulgaria, Croatia, Czech Republic, Estonia, Greece, Hungary, Ireland, Latvia, Lithuania, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Turkey, United Kingdom, and United States.

³Countries listed in Note 2, excluding United States.

⁴US: United States; DEU+JPN: Germany and Japan; CHN+EMA: China, Hong Kong SAR, Indonesia, Korea, Malaysia, Philippines, Singapore, Taiwan Province of China, and Thailand; OIL: Oil exporters; ROW: Rest of the world.



Some Estimate an Increasingly Stronger Economy Will Enable China to Surpass the US in R&D



^{*}Reported on a full-time basis. 2007 data for the United States are estimated based on annual growth rate between 1995 and 2006.



Part C: Burden of Defense Spending on the Overall Economy

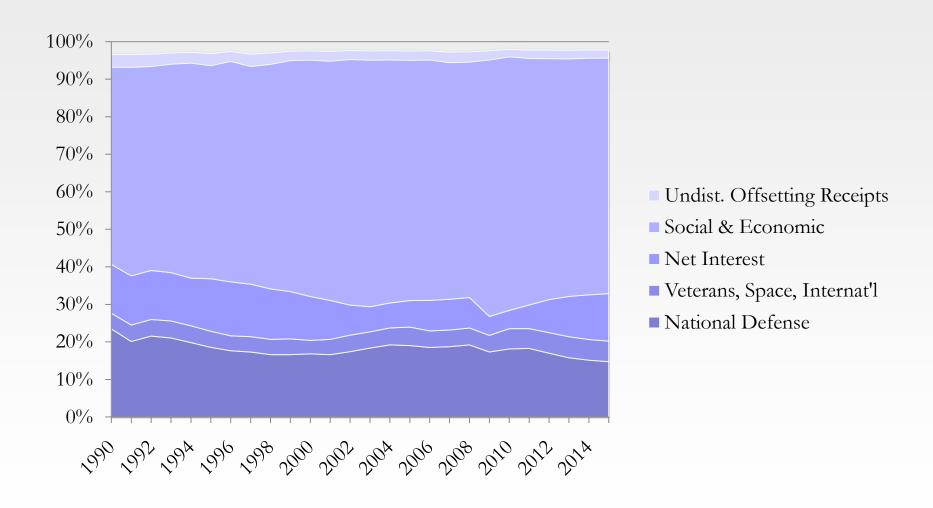
KEY POINTS:

- 1. Defense spending does not impose a critical burden on GDP
- 2. Defense spending is projected to decline as a share of both the GDP and total federal spending
- 3. Historically, US Defense spending as a share of GDP is at one of the lowest points since WWII

ANALYSIS: In absolute terms, annual Defense outlays appear to be very high. However, despite common public perception, Defense spending actually places very little burden on the economy and on total federal spending. While many opportunities for reduced Defense spending from cuts and improved efficiency exists, politicians looking to reduce deficit spending will likely need to look to other budget titles in order to make significant budgeting cuts.



Drop in Baseline Defense Budget as a Percent of Total Federal Outlays





The Bulk of US Federal Spending is not on Defense

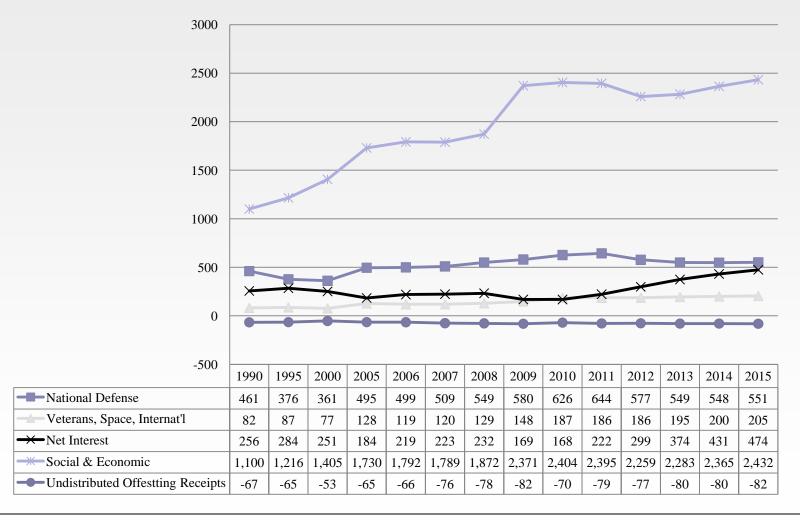
(Trend in Total Spending in FY 2005 \$US Billions)





Defense Outlays are Limited Relative to Other Titles

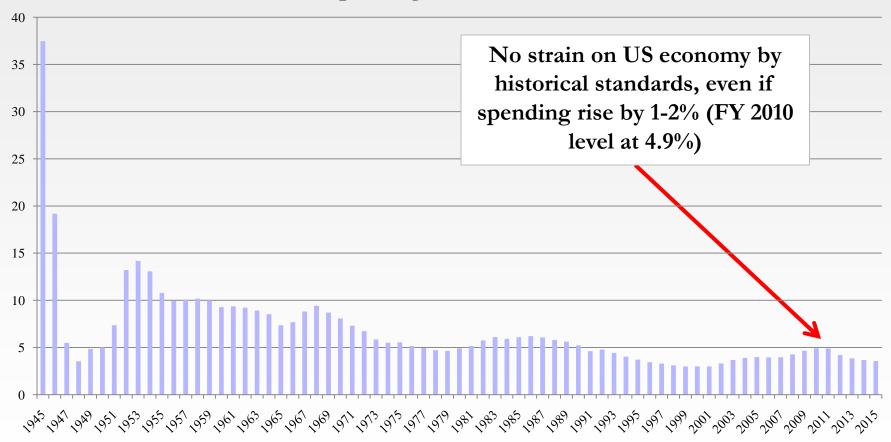
(Trend by Category in FY 2005 \$US Billions)





US Defense Burden on GDP is Limited: Especially in Comparison with the Cold War

National Defense Spending as a Percent of GDP: 1945-2015





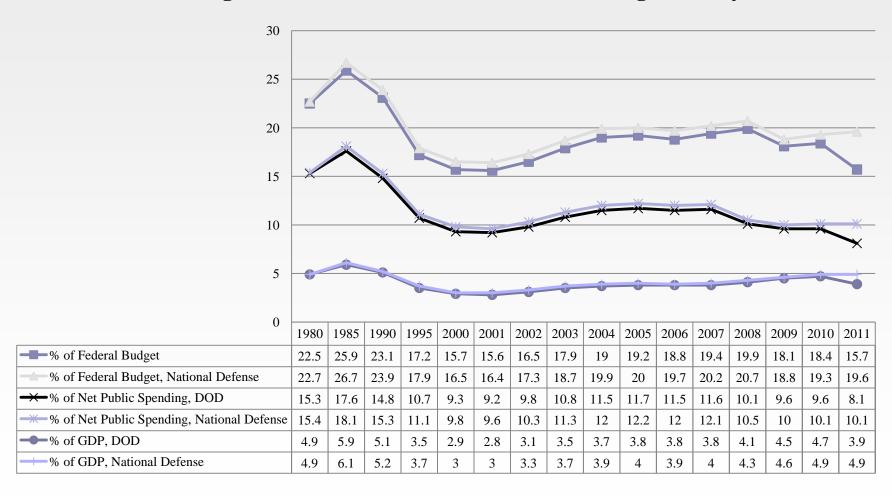
However, Estimating the "Real" Costs of Defense Spending Does Require Some "Guesstimation"

- The baseline DOD and Federal Budget requests ignore wartime costs, real world program and procurement cost escalation, and separate out veteran's costs.
- Future war costs are uncertain, but unlikely to escalate sharply over FY2008 peaks.
- Program delays, cutbacks, and cancellations will limit the year-byyear impact of the failure of every service and agency to mange costs and programs effectively.
- Adequate funding for "civilian partners" like the State Department other civilian departments is not funded, but would have a limited impact on total federal spending and the GDP.
- Homeland defense (DHS) costs are not included in the national security budget.



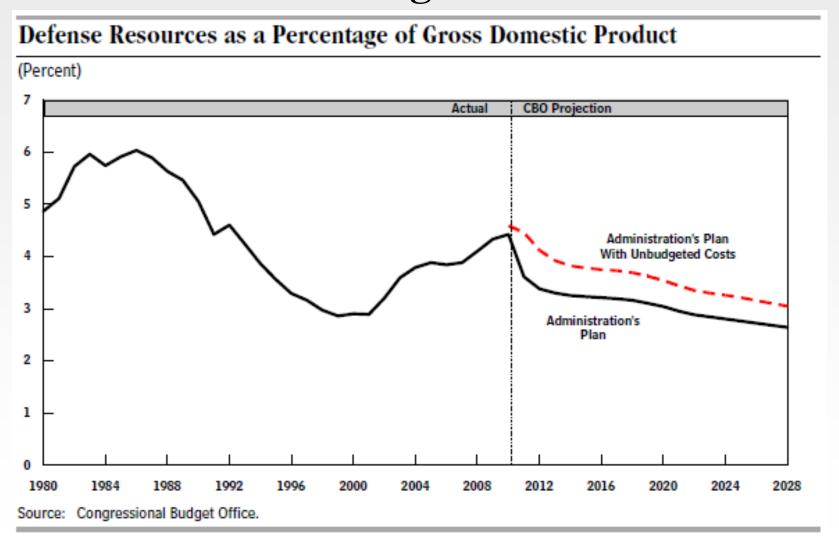
Regardless, DOD Funding and Total National Defense Spending Track Closely

(Percentages of Indicated Totals Measured in Budget Outlays)



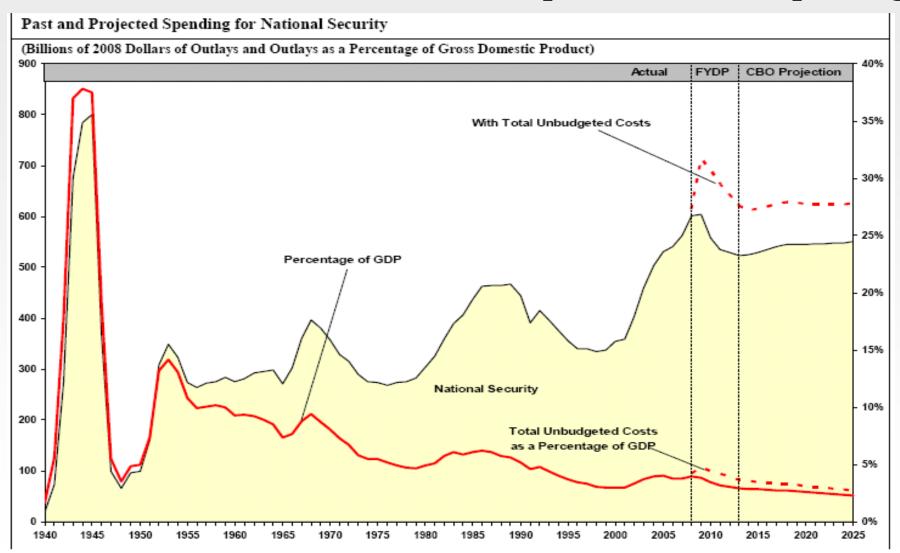


Ending Conflicts Could Lower the Baseline Budget





Either Way, CBO Estimates Indicate that Probable Cost Escalation Would Still Have Limited Impact on Federal Spending





Impact of Defense Spending on Federal Spending and GDP

- It is difficult to estimate the future interaction of national security spending and trends in the GDP, as decisions are ultimately tied to political calculus of the Pentagon, Administration, and various Congressional appropriators.
- Near-term trends will be far less favorable than projected in the baseline budget, which now includes war costs, yet still does not calculate cost-escalation, but are unlikely to exceed 5% of GDP.
- The impact of de-escalation of the Iraq War during the next administration would ease the burden on GDP and federal spending.
- Adjustments in the US force posture in the Gulf and shifts of resources to OEF would offset probable savings.
- Major shifts in spending from national security to civil spending would require major long-term reductions in US strategic commitments.
- In sum, the real world burden of the increases in federal spending on the GDP will continue to be driven by the rising cost of civil and not military programs.



Part D: Pressures on US Defense Spending— Interaction with the Federal Budget and Gross Domestic Product

KEY POINTS:

- 1. Limited national defense burden on gross domestic product.
- 2. Burden of Mandatory/Entitlement spending on GDP and as a share of federal spending are estimated to grow exponentially in the long-term
- 3. In the absences of policy changes, Mandatory/Entitlement spending and interest payments growth threaten to "squeeze out" discretionary funding titles like Defense

ANALYSIS: Revenues will decrease for the US government as debt and entitlements will exponentially grow. Defense spending is also set to decrease in real terms over the long term. As such, the Pentagon will have to grapple with dwindling resources (a trend not seen for the past decade). This may be a serious challenge given the vectors of cost escalation discussed in this document.



Entitlements May Force Cuts in Discretionary Spending

- The key pressures on the budget and GDP come after FY2018; there is time to create affordable federal spending and no immediate "crunch" between discretionary and mandatory spending.
- Cost containment is vital to effective defense planning, programming, and budgeting but neither the baseline nor the baseline plus wartime costs is the a major burden on federal spending and the GDP by historical standards.
- Entitlements and mandatory programs are growing at an unacceptable rate, and will create an unacceptable burden.
- Health costs and an aging population (Social Security) drive the problem, but the key issue is health costs.
- The following graphs illustrate that it may not be possible to practically reduce defense and other discretionary spending to fund currently projected entitlements.

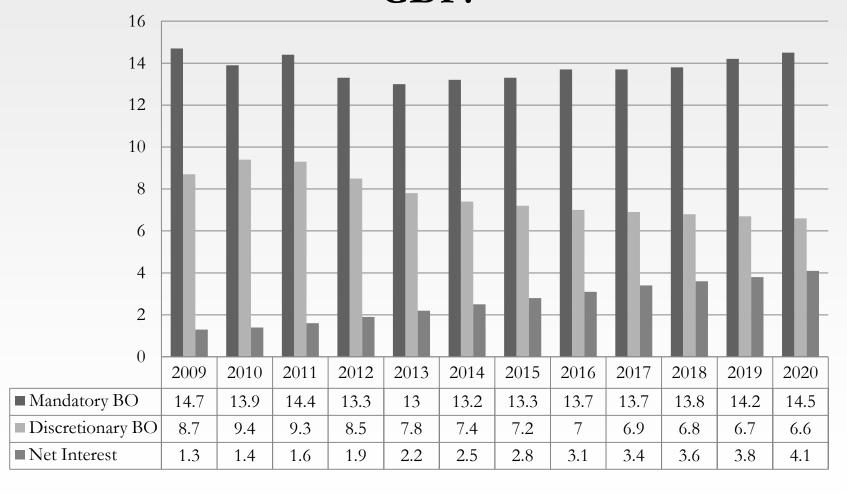


The CBO's Budget Projection Assumptions

- In its 2010 Long-Term Budget Outlook report, the CBO projects future federal outlays and revenues on the basis of two different sets of assumptions: the "extended-baseline scenario" and the "alternative fiscal scenario"
- Extend-Baseline Scenario Assumptions:
 - Incorporates impacts of 2010 health care reform legislation
 - Tax cuts enacted between 2001 and 2003 will are not renewed at expiration
 - Average tax revenues will increase
- Alternative Fiscal Scenario Assumptions:
 - Medicare payment rates for physicians will increase
 - Restraint on health care cost growth due to 2010 health care legislation will not continue after 2020
 - Provisions of the 2001 and 2003 tax cuts will be extended
 - Tax revenues will remain near their historical average of 19% of GDP

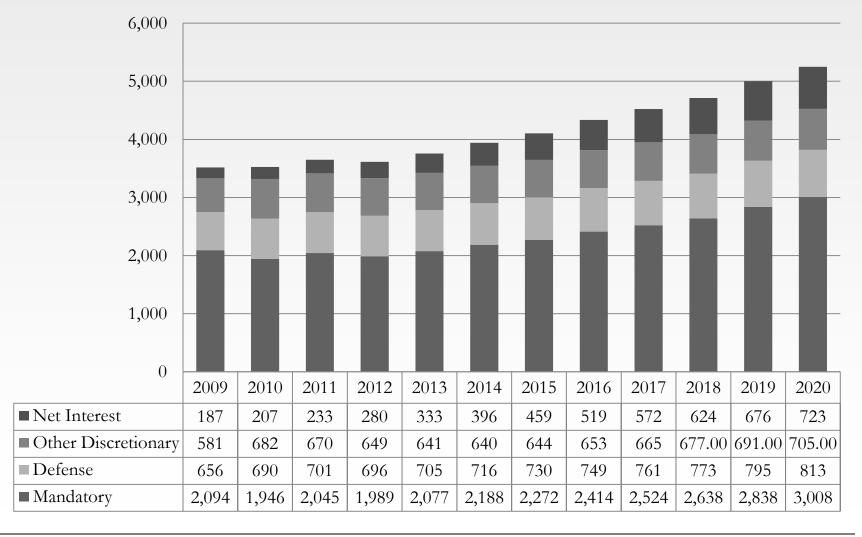


The Driving Force in the Budget is Entitlements: Discretionary vs. Mandatory Spending as Percentage of GDP:





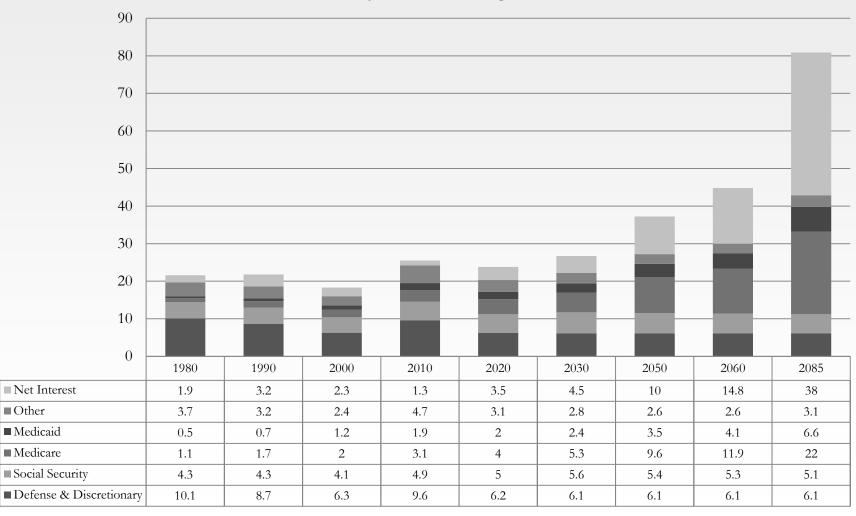
Increases in Mandatory Civil Programs and Interest Payments Will Sharply Increase the Near Term Burden of Federal Spending (\$US Billions in FY Outlays)





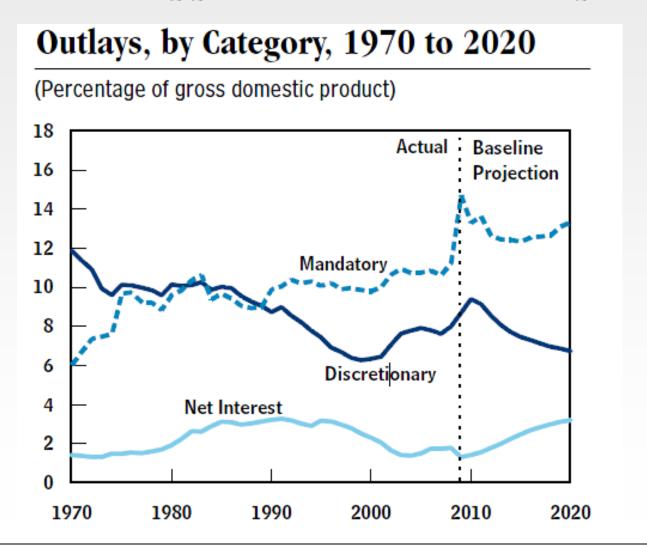
Forecast of the Entitlements and Interest Payments "Explosion"

Federal Outlays as a Percentage of GDP



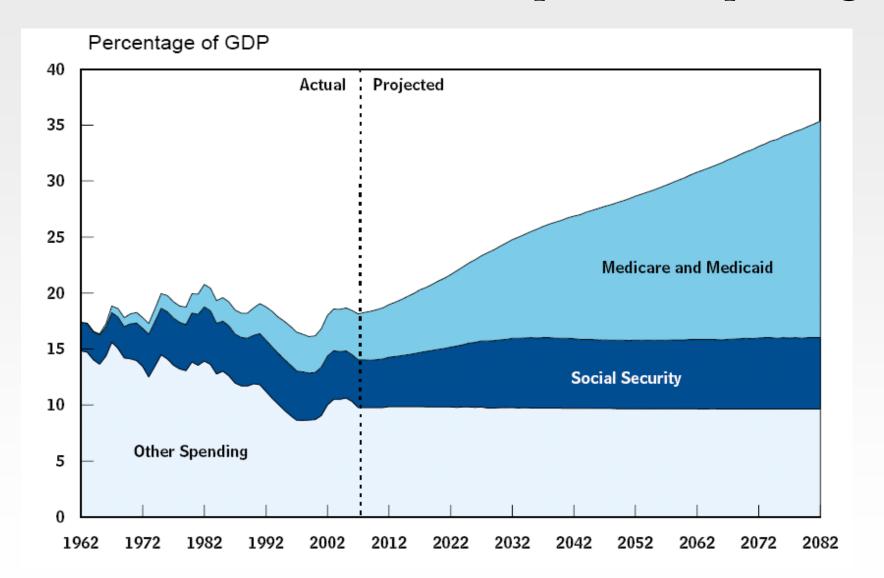


Mandatory Programs will be at Historic Levels: More Pressure Applied to Discretionary Spending





Medicare and Medicaid Eclipse Other Spending

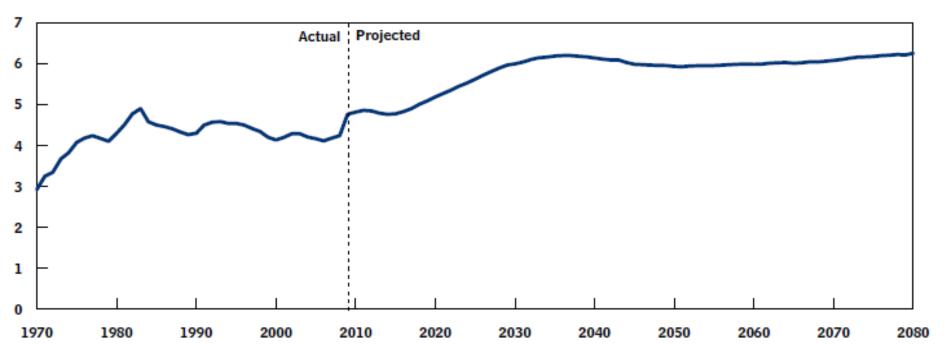




Social Security Spending May Rise Quickly in the Near-Term, But Is Less Likely to Grow Significantly in the Long-Term

Spending for Social Security Under CBO's Long-Term Budget Scenarios Through 2080

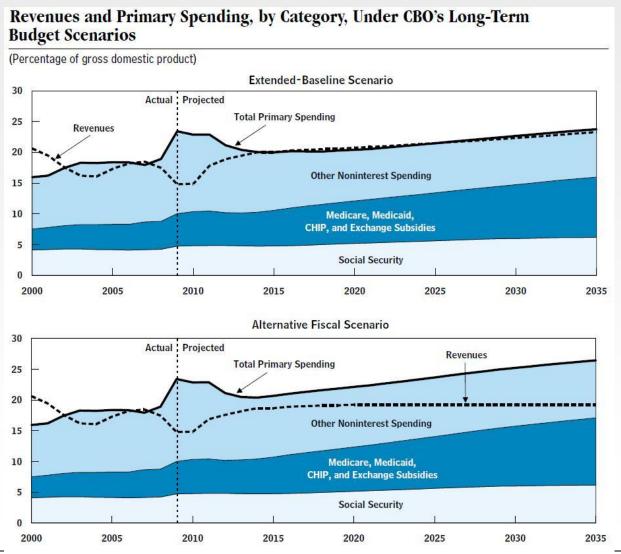
(Percentage of gross domestic product)



The CBO predicts that Social Security spending as a percentage of GDP will increase by 1.5% to a total of 6% by 2030 but projects that growth in spending will plateau thereafter



Government Revenues Do Not Keep up with Growth in Health Care Spending

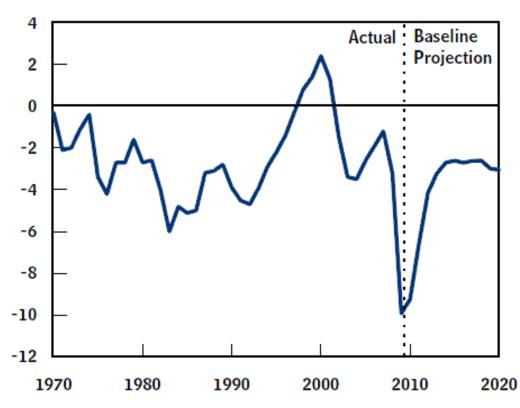




After Skyrocketing from the Financial Crisis, Total Deficit is Hoped to Decrease

The Total Deficit or Surplus, 1970 to 2020

(Percentage of gross domestic product)

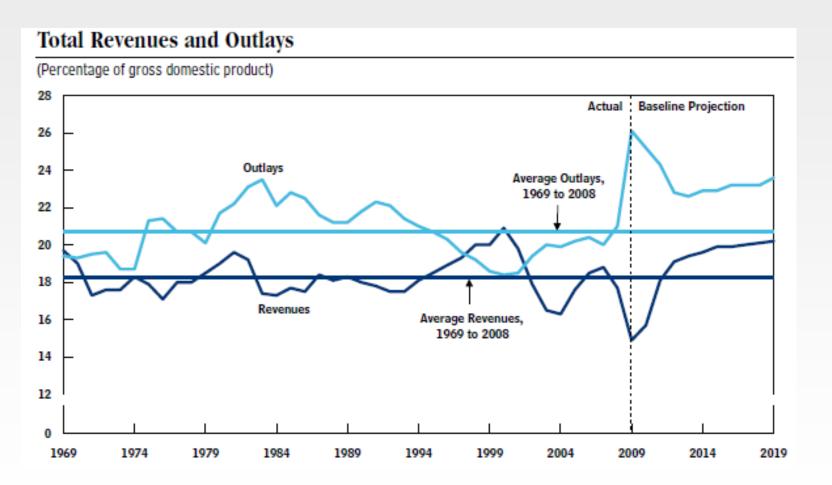


Projection Assumptions

- 1. Tax provisions assumed to expire as scheduled
- 2. Cuts in Medicare's payments for physicians' services will occur as scheduled
- 3. Spending for discretionary programs will continue at levels most recently enacted by Congress, adjusted for inflation



However, Outlays will Grow and Continue to Outpace Revenues

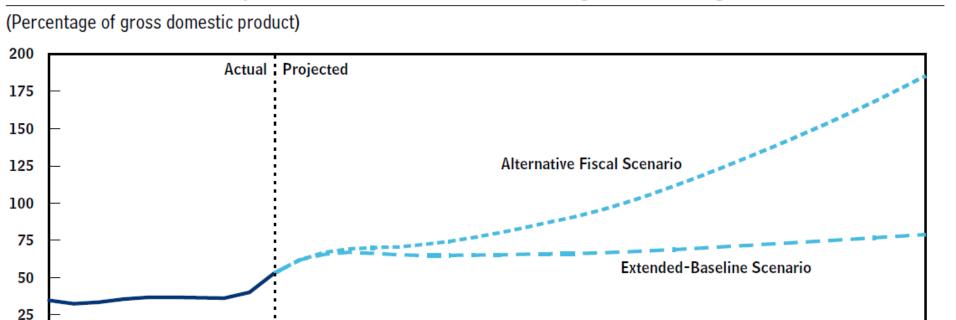


A real fiscal squeeze may be experienced by the next Presidential term.



Consequently, Federal Debt May Continue to Increase

Federal Debt Held by the Public Under CBO's Long-Term Budget Scenarios

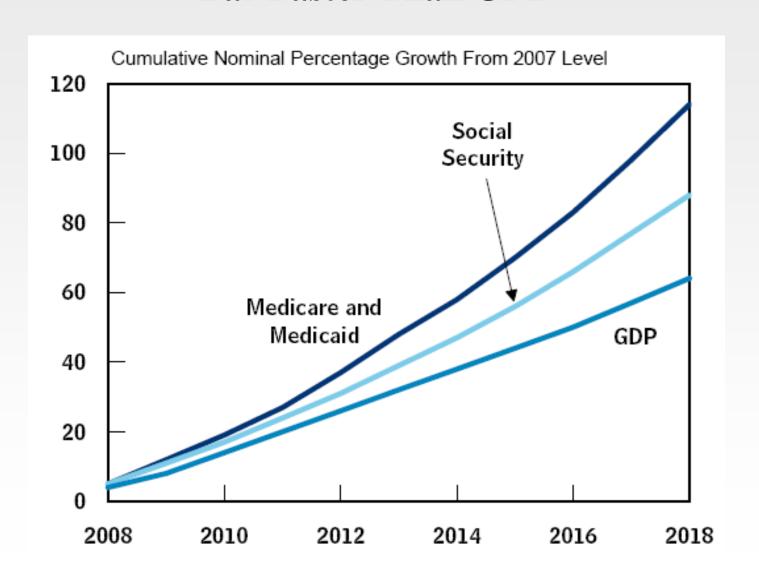




Deficit Spending as National Security Issue



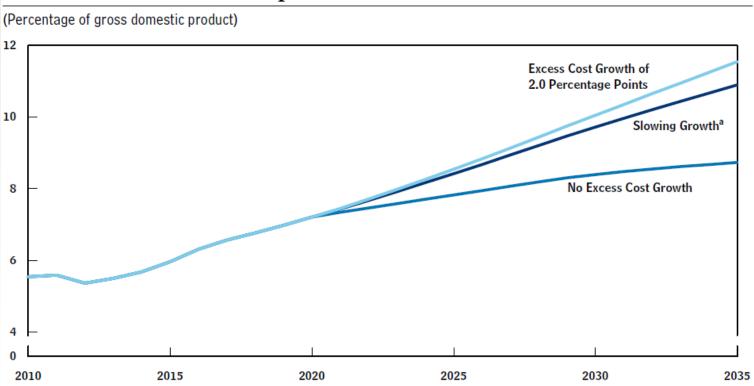
CBO Estimates Cost of Mandatory Programs Will Rise Far Faster Than GDP





Mandatory Federal Spending on Health Care May Increase Significantly in the Long-Term

Mandatory Federal Spending on Health Care Under CBO's Alternative Fiscal Scenario and Different Assumptions About Excess Cost Growth



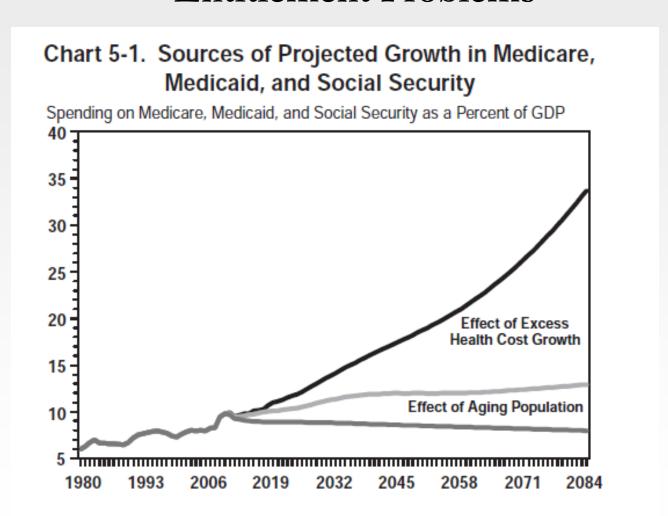
Source: Congressional Budget Office.

Notes: Excess cost growth refers to the extent to which the growth rate of annual health care spending per beneficiary is assumed to exceed the growth rate of nominal gross domestic product per capita.

The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify



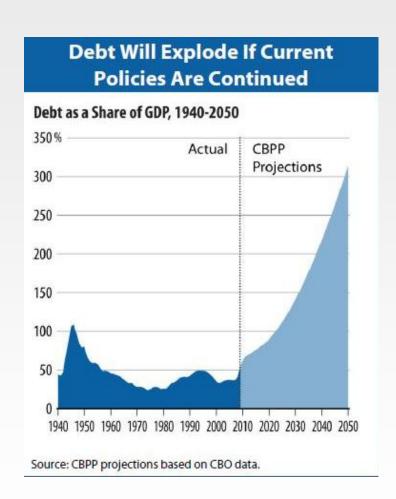
CBO Estimates Aging and Healthcare Compound Entitlement Problems





Public Debt Could Impose Critical Long Term Burden

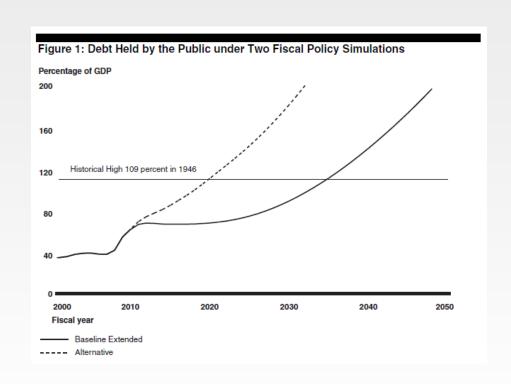
- The CBO predicts that public debt will increase rapidly in the next 40 years to over 300% of GDP.
 - Public debt was 110% of GDP by the end of WWII
- CBBP analysis states that rising health care costs are the "single largest cause of rapidly rising expenditures"
- CBBP analysis also reveals that simply stabilizing debt at the FY 2010 level each year would require debt financing equivalent to 4.9% of GDP
- The CBO's projection reveals that debt growth begins to mushroom after FY 2020





GAO Warns Public Debt Could Increase Explosively in the Long Term

- The GAO's analysis reveals an even gloomier scenario:
 - The CBO projection (baseline extended) assumes federal spending increasing in proportion to inflation
 - Empirically, this assumption tends to underestimate debt growth
 - The GAO recognizes that the federal budget follows a historical trend of growing in proportion to growth in GDP (alternative projection)
- This projection implies that rapid debt acceleration has already begun

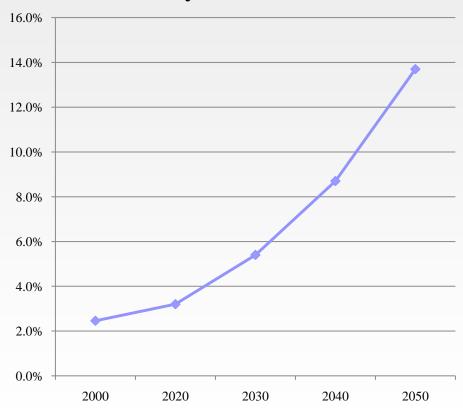




Interest Payments Could Also Pose a Major Burden

- As public debt rises, the annual quantity of interest payments increases.
- Consequently, the CBO predicts that interest payments on public debt as a share of GDP will increase exponentially over the next 40 years.
- The OMB predicts that by FY 2018 the government will spend more money just paying of debt interest than it will on the entire Defense budget

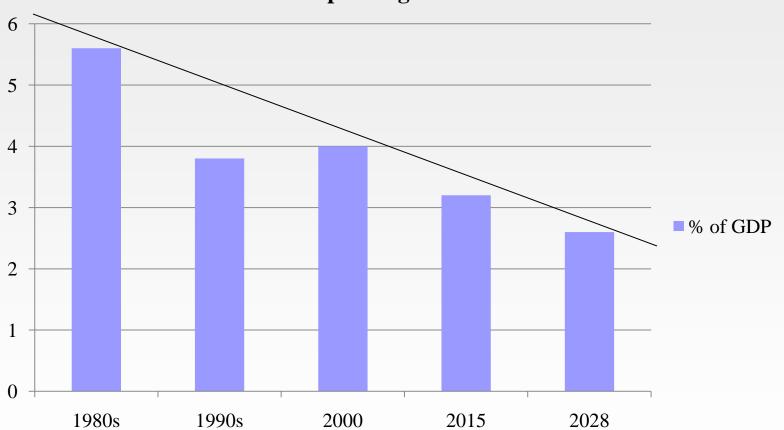
Interest Payments as Share of GDP





CBO Estimates This Could Lead to Deep Cuts in Defense Spending







Tradeoff: Current vs. Future Fiscal Flexibility

- Since these figures merely cover *interest* payments, the government would need to budget out an even higher percentage of its revenue in order to begin to pay off the *principal* (public debt)
- Only by reducing the public debt can the government reduce future interest payments.
- Only by (1) generating budget surpluses, (2) defaulting on its debts, or (3) through "seniorage" can the government reduce public debt.
- However, without significant revision of entitlements policies, future budget surpluses are unlikely; annual budget deficits will most likely persist and even worsen

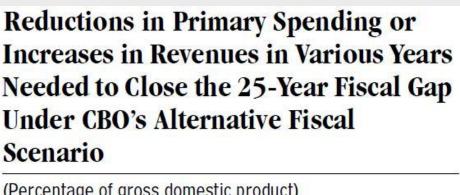


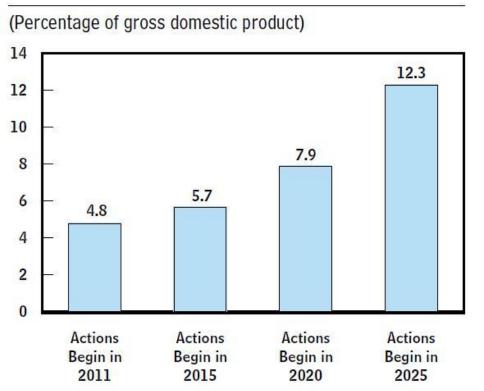
Tradeoff: Current vs. Future Fiscal Flexibility

- Therefore, there is a long-term trade-off between reducing public debt now and addressing it later:
- By choosing to reduce public debt now, the government sacrifices short-term spending flexibility for relatively large gains in long-term spending flexibility
- Most importantly, the government does so at an increasingly disadvantageous rate the longer the government takes to eliminate budget deficits



The Difficulty of Closing the Fiscal Gap Increases with Time

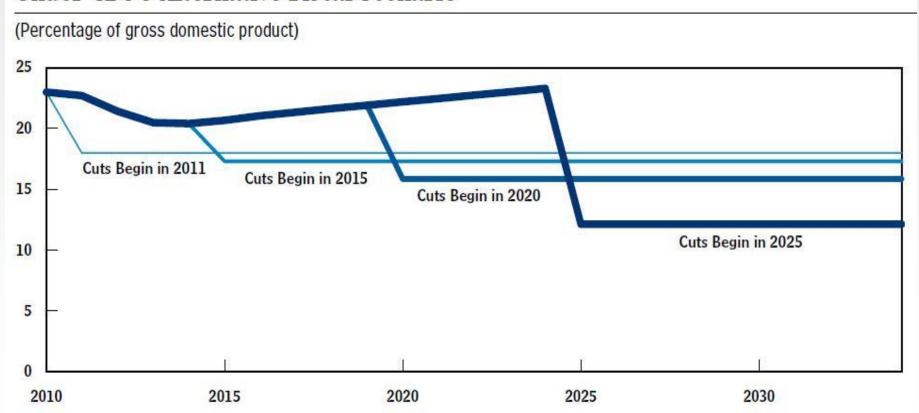






Closing the Fiscal Gap Requires More Drastic Cuts in Primary Spending as Time Passes

Various Paths for Primary Spending That Would Close the 25-Year Fiscal Gap Under CBO's Alternative Fiscal Scenario



Note: "Primary Spending" refers to all federal outlays other than debt interest payments.



Debt as a National Security Issue: Key Conclusions

- 1. Deficit spending can be seen as fiscal "quicksand": the deeper the US steps into debt, the harder it will be for the US to extricate itself in the future
- 2. Deficit spending is self-reinforcing: it necessitates further and more drastic deficit spending in the future
- 3. Optimistic estimates project debt acceleration to begin by FY 2020
- 4. Accelerating interest payment growth "crowds out" private spending and forces the government to cut spending on discretionary titles like Defense
- 5. "Crowding out" private sector spending and investment results in weaker economic growth, further compounding points 2-4*

For the above reasons, deficit growth and its primary underlying issue of health care cost growth are critical national security issues

^{* &}quot;Crowding Out" refers to the economic phenomenon of rising interest rates to increased government borrowing (deficit spending). Rising interest rates consequently discourage investment, and decreased investment in turn restrains long-term economic growth