

Statement by

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THE SUBCOMMITTEE ON NATIONAL SECURITY, VETERANS AFFAIRS AND
INTERNATIONAL RELATIONS

COMMITTEE ON GOVERNMENT REFORM
UNITED STATES HOUSE OF REPRESENTATIVES

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Mr. Chairman and Members of the Committee:

Thank you for the opportunity to provide the Committee with my views on the financial management problems facing the Defense Department.

Although my appearance has been approved by my superiors, I am presenting personal views that do not reflect an official view of anyone in a position of authority in the Department of Defense or in the current Administration. They are, however, based on thirty-three years of experience, including over seven as an officer in the United States Air Force and twenty-six as a civilian in the Office of the Secretary of Defense.

In my view, the Defense Department's financial management problems cannot be divorced from the defense budget now before Congress. Moreover, this budget is really a point in a time continuum linking us to the past and to the future. Viewed from this perspective, the requirements of sound financial management become clear: Today's budget should reflect a sound appreciation of and account for the intended consequences of past decisions as well as the future consequences of current decisions.

The DoD's financial management problems can be summed up quite succinctly: *Both* links are broken. The historical books cannot pass the routine audits required by law and planning data systematically misrepresent the future consequences of current decisions. The *double breakdown* in these information links makes it impossible for decision makers to assemble the information needed to synthesize a coherent defense plan that is both accountable to the American people and responsive to the changing threats, opportunities, and constraints of an uncertain world.

My aim today is twofold: In Part I, I want establish a point of departure by describing the basic structure of the top-level financial management information system now used by the Pentagon's senior leadership to shape the Department's plans and control the evolution of our nation's defense policies. Then I will place the double breakdown in the context of this system, with emphasis on the breakdown in the link between the present

and future. In Part II, I want to submit for the record the broad outlines of a proposal for a program to produce the kind of information needed to resolve this crisis.

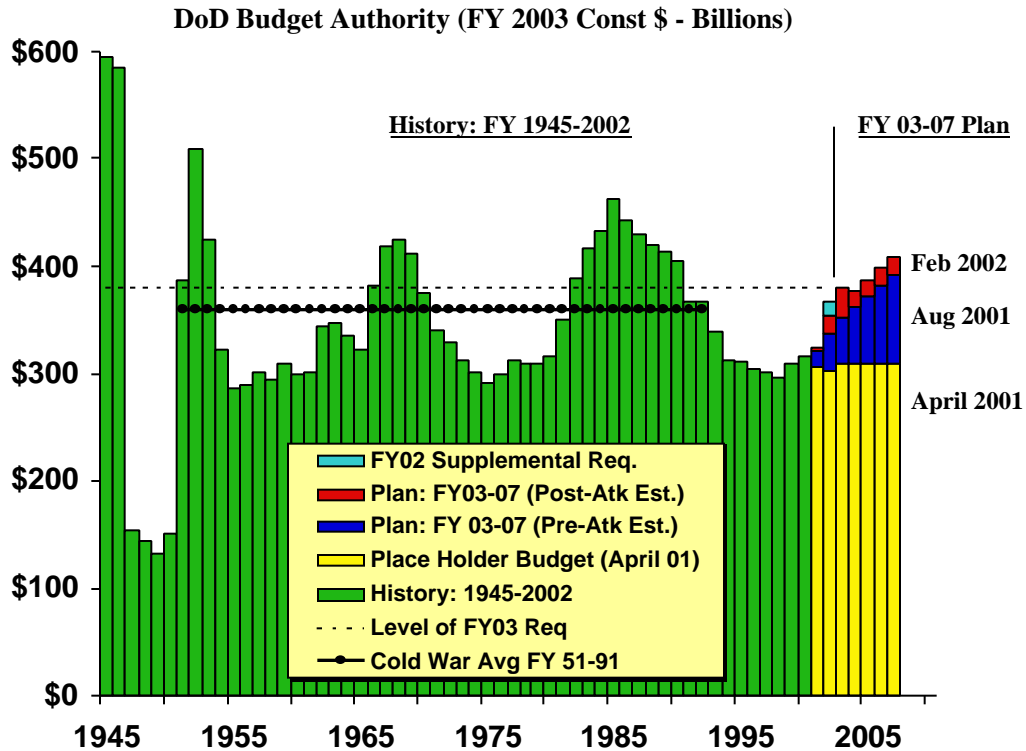
Part I

The PPBS, the FYDP Database, and the Link Between Output and Input

The budget before Congress is actually the first year of a comprehensive five-year budget plan known as the FY 2003-2007 Future Years Defense Plan or FYDP (pronounced ‘fiddup’). This plan was produced over the last year by the deliberative procedures of the Planning-Programming-Budgeting System or PPBS. The PPBS is a step-by-step strategic decision-making process and is designed to link the threat assessments and the policy intentions of our political leadership via a national defense strategy to the thousands of detailed force structure, modernization, and readiness decisions which are needed each year to keep the Defense Department running coherently in the desired direction.

Slide 1 places the current FYDP in a historical perspective. Specifically, it shows how the new five-year plan compares to the history of past appropriations reaching back to 1945. Note that the distorting effects of inflation have been removed and all budget numbers are expressed in FY 2003 constant dollars.

Evolution of the Fiscal Year 2003 - 2007 Plan in a Historical Perspective



Slide 1

The FY 2003-2007 FYDP calls for enormous increases in future defense budgets out to FY 2007. These budget increases have been justified as being necessary to fight the global war against terrorism that was triggered by the criminal attack on the World Trade Center and Pentagon last September 11. Yet Slide 1 shows that most of the budget growth was put into place by the PPBS before September 11.

The dotted line projected backward from fiscal 2003 makes it easy to compare the current budget request to past budgets as well as the average budget level of the entire Cold War, which is represented by the heavy black line. The dotted line tells us that the FY 2003 budget would be higher than that averaged during the Cold War, when America faced the threat of a nuclear tipped Soviet superpower instead of a criminal network of terrorists funded by fanatical anti-American Saudi millionaire. Only the budgets that paid for the Korean and Vietnam Wars and those of the Reagan Administration exceeded the request now before Congress. Nevertheless, this spring, the leaders of the military services told Congress the FY 2003 budget shortchanged their funding requirements by roughly \$25 billion, according to Congressman Curt Weldon.¹

Turning our attention to the future, the dark blue triangle topped by the red band shows how the defense budget is projected to rise to a level almost \$98 billion higher in 2007 than the defense projection used by the Bush Administration in its so-called “placeholder” federal budget of April 2001 which, you will recall, was part of the package of financial calculations supporting the proposed tax cut (portrayed in Slide 1 by the light yellow bars). Note also that 82% of that \$98 billion increase, or \$81 billion, was produced during the summer program review in the Pentagon, between May and August of 2001. Nevertheless, this increase may not be enough. On May 3, Defense Secretary Rumsfeld ordered the services to study options for cutting back major modernization programs, because the Pentagon cannot afford all the weapons in the pipeline.²

The only part of the defense increase that can be directly attributed to the changed conditions brought about by the attack on September 11 is the thin red ribbon on top of the dark blue triangle. By any measure, this add-on is a tiny part of the total defense budget, and this increase may also not be enough. In April, the senior military officials claimed they needed to increase personnel end strength by 50,000, because our forces have been stretched thin by the global war on terrorism.³

Slide 1 may provide insight into the relative size of the FYDP and how it evolved, but it says nothing about what these expenditures will or will not buy. That requires a detailed analysis of its innards, yet there are already indications that these innards are unraveling.

Bear in mind, the goal of the PPBS was to link the threat assessments and the policy intentions of our political leadership to thousands of detailed force structure, modernization, and readiness decisions. Its end product – the FYDP – describes these decisions, and it does so with a huge table containing thousands of rows of accounting data. Each row of the FYDP table specifies a program element by laying out a five-year stream of detailed budget numbers for a specific function or activity.

The program elements are supposed to be the output-oriented building blocks of defense policy. The resource allocations (i.e., the tradeoffs) among them define their relative values or priorities. The entire table, therefore, is -- or should be -- a comprehensive statement of the priorities and tradeoffs used to shape our nation's defense strategy. Yet the ink was not dry on this table before pressures emerged to change the table.

The situation is complicated by the fact that these program elements do not correspond to the traditional input-oriented appropriation categories used by Congress to raise money for the armed forces. In fact, a single program element in the FYDP is likely to include more than one appropriation category in its money stream. For example, a program element for a component of force structure, like "F-15 Squadrons," could conceivably include the moneys from the R&D, Procurement, O&M, Milpers, and Milcon appropriations. Taken together, the data in this program element are the highest-level financial management information summarizing the past, present, and future states of the F-15 force (its size, its modernization, and its readiness).

The appropriations request the Pentagon sends to Congress re-tabulates the various components of the detailed program element data into the standard appropriations format. This transformation is conceptually straightforward and easy to do with computers, but it shifts the decision-maker's frame of reference to input categories. This shift can be a source of confusion which, in my opinion, is one reason why budget battles inside the Pentagon as well as between the Pentagon and Congress often degenerate into context-free food fights over appropriations inputs rather than policy-based deliberations over programmatic outputs -- the ongoing fracas over the Crusader howitzer being an excellent case in point.

Viewed from the programmatic perspective, the four outyears of the current FYDP (i.e., FY 2004-2007) are the Defense Department's definitive output-oriented statement of the future consequences of a Congressional decision to appropriate the details of the FY 2003 budget. The accounting data in these outyears tell the Secretary of Defense, the President, the Congress, and the American people what they can expect to buy and how much they will spend over the long term if they make a current decision to fund the FY 2003 budget. Yet there are already signs that this FYDP understates the true cost of the entire defense program.

The mass of detailed program element decisions in FY 2003-2007 FYDP are also linked to the past decisions by a complimentary program-element table of the Pentagon's past expenditures. This historical table makes it possible to understand how the individual program elements in budget request evolved out their counterparts in past budgets. The historical database has various forms of program element data reaching back to 1962.

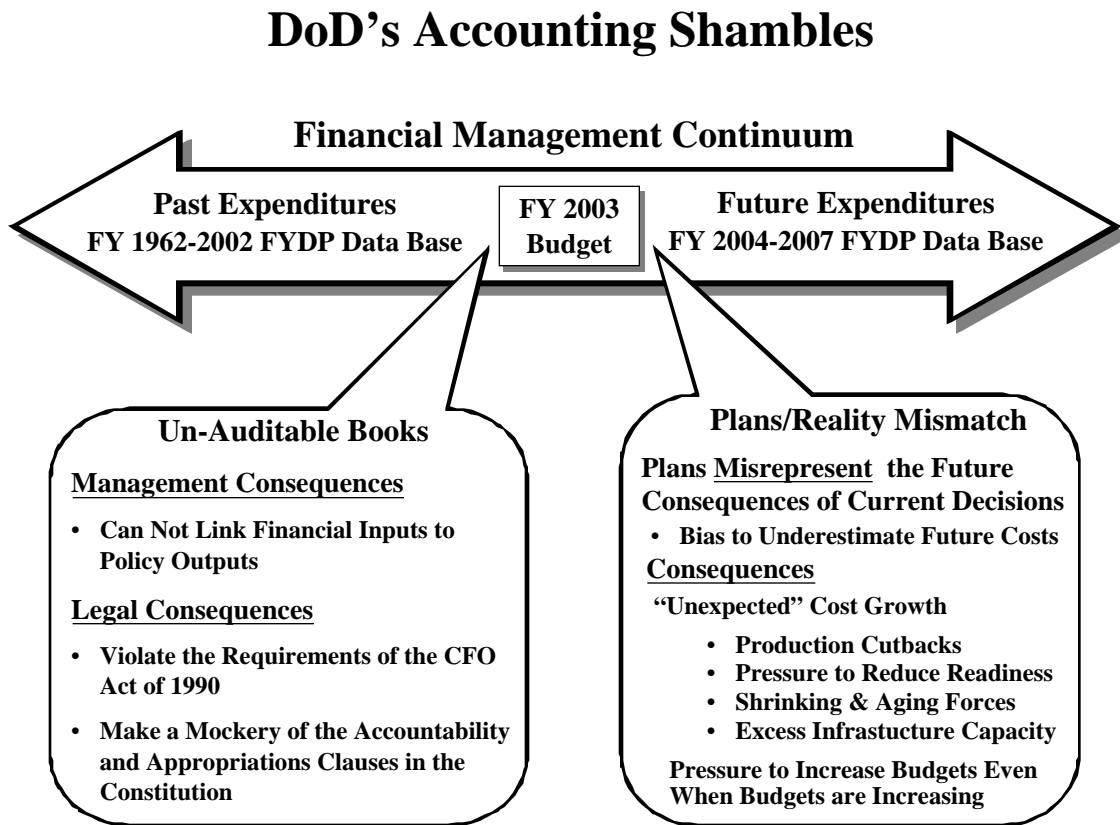
The historical data can be compared to data in past FYDPs to determine if the actual evolution of the defense program is the product of policy driven decisions. Such a comparison can provide valuable feedback to guide corrective action. It also would help us gage the reliability of the projections in the current FYDP. The past, present, and future times horizons of the FYDP database, therefore, should be able to provide the

information needed to understand and control the evolution of defense policies over time.

Taken together, the PPBS and the FYDP database are the central tools of financial management in the Department of Defense at the highest policy level. All the expenditure and budget planning data produced by the Department's various subordinate or specialized financial management systems should be consistent with and reliably rolled up into the FYDP's financial management information system.

With this background in mind, I will now discuss the double breakdown of the Defense Department's financial management systems.

Slide 2 places the Defense Department's financial management problems in context of the FYDP's time continuum. The left box refers to the breakdown in the link between the present and the past, and the right box refers to the breakdown between the present and the future. The next two subsections describe the implications of each breakdown.



Slide 2

The Breakdown Between the Present and the Past

There can be no dispute over the contention that the link connecting the present with the past is broken. One needs only to glance at the pile of reports produced by the General

Accounting Office and the Defense Department's Inspector General as well as the final report of Mr. Stephen Friedman's financial transformation panel (Transforming Department of Defense Financial Management A Strategy for Change, April 13, 2001) to appreciate the rich variety of detailed information about the incredibly complex nature of the Defense Department's bookkeeping shambles. Yet within that variety, these reports converge on two central conclusions.

First, the Defense Department's accounting systems do not provide the information needed to relate financial inputs to policy outputs. The Friedman report says, for example, these systems do not provide reliable information that "tells managers the costs of forces or activities that they manage and the relationship of funding levels to output, capability or performance of those forces or activities."⁴

A logical consequence of this conclusion is that unreliable accounting information makes it impossible to link the intended consequences of past decisions to the defense budget now before Congress. Such a conclusion is tantamount to saying it is not possible to determine whether or not the internal activities of the Defense Department are matched to the external requirements of its environment.

Second, these reports agree that the Pentagon's bookkeeping systems do not comply with legal requirements of the Chief Financial Officers (CFO) Act of 1990. This conclusion goes well beyond the principles of sound financial management and strikes at the soul of the Constitution.

The CFO Act requires government agencies to pass annual audits of the links between an executive agency's expenditures and the legally enacted appropriations authorizing those expenditures. This audit requirement is intended to sharpen the teeth of the Appropriations and Accountability Clauses in the Constitution, Article 1, Section 9, Clause 7, which says,

"No Money shall be drawn from the Treasury, but in Consequence of Appropriations made by Law; and a regular Statement and Account of the Receipts and Expenditures of all public Money shall be published from time to time."

This clause, as we all know, assigns the power of the purse to Congress, and it does so with language that denotes (1) a clear and absolute prohibition on spending (i.e., "No Money") and (2) an all-encompassing requirement for accountability (i.e., "all public Money"). The sweeping construction allows no room for exception. Nor is this construction an outdated artifact of arcane 18th Century language. According to the eminent constitutional scholar Professor Edward S. Corwin, this clause is Congress's most important check on the actions of other branches of government in the Constitution's entire scheme of checks and balances.

It is therefore clear that a finding of non-compliance with the CFO Act is a dagger aimed at the heart of American constitutional theory – namely, the idea of making the government accountable to be people via a legal system of checks and balances – a system, I might add, that everyone in the federal government has sworn freely and without reservation to uphold, protect, and defend.

In conclusion, the breakdown in the link between the past and present carries with it profound managerial, constitutional, and moral implications. The historical accounting shambles *is* a crisis, and it must be rectified as soon as possible, but this is only half the story: We face a double crisis, because the accounting systems that link the present budget to the future are also a shambles. I call this the Plans/Reality Mismatch

The Breakdown in the Link Between the Present and the Future: The Plans/Reality Mismatch, the Defense Power Games, and the Boom and Bust Cycle of Decay.

The Pentagon has produced a new FYDP each year since the PPBS was introduced by Defense Secretary McNamara in 1961. Each of these FYDPs was derived in theory from a defense strategy based on an appreciation of threats to our security and the political leadership's policy intentions. Each FYDP, therefore, should be a comprehensive numerical portrait of the defense policy made by the Secretary of Defense and approved by the President at a given point in time. The data in each FYDP's predictions are also an historical record of what the Defense Department's said would happen over the long term if Congress appropriated the funds to pay for the first year of that plan. This historical record makes it possible to compare the pattern of intentions (i.e., the "Plans") to the pattern of the pattern of actual behavior as documented by the historical FYDP database (i.e., the "Reality"). For reasons that will become clear, I call this kind of comparison the Plans/Reality Mismatch.

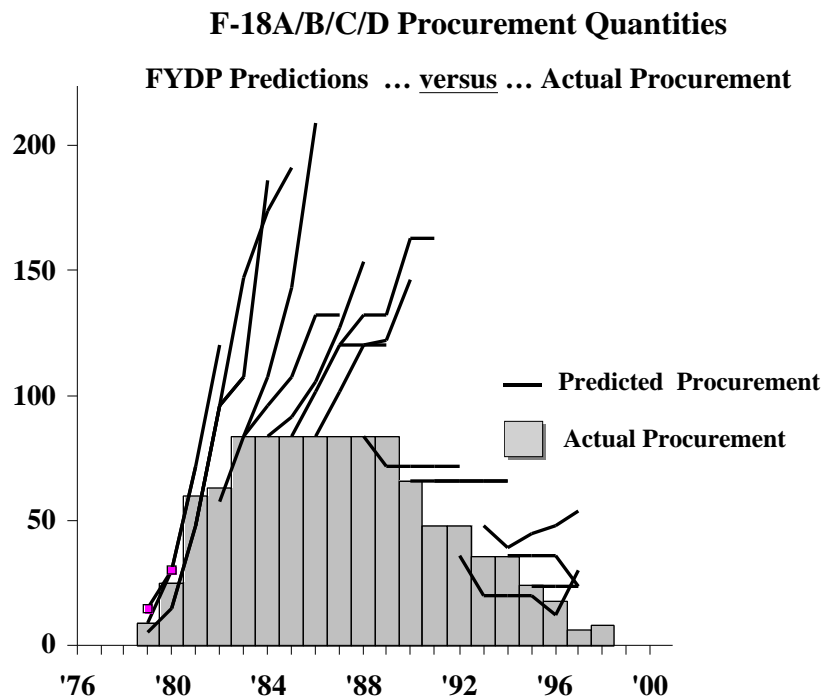
Bear in mind, no one can predict the future with 100% accuracy, but if the PPBS is an unbiased decision-making process, the predictive errors in the succession of FYDPs should be randomly distributed, even if the historical record is not accurate. If, on the other hand, the distributions of predictive errors are systematically skewed, we can conclude that behavioral biases are shaping the real long-term decisions, and the first year of the FYDP is masquerading under false pretenses. Moreover, a repetition of these biases year after year would be evidence that this a product of habitual behavior.

State-of-the-art data processing technologies makes it possible, at least in theory, to perform this kind of comparison across many FYDPs for any program element or aggregation of elements in the defense budget. In practice, such an analysis is complicated by many intractable factors. On the one hand, there will never be unambiguous output metrics for parts of the program elements in the FYDP data base, like the contribution of the all important moral factors to measurements of a unit's readiness for combat or a global measurement of a weapon's effectiveness, which is always scenario dependent. On the other hand, it is easy to quantify the first order outputs of procurement decisions (i.e., the number of items procured) and the first order inputs of procurement decisions (i.e., the budgets and unit costs for each item). So a plans/reality mismatch analysis is quite straightforward for the procurement data in the FYDP's program elements.

To this end, we combined the last twenty-six procurement annexes of the FYDPs into a 90-megabyte database (FY 1976 thru FY 2001 – the most recent data has not yet been included). This database permits a planner to examine how accurately the cost, quantity, and budget predictions of our modernization plans matched up to what really happened (in inflation adjusted dollars). The methodology underpinning these comparisons was validated by a GAO audit in 1996, made at the request of Senators Grassley and Roth.⁵ The next three slides are a typical case study of these comparisons and will be used to illustrate the biased nature of the information linking the present with the future.

In the mid-1970s, the Navy’s tactical airpower (tacair) program faced an aircraft aging crisis not unlike that faced today. The only two airplanes in production -- the F-14 and the A-6 -- were too expensive to buy in sufficient quantities to maintain the Navy’s goal of an average age of 7.5 years for the tacair aircraft in its inventory. The Navy faced the possibility of not having enough airplanes in the long term to equip its aircraft carriers with modern full-strength tacair squadrons. The F-18 program became the centerpiece of a strategy to solve the crisis. The idea was to compliment the low production rates of the F-14s and A-6s with higher production rates of lower-cost F-18s. This plan became part of a larger modernization policy known as the “High-Low Mix,” a snappy but meaningless soundbyte that unfortunately remains with us to this day. The next three slides show how this policy came unglued with the passage of time.

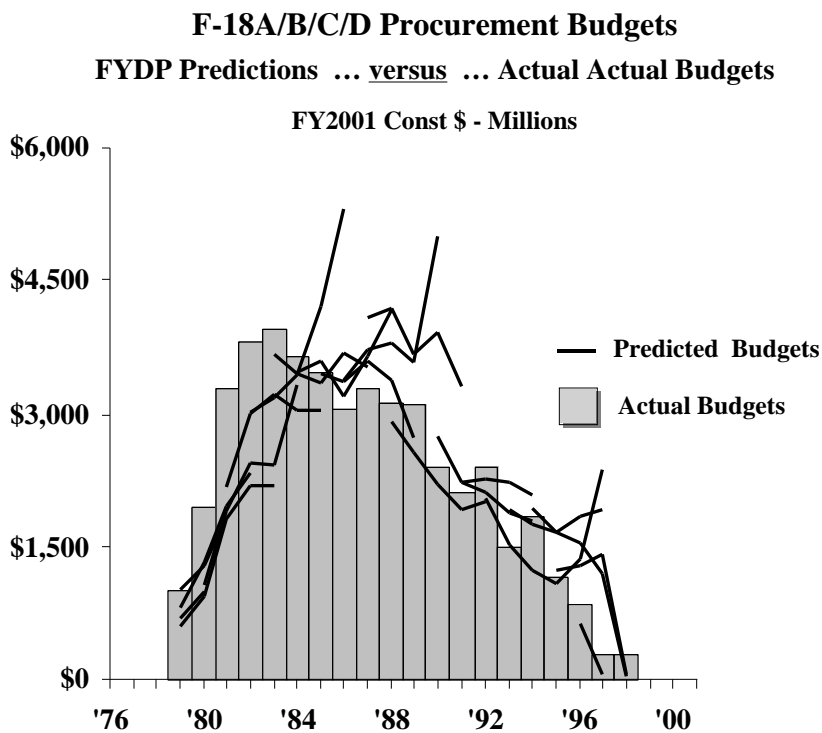
The Plan/Reality Mismatch: Production. The Navy’s F-18A/B/C/D tactical fighter began development in the mid 1970s and entered production in 1979. Slide 3, which compares planned purchases to actual purchases, shows the result.



Slide 3

Each “line” in Slide 3 depicts a separate FYDP’s prediction of the number of F-18s that would be purchased in each of its future years, whereas the “bars” portray actual number of F-18 purchased each year. The Defense Department planned to increase the F-18’s production rate to somewhere between 150 and 200 F-18s per year, but actual production never exceeded 84 per year, notwithstanding the largest peacetime defense budgets in history. Moreover, the Defense Department maintained its grossly biased vision of the future production until the FY 1987-1991 FYDP (i.e., the line ramping up from the 1986 “bar”), long after it should have been clear that the production plan was a pipedream.

The Plans/Reality Mismatch: The Program Budget. The conventional wisdom is that production cutbacks, like those in Slide 3, cause cost growth, but our data shows that this is generally not the case for programs in the early years of their production life cycle, as was the F-18 in the first half of the 1980s. Slide 4 continues the example with a Plans/Reality Mismatch diagram that compares the F-18’s predicted budgets to its actual budgets. Like Slide 3, the “lines” represent the FYDPs while the “bars” portray the actual budgets. Bear in mind, the effects of predicted and actual inflation have been removed and all numbers are expressed in FY 2001 dollars.



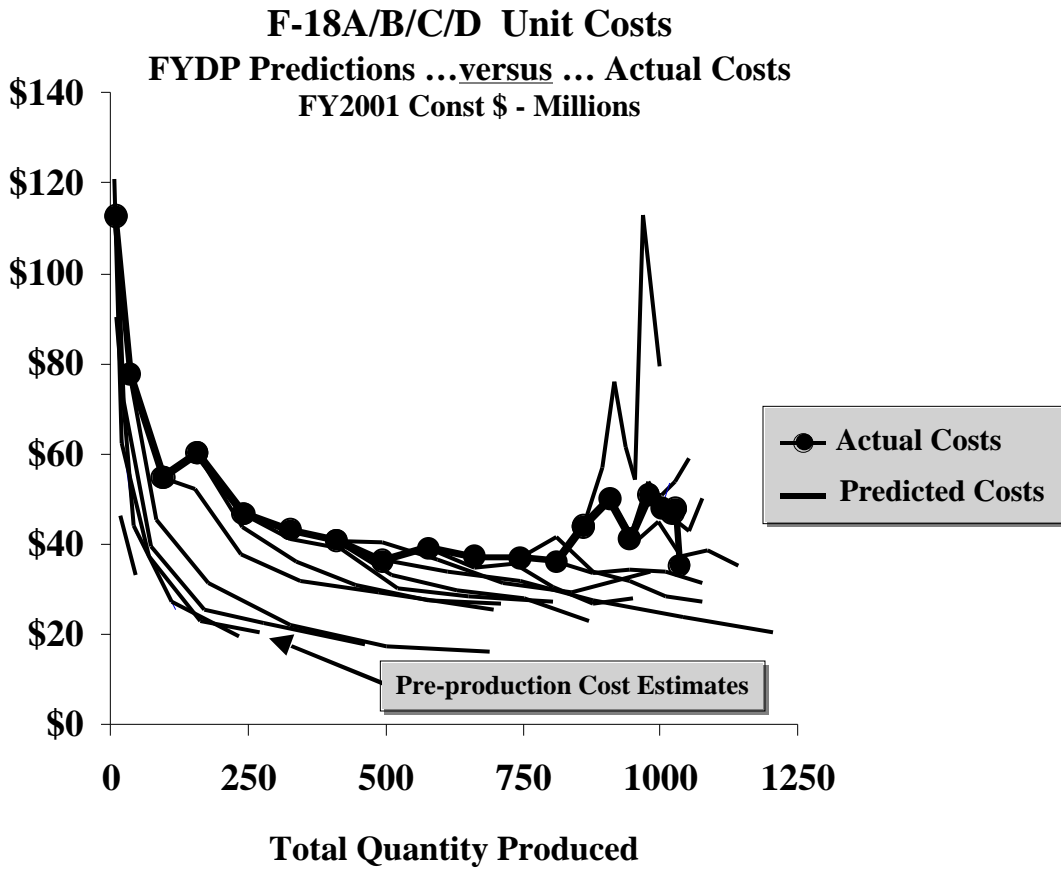
Slide 4

Slide 4 reveals that the actual procurement budgets in the historical FYDP data base exceeded those predicted by the succession of FYDPs for the first six years its of F-18’s production run – i.e., 1979 to 1984. So, money was being added to the F-18 production program while its production rates were cut back drastically from intended levels. This means cost growth must have caused the cutbacks not budget cuts. Slide 5 addresses this

issue, and it gets to the heart of the biases creating the plans/reality mismatch and the breakdown in the financial management information linking the present to the future.

The Plans/Reality Mismatch: Unit Costs. The information in our database shows that the long-range cost predictions made during the development phase (i.e., pre-production) and the early production stages of a major weapon’s life cycle almost always understate its eventual production costs by large amounts. The dangers posed by this phenomenon are particularly relevant today, because the current FYDP contains an unprecedented bow wave of programs in the development or the early production pipeline.

The F-18 is a typical albeit unusually clear example of the bias to grossly underestimate the unit costs of a weapons program in the early stages of its acquisition life cycle. The production data in Slide 3 can be divided into the budget data in Slide 4 to calculate the predicted and actual unit production costs. All this data can be placed on one chart, if cost is plotted as a function of cumulative production rather than by year. Slide 5 shows the result. It relates the average annual cost of an F-18 (on the vertical axis) to the total number produced (on the horizontal axis). The average annual costs can be thought of as an approximation of each additional F-18 produced or what an economist would refer to it as “marginal cost”.



Slide 5

The heavy black line with the “ball” markers shows how the F-18’s *actual* costs changed as the total number produced increased. This portrayal is known in the Pentagon and the defense industry as a *learning curve*. The thin lines show the *planned* learning curves contained in each of the five-year plans (FYDPs). All costs have the effects of inflation removed and are depicted in constant FY 2001 dollars.

Slide 5 should be read as follows: We know from slides 3 and 4 that the first year of F-18A’s production was 1979; this is denoted by the leftmost “ball” in Slide 5. Moving to the right, each successive “ball” represents a successive year, and the horizontal distance from the preceding “ball” represents the annual purchases for that year.

Perhaps an example will make this clearer: The first seven years of production take us from FY 1979 to 1985 and are depicted by the left-most seven “balls.” The horizontal distance covered by the heavy black line in Slide 5 indicates we bought a total of about 400 F-18s over these seven years. The downward slope of the heavy line shows that *actual* unit costs declined from about \$113 to \$41 million per copy during this period. So, as would be expected, marginal costs declined as production increased. But the important point to note is that these costs did not decline as fast and as far as predicted by a wide margin.

This can be seen if we compare the actual costs to the F-18’s *predicted* costs (i.e. the thin lines). Note how the earliest plans (the thin lines furthest to the left) are far below the solid black line. Slide 5 tells us that the early plans predicted that the 400th F-18A would cost about \$20 million, but it actually cost about \$41 million. So, we have a mismatch between plans and reality, and even though actual costs declined from \$113 to \$41 million per copy between 1979 and 1985, the 400th F-18 still cost twice as much as predicted by the costs in the pre-production estimates that were used to justify the High-Low Mix modernization policy. Several points should be noted: First, most of the cost growth occurred in the first six years of production (i.e., between 1979 and 1984) – precisely when money was being added to the predicted budgets (Slide 4). Second, the cost growth in Slide 5 associated with the budget cutbacks made after 1986 (Slide 3) was far less disruptive than the cost growth that occurred in the pre-production stage of the F-18’s acquisition life cycle, when money was being added to the program. Finally, the mismatches continued year after year, notwithstanding feedback that actual costs were exceeding predicted costs; suggesting habitual behavior was driving the planning process.

The Defense Power Games. A repetitive bias to grossly understate future costs is typical of programs in the early stages of their acquisition life cycles. Our database contains a large number of programs exhibiting patterns similar to those of the F-18. In part, this bias is a natural result of uncertainty – as weapons get more complex, it becomes more difficult to predict what they will eventually cost. But more importantly, in my opinion, the bias reflects the first step in an ubiquitous two-step bureaucratic gaming strategy, known as *Front Loading* and *Political Engineering*. These strategies are explained in detail in a report that can be downloaded from the internet.⁶

Brutally stated, the aim of this gaming strategy is to turn on the money spigot and lock it open.

Front loading is the art of planting seed money today while downplaying the future consequences of a decision to spend that money. While it takes many forms, the most well known form is the so-called “Milestone II Buy-In,” a deliberately “low-balled” estimate of future costs made to obtain a Milestone II approval in a weapons acquisition program. A Milestone II approval is crucially important, because it allows an acquisition program to move into concurrent engineering and manufacturing development (EMD). Once EMD is approved, the defense contractor can begin to “invest” contract dollars (i.e., tax dollars) in building a geographically distributed production base as well as a nationwide network of suppliers. The EMD decision, in effect, gives the contractor permission to use public money to build his political protection network by systematically spreading subcontracts and production facilities to as many congressional districts as possible. This spreading operation is the second step in the gaming strategy and is known as *political engineering*.

The goal is to raise the political stakes before the true costs of the front-loaded program become apparent. By the time these costs emerge, as they clearly did in the case of the F-18, the series of sequential adjustments in the succession FYDPs have bought enough time and desensitized decision makers to the effects of additional production cutbacks, while the political cost of a fundamental redirection (i.e., termination) has become prohibitive. So, decision-makers on both sides of the Potomac take the easy way out: they cut back production rates to reduce total costs in order to protect the jobs and profits of their constituents. Viewed in the context of the defense power games, production stretch-outs, like those in Side 3, were a predictable, indeed inevitable, consequence of a decision to front load the F-18 into the budget in the late 1970s and early 1980s.

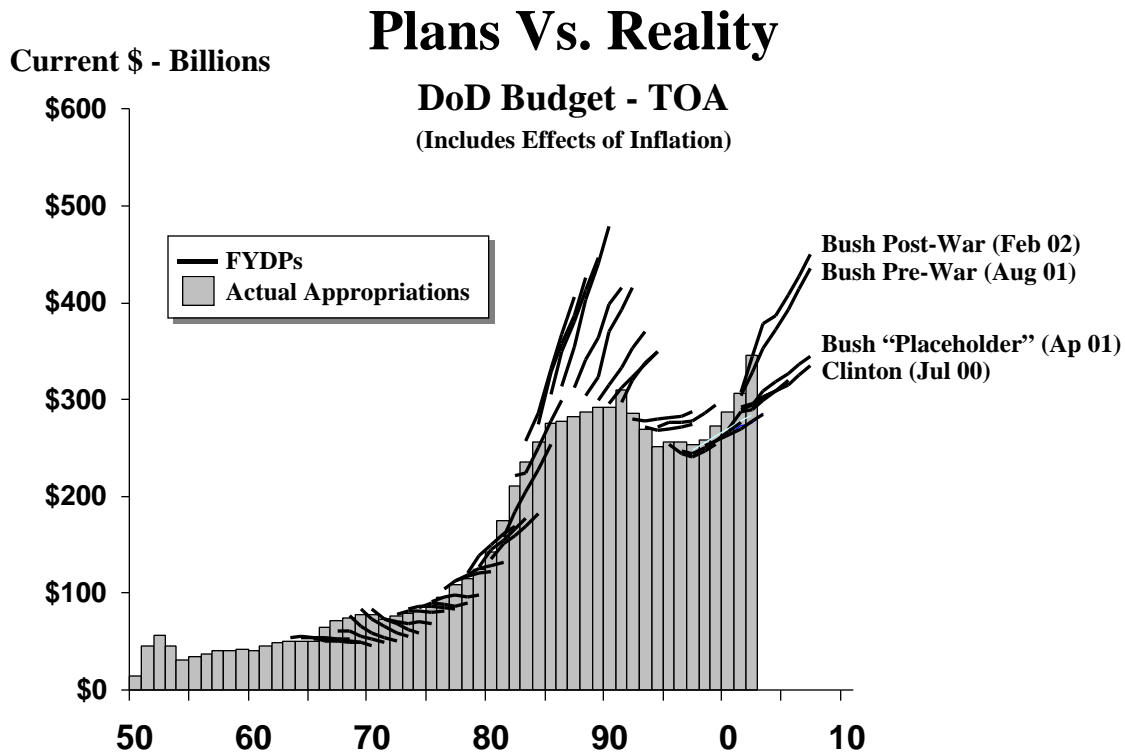
While these power games may work to get programs started in the short term, they create a brain lock that produces a vicious cycle of decay over the long term.

The Boom and Bust Cycle of Decay. The “low-balled” cost projections made during the pre-production phase of a weapon’s life cycle permit too many new programs to get stuffed into the out years of the FYDP. This sets the stage for repeated increments of cost growth and ever rising pressure to grow the entire defense budget.

But the budget cannot grow as fast as the unit costs of front-loaded programs increase and eventually a retrenchment sets in. At the same time, the effects of political engineering paralyze decision-makers and induce them to absorb the cost growth through inefficient expediencies, like repeated production stretch-outs in lieu of terminations. The lower rates of production naturally decrease the rate of inventory turnover, which increases the age of weapons and makes them more expensive to operate, thereby driving up the operating budget. But the increasing age of the equipment also increases the pressure to transfer money from the operating budget to the modernization budget, while the rising cost of operating the older weapons makes it more difficult to do so.

Consequently, cost pressure builds up rapidly over time, and a kind of boom and bust cycle is born: Budget retrenchments like those in the 1970s and 1990s make problems worse, which are followed by budget expansions that naturally overreach when the front loaders and political engineers plant the seeds for another round of outyear underfunding problems, as happened in 1980s. Over time, the cycle of decay takes the form of the so-called death spiral of shrinking combat forces, decreasing rates of modernization, aging weapons inventories, with the rising cost of operations creating continual pressure to reduce readiness.

Slide 6 portrays the outer manifestations of this boom and bust cycle. It compares the history of the defense budgets predicted by the FYDPs (the lines) to the history of actual budgets (the bars). Note that Slide 6, unlike the data in Slide 1, *includes* the effects of inflation; this is necessary because of data limitations.⁷



Slide 6

The pattern of mismatches in Slide 6 suggests a dynamically unstable system capable of steadily increasing growth pressures ending with grotesque overreaching. A comparison of the 1970s to the 1990s sheds light on its underlying dynamics and places the current burst of growth in perspective.

The 1970s, like the 1990s were periods of post war budget retrenchments and reduced growth, producing a general pattern of low rates of weapons production, aging forces, and emerging readiness problems. But these periods were alike in another way: Each was characterized by the front loading of a substantial number of new high-cost

modernization programs into the development pipeline. The programs, being in the early stages of their acquisition cycles, had uncertainties like the F-18 example discussed above. This created a growing bow wave of unspent balances in the modernization accounts during each decade.

Moreover, in each period, the growing readiness problems coupled with the rising cost of operations precluded a funding strategy that shifted substantial resources from the readiness accounts to the modernization accounts. Consequently, as each decade progressed, the pressure to increase the defense budget increased, and FYDPs were gradually ratcheted upward to accommodate the growing internal pressure (the effects of high inflation added to the pressure in the 1970s but not in the 1990s). The internal pressure built up in the 1970s exploded in the 1980s and the FYDP predictions leaped away from any resemblance to reality. The rapid growth of the most recent FYDP projections in Slide 6 suggest that the pressure is again building up rapidly and the internal dynamic may be poised for yet another round of explosive overreaching.

The exploding growth of internal pressure is also suggested by the data in the most recent Selected Acquisition Report (SAR) sent to Congress. The SAR describes the funding status of most of the major acquisition programs in the modernization pipeline. Its data includes information on each program's prior expenditures, its current budget, and the amount remaining to be spent (i.e., the unspent balance). The ratio of a program's unspent balance to its current budget tells us how many years it would take to buy out the program, if spending remained at the current level and there was no cost growth. A rising ratio would indicate a shift to new programs (and a preponderance of "low-balled" pre-production cost estimates) in the SAR mix, which implies greater uncertainty, and a growing bow wave, both of which would increase the internal pressure to grow the defense budget more rapidly over the long term. In September 1971, for example, that ratio equaled 4.6 years. By 1979, just prior the budget's liftoff in the 1980s, the ratio stood at 8.1 years. According to the data in the most recent SAR (December 2001), that ratio now stands at 18.1 years (and that does not include an estimate for the unspent balances in the National Missile Defense Program!), with the unspent balance being the largest on record.⁸

Interim Summary

Let me now bring the entire discussion of Part I together. We can think of the Defense Department as a living goal-seeking organism. The procedures of PPBS are the tools used by the collective brain to set goals by matching the organism's inner workings to the threats, opportunities, and constraints in its external environment. The FYDP, being the end product of that brain's activities is therefore the essential source of financial management information that describes this matchup.

But the FYDP's description is fatally flawed. The information in the historical FYDP database cannot pass an audit and the data used in its planning projections are unreliable, arbitrary and, in important cases, systematically biased to grossly understate the future

consequences of current decisions. These problems were avoided during the retrenchment of the 1990s, while the internal pressure built up rapidly in the latter half of the decade, and there are now signs that the PPBS may be about to go unstable like it did in the 1980s in reaction to the retrenchment of the 1970s.

Consider, please, the dire implications of this breakdown: Without reliable information, there can be no confidence that the required matchup between the Defense organism and its environment has been or will be achieved. When such a condition of uncertainty persists, the interaction of chance with necessity guarantees that it is only a matter of time before dangerous mismatches creep insensibly into the relationship between organism and its environment. When this occurs, the unreliable information in the database creates a kind of virtual reality that disorients decision makers, yet keeps them busy, thereby blocking corrective action, while the internal activities shaped by their decisions become progressively disconnected from and vulnerable to the threats and constraints in the real world.

Moreover, without decisive action to correct the source of the disorientation – i.e., the corrupted information – the disorientation will grow worse over time, leading inevitably to a growing sense of confusion and disorder that feeds back into and magnifies the disorientation even further. Eventually the breakdown in the goal seeking process will produce paralysis, and the activities of the organism will be directed more by inner workings of its constituent factions than by the requirements of the environment. Naturally, such a self-referencing process would become far more dysfunctional if the external environment changed suddenly and unexpectedly, as did the national security environment in the 1990s.

The bottom line: we face crisis that will take extraordinary action to resolve. The next section is a strawman proposal for building a strategy that works in the real world of uncertain threats, changing opportunities, and constrained resources.

Part II

Teach the Pentagon to Think Before It Spends

The FYDP is a strategic vision of the future, yet it does not account for the future consequences of current decisions. This kind of planning is by no means a new phenomenon in the Pentagon. Politicians and defense intellectuals have complained for years that the Pentagon cannot determine priorities because it has no strategy. The legislation passed by Congress in 1996 mandating a Quadrennial Defense Review was but one example of this long-standing frustration. Nevertheless, in one strategic review after another, the critics have recommended and defense planners have executed the same step-by-step procedure to solve the strategy conundrum:

1. Identify national goals and the threats to these goals.
2. Determine the strategy to counter the threats.

3. Determine the forces needed to execute the strategy.
4. Determine the budget needed to build and maintain these forces.

That this Cartesian procedure cannot solve the strategic puzzle ought to be clear from the recurrent calls for yet more strategy reviews.⁹ While this mode of thinking is not a direct cause of the readiness, modernization, and bookkeeping problems discussed above, I believe the formulaic determinism of this procedure shackles our minds and prevents us from realizing a solution to these problems. This becomes clear when one examines how the logic underpinning this chain of dependencies prevents an interaction with the environment.

In theory, each step of the four-step procedure depends on the preceding step *but* is *independent* of the subsequent step. *Strategy* is the key link in this chain; it ties our relations to the outside world (goals and threats) to our internal conditions (forces and budgets). But it is wrong to think that strategy depends only on external factors, like goals and threats and is independent of internal conditions.

The fatal flaw in the logic of the PPBS procedure becomes apparent if one applies the four-step formula to a simple military problem. Let's assume a battalion commander receives a "mission order" to counter a threat on the flank of his division. Under the concept of mission orders he is told what to do but not how to do it. He therefore needs to formulate a strategy for accomplishing his mission. If he used the PPBS method to solve his "strategic" problem, he would define his strategy *before* he examined how personnel or materiel limitations might shape or limit his maneuver and fire options. His operational plan, for example, would not be affected by the fact that one-third of his battalion had been wounded in a previous engagement and the other two thirds were short of ammo. This is nonsense.

In the real world, *strategy is the art of the possible*, and any strategic decision-making procedure that ignores how one's internal constraints might limit or shape what is possible is a contradiction in terms.

A decision-making strategy *should* link our relations with the external world (goals and threats) to our internal conditions (the constraints of forces and resources). A biologist would view strategic planning as a selection process that harmonizes the internal structure of the organism with the demands of its environment. One side of the link does not uniquely determine the other, but each simultaneously feeds back on and shapes the other. The environment shapes the organism while the organism shapes the environment. Like evolution, a strategic decision-making process should be a creative process of *combination* and *selection* in an ever-changing, co-evolving domain consisting of external threats and opportunities on the one hand and changing internal structures and limitations on the other. The shaping effects of positive feedback in this interaction make strategic planning a nonlinear, non-sequential mental activity.¹⁰ That is one reason why intuitive behavior is so important on the battlefield.

Viewed from this perspective, strategic decision-making is a *synthetic* activity and is by its nature simultaneous, constructive, creative, and adaptive.

Compare this richness of this view to the sterility exhibited by the four-step process used in the PPBS. Its rigid procedure is an *analytical* recipe for a *dissection* that follows a predictable, sequential, non-adaptive path. By its nature, it is not creative, which is the main reason why repeated strategic reviews always produce a plan that protects the status quo. The analytical elegance of the recipe may appeal to intellectuals housed in Cartesian towers, but the primitive assumption that strategy uniquely determines forces and budgets, in effect, presumes resources (money) are unlimited.

In the real world, where messy bureaucratic conflicts bubble up out of a clash of competing agendas, this kind of *unconstrained* thinking provides no incentive for making the hard decisions needed to discover a harmonious set of priorities among incommensurable but nevertheless competing options. Unconstrained thinking simply adds things together into unaffordable wish lists.

Furthermore, by ignoring internal constraints like resource limitations, our strategists have abdicated their responsibility for hard decisions. That puts the onus on others to make the real decisions -- the bean counters, budgeteers, and porkbarrelers. These people have different agendas — as evidenced by the fact that recent votes in Congress suggest that preservation of jobs is now the real goal of our nation's defense "strategy."

A strategic planning process should *discover* priorities by systematically exploring the interplay among the uncertainties surrounding the external threats and opportunities, on the one hand, and those uncertainties surrounding our internal structures and constraints, on the other. The following proposal sketches out a *combination-and-selection* process that explicitly addresses the co-evolving essence of strategic planning. Rather than viewing priorities as an input, which is another way of saying we start with answer, the following proposal views priorities as an output, or more precisely, it views priorities as an *emergent property* of a complex adaptive tradeoff process.

Strategic Planning as a Complex Adaptive Process - Theory:

By far, the most important internal constraint shaping the evolution of our military capabilities is the perpetual budget squeeze. Since this squeeze is a consequence of habitual behavior patterns that produce an economic relationship wherein *costs always grow faster than budgets*, a necessary condition for a competent decision-making activity is to make the long-term consequences of this asymmetry evident *before* decision-makers lock themselves into a given course of action. But a requirement to make the long term consequences of current decisions visible before the fact embodies a necessary pre-condition: Reliable information.

Job 1, therefore, is to fix the Pentagon's accounting problems, or at least reduce them to a acceptable level.

Fixing the books is not sufficient to produce a sound strategy, but it is self-evident that a more reliable description of our internal conditions, as well as the future consequences of changes to those conditions, would give planners the wherewithal to better understand the strengths and weaknesses of a given defense program in terms of its perceived matchup, or mismatch, with external reality.

The greater knowledge accompanying a more accurate description of our readiness and modernization problems, combined with state-of-the-art computer software technology, would make it possible for planners to understand how internal structures and capabilities of our military forces would change over a range of long-term budget scenarios—from optimistic to pessimistic. Under the different constraints imposed by each scenario, planners could determine the marginal effects of different force structure combinations in terms of achieving goals and neutralizing threats. By using a trial-and-error process of combination (which unleashes creativity and imagination) and evaluation (which uses testing and logic to discipline the imagination), planners could maximize strengths and minimize weaknesses of alternative combinations in order to gradually select (i.e., evolve) the most capable force structure option within the constraints of each given budget scenario. In so doing, planners would use their judgment to discover priorities (which are a reflection of the opportunity costs of *incommensurable* capabilities) by evolving the least painful program cuts as they move from higher to lower budget levels. The iterative process of combination and evaluation would also identify the best way to add programs, should the budget come in at higher levels.¹¹ By disciplining the selection process in this way, priorities – or core values – would *emerge naturally* out of a free competition in a marketplace of ideas.

Contingency planning and sensitivity analyses are common enough in war planning and business planning; there is no reason why they can not be done for defense program planning. Three phases of operation are needed to translate this abstract idea into concrete action. The first phase cleans up the books, the second phase constructs service level contingency plans, and the third phase synthesizes the service-level plans into a comprehensive Defense Department contingency plan.

Phase I: A Crash Program to Clean the Books

- **Fund the War on Terrorism on a “Pay as You Go” Basis**
- **Freeze the Core Program to Clean Up the Books**

We have seen that DoD's annual budget, as submitted to Congress, is the linchpin of an accounting continuum (the FYDP database) reaching backward in time to record actual expenditures and forward for five or six years to record future expenditures. Looking backward, the coherency of a defense strategy (and its supporting force structure, modernization and readiness levels) depends in part on the consequences of past expenditures. But the auditing problems revealed by the General Accounting Office and the Defense Department's Inspector General and the Friedman Report prove we cannot link past expenditures to today's budget/policy decisions.

The Plans/Reality Mismatch shows that future years of the FYDP database are also disconnected from the budget. The case study of the F-18 (Slides 3-5) is but one example of hundreds of FYDP/reality mismatches evident over the last twenty-six years. At the macroscopic level (Slide 6), these mismatches have created a boiling programmatic soup in which "low-balled" cost estimates breed like metastasizing cancer cells throughout the entire defense program. Biased numbers hide the future consequences of current policy decisions, permitting too many programs to get stuffed into the "outyears" of the long-range budget plan. This sets the stage for unaffordable budget bow waves, repeating cycles of cost growth and procurement stretch-outs, decreasing rates of modernization and older weapons, shrinking forces, and continual pressure to bail out the self-destructing modernization program by robbing the readiness accounts.

The end of the Cold War in 1990 provided a unique opportunity to take decisive action without jeopardizing our national security, but that opportunity was squandered over the next decade. And now the open-ended war on terrorism makes the required fix far more difficult.

But the war should not be used as an excuse to live with the status quo. To be sure, a decisive correction will be more painful today than it otherwise might have been, yet the readiness and modernization problems that emerged in the late 1990s, together with the exploding bow wave, cry more urgently for action to put the Defense Department on a more sustainable pathway into the future. Moreover, the crisis is intensified by the fact that we must get our house in order before the demographic time bomb of retiring baby boomers starts sucking money out of the federal tax base early in the next decade. To be decisive, the military services *must* first produce better decision-making information. It will take at least a year to begin the necessary book-cleaning operation, yet during that time, we must provide the military with resources to fight the war on terrorism.

The President, the Secretary of Defense, and the leaders of Congress should announce that, henceforth, the war on terrorism will be financed on a *pay-as-you-go* basis, with special requests made to Congress at appropriate intervals using the instrumentalities of supplemental budget requests. While this policy may seem unorthodox at first glance, the red ribbon in Slide 1 and the ongoing use of war supplementals suggest that the cost of the war is simply being added to the core defense program. War financing is already evolving on a pay-as-you-go basis as a practical matter of fact. This recommendation would simply extend a formal recognition to this fact. Moreover, the comptroller organizations in Office of the Secretary of Defense and the military services should set up special war financing branches to prepare the supplemental requests on a standardized basis. The pay-as-you-go procedure would have the added benefit of facilitating informed debate over the course the war on terrorism by making its costs more evident to the President, the Secretary of Defense, the Congress, and the American people.

In parallel, with questions of war financing now off the table, the President and the Secretary of Defense should immediately stop the ongoing FY 2004-2009 budgeting cycle and order a *one-year PPBS freeze* at the FY 2003 spending level or whatever budget level Congress appropriates for the FY 2003.

The purpose of the PPBS freeze is to buy the time needed to begin scrubbing the books. During this period, decision-makers in the Defense Department should strive continually to maintain or increase their flexibility to make future decisions (which will be needed in Phases II and III). To this end, they would make no new long-term contractual commitments during the program freeze. All acquisition milestones would be postponed, but existing programs, like the F-22, would continue at their current level on a “work-in-process” basis. On the other hand, decision makers would proceed with any actions that would increase the Defense Department’s flexibility or adaptability into the future, like planned terminations, cutbacks, or base closings. Finally, they should remove special-access clearances for all programs, except those intelligence programs requiring protection of sources and methods. Black clearances stifle accountability, they increase costs, and they hide unprincipled behavior. Doubters should study the Navy’s A-12 debacle, in which the contractors used the government’s illegal behavior as an excuse for their failure to perform.¹²

Obviously, a program freeze will be disruptive and create economic inefficiencies in the short term, but unfortunately, that is the price leaders must pay now to obtain greater efficiency and strategic coherence in the long term.

While programs are frozen, the audit agencies of the Defense Department will undertake a maximum effort to do comprehensive financial audits of the expenditure control system, the FYDP database, and the assets assigned to each organization. One of their main goals would be to build a solid foundation for assembling a DoD-wide double-entry accounting system for tracking transactions, matching transactions to appropriations, and building an effective management accounting system so decision makers have the wherewithal to know what is going on inside their own organization. At the same time, war planners would commence a comprehensive readiness audit of current condition in each military service (including the real factors affecting morale, retention, training, doctrine development, and material condition). Using the more realistic cost numbers produced by the financial audits, each military service would then build a new FY 2004 to 2009 high-readiness baseline program by re-pricing the procurement and O&M programs in the approved program (i.e., the existing FY 2003 to 2007 program, adding in any un-funded requirements – see below) that was submitted to Congress in February 2002.

Taken together, these re-priced budget estimates would become the new DoD baseline budget scenario, which will require substantially larger budgets than the FY 2003-2007 FYDP approved by the President sent to Congress. The stage is now set for Phase II.

Phase II – the Construction of Component Planning Options:

In Phase II, Planners in each military service and independent defense agency would use the more reliable information produced by Phase I to as a basis for examining how the internal capabilities and structures of their service would change over a range of optimistic to pessimistic budget scenarios (notional scenarios are defined at the end of

this section), assuming each service's historic share of the total defense budget remained constant in each scenario. These shares will be subject to change in Phase III, but they are necessary in Phase II to get the process started.

The objective of Phase II is to discover the parochial priorities of each military service in the context of that service's capabilities and worldview, according to the theory of combination and selection outlined above.

To this end, military planners in each service would be free to construct their most effective force package within each given budget scenario by maximizing its strengths and minimizing its weaknesses, while conforming to that scenario's overall resource constraints. Service planners would be *free* to use their parochial perspectives to define the threats they will face. The only restriction on that definition would be a requirement to classify each threat guiding their planning options according to the taxonomies of Second, Third, and Fourth Generation Warfare. A general introduction describing these taxonomies can be found on the web.¹³ This generational classification is necessary to establish a common doctrinal frame of reference for evolving and evaluating the global syntheses of Phase III and ensuring proper resource allocations

Subject to this restriction, planners in each service would be free to use their own perspectives and judgment to shape and identify preferred force structures (together with the supporting modernization strategies and readiness states) in a way they think best addresses the threat uncertainty. By constraining their planning options to each budget level, service planners would have to evolve a selection process that naturally identifies opportunity costs and their own service's parochial priorities by identifying the least painful programmatic adjustments as one moves from higher to lower budget levels and the most beneficial adjustments as one moves from lower to higher budget levels. Each military service would conclude the sensitivity analyses of Phase II by producing a comprehensive written net assessment of the force package selected for each budget level. Such a net assessment would identify the long-term military consequences (i.e., the preferred strategy, strengths, weaknesses, risks, and opportunities) of the force structures, together with the supporting readiness states and modernization strategies for each package. The final product at each budget level, together with the net assessments and the common taxonomy under which each net assessment is structured, become a Component Planning Option, or CPO. The selected set of CPOs evolved by each service in Phase II for each budget scenario become the basic building blocks for the defense-wide or global selection process in Phase III.

A crucial decision for Phases II and III is identifying a realistic and appropriate range of future budget scenarios. The remainder of this sub-section discusses this choice.

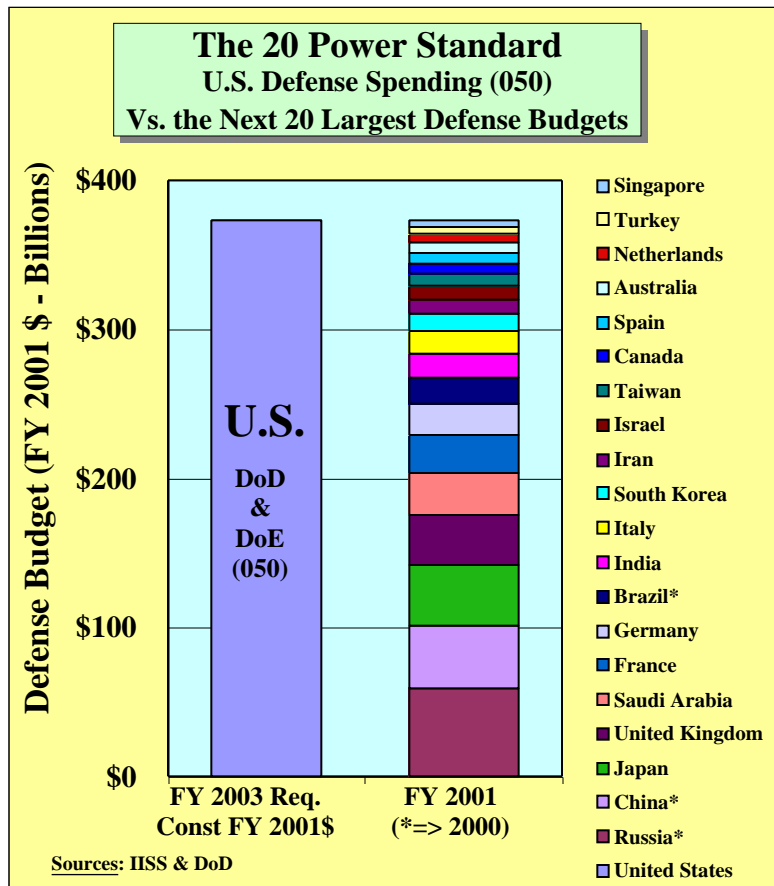
Tighter budget constraints are necessary to discipline the selection process at the microscopic and the macroscopic level of organization. It is therefore absolutely imperative that these budgets scenarios span a realistic range of the future possibilities. The choice, therefore, boils down to a question of how much is enough over the long

term. Like most normative questions, the question of how much we *should* spend is a matter of judgment for which there will never be a clear answer.

While many factors combine to shape this judgment, two general ones stand out and must be explicitly accounted for in any strategic planning process. The first is external. This relates to the threats facing our forces and what our nation wants to do in the world. The second is internal. This relates to the constraints that limit our action. Internal constraints define what is possible over the long term. They require an explicit consideration of internal limitations, like available technology, evolving demographic conditions, and competing non-defense priorities, as well as general economic restrictions.

How Much Spending is Enough? – Accounting for the External Threat

The conventional Second and Third Generation threats posed by competing nation states are enormously diminished compared to the Soviet threat of the Cold War.



Slide 7

Using data in compiled by the International Institute for Strategic Studies (IISS), Slide 7 shows how the U.S. now stands alone in the world, like a colossus, planning to spend as much on defense in FY 2003 as the next 20 largest nations combined.

According to the ISS, the combined defense budgets of the three nations cited most often as threats – the so-called axis of evil made up of Iran, Iraq, and N. Korea -- are less than \$12 billion, or only about three per cent of the U.S proposed defense budget for 2003.

To be sure, the spread of non-state Fourth Generation threats, like Al Qaeda, around the globe represent increasingly dangerous threats, but the forces needed to counter these threats do not require the large numbers of high cost, hi-tech weapons or the large standing armies needed to fight the industrial wars characterized by Second and Third Generation Warfare among nations. Nevertheless the overwhelming bulk of the defense budget, together with the current combat force structure and supporting modernization programs, continues to be devoted to conventional and nuclear forces designed to fight Second and Third Generation threats. Only a small portion of the defense budget is allocated to developing, building, and training forces for the irregular requirements of Fourth Generation Warfare, like the war on terrorism.

Clearly, current levels of defense spending are driven more by the legacy of the Cold War and the internal dynamics described in Part 1 than by the external threats we face.

How might we begin to better rationalize this situation in terms of real needs?

Perhaps a couple of examples will help place this question into perspective. The first relates to the Royal Navy and the second relates to Israel. In the late Nineteenth Century, the Royal Navy also bestrode the world's oceans like a colossus when compared to other Navies, but, it should be noted, to a lesser extent than the U.S. military relates to the rest of world's conventional forces today. Strategic planners in the Royal Navy adopted what came to be known as the Two Power Standard to maintain their superiority. They used this standard to plan for the Royal Navy's budgets, particularly its battleship modernization program. The Two Power Standard simply meant that the Royal Navy should maintain a battleship fleet that was at least as powerful as the next two biggest fleets combined, which were those of United States and Germany. Note that this standard was applied to friend as well as foe. If we applied the logic of this standard to the current U.S. defense budget, the next two biggest spenders would be Russia and China (about \$102B total). So, a Two Power Standard applied to the United States defense budget would reduce the current budget by over 70 percent.

A second example illustrating the judgment of how much spending is enough is the case of Israel. Israel faces direct strategic threats from Iraq and Syria but also has to consider the potential threats posed by organized military capabilities of Jordan, Egypt, Iran, Libya, and Saudi Arabia in its strategic planning (for the purpose of illustrating this point, we can neglect the additional capabilities of any other Arab Counties, like Kuwait or the UAE, etc.). If Israel applied the Royal Navy's standard to the defense budgets of the above listed adversaries, we could say that Israel maintains a *One-Quarter Power*

Standard. Nevertheless, few doubt Israel's capability to defend itself with its conventional forces in a Second/Third Generation war (like that of 1967 or 1973) against these nations. On the other hand, Intifada I, the debacle in Lebanon, and the ongoing Intifada II, all raise serious questions about the capability of Israel's military to defeat the threats posed by a Fourth Generation adversary. But these Fourth Generation threats, serious as they may be, are hardly related to relative size of the defense budgets of Israel, let alone the United States.

Some might be tempted to argue that a One Quarter Power Standard by Israel is misleading, because Israeli spending is far more efficient than its adversaries. This is true, no doubt. But this argument is a double edged sword, because it would also apply to the Twenty Power Standard of the United States, in effect making the overwhelming nature of that comparison even larger, particularly when applied against the likes of Iraq, Iran, or North Korea.

Our military exists to cope with the real threats to our nation's security. But the bulk of U.S. spending is directed toward maintaining and modernizing its second and third generation military capabilities left over from the Cold War with a modern equivalent of a twenty-power standard.

On the other hand the U.S. is paying the budgetary equivalent of lip service to Fourth Generation threats which are clearly becoming more prevalent and dangerous, as the Aksa Intifada and the war against terrorism show.

Taken together, (1) the low level of defense spending by other nations states suggests that the likely range of possible budget scenarios ought to include lower spending options for the long term as planning scenarios, and (2) the growing importance of Fourth Generation Warfare (4GW) suggests that planners ought to begin allocating more effort to building a force and training people to meet these threats. The 4GW requirement makes it necessary for the services to provide information on how the Component Planning Options produced under the different budget scenarios in Phase II would conform to a taxonomy of second, third, and fourth generation warfare. The notional options described below will provide budget scenarios covering a range of power standards.

How Much is Enough? – Accounting for Internal Constraints

The second factor shaping the selection of a range of relevant budget scenarios relates to what can be realistically afforded and justified over the long term. This factor is internal, and it derives from the long-term pressure to balance the budget while financing the increasing burden of Medicare and Social Security as well as other domestic needs, like education and infrastructure.

There are signs that these constraints may be increasing in the near term, and they are certain to increase sharply over the long term.

The projections of large budget surpluses over the long term are evaporating rapidly. In January 2002, the Congressional Budget Office (CBO) projected that if the tax and spending policies remained the same, the government would run surpluses totaling about \$1.6 trillion over the 10 years between 2002 and 2011, a reduction of \$4 trillion, or 71 per cent, from the \$5.6 trillion surplus over the same period it had projected only a year earlier.¹⁴

The Congressional Budget Office (CBO) released a report on October, 2000 analyzing the federal government's long term budget outlook. CBO concluded policy changes to Social Security and Medicare (read changes to reduce expenditures per capita) would be needed, because under current policies "... federal deficits are likely to reappear and eventually drive federal debt to unsustainable levels," once the baby boomers start collecting social security and Medicare.¹⁵ If those programs are not changed, CBO concluded in January 2002, decision makers will face the prospect of approving steep tax increases, big cuts in other government spending, or large budget deficits.

Let us now bring the threads of discussion together to identify a range of budget scenarios to guide the conduct of Phases II and III. The absurdity of maintaining a 20 Standard in a world made up mostly of friends, the vastly diminished nature of second and third generation national threats, the rise non-state threats practicing Fourth Generation Warfare, the vanishing surplus, and the looming financial crisis in supporting an aging population all combine to suggest it would be prudent for defense planners to examine the future consequences of alternative courses of action in the context of decreasing defense budgets as well as increasing budgets.

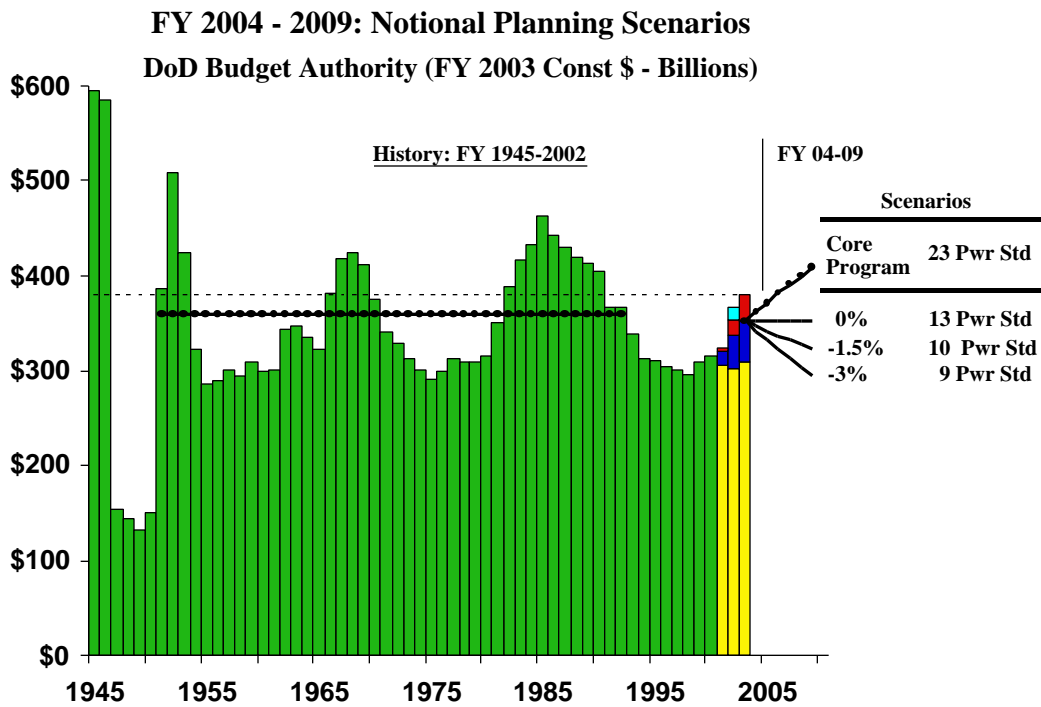
How Much Is Enough? Hypothetical Budget Scenarios

Decision makers, therefore, need to anticipate the possibility that the budget projections in Slide 1 will unravel like those in the mid-1980s (Slide 6).

The only way to break out of the destructive boom and bust cycle is to think through the problem *before* it occurs.

This requires planners to examine the impact of budget uncertainties (and cost uncertainties) before the fact. This can be done through a contingency analysis of the alternative programmatic changes flowing from a range of pessimistic budget scenarios as well as those attending the optimistic scenarios. Once the effects of these changes are understood, planners can synthesize the mix of force options best able to cope with or adjust to the effects of the uncertainty. In so doing, planners can discover a priority system that identifies what is truly important and what is nice to have. Under this approach, priorities are not set arbitrarily before the fact but are viewed as emergent properties discovered via an iterative trial-and-error process of combination and selection.

Bearing in mind that the war on terrorism will be funded on a pay-as-you-go basis, Slide 8 introduces a range of three alternative spending scenarios to the core Defense program that was put into place in August 2001 (see discussion Slide 1). These four notional scenarios are examples of the kind of constraints that could be used to guide the trade offs in Phases II and III. During the service-controlled deliberations of Phase II, the budget share allocated to each military service and defense agency would be determined by the average proportion of the total budget it received during the first decade of the post-Cold War era (1991-2000). These shares equate to 26% for the Army, 31% for the Navy and Marine Corps, and 30% for the Air Force, with the remainder being allocated to the various defense agencies.



Slide 8

Slide 8 should be read as follows. Using the more reliable pricing information produced by the book cleaning operation of Phase I, planners in each service would assemble and price out four budget scenarios based on the overall constraints portrayed in Slide 8. These options include –

1. The Core Program, which would extend the program put into place in August 2001 (see Slide 1) for two years and build to a 23 Power Standard by 2009, assuming other countries maintain a budget freeze. Under this option, the defense budget in 2009 would be 14% higher than that averaged during the 40 years of Cold War.

2. The second scenario (0% real growth per year) would freeze the budget in constant dollars at 98% of the cold-war average, resulting in a 13 Power Standard in 2009.
3. The third scenario would decrease the core program by 1.5% per year, declining to a 10 Power Standard by 2009 or 90% of the cold-war average.
4. The fourth scenario would decrease the core program by 3% per year, dropping to a 9 Power Standard by 2009, or 82% of the budget averaged during the Cold War.

Phase III - The Construction of Strategic Planning Options

Phase III operates according to the following principle: What is best for the individual military service may not be best for the Defense Department or the nation.

The aim of Phase III is to synthesize the parochial priorities of Component Planning Options (CPOs) produced by each service in Phase II into a coherent system of *national* defense priorities that reflects and exploits the changed conditions of the post-Cold War era. This task should be the responsibility of the Joint Chiefs of Staff (JCS) and the Office of the Secretary of Defense (OSD). In Phase III, JCS and OSD would combine the CPOs produced by the military services in Phase II into a comprehensive set of DoD-level Strategic Planning Options (SPOs) covering the four budget scenarios portrayed above.

The force options in the 12 CPOs (4 from each service) produced in Phase II, plus those of the defense agencies, including their net assessments, provide the building blocks of a true policy-level decision-making process. Like their service counterparts in Phase II, planners in JCS and OSD would use a *combination-and-selection* process to continuously maximize the strengths and minimize the weaknesses of the total force while conforming to the macroscopic budget constraints of each scenario. In this way, they would systematically explore the marginal effects of different macroscopic combinations. Creative tradeoffs among the variety of individual force packages might reveal interesting new macroscopic possibilities. The most effective Option #2 DoD SPO, for example, might combine a Option #4 Air Force package with a Option #1 Navy/Marine Corps package and a Option #3 Army package.

Perhaps a hypothetical example of this JCS/OSD SPO will make the idea more concrete: Option #2 would freeze the DoD budget at its current level out to FY 2009, resulting in a 13 Power Standard in FY 2009, implying a reduction of \$57 billion from the level projected for FY 2009 by the Core Program. Under the tighter restrictions of this constraint, strategic planners might choose to spend far less on the Air Force (an Option #4 CPO). They might do this by transferring a very large percentage of its forces to the reserves, which are noted for their excellence, and closing a large number of bases, thus preserving its combat power for a mobilization/reinforcement scenario. They might also choose to reduce the Army's budget to an Option #3 CPO by eliminating some active forces and transforming its active/reserve divisional structure into a much smaller and leaner force structure based on heavy, light, and medium weight battlegroups, made more flexible in expeditionary 4GW scenarios by a de-centralized command and control

system. Such a force would be more deployable in the short term, but would preserve the balance of a large continental army, should we need to expand it sometime in the distant future. These reductions could permit planners to fund the more expensive, re-priced Navy/Marine Option #1 CPO while conforming to the tighter constraints of the Option #2 budget projection.

Senior planners might argue that this hypothetical Option #2 SPO better adapts the military to the realities of the post-Cold War era. It returns the United States to its traditional military posture, based on intervention, as opposed to forward basing of large forces, because it:

- Reduces the budget;
- Maintains the expeditionary capabilities needed to protect our historical interests in the world's littorals, with the Navy and Marine Corps being the rapid deployment option, reinforced by the more mobile Army battlegroups and mobilized Air Force reserves, if necessary.
- Retains a capability to field the heavy air/ground combat power needed to offset any major power imbalances in Europe or East Asia, should the need re-emerge sometime in the distant future. The supporting modernization programs, nuclear forces, and programs in the independent defense agencies would also be tailored to fit the world conditions that are implied by this strategic choice.

The information produced in Phase II would permit the exploration of such tradeoffs by JCS and OSD planners as they search for and evolve truly national priorities out of the parochial priorities of each service. JCS and OSD would conclude their efforts by producing a macroscopic net assessment for each preferred DoD SPO. This net assessment would include the assumptions and tradeoffs made, an analysis of its deficiencies and limitations, its impact on national security in terms of achieving goals and neutralizing threats (categorized by the taxonomy described earlier), and the best military strategy for working around its limitations. The final report, when approved by the President, would be a comprehensive strategy coupled to the skeleton of a new FYDP, complete with global priorities and pre-planned hedging options to cope with uncertainty.

The systematic combination and selection process at the different levels of organization would provide the ingredients of a seamless information system that permits decision-makers to shift their focus back and forth among the microscopic and macroscopic levels of organization. This kind of decision-making information would reveal the true cost of a *microscopic* decision by forcing an examination of its *macroscopic* consequences *prior* to making commitments. If, for example, AF planners insisted on buying more B-2s in each CPO or SPO, they would have to eliminate more and more other programs -- such as F-22 fighters, carrier battlegroups or army divisions -- as they moved toward lower budget levels. These tradeoffs, coupled with excursions into the consequences of cost growth,

would reveal when the cost of the B-2 becomes prohibitive in terms of the incommensurable sacrifices made elsewhere. In this way, the reciprocal explorations of these microscopic and macroscopic uncertainties would enable planners to anticipate problems, tease out options, evolve priorities, and perhaps do things differently.

Faultfinders will be tempted to argue that the Phase I program freeze will create chaos in the middle of a war. This criticism is patently absurd for three reasons: First, it formally acknowledges the fact that the war is being funded on a pay-as-you-go basis, and by doing so, will make the costs of this war more transparent to the American people. Second, the defense program is already in chaos and the recently completed QDR and PPBS cycles did nothing to diminish it. Third, and most important, the Defense Department's bookkeeping mess makes a mockery of the principle of accountability and, by extension, the Constitution we have sworn to defend. Fixing the books eliminates a threat to constitutional governance by making our decisions transparent and understandable to the Congress and the American people. Moreover, it is a moral duty, given our oath to preserve and protect the Constitution.

Others may argue that threats should drive strategy, but this proposal has budgets driving strategy. This linear babble ignores the nonlinear nature of strategy, not to mention the changed conditions of the post-Cold War era. In the real world, actions to neutralize threats and the constraints limiting those actions continuously interact with and fold back on each other. This proposal enables planners to shape a real strategy precisely because it is designed to explore the co-evolving interplay of threats, events, opportunities, internal structures and constraints.

It might be feared that even thinking about lower defense budgets will create a self-fulfilling prophecy, because it will open the door to opportunistic budget-cutting by an irresponsible OSD or Congress. This argument plays well in the mendacious atmosphere of Washington. But it must be rejected for logical as well as moral reasons: To say that the Pentagon should continue producing irresponsible plans, because acting responsibly will provoke OSD or Congress into acting irresponsibly leads to the conclusion that we should deliberately misrepresent our needs; in other words, we are justified in committing a crime—lying to Congress—because we are morally superior.

Strategy is not a game; it is the art of the possible in a world where changing threats and constraints force us to choose between unpleasant or imperfect alternatives. The aim of any strategy should be to continuously improve our capacity to shape and adapt to these changes. To do this, we must continually strive to improve the “fit” of our plans to the reality we face today while preserving or increasing our fitness to cope with unpredictable changes in the future. If we want meaningful strategic priorities, we must understand the tradeoffs they imply *before* we make rigid commitments that lock us into a long-term, non-adaptive course of action. Who knows, with a little accountability, perhaps the Pentagon can learn to think before it spends. That might help the President and Congress adapt our military forces to the end of the Cold War, balance the budget, avoid a budget war with Social Security and Medicare, and preserve the integrity of the Constitution.

¹ Interview with Representative Curt Weldon (R-PA), the chairman of the procurement subcommittee of the House Armed Services Committee, Aerospace Daily, March 15, 2002.

² Tony Capaccio , “Lockheed, Boeing, Northrop Programs Are Eyed For Cuts,” Bloomberg.com, May 29, 2002.

³ James Dao “Rumsfeld Resisting Calls From Military To Build Up Forces,” New York Times, April 19, 2002.

⁴ Transforming Department of Defense Financial Management A Strategy for Change, April 13, 2001, Executive Summary, page i.

⁵ General Accounting Office (GAO/NSIAD-96-152R), April 30, 1996, a report sent to Senators Grassley and Roth.

⁶ A more detailed explanation of the Defense Power Games can be found at the following url: http://www.d-n-i.net/FCS_Folder/power_games.htm

⁷ The effects of inflation cannot be avoided because the early plans in FYDP database did not account for the future effects of inflation, and attempt to remove the effects of inflation would require arbitrary and debatable assumptions. Besides, the question under discussion is the comparison of plans to reality as opposed to the absolute level of the budget. As long as both items in the comparison are made on the same basis, it makes little difference whether or not inflation is included.

⁸ The entire SAR data base is available on the internet at <http://www.acq.osd.mil/ara/am/sar/>

⁹ Examples of failed strategic reviews include “PRM-10” during the Carter Administration, the “National Strategy Review” and “Base Force” during the Bush Administration, and the “Bottom-Up Review” at the beginning of the Clinton Administration. The fact that special reviews are deemed necessary ought to raise a question, because the Defense Department’s Planning, Programming, and Budgeting System (PPBS) is structured exactly like this logic chain and has been the central strategic planning methodology since the early 1960s. If this logic worked in the real world, periodic strategic reviews would not be necessary.

¹⁰ Students of cybernetics and complexity theory will recognize the characteristics of a complex adaptive process are central to this view of strategy. This implies the phenomenon of self organization and unpredictability.

¹¹ How to comensurate the incommensurable is the key problem we face. If everything could be reduced to interchangeable measures of performance, choices between options would be easy. But the real world is not like that. Viewed epistemologically, the problem is one of making tradeoffs between alternatives that do not have common denominators that can be measured directly. If one is choosing between two heavy divisions and a B-2 bomber, there is no common element to guide the choice other than money, which measures input, not output. The best (or least bad) choice depends on

subtle indirect effects. The only decision making process we know in nature that makes these kinds of choices effectively is natural selection. The process outline in this subsection can be thought of as a kind of artificial natural selection process driven by a pre-definition of selection pressures that might occur. The best discussion of the philosophical nature of this problem, I believe, is the classic 1968 paper written by Garret Hardin "The Tragedy of the Commons," (Science, 162(1968):1243-1248,) which can be found on the web at <http://dieoff.org/page95.htm>

¹² James P. Stevenson, The \$5 Billion Misunderstanding: the Collapse of the Navy's A-12 Stealth Bomber Program, Naval Insitute Press, 2001.

¹³ See http://www.belisarius.com/modern_business_strategy/vandergriff/sbt_intro.htm A compendium of writings on this categorization can be found on the web at the following url: http://www.d-n-i.net/second_level/fourth_generation_warfare.htm

¹⁴ Congressional Budget Office, "The Budget and Economic Outlook: Fiscal Years 2003-2012," January 2002 available at <http://www.CBO.gov/showdoc.cfm?index=3277&sequence=0&from=7>

¹⁵ Congressional Budget Office, The Long Term Budget Outlook, October 2000, available at <http://www.cbo.gov/showdoc.cfm?index=2517&sequence=0&from=7>