Best Practices: Portfolio Management

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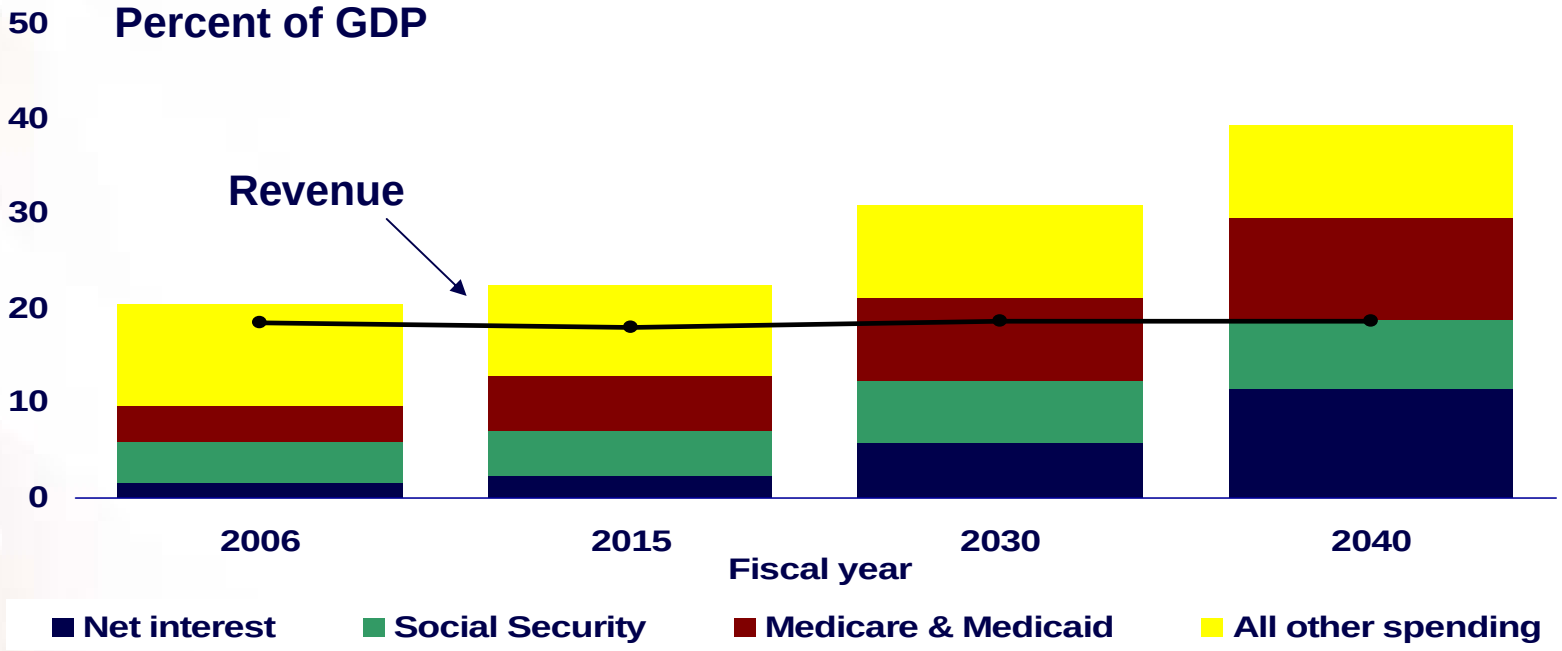
Presentation Outline

- The Bigger Picture
- Conditions & Outcomes
- Some Causes for Poor Outcomes
- Best Practices Concept
- The Difference
- DOD's Efforts to Change
- The Future

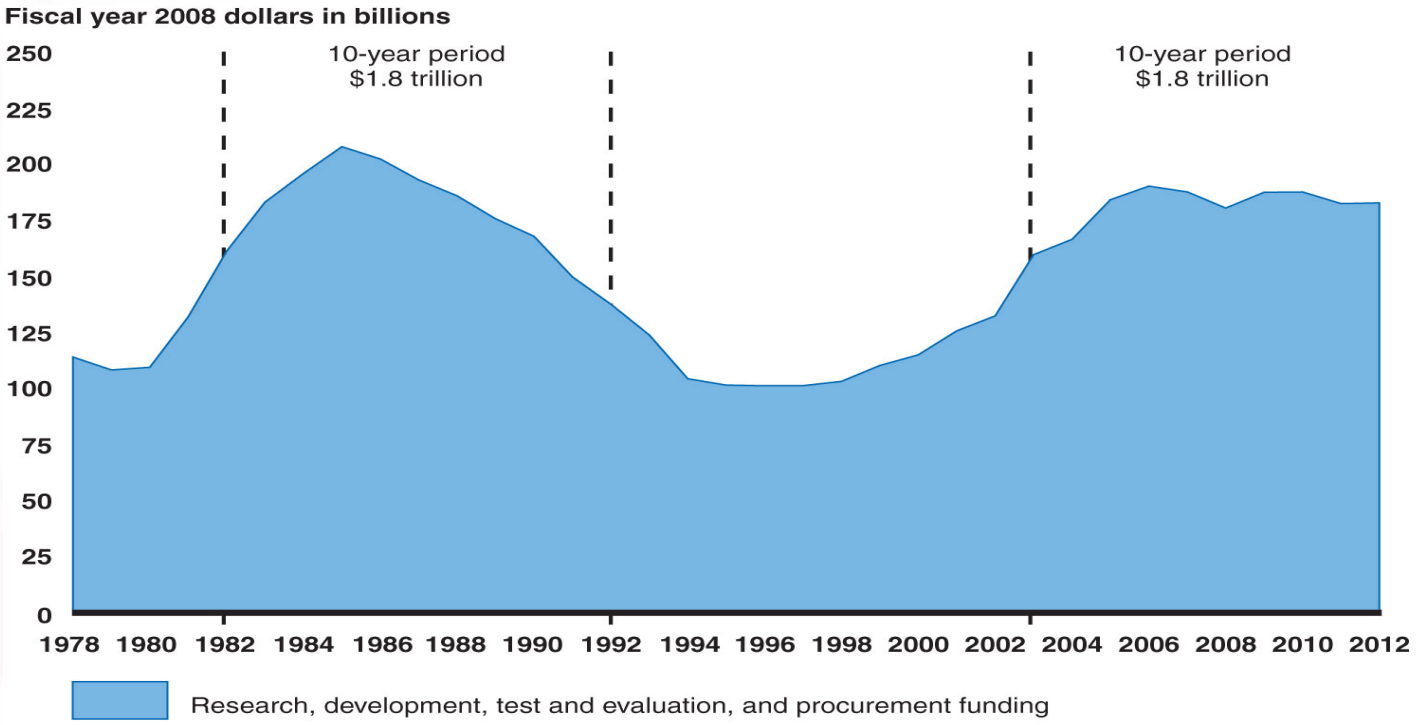
The Bigger Picture: U.S. Fiscal Pressures Will Affect DOD's Acquisition Funding



Source: GAO's August 2007 analysis.

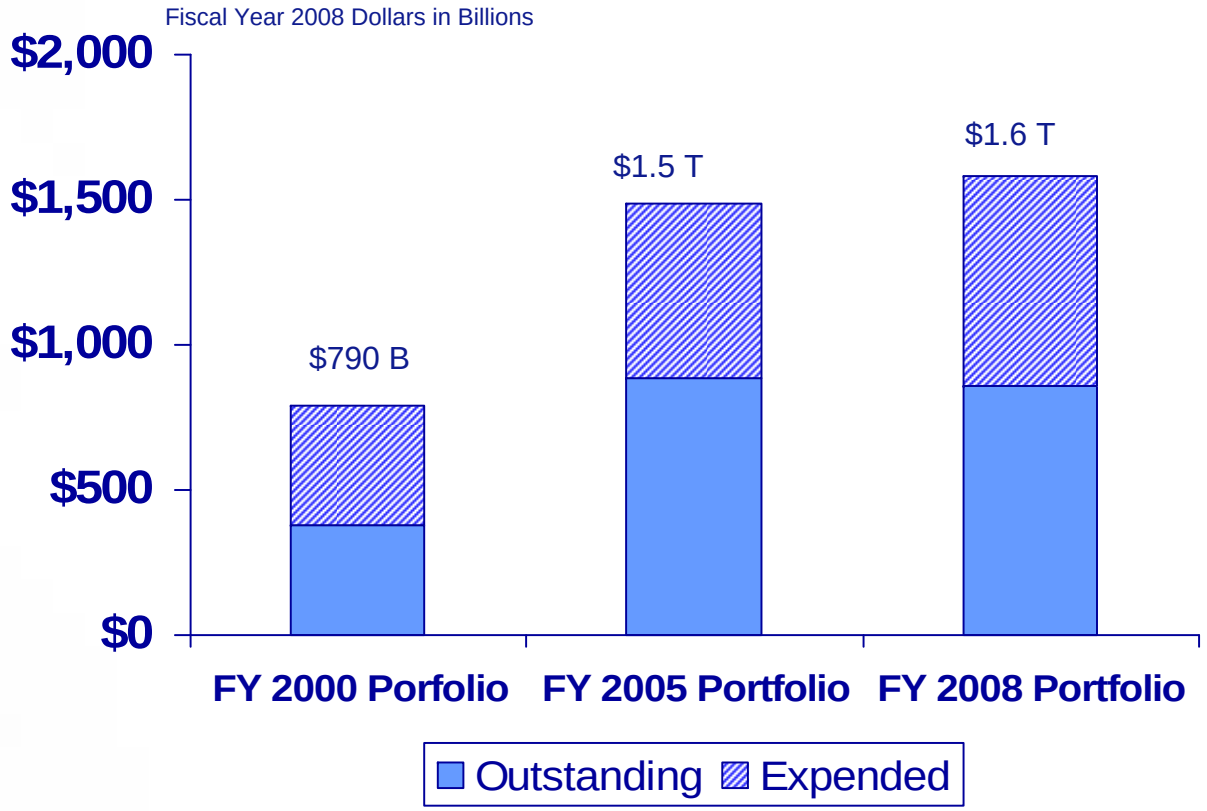
Notes: AMT exemption amount is retained at the 2006 level through 2017 and expiring tax provisions are extended. After 2017, revenue as a share of GDP returns to its historical level of18.3 percent of GDP plus expected revenues from deferred taxes, i.e. taxes on withdrawals from retirement accounts. Medicare spending is based on the Trustees April 2007 projections adjusted for the Centers for Medicare and Medicaid Services alternative assumption that physician payments are not reduced as specified under current law.

Investment Levels Are Highest in Two Decades

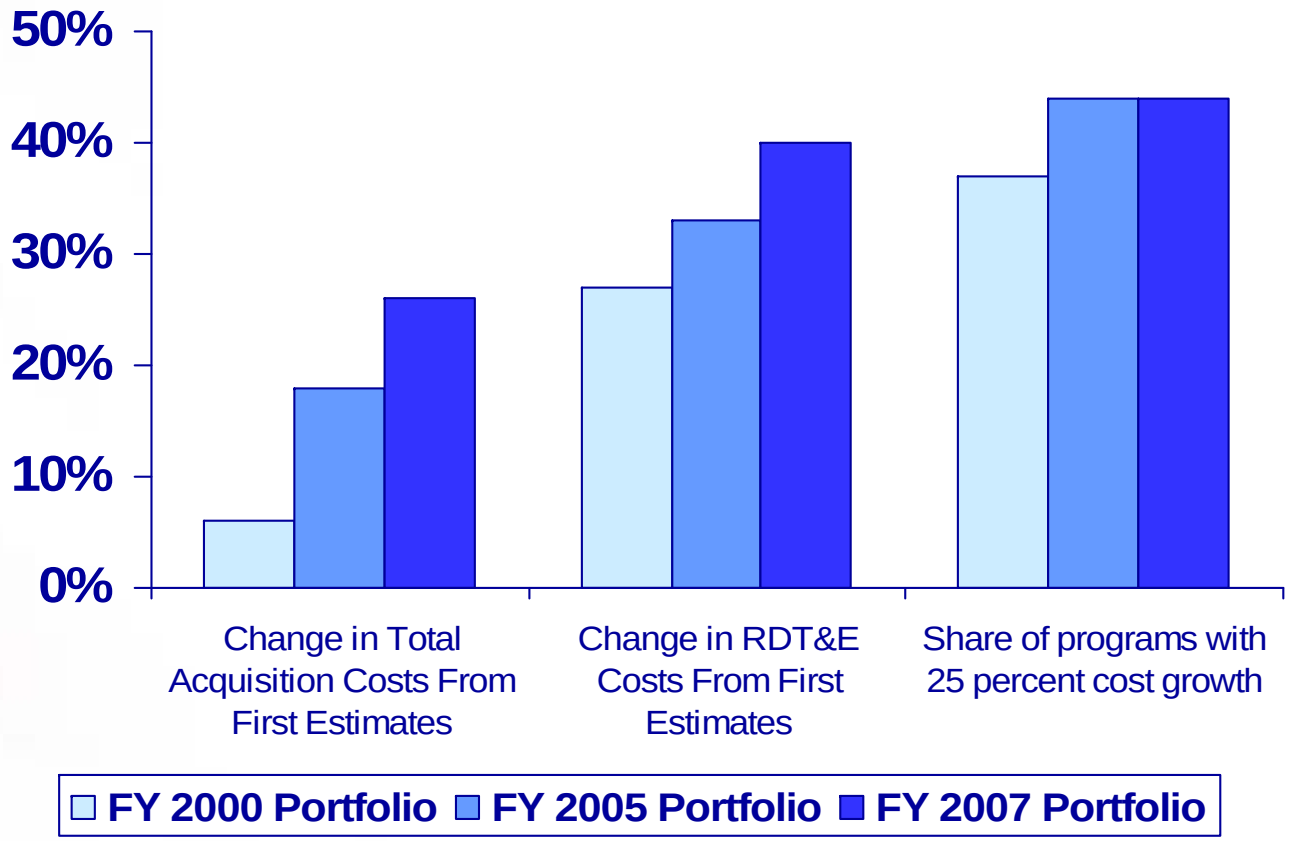


Source: GAO analysis of national defense budget estimates for 2008.

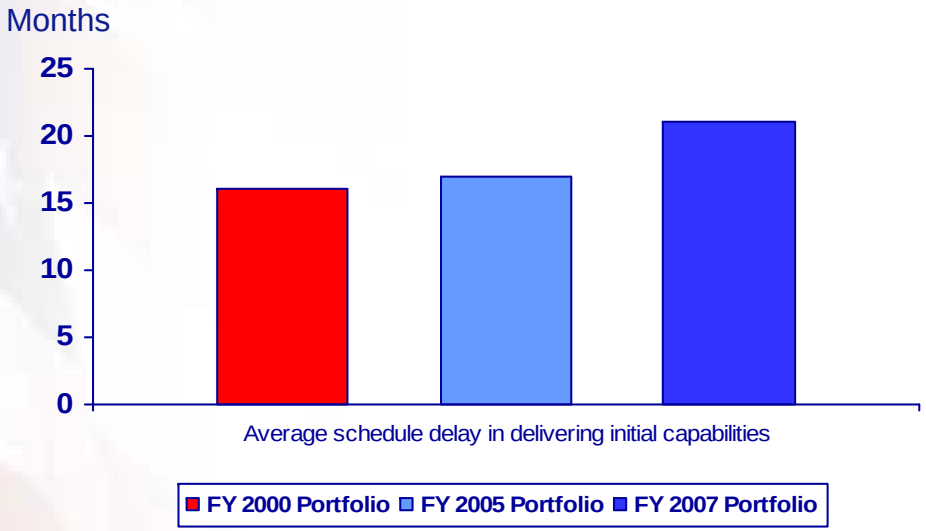
Conditions: DOD Has Increased Its Commitment In Major Defense Acquisitions Programs

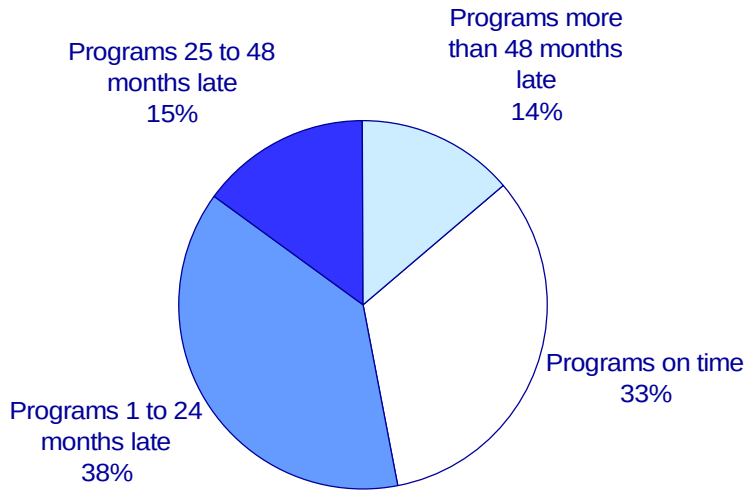


DOD Cost Outcomes Are Not Improving



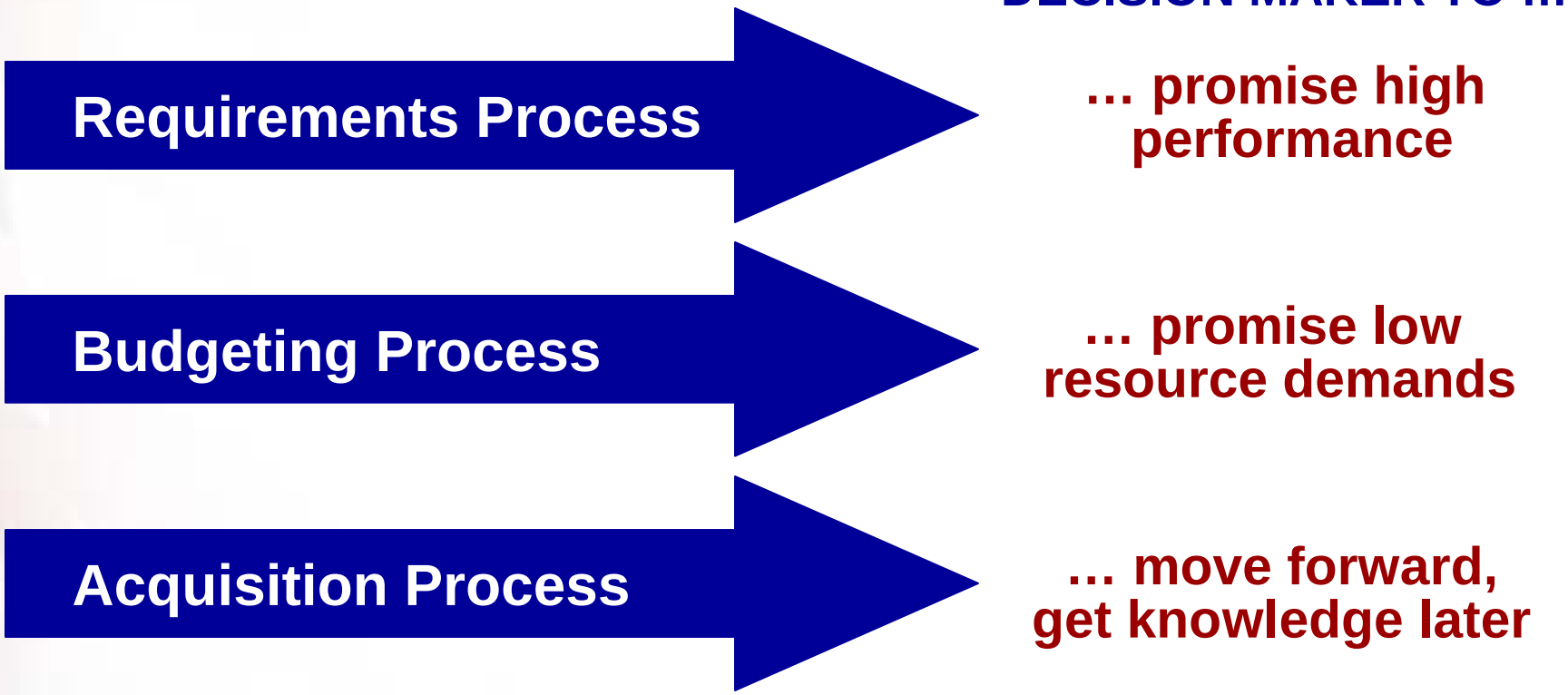
Delivery of Operational Capabilities Continues to Be Late





Status of FY 2007 Portfolio

Causes: Additional Factors Influence DOD's Ability to Manage Programs and Improve Outcomes

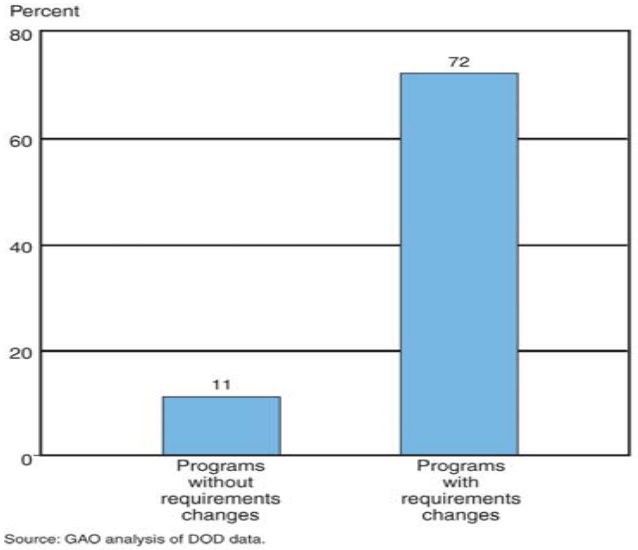


Stable Requirements Needed For Improved Outcomes

- Without requirements that have been thoroughly analyzed for feasibility, development costs are impossible to estimate and likely to grow.

- Among 46 programs, we surveyed, 63 percent indicated that requirements changed in some way.

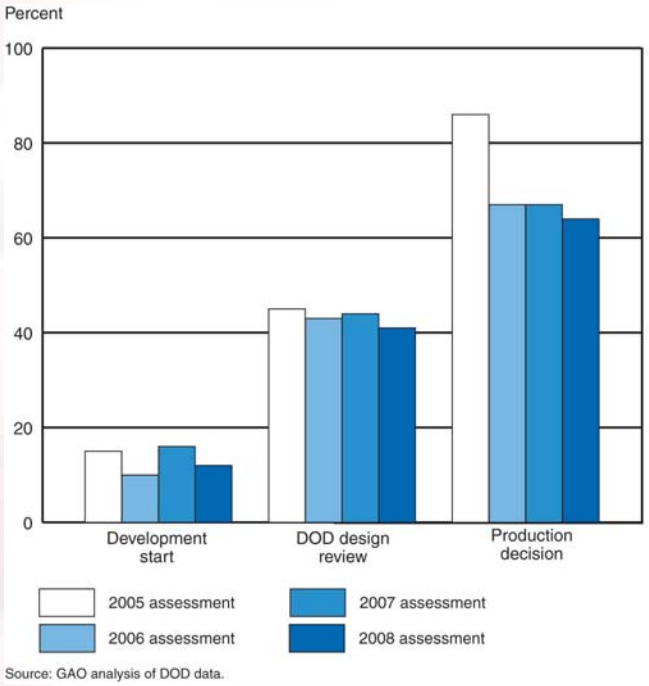
Average RDT&E Cost Growth
For 46 Programs



Source: GAO analysis of DOD data.

Programs Enter System Development Without Mature Technologies

Percent of Programs Achieving Technology Maturity At Key Junctures

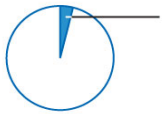
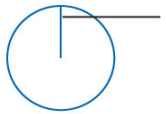


Source: GAO analysis of DOD data.

- Most programs did not achieve technology maturity at start
- No noticeable improvement over since 2005
- Forty-six percent of technologies (164 out of 356) immature state
- Cost growth for programs with immature technologies was 44 percent higher
- Many programs still maturing technologies into production

No Evidence of Widespread Adoption of Knowledge-based Acquisition Process

- DOD's acquisition practices necessary to ensure effective implementation of knowledge-based process are not always followed despite policies and guidance to contrary.

Key junctures	Development start	Design review	Production start
	Knowledge point 1	**Knowledge point 2**	**Knowledge point 3**
Best practices	Mature all critical technologies	Achieve knowledge point 1 on time and complete 90 percent of engineering drawings	Achieve knowledge points 1 and 2 on time, and have all critical processes under statistical control
DOD outcomes[a]	 12 percent of programs	 4 percent of programs	 0 percent of programs[b]

Source: GAO presentation of DOD data.

Commercial Best Practices Concept

Critical Support and Accountability Factors

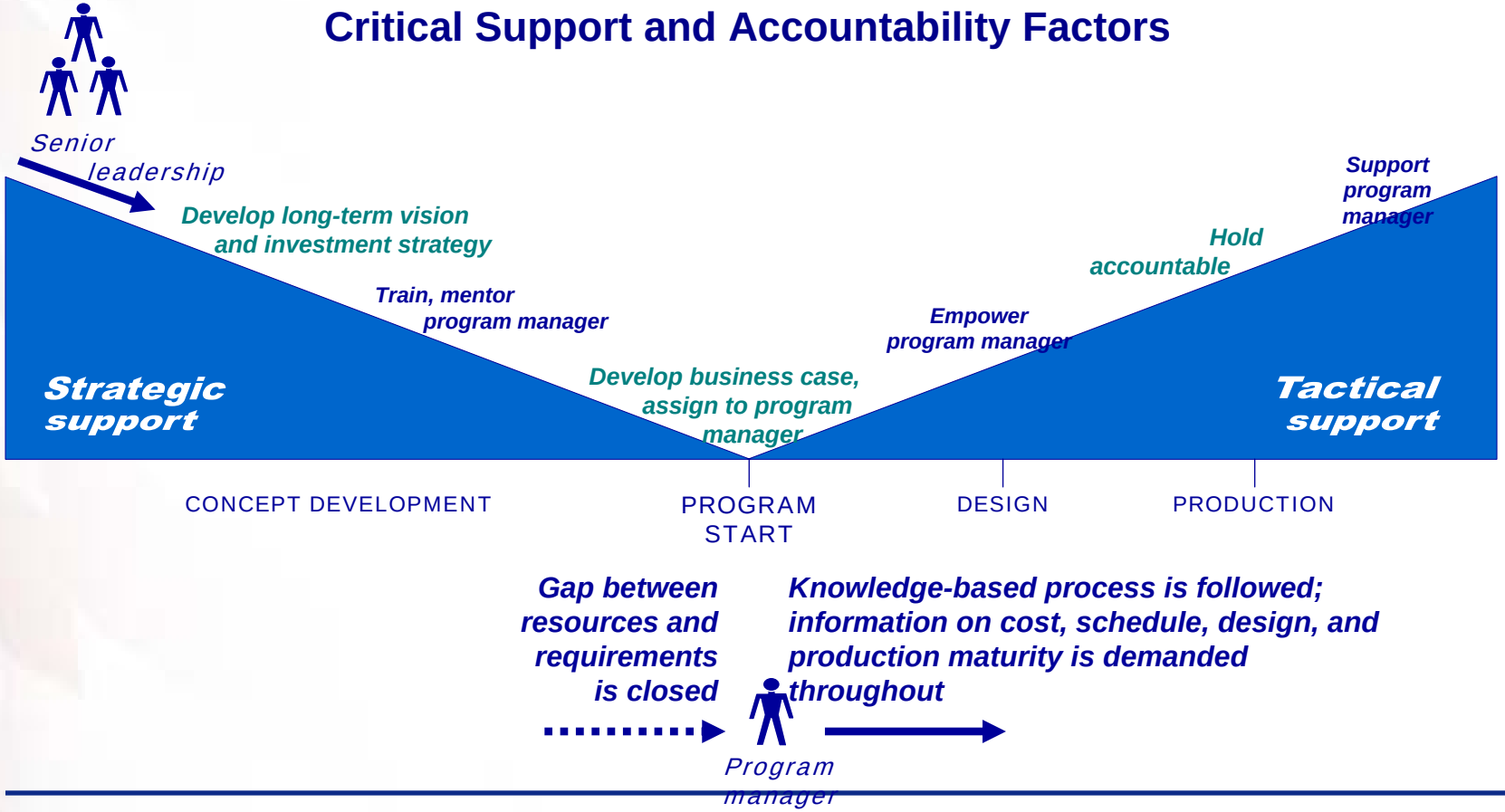
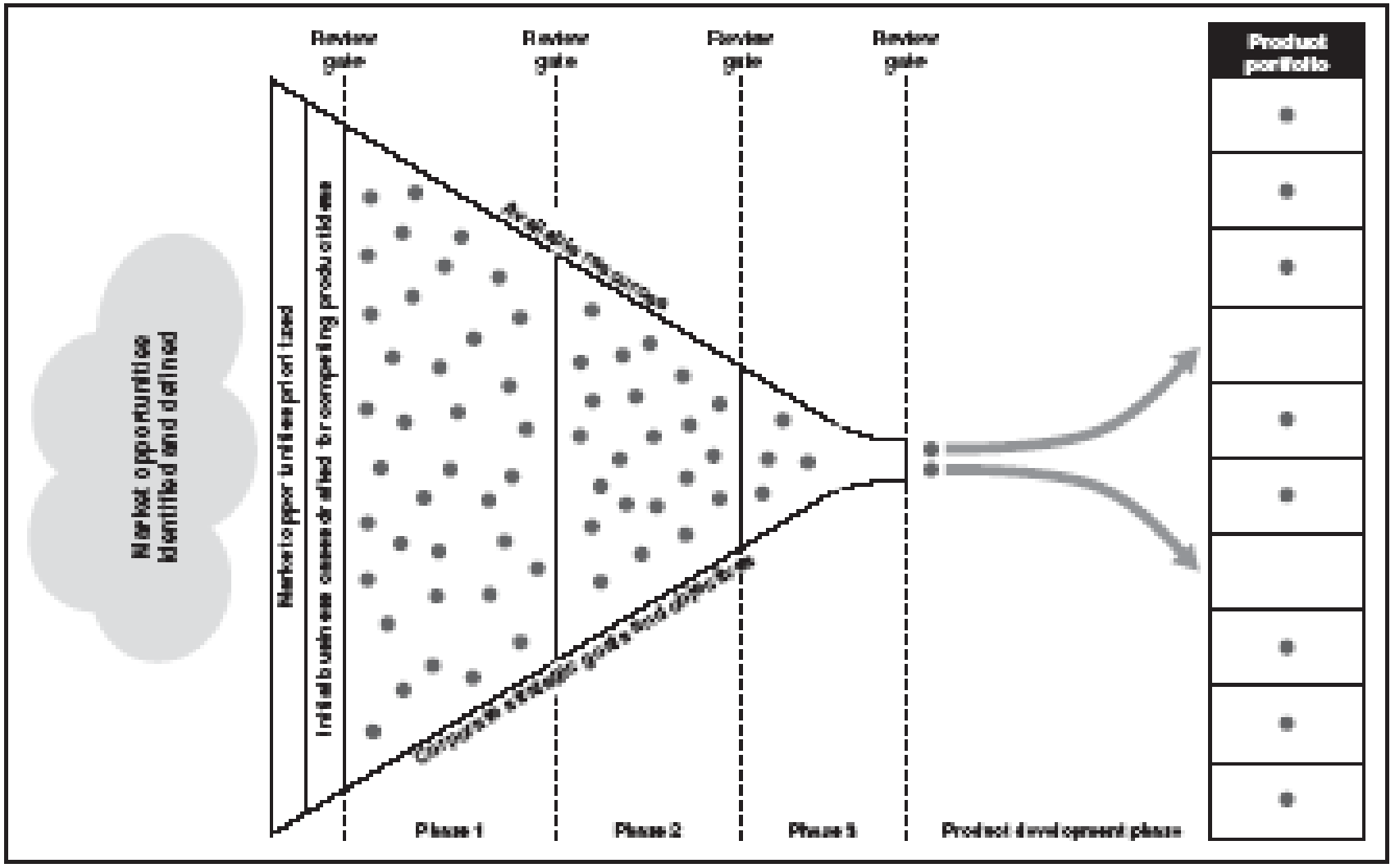
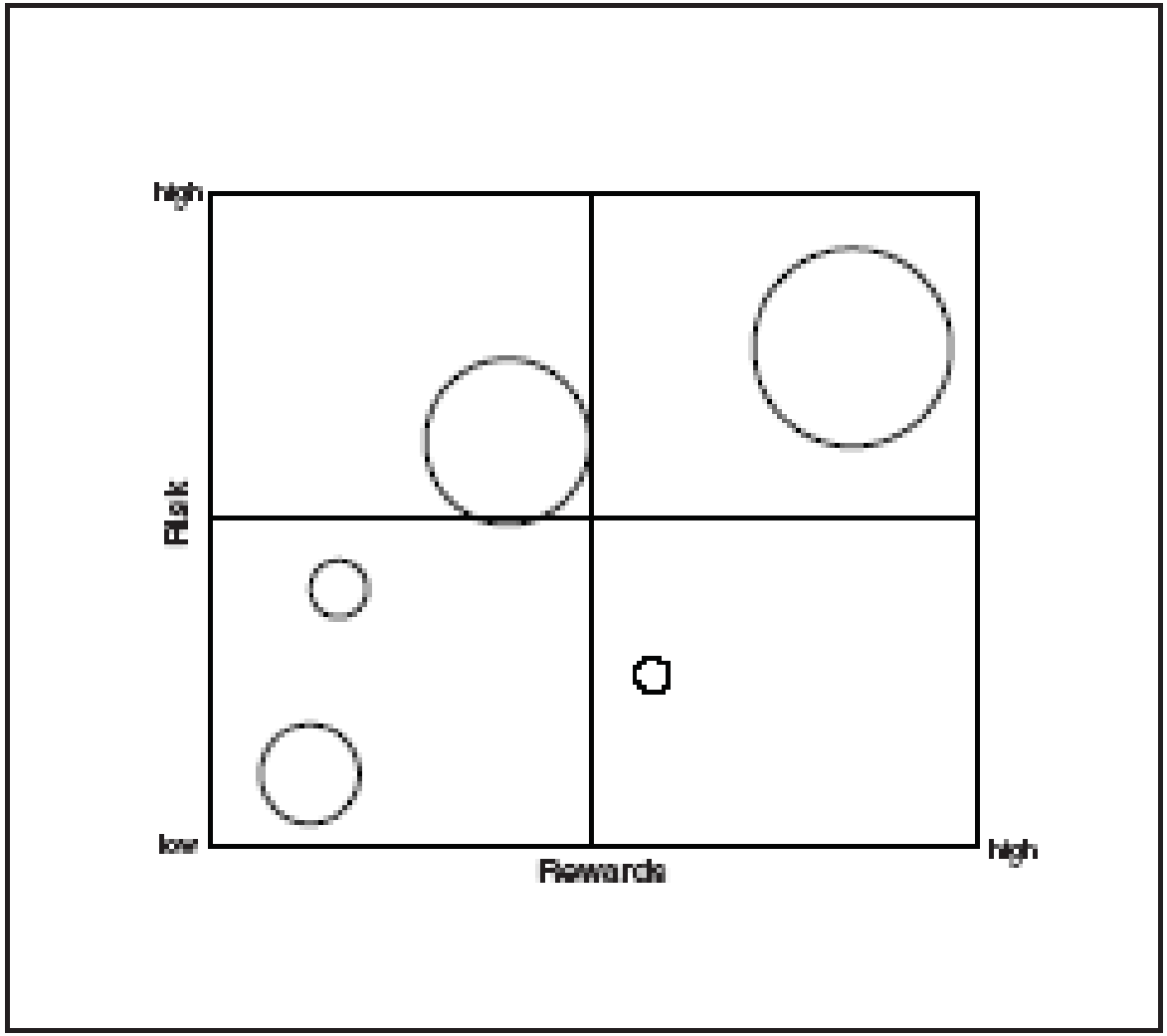


Figure 2: Portfolio Management Approach to Product Investments

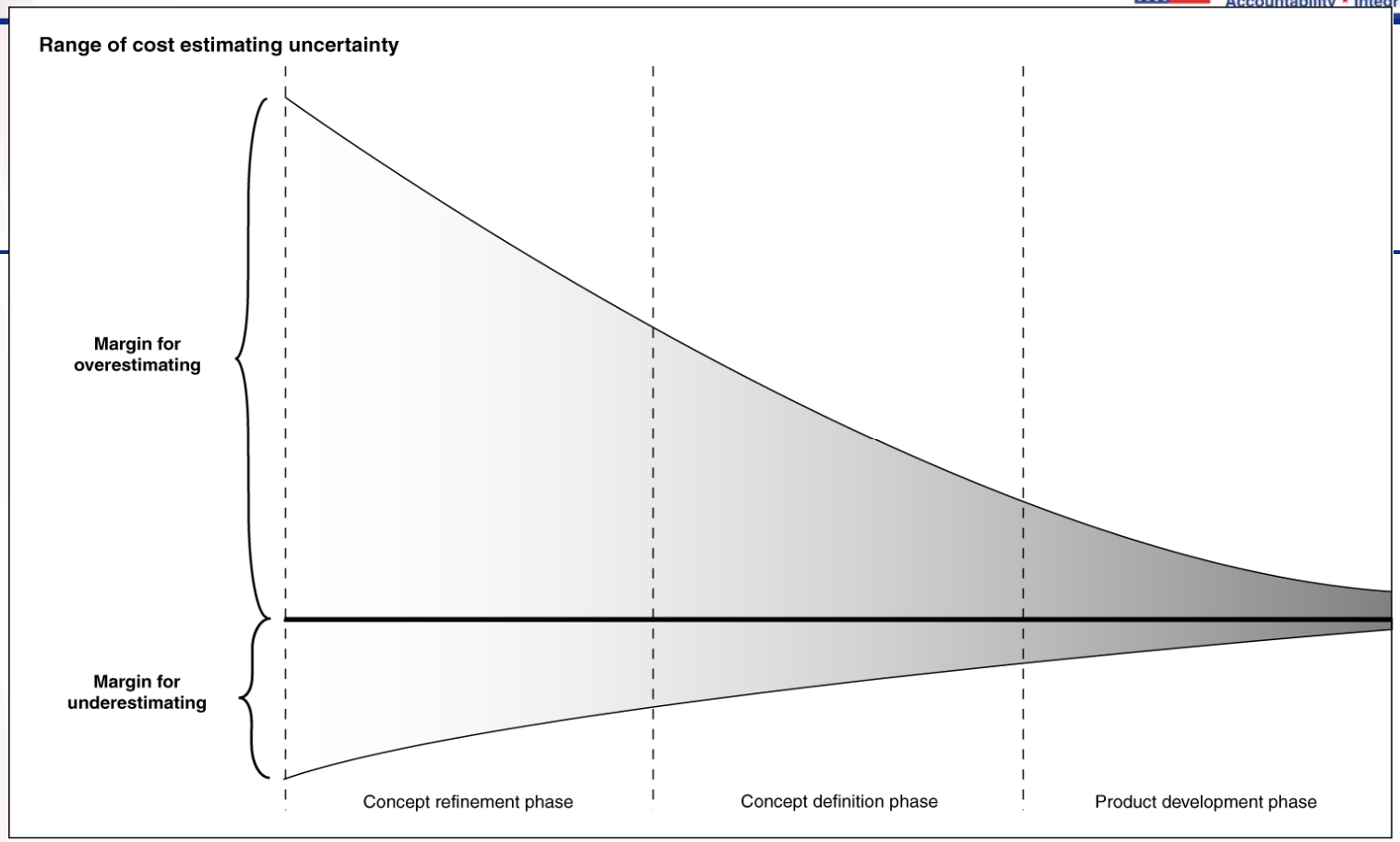


source: GAO analysis and presentation of commercial practices.

Figure 4: Risk Versus Rewards Matrix



Source: GAO.



Source: GAO.

Phase	M-Gates	Purpose / Primary Effort	Cost / Budget Estimate Tolerances
0	M15 - M13	Business Case Development	+75% to -25% (ROM Est.)
1	M12 – M10	Requirements and Planning	+25% to -10% (Budgetary Est.)
2	M9 – M7	Project Definition	+10% to -5% (Definitive Est.)

Why the Difference?

Key Differences in Definition of Success and Resulting Behaviors

	Commercial Companies	DOD
Success	Sale to customer	Attracting funds
Means to success	Strategic planning/prioritizing	Competition for funds
	Realism and candor	Optimism and unknowns
	Early testing	Late testing
	Early red lights, green lights based on demonstration	Early green lights; late red lights
	Collaboration and trust	Oversight and distrust
	Senior leaders are program advocates; corporate research departments are technology developers; program manager is executor	Program manager is often the advocate, technology developer, and executor.
	Single program manager is accountable for delivery	Multiple program managers are accountable for continuation

Recent DOD Efforts to Improve Acquisition Outcomes

- Concept decision reviews
- Time-defined acquisitions
- Configuration steering boards
- Early system prototyping
- Award fee and incentive changes
- New strategy for program managers

Integrated Portfolio Management Approach Needed For Weapons Investment

- DOD largely continues to define warfighter needs and make investment decisions on service by service basis.
- Budgets allocated largely based on historical percentages vice DOD-wide strategic assessments and likely future constraints.
- DOD's approach has contributed to duplication in programs and equipment that does not operate effectively together.
- DOD also assesses warfighting needs and their funding implications under separate decision-making processes.
- DOD's approach impedes ability to prioritize needs so that it pursues only the ones most important but also ones it can afford.

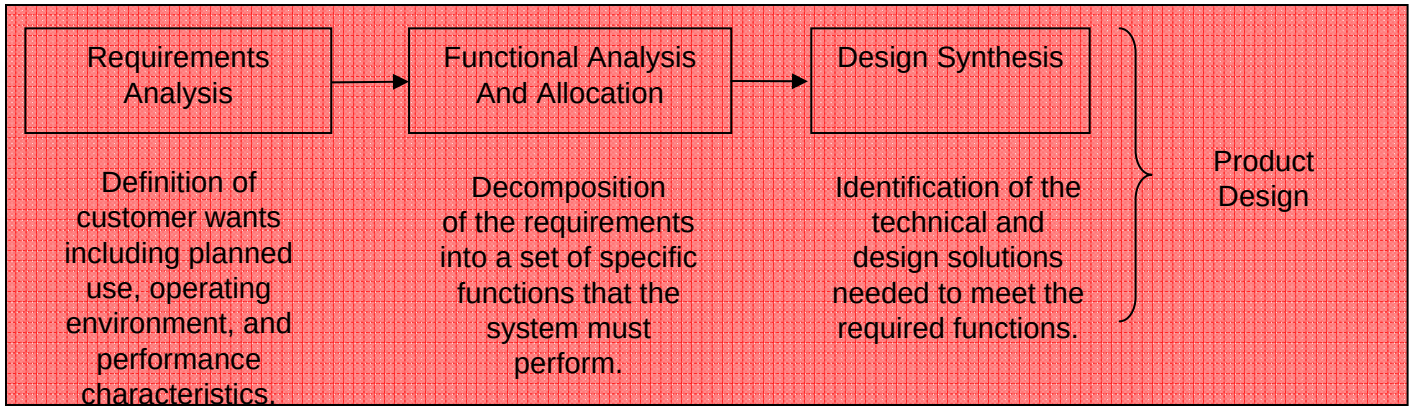
Solid, Executable Business Case Needed For Programs

- DOD often sets optimistic requirements that requires new and unproven technologies that can not be met within available resources.
- While DOD's acquisition policy is informed with systems engineering rules, the absence of disciplined and timely practices leads to uninformed requirements.
- When early requirements analysis is not adequately performed to ensure DOD needs can be met within resources, increased costs risk to government can occur.
- Based on information from 43 programs, our analysis shows that nearly 60 percent had to reset their business case at least once.

Systems Engineering Provides Evidence that Product Can Be Developed Within Resources

- Business case should provide evidence:
  (1) Warfighter needs are valid and can be met with chosen concept, and
  (2) The chosen concept can be development and produced within resources-technologies, funding, design knowledge, and time.

- Early systems engineering enables a developer to identify and resolve gaps between resource and requirements before product development begins.



What Needs to Be Done

- establishing an enterprise-wide portfolio management approach to making weapon systems investments;
- constraining individual program requirements by working within available resources and by leveraging systems engineering;
- enabling science and technology organizations to shoulder the technology burden;
- establishing sound, executable business cases for each individual weapon program investment;
- establishing and enforcing controls to ensure that appropriate knowledge is captured and used at critical junctures before moving programs forward and investing more money;
- ensuring that the workforce is capable of managing resources and requirements trades, program oversight, and knowledge-based acquisition strategies; and
- holding program managers and decision-makers accountable for investment decisions and program outcomes.

END