An Analytic Model for DoD Investment & Divestment Decisions

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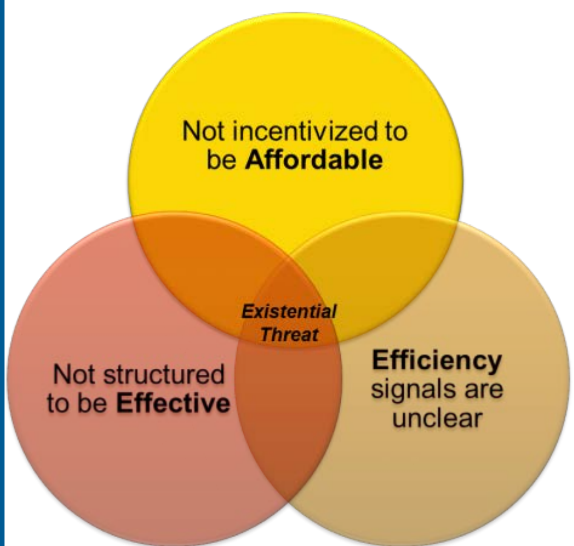
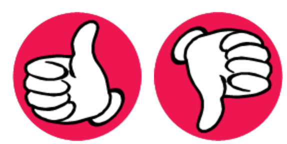
Problem: *DoD finds it difficult to prepare for and responsively enact Divestments*

Root causes



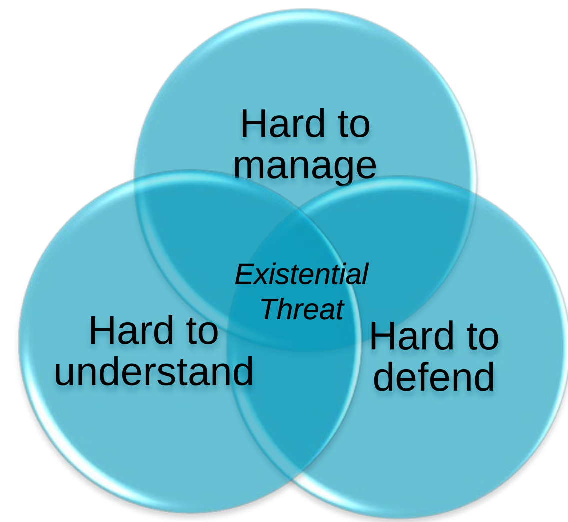
- Imperfect information and analytics
- Divestments treated differently than investments
- Accountability and outcomes not aligned

Workarounds



Dangerous but established Rules of Thumb (ROT)

Results



Undefendable decisions

Outline: How do we fix it?

Leverage the successes of others

Develop a model

Recommend Changes

Model for *divestment* decisions

- Reward shared awareness
- Track decisions
- Institute divestment panels

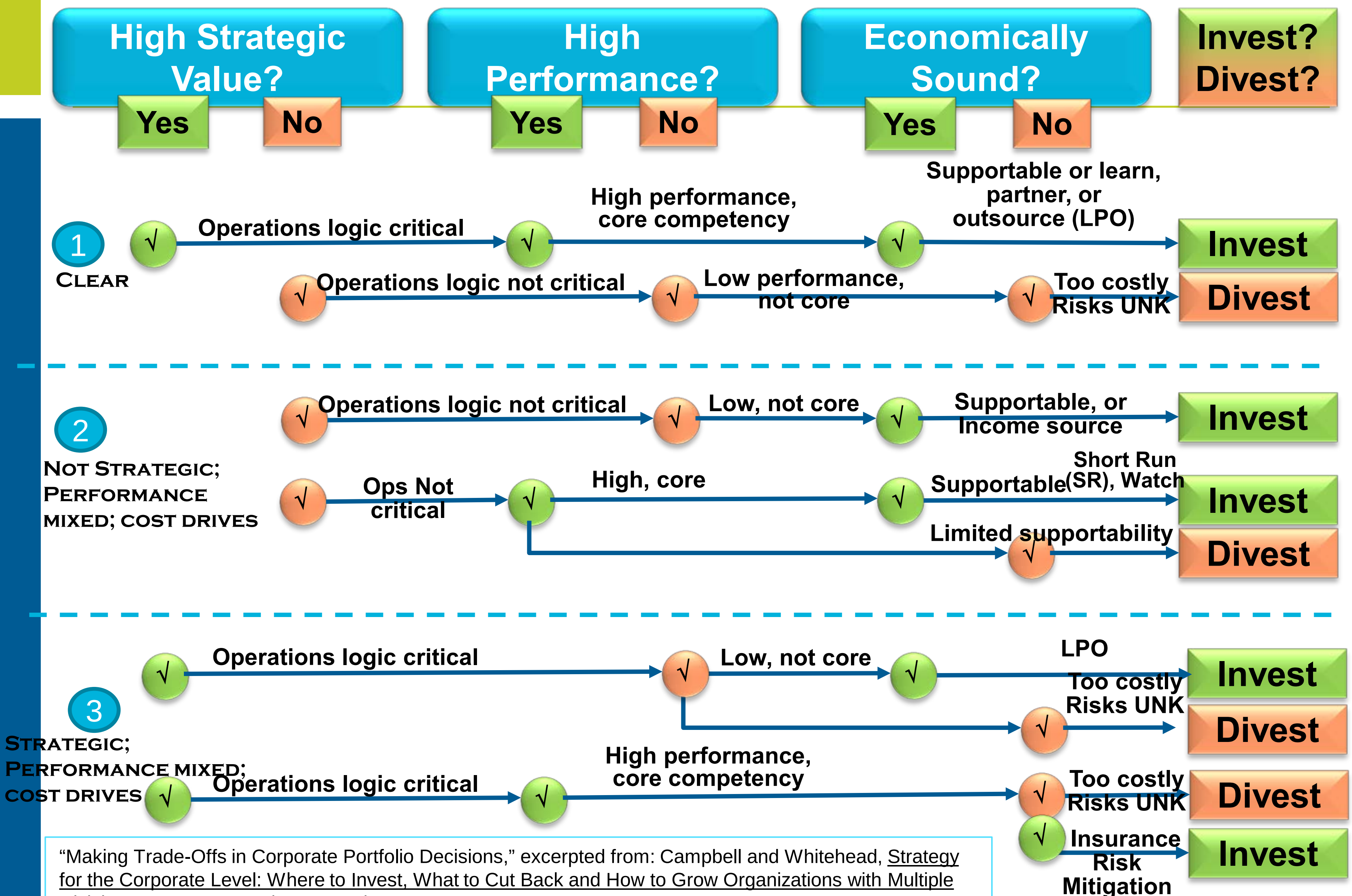
Summary:

Poor Analytics→Omitted Criteria→Cognitive Bias*→ROT→BP**→Y/N

Omitted Criterion	Cognitive Bias	DoD Rules of Thumb for Divestment	Recommended Best Practices	Model Y/N Criterion
Organizational and Operational Impacts	Reasoning by Analogy	• Take from those who have a lot • Cut "fairly" (salami)	Dedicate a (small) full-time team to Divestment planning	Mission Critical?
Performance Viability	• Illusion of Control • Escalating Commitment	• Use trigger events to re-baseline • Penalize the transparent	Plan the details of a divestment transition for the timeframe needed	Core Competency? High performance? Modernization Impact?
Economic Value	Single outcome calculation	• Pay for new w/ unrelated funds • Congressional favor	• Account for the de-integration costs • Track key variables to calculate a comparable SROI	Cost effective? Secondary effects? Deadweight?

*Irene M. Duhaime and Charles R. Schwenk, "Conjectures on Cognitive Simplification in Acquisition and Divestment Decision Making," Academy of Management Review, 1985, Vol, 10, No. 2, 287-295;
**Michael C. Mankins, David Harding, and Rolf-Magnus Weddigen, "How the Best Divest," *Harvard Business Review,* October 2008.

INVEST OR DIVEST? *MIXES OF THREE CRITERIA*



"Making Trade-Offs in Corporate Portfolio Decisions," excerpted from: Campbell and Whitehead, Strategy for the Corporate Level: Where to Invest, What to Cut Back and How to Grow Organizations with Multiple Divisions, Jossey-Bass, (June 2014).

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Applying Proven Divestment Approaches to DoD

Simplify the logic, require yes/no answers, and track the data

Others	High Strategic Value?	High Performance?	Economically Sound?
	↓	↓	↓
DoD	Impact Readiness?	Modernized?	Force Structure Supportable?

CBO, "Approaches for Scaling Back the Defense Department's Budget Plans," Mar 2013, p. 13.
Found at: http://www.cbo.gov/sites/default/files/cbofiles/attachments/43997_Defense_Budget.pdf

Selecting Investment Sets for Divestment

Yes = Opt to Keep **No** = Opt to Divest

Criteria Area	Factor	Discriminator	Acceptance	In/Divest?
High Strategic Value or Readiness	Operations Logic Critical	Investment set meets critical equipping, training, operations needs for current / future missions of COCOM forces or vital to accomplishment of QDR Goal.	Mission Critical?	Yes
			Mission Essential or Support?	No
High Performance or Modernization	Core competency?	Validated Requirement	a. Included on Unified Command Integrated Priority list?	At least three, or b. and c. Yes
	High performance?	Performance in array of KPP metrics*	b. Average above threshold?	Only two, and not b. and c. No
	Modernization impact?	Impact on Balance of investment types	c. $ profile defendable w/ Mod needs	
		Progresses modernization as needed	d. Investment worth technical risk?	
Economically Sound or Force Structure Sustainable	Cost Effective	Cost is supportable, LPO outsourced, or is income	Advantageous NPV?	*Answer for each*
	Secondary Effects (SE) + Insurance	Intended externalities, unintended consequences	Are SE measureable? Do they add/subtract so NPV is worthwhile?	Yes
	Deadweight	Deadweight impact over-rides investment impact	Does intervention matter to outcome?	No

*Capability Performance; Force Protection; Survivability; Sustainment (Reliability, O&S costs); Net-Readiness; Training; & Energy.

What are All The Combinations?

Intuitive? Reflective of ROT? “Seeing criteria profile”

Criteria Area	*Factor*	*Discriminator*	*Acceptance*	*Invest*	*Invest*	*Invest*	*Invest*	*Invest*	*Divest*	*Divest*	*Divest*	*Divest*
High Strategic Value or Readiness	Operations Logic Critical	Investment set meets critical equipping, training, and operations needs for current or future missions of critical COCOM forces or vital to accomplishment of a QDR Goal.	Mission Critical?	Y	N	N	Y	Y	N	N	Y	Y
			Mission Essential or Support?	N	Y	Y	N	N	Y	Y	N	N
High Performance or Modernization	Core competency?	Validated Requirement	a. Included on Unified Command Integrated Priority list?	Y	N	Y	N	Y	either	Y	N	Y
	High performance?	Performance in array of KPP metrics*	b. Average above Threshold?	Y	N	Y	N	Y	N	Y	N	Y
	Modernization impact?	Impact on Balance of investment types	c. $ profile defendable w/ Mod needs	Y	either	Y	Y	Y	N	N	either	either
		Progresses modern-ization as needed	d. Investment worth technical risk?	Y	either	Y	either	either	either	either	either	Y
Economically Sound or Force Structure Sustainable	Cost Effective	Cost is supportable, LPO outsourced, or is income	Advantageous NPV?	Y	Y	Y	Y	either	N	N	N	N
	Secondary Effects+ Insurance	Intended externalities, unintended consequences	Are SE measureable? Do they add/subtract so NPV is worthwhile?	either	Y	Y	Y	Y	either	N	either	either
	Deadweight	Deadweight impact over-rides investment impact	Does intervention matter to outcome?	Y	Y	Y	Y	Y	either	either	either	either

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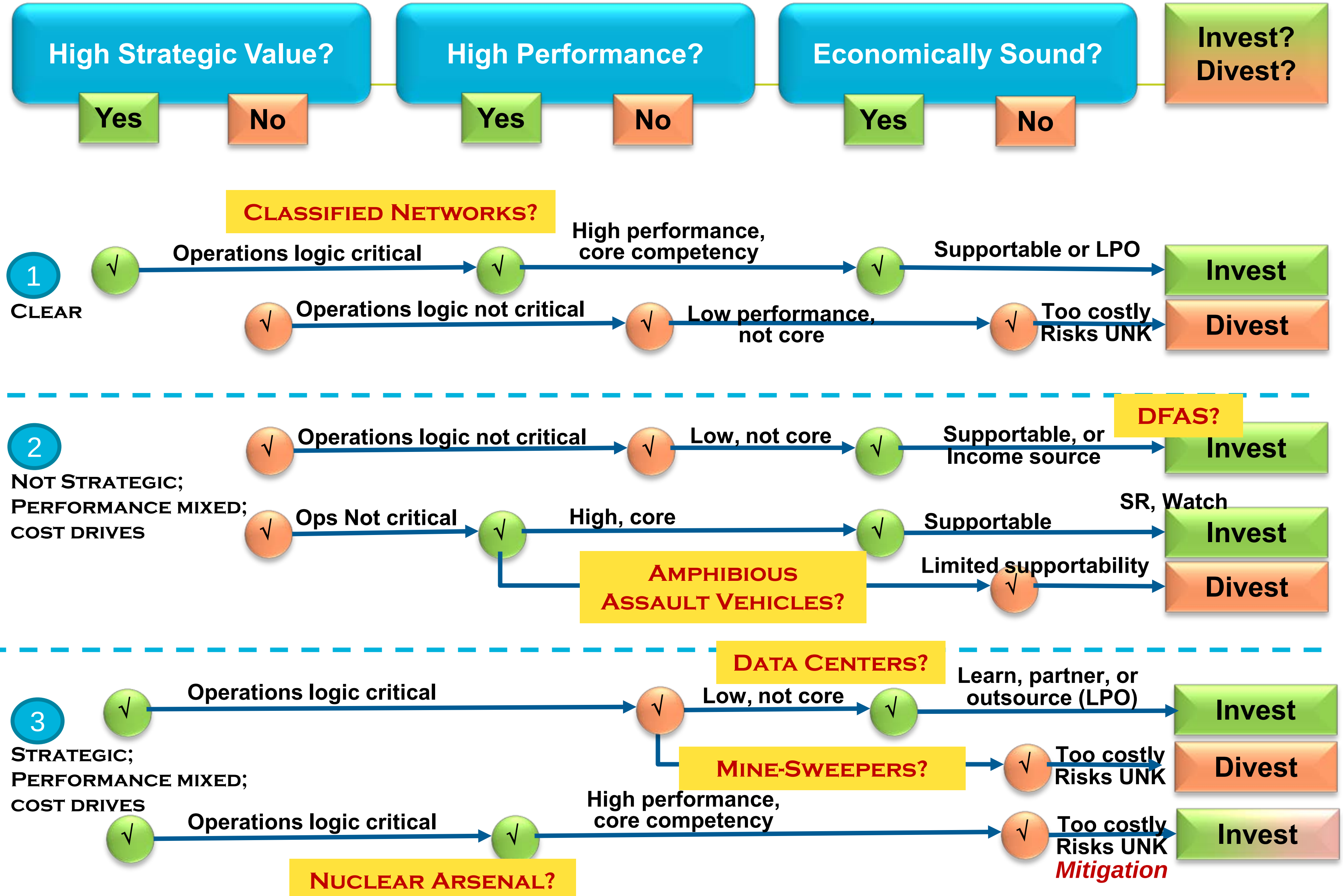
INVEST OR DIVEST? *EXAMPLES DISCUSSION*



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Summary: How do we fix it?

REFLECT ON MODELS OF HUMAN CHOICES

ORGANIZE FOR SIMPLE USE

CHANGE THE CONVERSATION

Model for *divestment* decisions

Leverage the successes of others

Develop a model

Recommend Changes

Research complex spaces with high stakes:
- **Social value constructs**
- **Human Factors**
- **Insurance Constructs**
- **Commercial for profit environments**
- **Economic models**

- **Identify current short comings**
- **Simplify the logic**
- **Incorporate best practice**
- **Apply DoD Concepts**

- **Reward shared awareness for improved analytics**
- **Track investment vs. divestment decisions and data points**
- **Institute divestment panels**

BACKUP

Investments Decisions Are Not the Same as Divestment Decisions

"The thought of giving up a once-treasured possession can be an emotional exercise for anyone, even if the object of affection has outlived its use. As investors, we can find it difficult to sell a once-favored holding—even more difficult than the decision to purchase it." [1]

- **Why? Self Interest and emotion: Pride, anxiety, neglect, greed, or power. *"Anyone with money can buy stocks, but only smart people can sell them"*** [2]
- **But the government is not the stock market…**
  - "Public money" (a.k.a., "not yours") may bear less emotion, but the mindset space is filled with other emotional elements: politics, power, patriotism, and even altruism.
- **Decisions should be made based on ultimate goals**

1. Franklin Templeton Investments, "The Discipline of Buy and Sell Decisions," http://mobius.blog.franklintempleton.com, March 28, 2013.
2. Mark Brown, "Stocks: The Hard Sell," Moneysense.com, April 26, 2013, at: http://www.moneysense.ca/invest/stocks-the-hard-sell.

Order of Buy ≠ Opposite of Order of Sell

Two reasons, especially in the government

Lots of data but limited knowledge
- Gestalt: The whole can be greater than the sum of the parts
- Interdependencies *unlikely* to be well understood
- Imperfect information, lack of causality measurement

→ **Causes pause when we divest, as the "whole" must be taken or comes apart**

Weak measures of success
- No common value proposition (e.g., profits or stock prices), normalized value scale, or way to compare impacts of decisions to the "bottom line"
- Size of budgets become $ meter—does not promote divestment
- The notion of "affordability" is challenging to define/execute

→ **Hard to defend decisions**

Rules of Thumb: Biases

- **Four types of cognitive biases in decision-making, depending on predisposition toward the investment, drive "rules of thumb" [1]**

Investment Activity	Cognitive Bias
Consideration of alternative acquisition	Reasoning by analogy: "In the decision process leading to acquisition, decision makers rely on analogies to simpler situations that may bear little similarity to their strategic problem." Illusion of control: "In the evaluation of an acquisition, decision makers overestimate the potential impact of their expertise on the acquired unit's performance."
Management of the acquisition	Illusion of control: (see above) Escalating commitment: "Information on declining performance of the unit triggers rationalization and escalating commitment."
Consideration of divestment	Single outcome calculation: "When divestment of a failing unit is finally considered, it quickly becomes the only course of action considered."

1. Irene M. Duhaime and Charles R. Schwenk, "Conjectures on Cognitive Simplification in Acquisition and Divestment Decision Making," Academy of Management Review, 1985, Vol, 10, No. 2, 287-295.

Rules of Thumb: Private Sector Remedies [1]

Private Sector

- Dedicate a team to divestment full-time, just as you do with acquisitions.
- Establish objective criteria for determining divestment candidates—don't panic and sell for a song in bad times
- Work through all the details of the de-integration process before you divest
- Make sure you can clearly articulate how the deal will benefit the buyer and how you will motivate the unit's employees to stay until the deal is done.

Observations on DoD

- *DoD has thousands of people that work on strategic and investment planning*
- *Government must still think about fiscal losses*
- *Government should invest to remedy the knowledge shortfall about their investments*
- *Costs of transition and divestment is often captured in DoD, but an under-appreciated because it takes a long time*

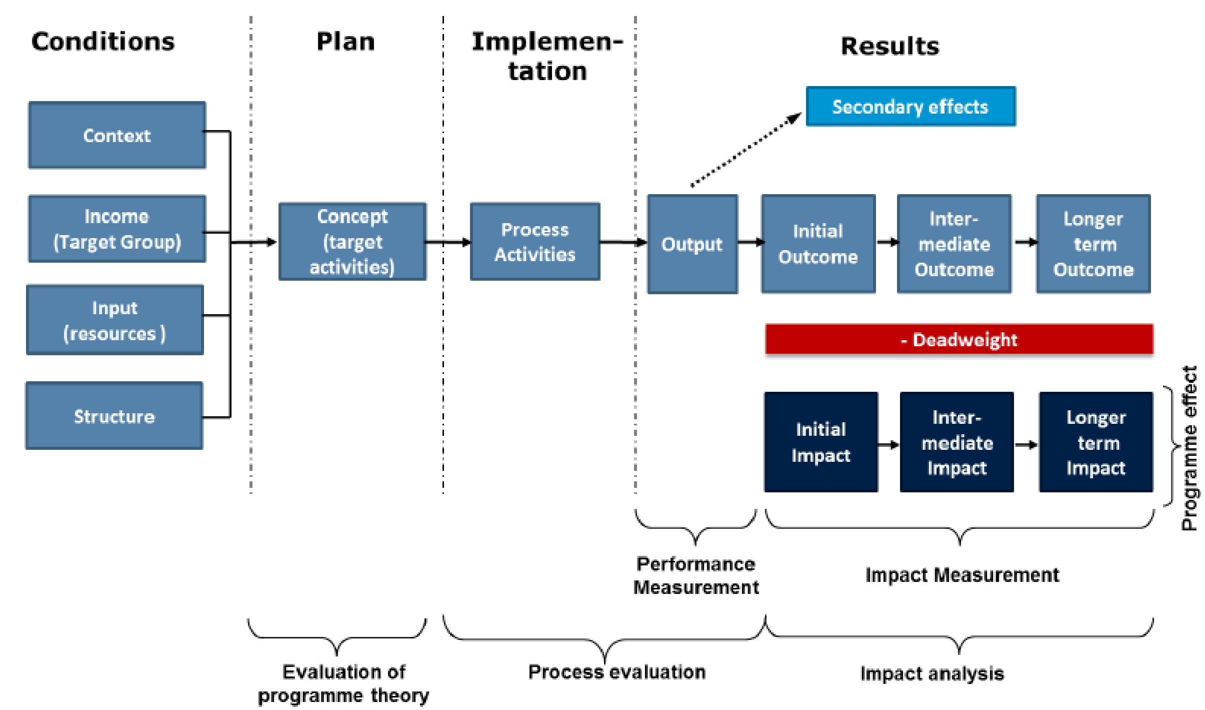
1. Michael C. Mankins, David Harding, and Rolf-Magnus Weddigen, "How the Best Divest," *Harvard Business Review,* October 2008.

Rules of Thumb: Government Divestment

Rule Applied in Government	Observation
Those that "seem to have a lot"	Goal of bureaucracies is to maximize budgets, yet, proportionally large budgets become a target for redistribution or for "paying bills."
Salami-slice	Programs are cut across the board, with a strict percentage regardless of impact ("sequester")
Programs not sticking to acquisition cost/schedule, e.g., Nunn-McCurdy breaches or near-breaches	Programs often get "re-baselined." Possibly a divestment, often the same money is spread over time.
Those with poorly captured performance	Programs that measure may be held to a different standard and are not fiscally rewarded for transparency in effectiveness or efficiency
Bias to solve gaps using unrelated offsets	Refusal to assess baseline for cuts related to gaps, in fear of fiscal penalty biases decisions away from smart cuts
Congressional disregard or favoritism	Drives, or saves, many divestment decisions, for all military departments alike.

Logic Model Definitions

Rauscher, Schober, and Miller, June 2012



- **Context:** Economic, political, and social circumstances
- **Income:** Target group needs
- **Input:** Financial and personnel resources available
- **Structure:** legal and finance characteristics of sponsor
- **Concept:** roles, responsibi-lities, due dates of targets
- **Process:** targets linked to activities
- **Output:** directly provided contributions of program/activity to achieve the desired impact(s)
- **Outcome(s):** effects or desired conditions of target group after activities completed
- **Impact:** overall effects that are logically, theoretically, or empirically substantiated
- **Secondary effects:** positive and negative effects not intended by program or activity plans
- **Deadweight:** portion of outcome(s) that would have been produced w/o program or activities
- **Time stamps:** (not defined in paper, but offered here)
  - Initial: time taken for initial impacts to be realized
  - Interim: time taken for secondary effects to be observed and quantified or qualified
  - Long-Term: Time taken for relationships between actual impacts and deadweight to be delineated

Insurance Models*

Dennis Lebar, "Insurance Investment Rules are Changing, Ready or Not," InformationWeek.com, 9 Sept 2012; Gill Wadsworth and Monica Woodley, "Investment strategy at an Inflection Point?" BlackRock Global Insurance, 2013.

- **Insurance companies pool risk so that the average probability of loss is mediated and competitive premiums can be charged**
- **Actuarial calculations of premiums for coverage and for *gains* from insurance capital required ("r") for profitability depend on the accuracy of these pooling statistics**
- **Insurance models must abide by standards in guidelines to ensure investment diversity/quality for the insured and for investors**
- **Three large problems exist in insurance modeling:**
  - Risk categorization errors: deeper modeling may rate securities lower and subject quality to question, e.g., some bonds are refinanced debt
  - Time: portfolios containing older high-rated securities are stacked with newer, lower rated securities; the average is masked by older and 'timed'
  - Policy: As laws change, previous portfolios get grand-fathered in; this will make portfolio subject to both previous problems, often cause divestment

Government investments are riddled with risk categorization, time, and policy "generation" issues – called Time Inconsistency