

Risk of What?

Using ERM to Consider National Interests

Presentation at Society for Risk Analysis Conference
Baltimore, MD

December 9, 2009

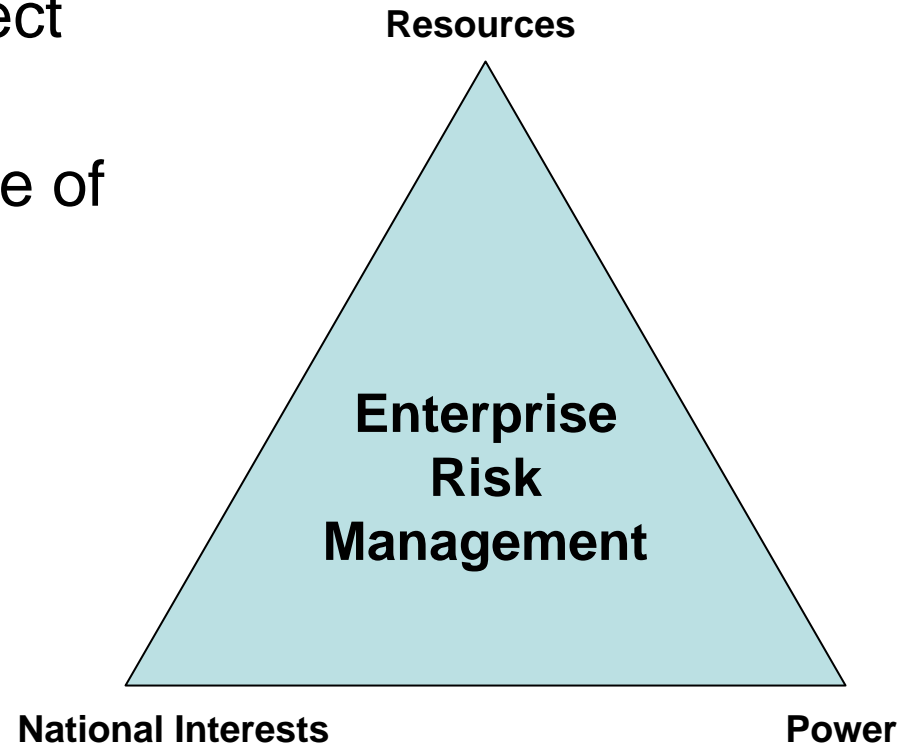
Debra Decker

Associate, Harvard Kennedy School's Belfer Center for Science and International Affairs

Debra_Decker@hks.harvard.edu

Purpose: Introduce a New Model

1. Demonstrate need to reflect on National Interests (NI)
2. Develop a way to conceive of NI as Resources, broadly defined
3. Consider how “Effective Power” is related to NI, Resources and Risk
4. Encourage application of ERM in further analyses



What is Enterprise Risk Management (ERM)?

- COSO on ERM: “A process, effected by an entity’s board of directors, management and other personnel, applied in **strategy setting** and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the **achievement of entity objectives**.”
- ISO 31000 on Risk Management: “A key feature of this International Standard is the inclusion of **“establishing the context”** as an activity at the start of this generic risk management process.” This involves external as well as internal contexts.



ERM will be used in U.S. Government

***“Lens of risk” will
be applied –
Jeffrey Zients, Chief
Performance Officer***

***De facto
National Interests?!***

Obama Administration: Priority Performance Goals

- Three to Eight Goals Per Agency
- **Cross-cutting Goals**

Such as: manage climate change, homelessness, national security

Bush Administration: Performance Improvement Officers
Performance Assessment Rating Tool (PART)

Clinton Administration: Government Performance and Results Act (GPRA)

Past Attempts to Define Interests

- Formal: U.S. Commission on National Security/21st Century (2001)



- Provided clear thinking
- Recommended DHS
- Predicted terror attacks
- Identified education as national security issue



“Nothing of this magnitude can be accomplished without a president who doggedly stays with it for its implementation. Follow through, follow through, follow through!”

- U.S. Gen. Charles Boyd, Former Exec. Dir. Of Commission,
current President of Business Executives in National Security

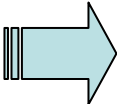
- Other US: Project on National Security Reform (2009); Commission on America’s National Interests (Harvard, Nixon Center, Rand: 1996, 2000)
- Developing Countries: Lending institutions require development plans
- Some developed countries have explicit plans – mainly economic

Priorities = Anything for which the country
“is willing to pay a price” to promote or
maintain – Prof. Joseph S. Nye, Jr.

Benevolent Dictator's Decision*

National Interest ~ Avoid being set back
and attempt to gain more Resources

EIU Quality of Life Measure ~ National Interests:	
Political stability and security, political freedom, gender equity material wellbeing	++
Job security, Health	Government
Family and community life, climate and geography	-



More Finite

Resources:

- **Land** = physical resources
- **Labor** = healthy, productive human resources
- **Capital** = intermediate goods of production, or rents
- **Technology** = To facilitate productivity gains = *Allows better results*
- **Management** = Entrepreneurship, Leadership, Organization, Governance = *Actually gets better results*
- **Other Intangibles** = Freedom, Prestige ~ Goodwill = *Enables enjoyment of those results*

Less Finite

* Need Benevolent Dictator for the model given Arrow's Impossibility Theorem.

Benevolent Dictator's Decision

National Interest ~ Maximize Resources but:

- Include time element
 - Some countries have longer horizons
- Include discount factor
 - To reflect time preference
 - To reflect uncertainty and volatility

(i.e., poorer states value volatility more negatively)

**These elements
capture some
National Interests:**

Security, Stability,
Family (Value for
Future
Generations)

Benevolent Dictator's Decision

National Interest ~ Avoid being set back and attempt to gain more Resources

More Finite

Possession
Goals

&

Milieu* Goals

Resources with Time Horizon and Discount Factor:

- **Land** = physical resources
- **Labor** = healthy, productive human resources
- **Capital** = intermediate goods of production, or rents
- **Technology** = To facilitate productivity gains = Allows better results
- **Management** = Entrepreneurship, Leadership, Organization, Governance = Actually gets better results
- **Other Intangibles** = Freedom, Prestige ~ Goodwill

Less Finite

Captainship? Includes creativity, visionary leadership, and also implementation for results

* Milieu applies from the local community to the international level.

Benevolent Dictator's Decision

$$\text{Maximize Interests} = f \left(\sum_{t=0}^n \text{Resources}_t / (1 + r)^t \right)$$

Subject to: Expected Constraints on Resources

This is the
Enterprise

Where: t = time, n = periods of time, r = discount rate

Resources =
g (Land, Labor, Capital, Technology, Management,
Other Intangibles)

*Thus interests are the resources and the conditions
to ensure future resources.*

What are the constraints?

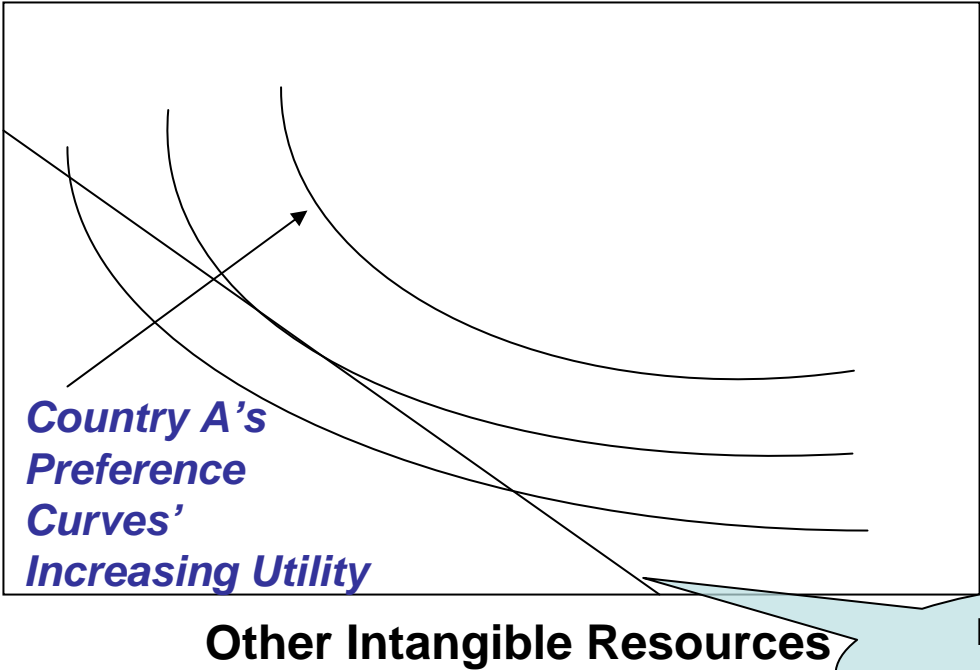
ERM's Internal and External Contexts

- Internal
 - Limits of resources
 - Multi-attribute preferences, i.e., how interests and resources connect and their trade-offs
- External
 - Other states' preferences
 - Competitive or complementary interests

Internal Context: National Interests' Tradeoffs

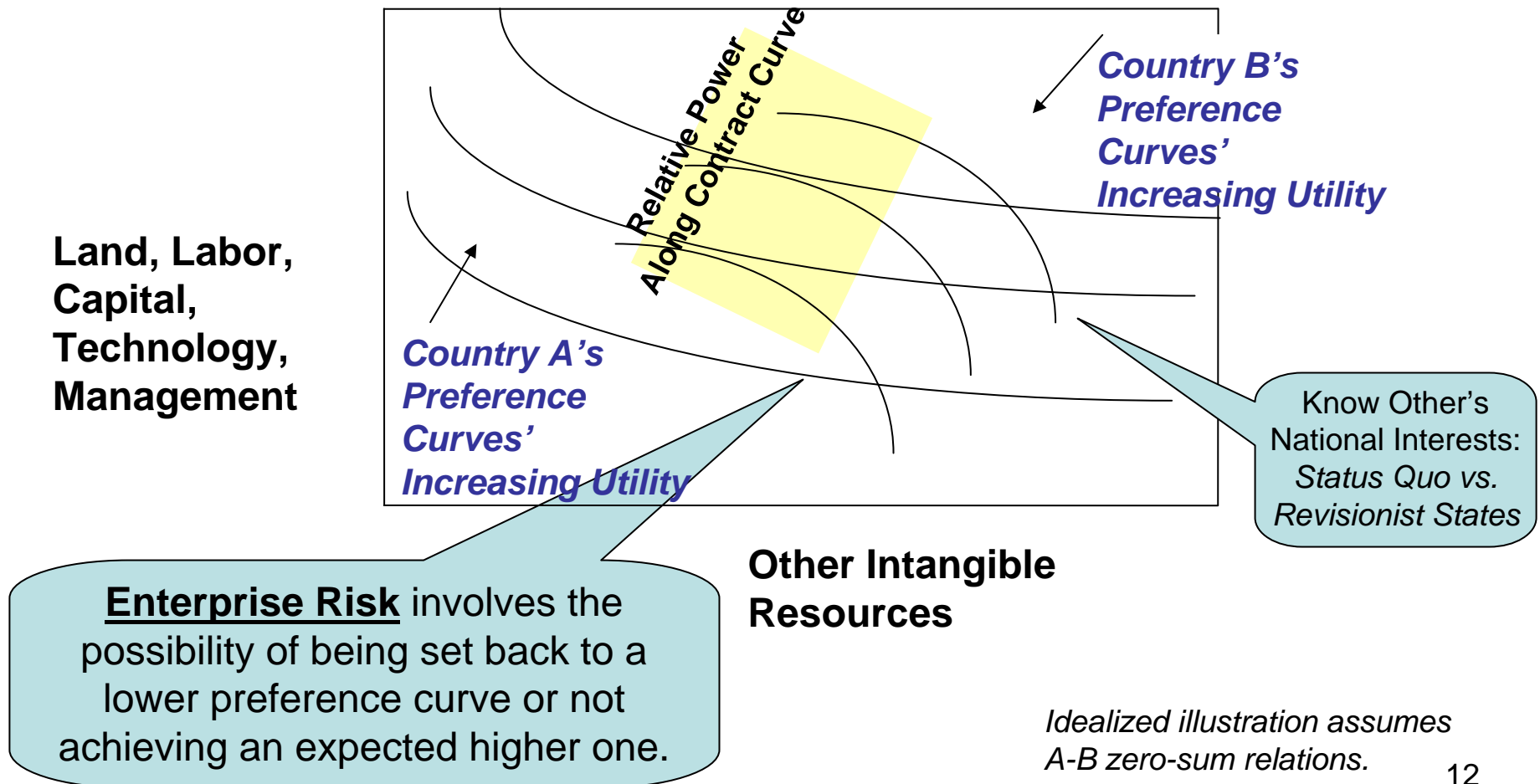
Tradeoff Example using “Other Intangible Resources”	
Land: Eminent domain? Productive use vs. Private rights	Labor: Health care? General population’s productivity vs. Future generation’s taxes, equity considerations

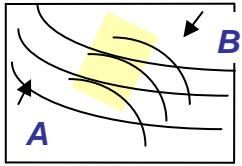
Land, Labor,
Capital,
Technology,
Management



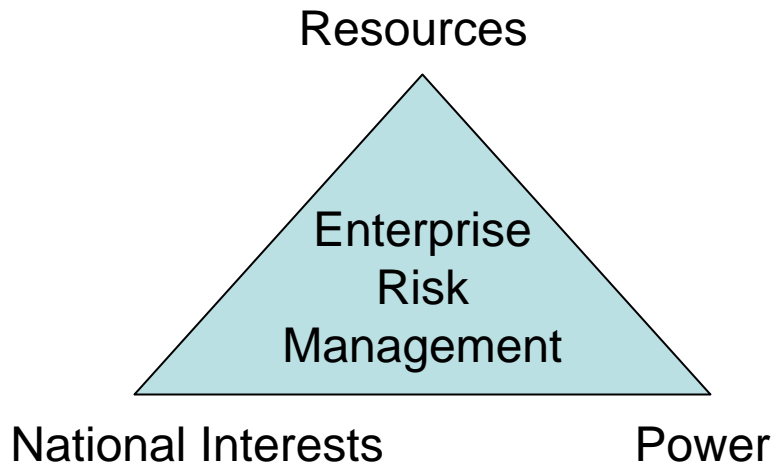
... But need to take a multi-attribute portfolio approach.

External Context: Power Decides Range of Optimal Relations





ERM maximizing Interests, Resources and Power



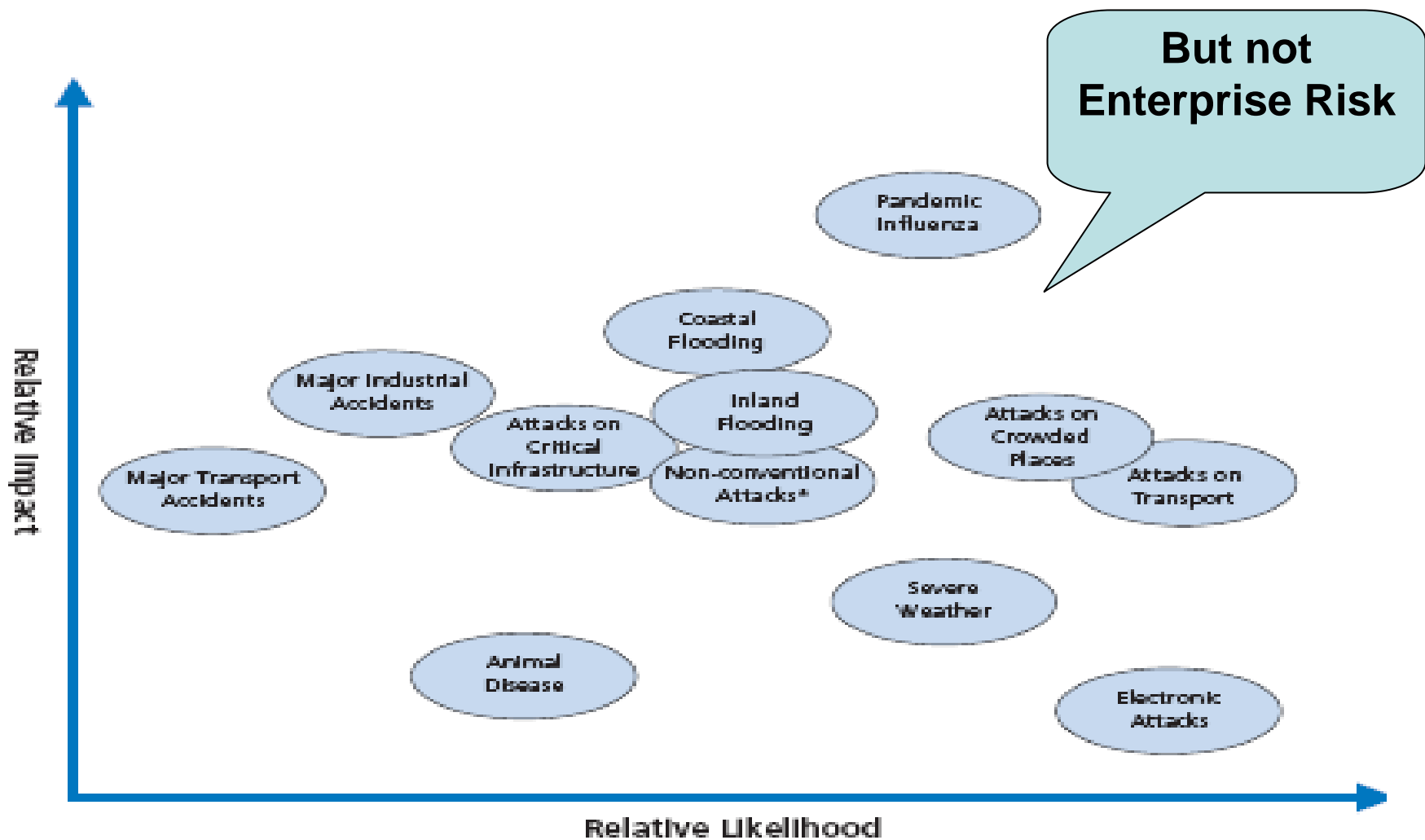
Power
Hard \longrightarrow Soft
Smart Power = Right Mix to Get Effect

Effective Power = Gets State to Higher Preference Curve

Effective Power expends fewer Resources than it expects to increase or to prevent losing.

More than traditional cost-benefit assessment, considers broader Resources, including ability to implement, time, uncertainty.

Identifying the risks: UK



Identifying the Risks: Microsoft

- Strategic
- Financial/Credit
- Reputational
- Technological
- Competitive
- Customer
- People
- Operations
- Distribution
- Business Partners
- Regulatory/legislative
- Political

Note that many of the risks focus on how the enterprise functions; these include internally-generated and not just externally-imposed risks.

Within Each Category
Considered:

Severity
Probability
Timing
Uncertainty

Breaking outside the silos: Taking a portfolio approach to manage the risks and the risk management strategies for optimal risk/return across interests.

Applying Enterprise Risk Management

Frame: *Possible Risks*



Risks Interests	Strategic	Operational	Financial/ Credit	Reputation	Political	Regulatory
Land	Water, energy issues; rising coastlines; natural hazards	Border issues; Food safety and security	Ownership issues	Poor stewardship	Mercantilist competition	No regs: Overuse of global commons
Labor	Poor health status; poor education; CBRNE; disease	Accidents; In-efficient, ineffective health systems	Immobility of labor due to housing	Special interests' domination	Illegal immigration; failing states	Low int'l labor standards; drug policies
Capital	Aging infrastructure; critical infrastructure hazards	Inefficient capital allocation due to politics	Growth of fin. Indus. = lack of productive investments	Systemic failures; flight from dollars	Heavy reliance on foreign capital	Uneven int'l standards
Tech.	Inability to fully leverage (e.g., access); cyber vulnerabilities	Poor acquisitions mgmt.	Diminishing ability to invest	Others catching up and moving ahead	Lack of pure science investment; security focus	Lack of int'l. Intellectual property rights
Mgmt.	Inappropriate focus on selected risks	Inefficient gov't. (incl. oversight)	Int'l. debt overhang	Distrust of gov't. ability and motives	Disjointed foreign policy	Lack of regulatory will power
Intangible	Future generation tax; international inequities	Lack of civil society; domestic inequities	Wasting resources	Double standards	Allies' expectations	Lack of beneficent int'l. legal framework

Applying Enterprise Risk Management

Frame: *Possible Risks*



<div>Risks</div> <div>Interests</div>	Strategic	Operational	Financial/ Credit	Reputation	Political	Regulatory
Land	Water, energy issues; rising coastlines; natural hazards	Border issues; Food safety and security	<div>Many risks to national interests can be more deliberately assessed and managed</div>			No regs: Overuse of global commons
Labor	Poor health status; poor education; CBRNE; disease	Accidents; Inefficient, ineffective health systems				Low int'l labor standards; drug policies
Capital	Aging infrastructure; critical infrastructure hazards	Inefficient capital allocation due to politics	Growth of fin. Indus. = lack of productive investments	Systemic failures; flight from dollars	Heavy reliance on foreign capital	Uneven int'l standards
Tech.	Inability to fully leverage (e.g., access); cyber vulnerabilities	Poor acquisitions mgmt.	Diminishing ability to invest	Others catching up and moving ahead	Lack of pure science investment; security focus	Lack of int'l. Intellectual property rights
Mgmt.	Inappropriate focus on selected risks	Inefficient gov't. (incl. oversight)	Int'l. debt overhang	Distrust of gov't. ability and motives	Disjointed foreign policy	Lack of regulatory will power
Intangible	Future generation tax; international inequities	Lack of civil society; domestic inequities	Wasting resources	Double standards	Allies' expectations	Lack of beneficent int'l. legal framework

One example: Broader first-step look at Mortality

National Interest = Health

Labor Risks = Annual Deaths U.S. (2.4 million)

- Own Doing, informed choice:
 - Tobacco-related = 435,000
 - Poor diet and inactivity = 365,000
 - Alcohol consumption = 85,000
 - Sexual behavior = 20,000
- Unintentional Doing:
 - Accidents: Total = 122,000, of which motor vehicle = 43,000 (no alcohol = 25,000)
 - Inefficient Healthcare = 22,000 deaths per year from lack of health insurance
 - Ineffective Healthcare = 100,000-200,000 deaths each year from preventable medical errors
 - Bad air quality = Lose five months from life
- Intentional Doing:
 - Suicide = 33,000; Homicide = 19,000
 - Terrorism-related = 56 (worldwide); Coalition Soldiers = in Iraq (2003-09) US 4,367; Allies 318; in Afghanistan (2001-2009) = US 929; Allies 603.

Although terror-related incidents are low, need to assess risks considering potential threats in a dynamic environment.

Consider not only direct loss of life but also QALYs (injuries, physical and mental health illness) and broader psycho-social impact - as well as effects on other classes of interests - over a given period of time.

Then pose the tradeoffs. Devise hurdle rate for likelihood of the threat?

Risk management principles can be applied to national interests

- Establish the goals: Within the national and international context
- Consider the risks: What can go wrong? How can it go wrong? How likely is it? What are the consequences? What are the uncertainties?
- Manage the risks: Are we understanding the full range of risks, solving the right problems and **developing good alternatives**?
 - Mitigate, **transfer, accept, avoid, leverage** parts of the risk
 - “Price” the alternatives more fully/accurately
 - *Recognizing execution risks*
 - *Costing out actions for “effective power”*

We speak now often only in in general terms and measure only simple costs:

Afghanistan: “Vital Interests,” \$30 Billion for surge alone

Healthcare Bill: \$848 B over 10 years

What are the effects on Total Resources and National Interests?

Benefits of the Model

- Promotes articulation of tacit assumptions
- Encourages decision maker reflection on national interests, larger trade offs, and fuller risk identification
- Can be incorporated into Game Theory analysis of international relations
- Provides clear avenues for further research to support decision making

“The role of systematic theorizing...is to inject into the intellectual climate, in which hunches are made and have to be made, an element of considered thought, as advanced as the existing conditions of the discipline permit.”

- Political theorist Arnold Wolfers

Next Steps for Development

- Research and application by risk analysts
 - Interdisciplinary collaborations: with political scientists, political/welfare economists, etc.
 - Input from private sector
- Support from government/others?
 - U.S.: Project on National Security Reform, NSC & Gen. James Jones, CBO, GAO, OMB?
 - International: OECD, World Economic Forum?

Appendix

- A. Determining National Interests**
- B. Considering Risk, Power**
- C. Notes**

Set the Context: What are the Entity's Objectives?

Who we are:

- Individuals

- Families

- Organizations

- State

- Global Community



What we want:

“Even when one is inescapably seen – by oneself as well as by others – as French, or Jewish, or Brazilian, or African-American, or...as an Arab or as a Muslim, one still has to decide what exact importance to attach to that identity over the relevance of other categories to which one belongs.”

- Amartya Sen, Identity and Violence: The Illusion of Destiny (New York: W.W. Norton, 2006), p. 6.

To avoid Arrow's Paradox (impossible to convert individual preferences to a societal ranking), assume a Benevolent Dictator (e.g., BRAC system).

Indices of Well Being

Economist Intelligence Unit Quality of Life Index: Satisfaction-Related Factors

1.	Ireland	Factors: <ul style="list-style-type: none">• Material wellbeing: GDP per person, at ppp in \$• Health: Life expectancy at birth, years• Political stability and security: Ratings EIU• Family life: Divorce rate• Community life: Value 1 if country has either high rate of church attendance or trade-union membership; zero otherwise.• Climate and geography: Latitude, to distinguish between warm/cold climes• Job security: Unemployment rate• Political freedom: Average of indices of political and civil liberties.• Gender equality: Ratio of average male and female earnings
2.	Switzerland	
3.	Norway	
4.	Luxembourg	
5.	Sweden	
6.	Australia	
7.	Iceland	
8.	Italy	
9.	Denmark	
10.	Spain	
11.	Singapore	
12.	Finland	
13.	United States	
14.	Canada	
15.	New Zealand	
16.	Netherlands...	
110.	Haiti	
111.	Zimbabwe	

2005 Rankings:

http://www.economist.com/media/pdf/QUALITY_OF_LIFE.pdf

UN Human Development Index: Health, Knowledge, Standard of Living

1. Norway	172. Mozambique
2. Australia	173. Guinea-Bissau
3. Iceland	174. Burundi
4. Canada	175. Chad
5. Ireland	176. Congo (DR)
6. Netherlands	177. Burkina Faso
7. Sweden	178. Mali
8. France	179. Central African Republic
9. Switzerland	180. Sierra Leone
10. Japan	181. Afghanistan
11. Luxembourg	182. Niger
12. Finland	
13. United States	
14. Austria	
15. Spain	
16. Denmark...	

2009 Rankings: <http://hdr.undp.org/en/statistics/>

Different States Perceive Different Roles



US = establish justice, insure domestic tranquility, provide for the common defense, promote the general welfare, and secure liberty to ourselves and our posterity

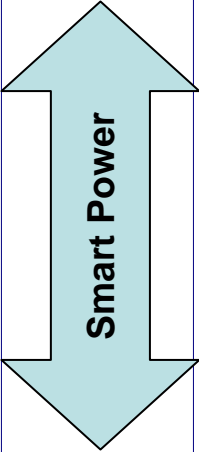


France = ensure the preservation of the natural and imprescriptible rights of man: liberty, property, security, and resistance to oppression



Saudi Arabia = protect the Islamic Creed, apply the Sharia, encourage good and discourage evil, and undertake duty regarding the Propagation of Islam

Power Characteristics

Types of Power	Power Levers	Sample Behaviors		Who Controls Resources
<div>Harder</div> <div></div> <div>Softer</div>	<div>Extreme Force</div> <div>Limited Force</div> <div>Economic Policies, Aid/Assistance, Trade, Bribes, Sanctions, Blockade</div> <div>Values, Culture, National Success, Institutions, Social Policies</div>	<div>Act or Threaten /Promise an Action</div> <div></div> <div></div>	<div>Coerce: Deter/Compel</div> <div>Protect</div> <div>Induce Set the agenda for</div> <div>Co-opt Attract</div>	<div>Government</div> <div>Business, Groups, Government</div> <div>Individuals, Business, Groups, Government</div>

Note: Developed based on work of Joseph S. Nye, Jr., and Richard L. Armitage.

Notes to Slides

Slide 3

Committee of the Sponsoring Organizations of the Treadway Commission, Executive Summary, Enterprise Risk Management – Integrated Framework, September 2004,
http://www.coso.org/Publications/ERM/COSO_ERM_ExecutiveSummary.pdf, p.2.

ISO 31000:2009, Risk management – Principles and guidelines, First Edition 2009-11-15, International Organization for Standardization, Switzerland, p. v.

Slide 4

Testimony of Statement of Jeffrey D. Zients Chief Performance Officer and Deputy Director for Management Office of Management and Budget Before the Budget Committee United States Senate October 29, 2009,
http://www.whitehouse.gov/omb/assets/testimony/Zients_102909.pdf.

Slide 5

Telephone interview with U.S. Gen. Charles Boyd, Washington, D.C., November 24, 2009.

Joseph S. Nye Jr., “Redefining the National Interest,” *Foreign Affairs*, Vol. 78, No. 4 (July/August 1999), pp. 22–35.

Slide 8

Political theorist Arnold Wolfers uses the terms possession goals and milieu goals. He limits milieu goals to “shaping conditions beyond...national boundaries”– and notes they often are “nothing but a means or a way station toward some possession goal.” This presentation considers milieu goals to be both internal and external state goals that can be goals in themselves. See: Arnold Wolfers, *Discord and Collaboration: Essays on International Politics* (Baltimore: Johns Hopkins Press, 1962), pp. 73-74.

Slide 14

U.K. Cabinet Office, National Risk Register, November 9, 2008,
http://www.cabinetoffice.gov.uk/media/cabinetoffice/corp/assets/publications/reports/national_risk_register/national_risk_register_introduction.pdf.

Notes to Slides

Slide 15

For a case study of Microsoft, see James Lam, *Enterprise Risk Management: From Incentives to Controls* (2003: John Wiley & Sons, Hoboken, NJ). Also, see: “Room for Improvement: Microsoft Corp. – Silver Winner, Enterprise Risk Management,” *Treasury & Risk*, November 2008, p. 45.

Slide 18

Data are rounded to thousands.

Melonie Heron, Donna L. Hoyert, Sherry L. Murphy, Jiaquan Xu, Kenneth D. Kochanek, and Betzaida Tejada-Vera, “Deaths: Final Data for 2006,” *National Vital Statistical Reports*, Volume 57, Number 14, April 17, 2009, http://www.cdc.gov/nchs/data/nvsr/nvsr57/nvsr57_14.pdf.

Data for Fatal Motor Vehicle Accidents, 2006: <http://www.census.gov/compendia/statab/tables/09s1065.pdf>.

Nicholas Bakalar, “Cleaner Air Found to Add 5 Months to Life,” *The New York Times*, January 21, 2009, http://www.nytimes.com/2009/01/27/health/research/27long.html?_r=1&scp=1&sq=air%20pollution%20and%20life%20expectancy&st=cse. See also:

Daniel Krewski, “Evaluating the Effects of Ambient Air Pollution on Life Expectancy,” *The New England Journal of Medicine*, Volume 360:413-415, Number 4, January 22, 2009, <http://content.nejm.org/cgi/content/full/360/4/413>.

To Err Is Human: Building a Safer Health System (2000), Institute of Medicine (IOM), <http://www.nap.edu/openbook.php?isbn=0309068371>. The Institute of Medicine report on patient deaths from medical error spurred public and legislative interests when it came out in 2000. Twenty states have instituted mandatory reporting of medical errors – yet a recent report on medical mistakes and hospital-acquired infections says that such deaths may have increased to 200,000 per year. See: Cathleen F. Crowley and Eric Nalder, “Within health care hides massive, avoidable death toll,” *Hearst Newspapers*, Aug. 10, 2009, <http://www.chron.com/disp/story.mpl/deadbymistake/6555095.html>.

Notes to Slides cont.

Slide 18 cont.

Extrapolating from a 2002 Institute of Medicine study that estimated 18,000 people died in the year 2000 because they lacked insurance, the Urban Institute estimated 22,000 died in 2006. See Stan Dorn, "Uninsured and Dying because of It: Updating the Institute of Medicine Analysis on the Impact of Uninsurance on Mortality" (Washington, D.C.: Urban Institute, January 8, 2008), <http://www.urban.org/publications/411588.html>. The underlying study included certain diseases and outcomes based on whether individuals were insured; although other factors such as poverty levels did not appear to be controlled, one could assume that lack of insurance was a correlation and not the only determinant of the negative outcomes. For the original study see Institute of Medicine, *Care without Coverage: Too Little, Too Late* (Washington, D.C.: National Academies Press, 2002), http://books.nap.edu/openbook.php?record_id=10367&page=165.

For soldier fatalities, see: <http://icasualties.org/>

Terror incidents worldwide against US citizens in 2005: killed 56, injured 17, kidnapped 11.
<http://www.state.gov/documents/organization/65498.pdf>

For time series data and discussion of general terrorist attacks worldwide, see:
<http://www.state.gov/s/ct/rls/crt/2008/122452.htm>.

The leading causes of death are for the year 2000. See: Ali H. Mokdad, James S. Marks, Donna F. Stroup, Julie L. Gerberding, "Actual Causes of Death in the United States, 2000," JAMA, March 10, 2004; 291: 1238 – 1245; and the correction: "Actual Causes of Death in the United States, 2000—Correction," JAMA, January 19, 2005; 293: 298. An explanation of the correction: Ali H. Mokdad; James S. Marks; Donna F. Stroup; Julie L. Gerberding, "Correction: Actual Causes of Death in the United States, 2000," JAMA, January 19, 2005; 293: 293 - 294.

Slide 20

Arnold Wolfers, *Discord and Collaboration: Essays on International Politics* (Baltimore: Johns Hopkins Press, 1962), p. xiv.