



# HM TREASURY

## Business Planning and Business Cases

The development and approval of Programmes and Projects



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# Green Book Methodology

## **The Green Book** **What is it?** **What is it for?**



# The Green Book:

## What is it and who uses it?

- UK Government's guidance on spending appraisal and evaluation
- Has been around since at least the 1960s
- Last updated in 2003
- Binding on central departments
- Also used by devolved administrations and voluntarily by local government
- Internationally highly regarded and widely copied and translated



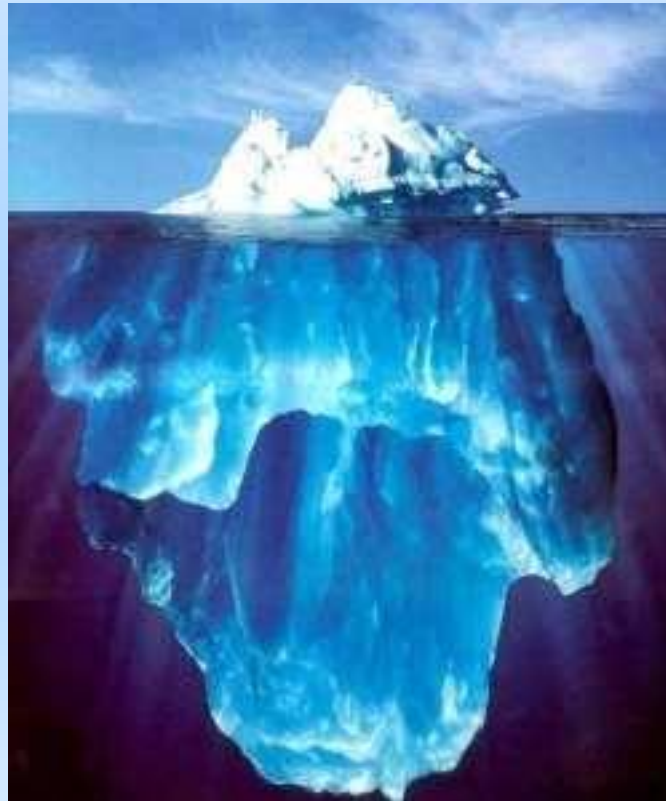
# The Green Book

## When is the Green Book used?

- Applies to all proposed policies, programmes and projects – all of which should have proportionate business cases
- Impact Assessments (previously regulatory impact assessments) are based upon Green Book economic appraisal methodology and are the application of the methodology in a regulatory context (they assess the burdens created by new proposals – and not just on business)



# The Green Book – the tip of the iceberg

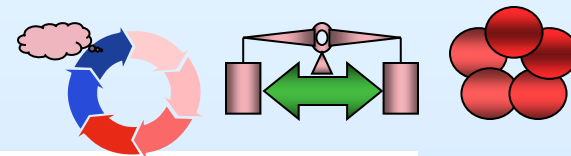


# The Green Book - Wider connections

- Almost every Department produce guidance to support the application of the Green Book in their own specific context
- In addition there is a wide range of Supplementary guidance available on a issues such as,
  - Valuing Life and Health
  - Shadow Price of Carbon (social cost of green house gas emissions)
  - Energy saving
  - Valuing Corporate and Financial assets,
  - Discounting where there are Intergenerational Wealth Transfers.
- OGC Gateway process fits to the business case model
- Government Accounting recognises GB



# The Green Book web site





## HM TREASURY



### Green Book

Home > Economic data and tools > Green Book

- Home
- Newsroom & speeches
- Economic data & tools
  - Consultation & legislation
  - Independent reviews
- Policy Areas
  - Enterprise & productivity
  - Financial services
  - International issues
  - Public private partnerships
  - Public spending & reporting
  - Tax work & welfare
  - UK economy
- Budget
- Pre-Budget Report
- Spending Review
- About us
- Careers
- Other HMT sites
- Terms & conditions

### Green Book

This is the central point for access to guidance on the economic assessment of spending and investment and to related guidance including the preparation of business cases for the public sector.



- PDF file of the Green Book (431KB)
- PDF file of Main chapters (1-7) (242KB)
- PDF file of Annexes (1-6) glossary, bibliography and index (229KB)
- Green Book microsite (individual chapters)

- Green Book
- Green Book guidance
- Business case resources and the '5 Case Model'
- Supplementary guidance
- Detailed/Deptmental guidance
- Contact us



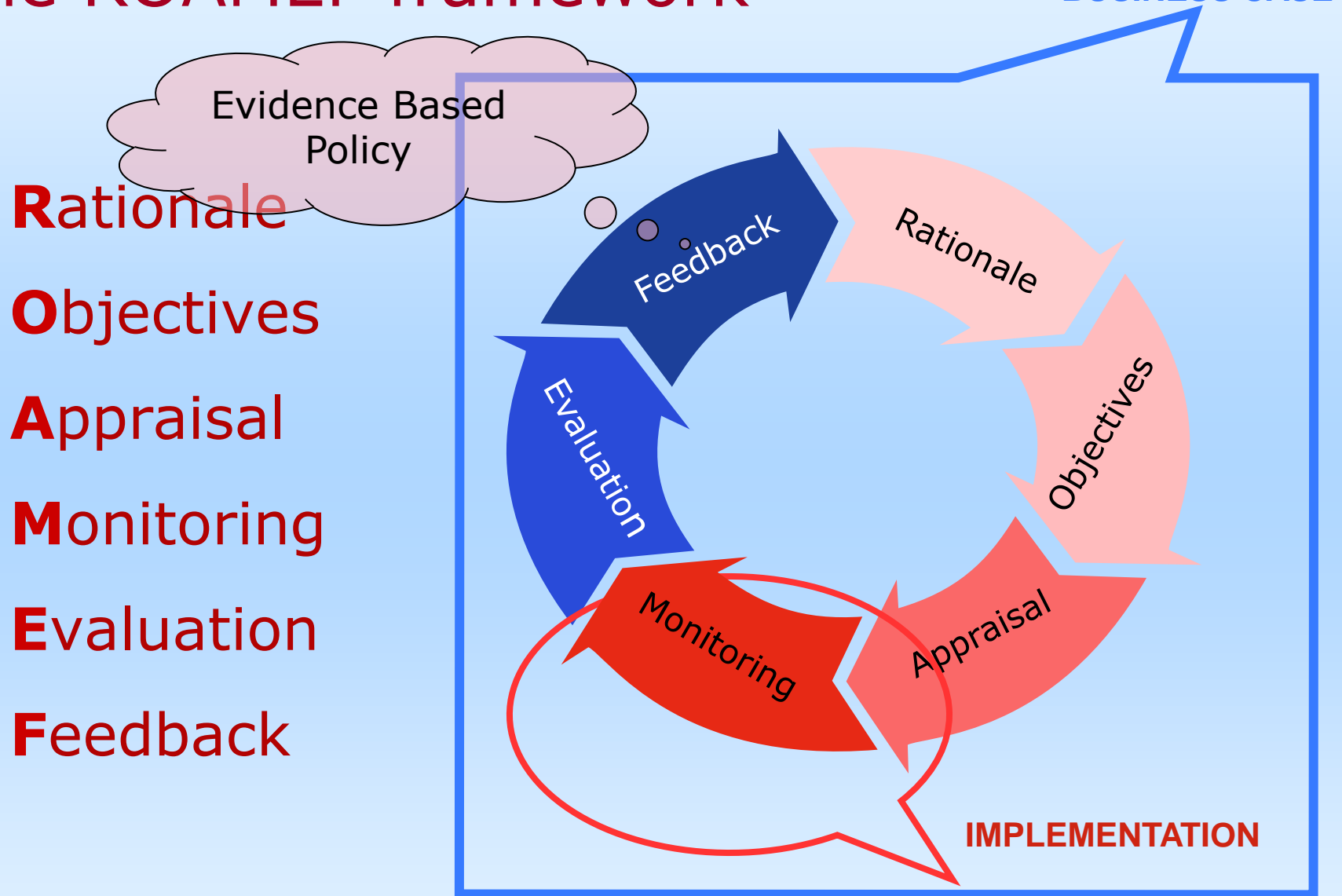
# Overview

- 1) The ROAMEF framework - Evidence based policy
- 2) Economic Appraisals and Evaluations tell us about Value for Money = Social Value
- 3) Use of the Green Book guidance and the 5 Case Model to produce a rigorous Business Cases
- 4) Appraisal, transparency and use of evidence the heart of all business cases





# The ROAMEF framework



# The overarching process outlined by the Green Book is the Business Case Process

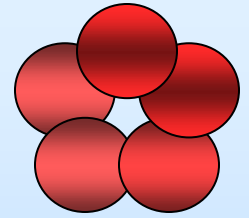
It :-

- is about robust business planning and
- covers both spending and regulation
- provides the framework and process for developing all Policies and Programmes and Projects
- puts appraisal at the heart of development from the outset

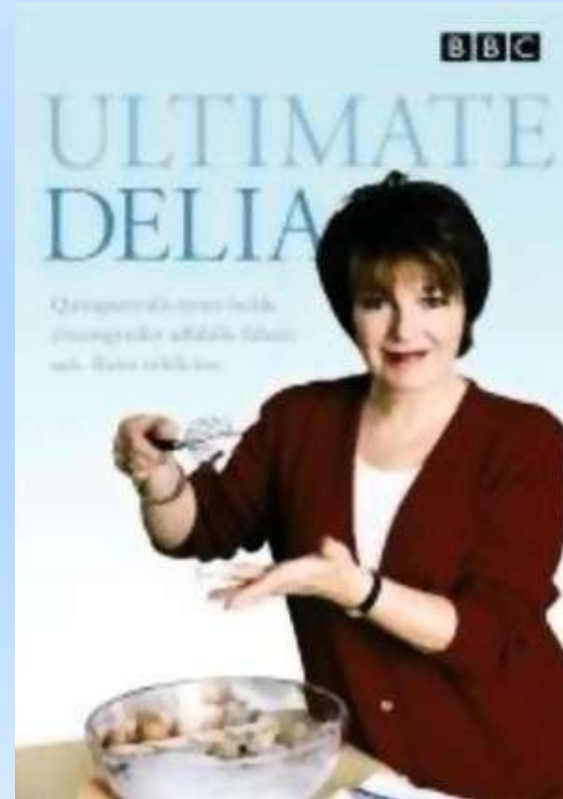
Standing back to remember why→



# Green Book is not



a detailed  
recipe book

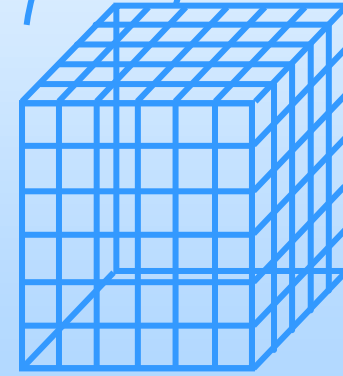
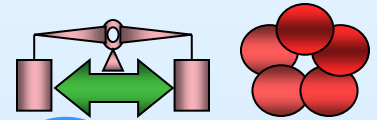


<#>



**not a "Black Box" decision making algorithm**

# What its Green Book Appraisal?



An Analytical Methodology  
for ;

- Objective
- Transparent
- Decision Support





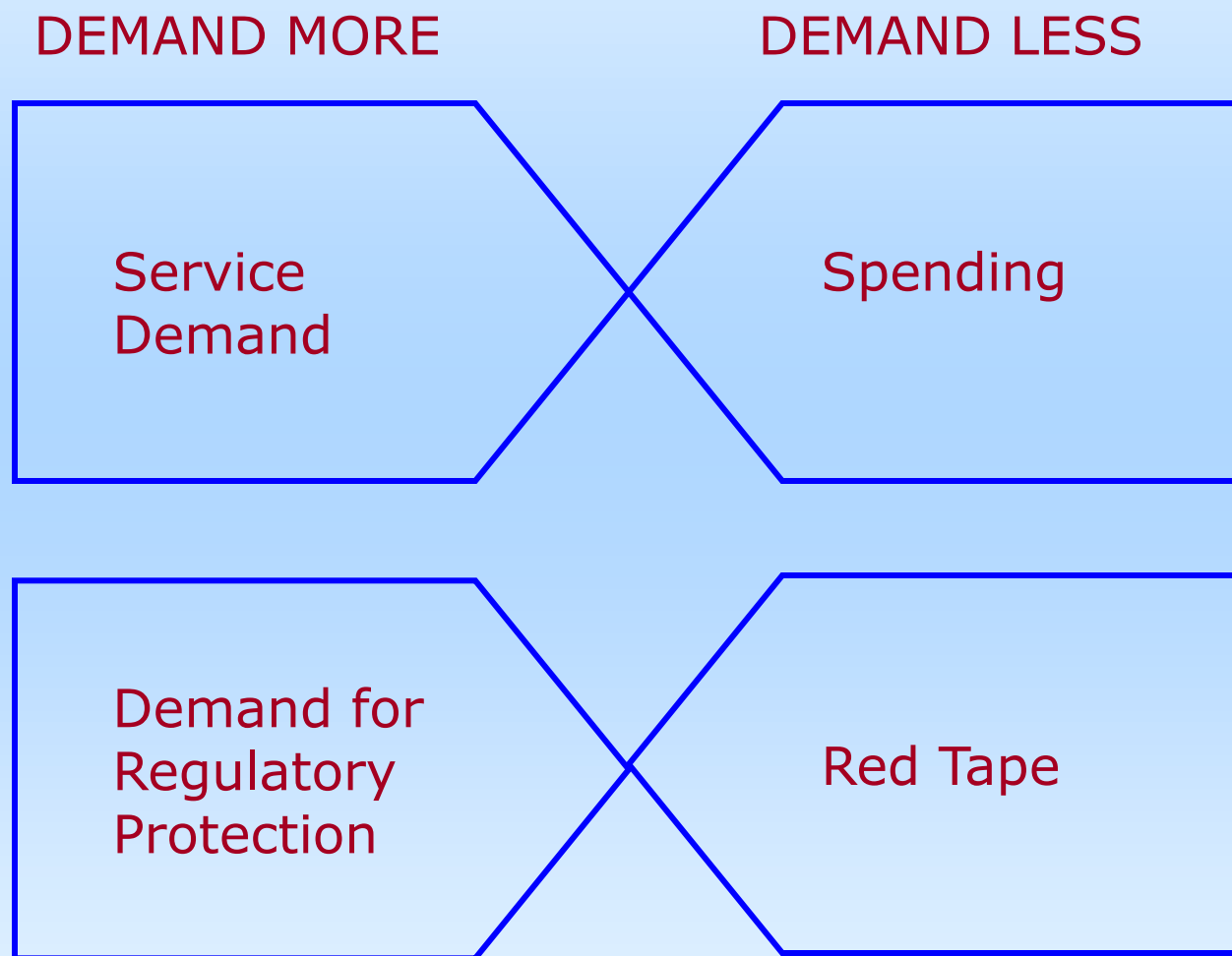
But the demand for services is always high



# The popular view of taxation



# Tension Intrinsic to Public Service Decisions

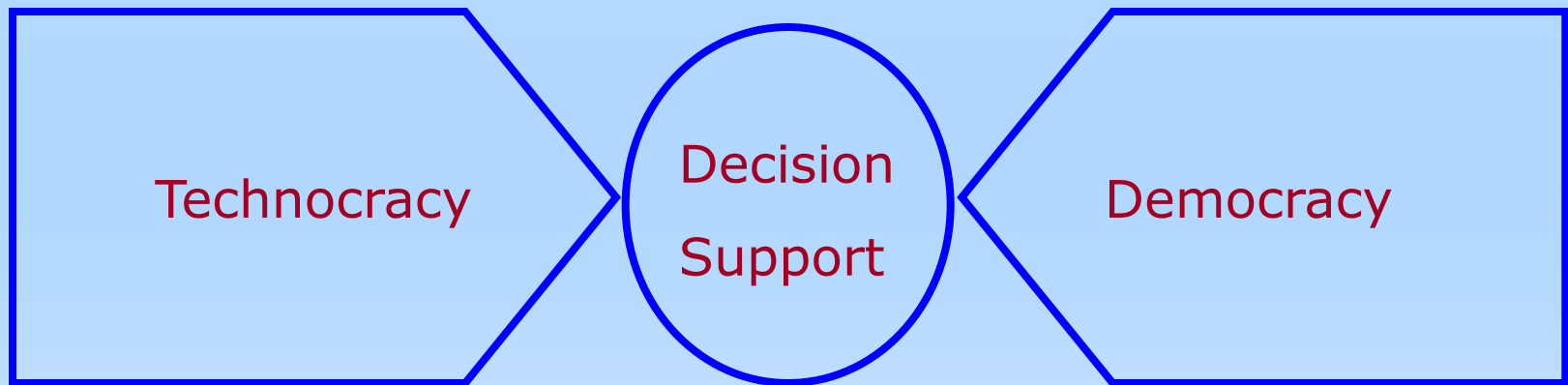




# The Analysts role and position as public official

Evidence  
Objective Analysis

Political Objectives  
& Debate



# The 5 Case Thinking Model

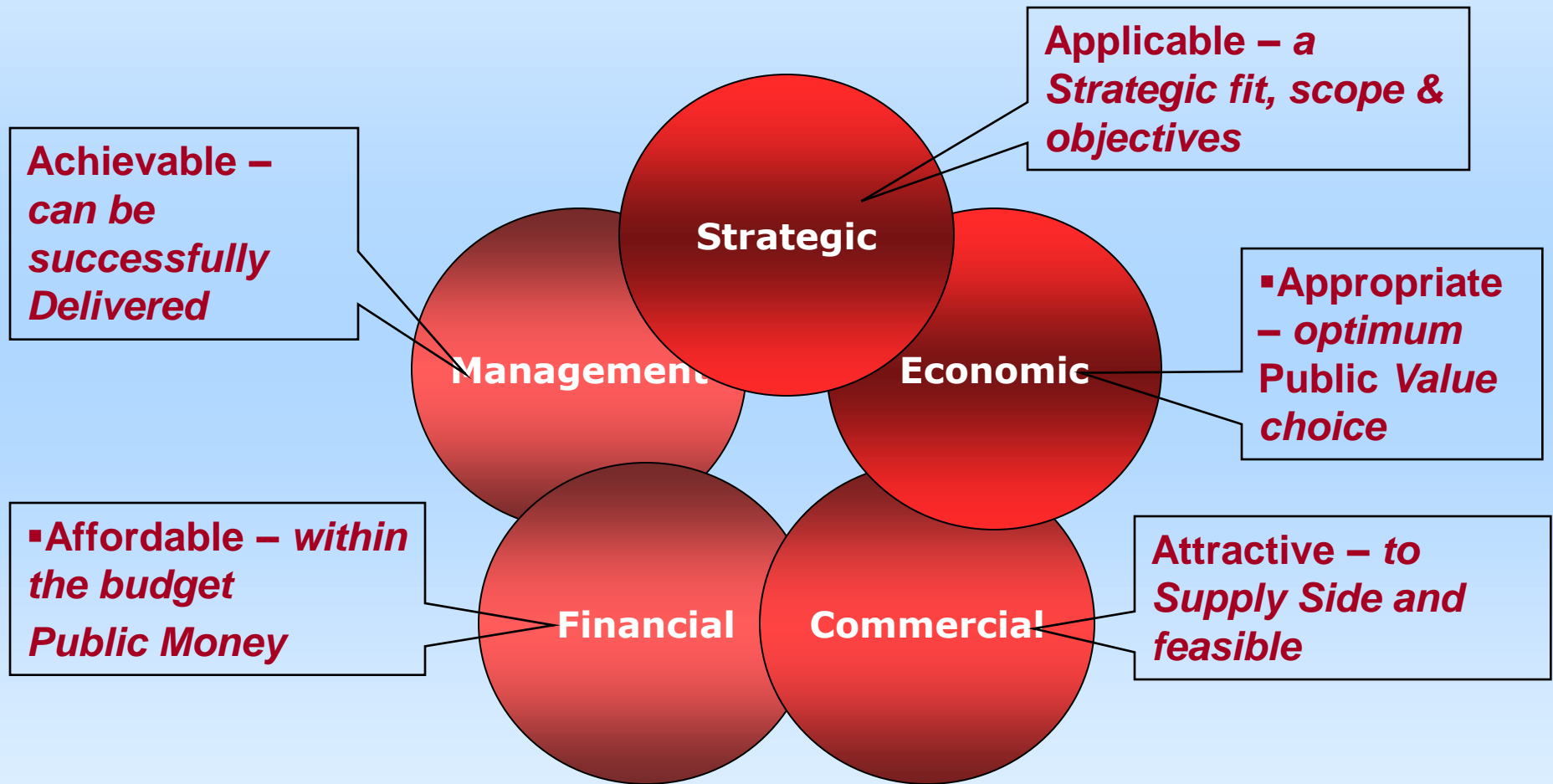
## Asks Questions in 5 key dimensions

1. What precisely are we doing, crucially why are we doing it, what will be the outcome and how does it fit with our other policies?
2. What is the public benefit in this?
3. Can we really purchase the things needed for delivery at an affordable price?
4. How can this be paid for and what will it cost?
5. How can this really be delivered and what robust plans have we to achieve this?

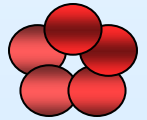


# The 5 Case Model

## The 5 key elements of best practice Business Cases

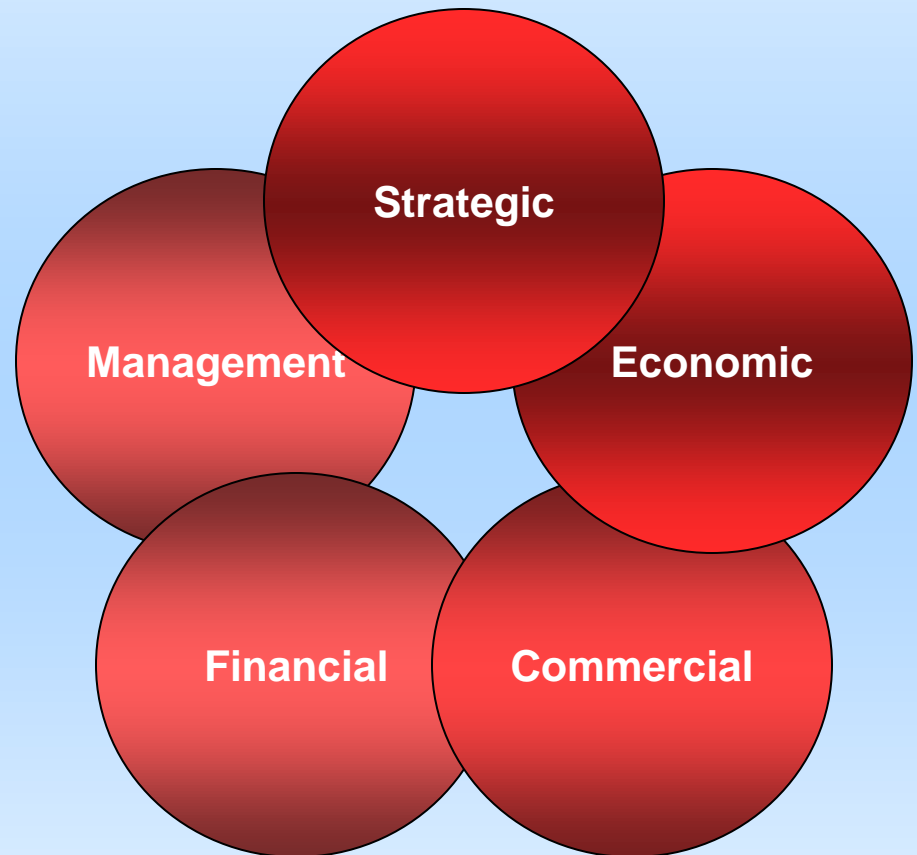
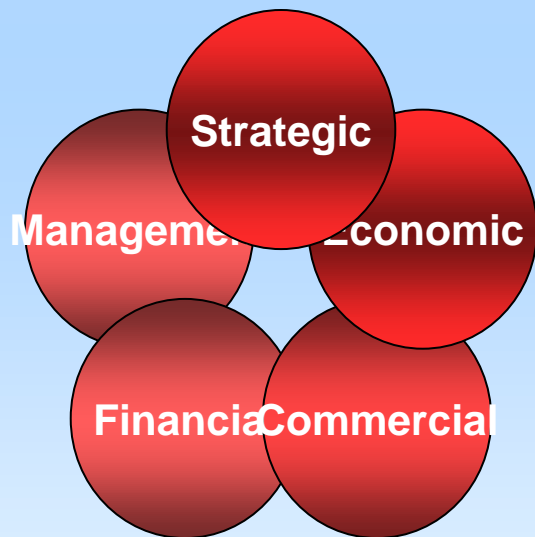


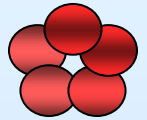
# The Treasuries 5 Case Model



## Proportionality 1

To the Costs, Risks and Benefits to society and to the public sector

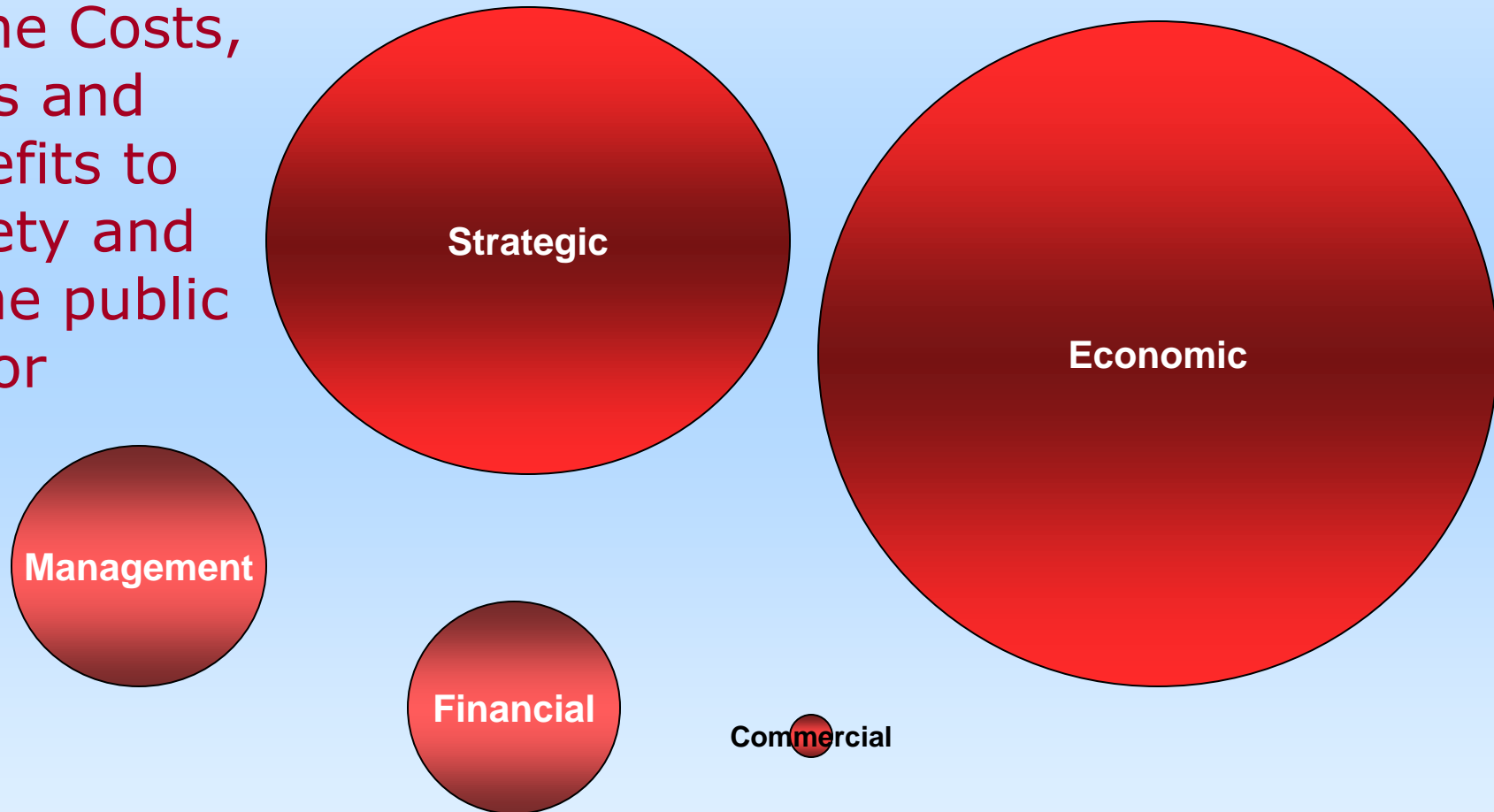




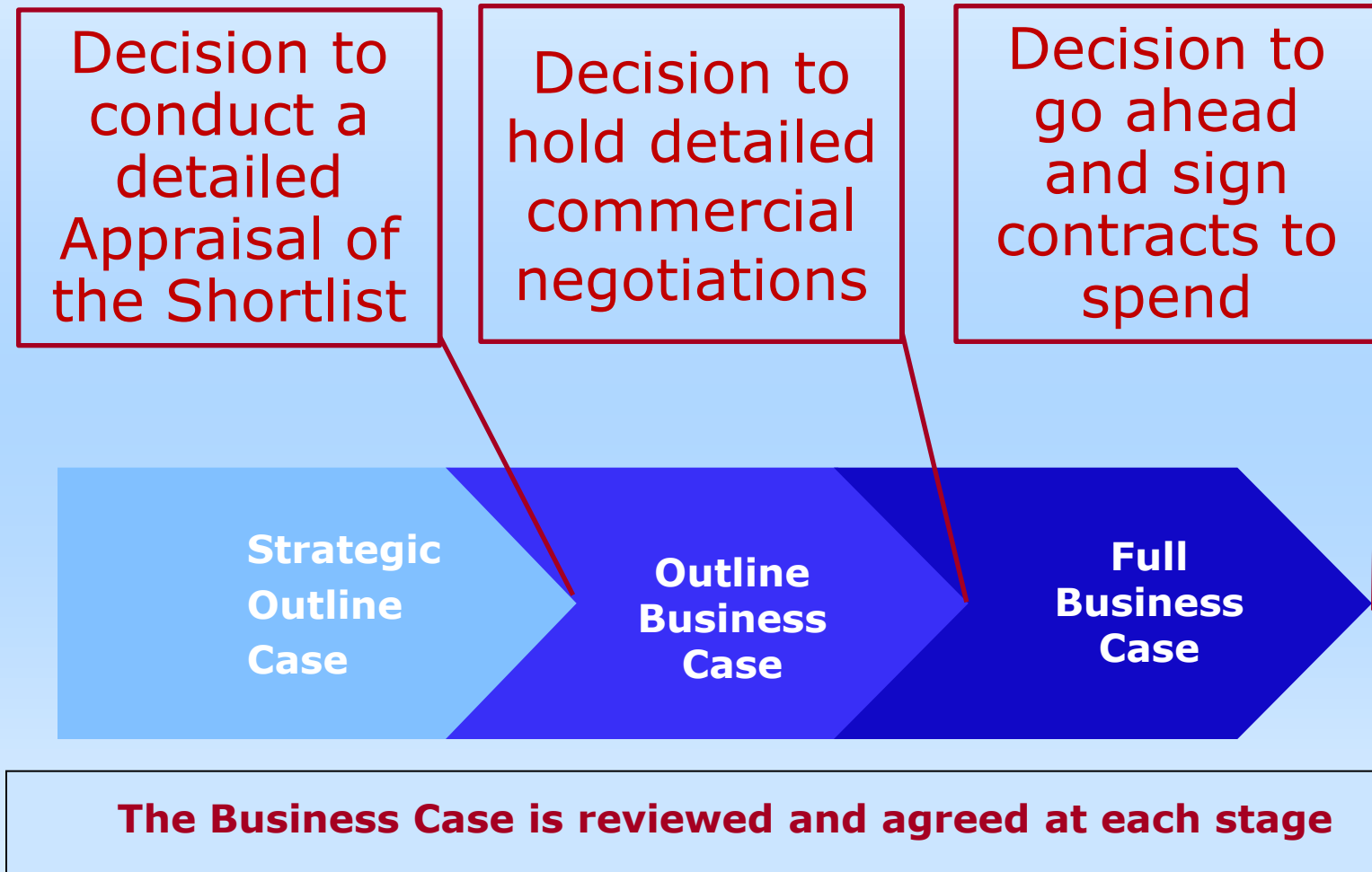
# The Treasuries 5 Case Model

## Proportionality

To the Costs,  
Risks and  
Benefits to  
society and  
to the public  
sector



# Business Cases Process Stages of Development

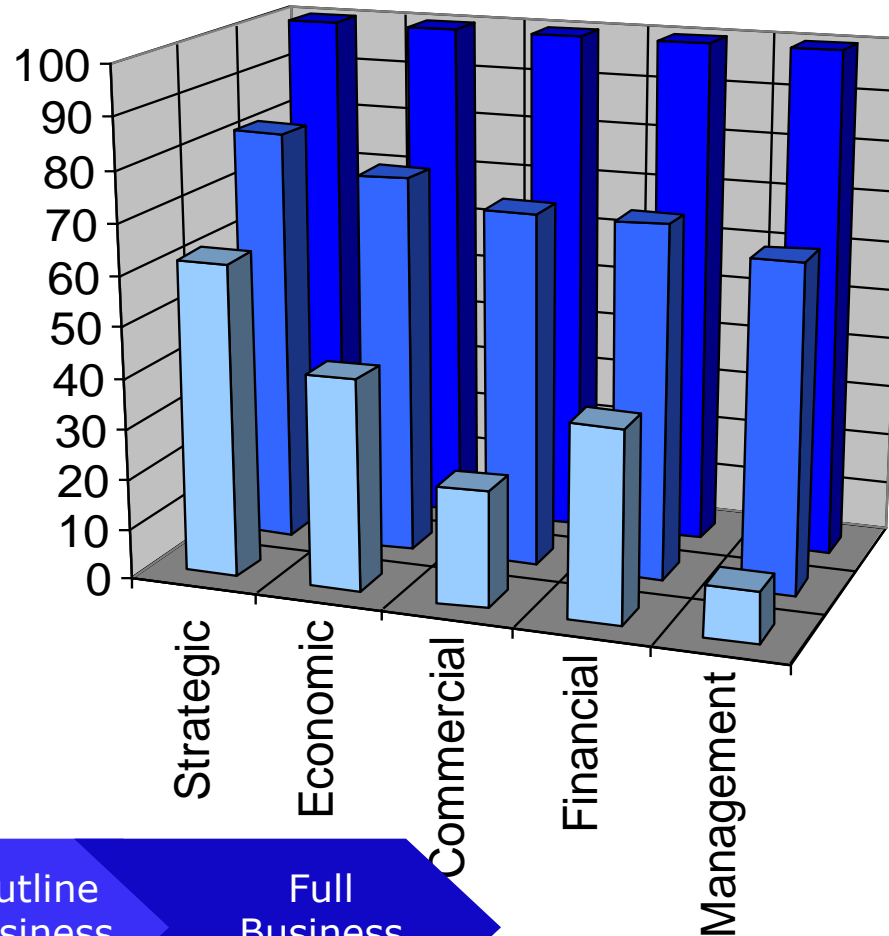


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# Development of the Business Case and the 5 Case Model

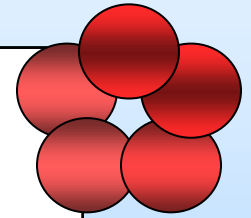
SBC, OBC & Full Business Cases (FBC)



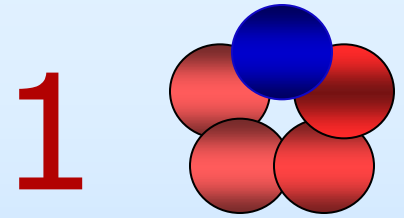
Strategic  
Outline Case

Outline  
Business  
Case

Full  
Business  
Case



# The Strategic Case



Should demonstrate:

Strategic fit: How the proposal fits with wider public sector policy and furthers more immediate objectives

The Case for Change: A clear rationale;- i.e.why are we doing this?







# Strategic Option Appraisal

- Evaluate options at each level against:
  - Investment Objective
  - Constraints
  - Critical Success Factors

To determine:

- **Short-list** (usually 4 or 5)



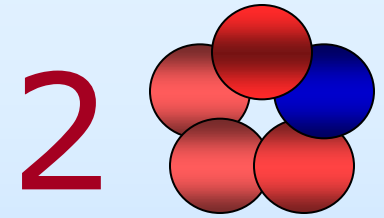


# Long listing of options (no direct read down)

<b>Scope</b>	<b>What</b>			
<b>Solution = Proposed changes</b>	<b>How</b>			
<b>Delivery</b>	<b>Who by</b>			
<b>Implement</b>	<b>When</b>			
<b>Funding</b>	<b>Cost</b>			



# The Economic Case



Should demonstrate:

**Options:** *A wide range of options for solving the problem have been considered*

**The Chosen Solution:** *The preferred approach is the optimum mix of*

- *Value for money NPV( societies net cost benefit) and*
- *Risk and*
- *Decisive non quantifiable policy objectives*



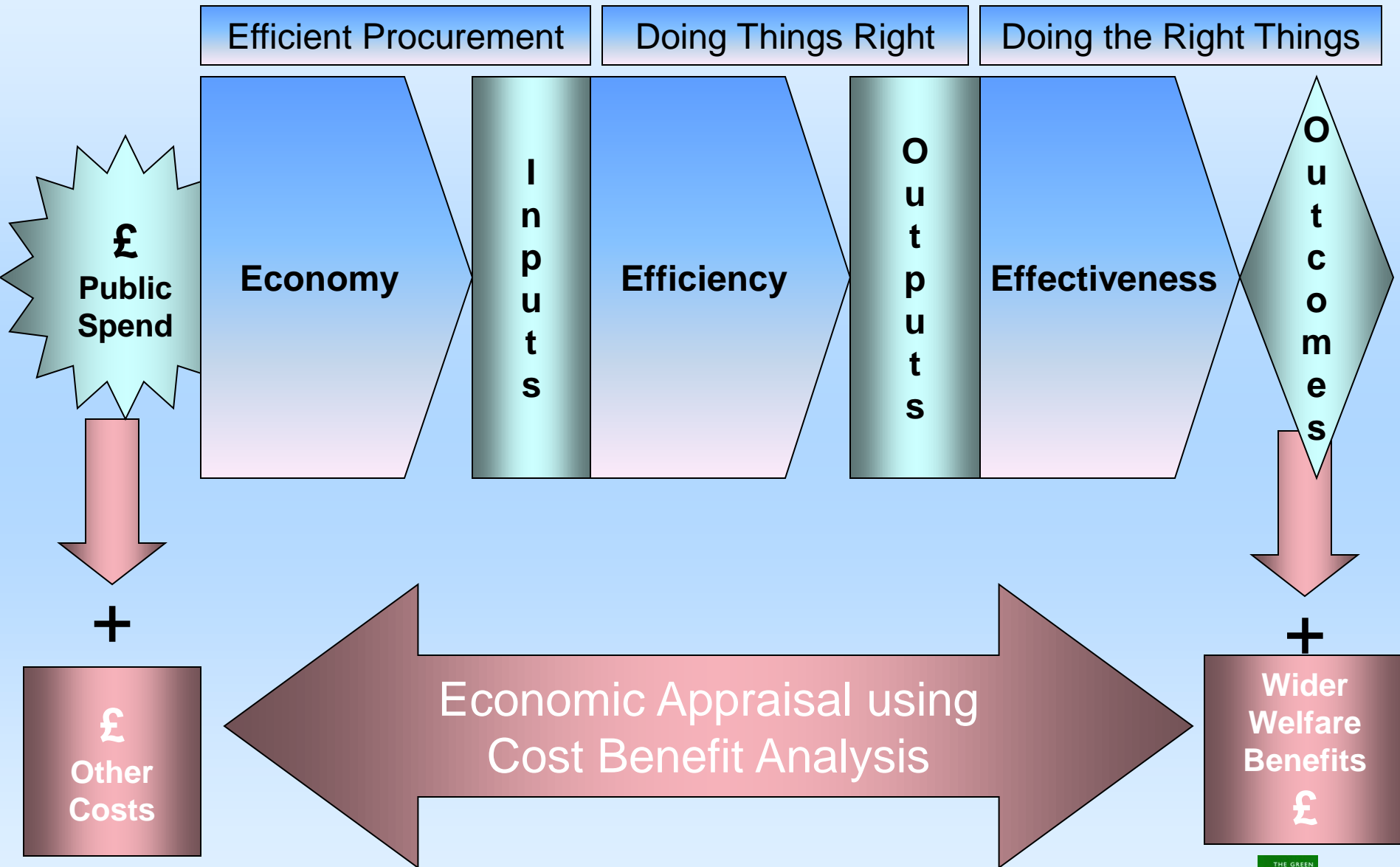
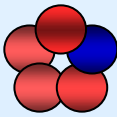
# Detailed Option Appraisal for Selection of the preferred way forward

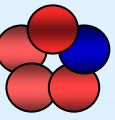


- Wherever possible and practical use Cost Benefit Analysis
  - Sometimes only cost effectiveness is possible or appropriate if so say why → transparency
- Do analysis for every short listed option
- There should be 4 or 5 of these
- Including do minimum (and do nothing if that is feasible)
- Calculate exchequer impact for each option



# Value for Money & The Public Sector Value Chain



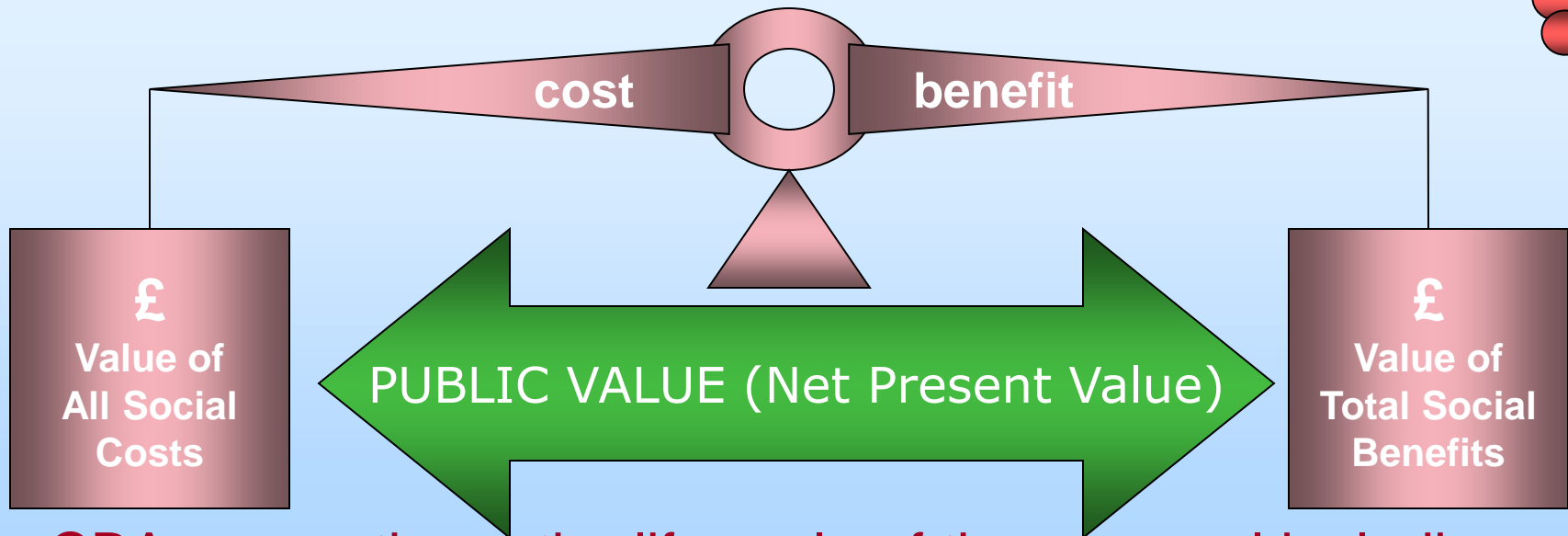
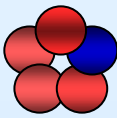


# Intervention and Public Value

Value for Money, defined  
as optimising net costs  
and benefits to society

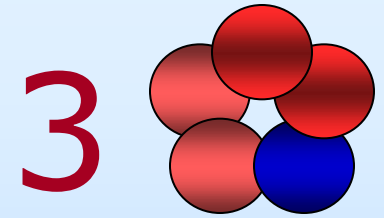
The Public sector as ultimate altruist





- CBA covers the entire life cycle of the proposal including wind up costs
- CBA covers all quantifiable social costs and benefits
- CBA includes values for the cost of risks
- CBA enables the comparison of costs and benefits occurring at different times through the use discounting
- CBA valuation is not an exact science

# The Commercial Case



Should demonstrate:

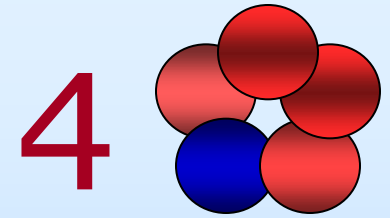
**Suppliers:** *Suppliers who can provide the requirements on an efficient market basis*

**A Potential Deal:** *A contract can be agreed that will satisfy the requirements within the value and policy constraints identified*





# The Financial Case



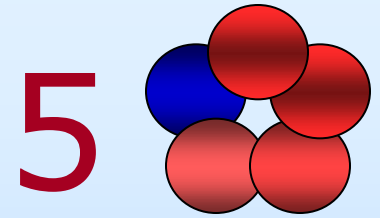
Should demonstrate:

**Financial Balance:** *capital and revenue costs are realistic and any projected savings are achievable*

**Funding:** *proposed spending is fully funded from reliable sources in both in capital and revenue*



# The Management Case



Should demonstrate:

**Ability to Deliver:** *That the organisation is capable of successfully delivering the proposal through well structured delivery plans, appropriate management and resource allocation*

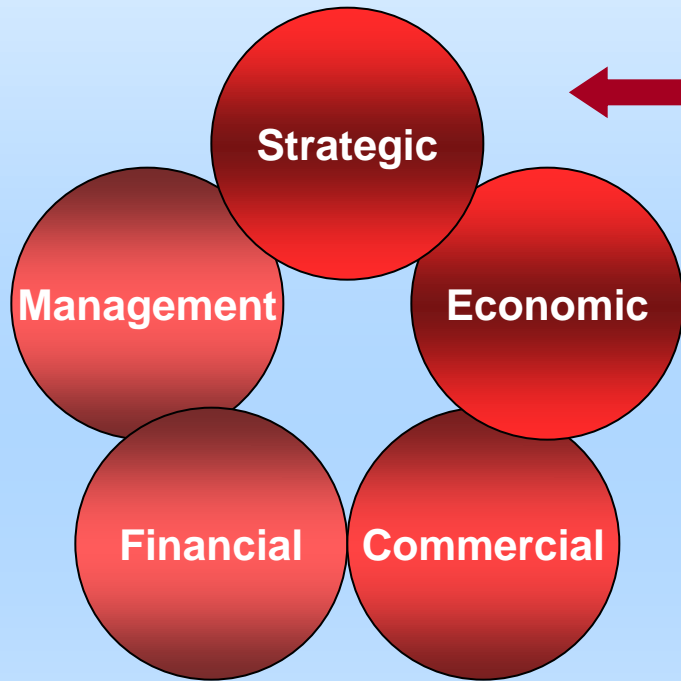
**A Robust Approach:** *Appropriate systems and processes, which comply with best practice, are in place*





# The Treasuries 5 Case Model

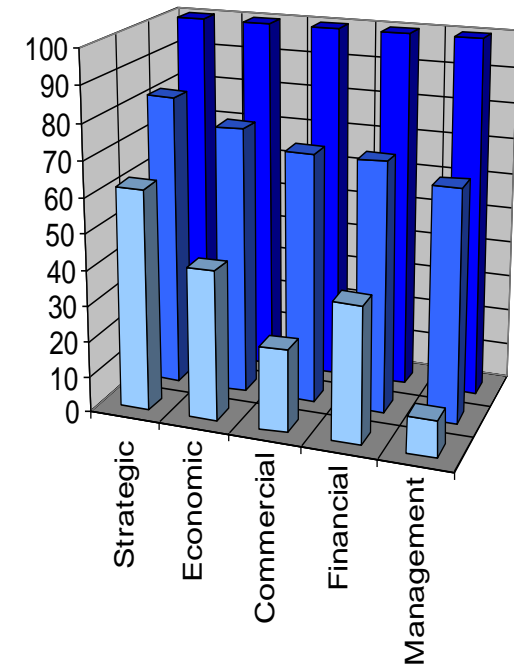
## Reminder of Business Case key elements



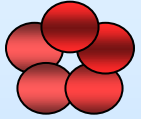
← 5 parts or dimensions of the case

Developed iteratively over time →

SBC, OBC & Full Business Cases (FBC)



# Social Cost Benefit & Exchequer Impacts



Use of benefit cost ratios (CBR) and rates of return (ROR)

## Strengths and Weaknesses

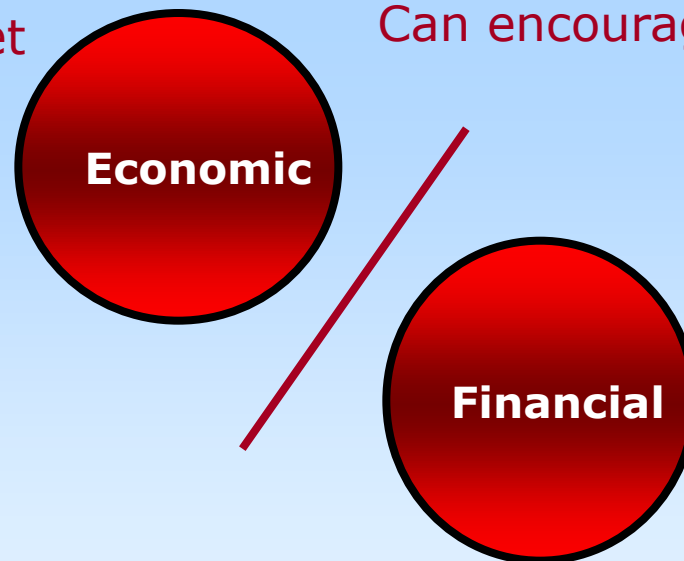
Can rank many projects with a common measure of VfM

Vitally important to recognise the Budget Constraint

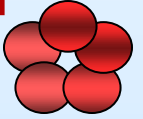
Possible Loss of Transparency

Too much reliance on one measure

Can encourage gaming

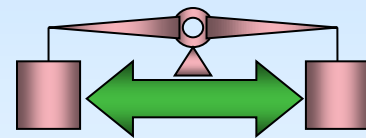


# NPV is vitally important but this is not a simple one number answer

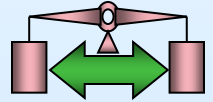


The basis of Option selection is an optimum mix of

- ***Value for money NPV*** (i.e. societies net cost benefit) and
- ***Risk*** and
- ***Decisive non quantifiable Policy issues or objectives***



# Appraisal: Distributional analysis



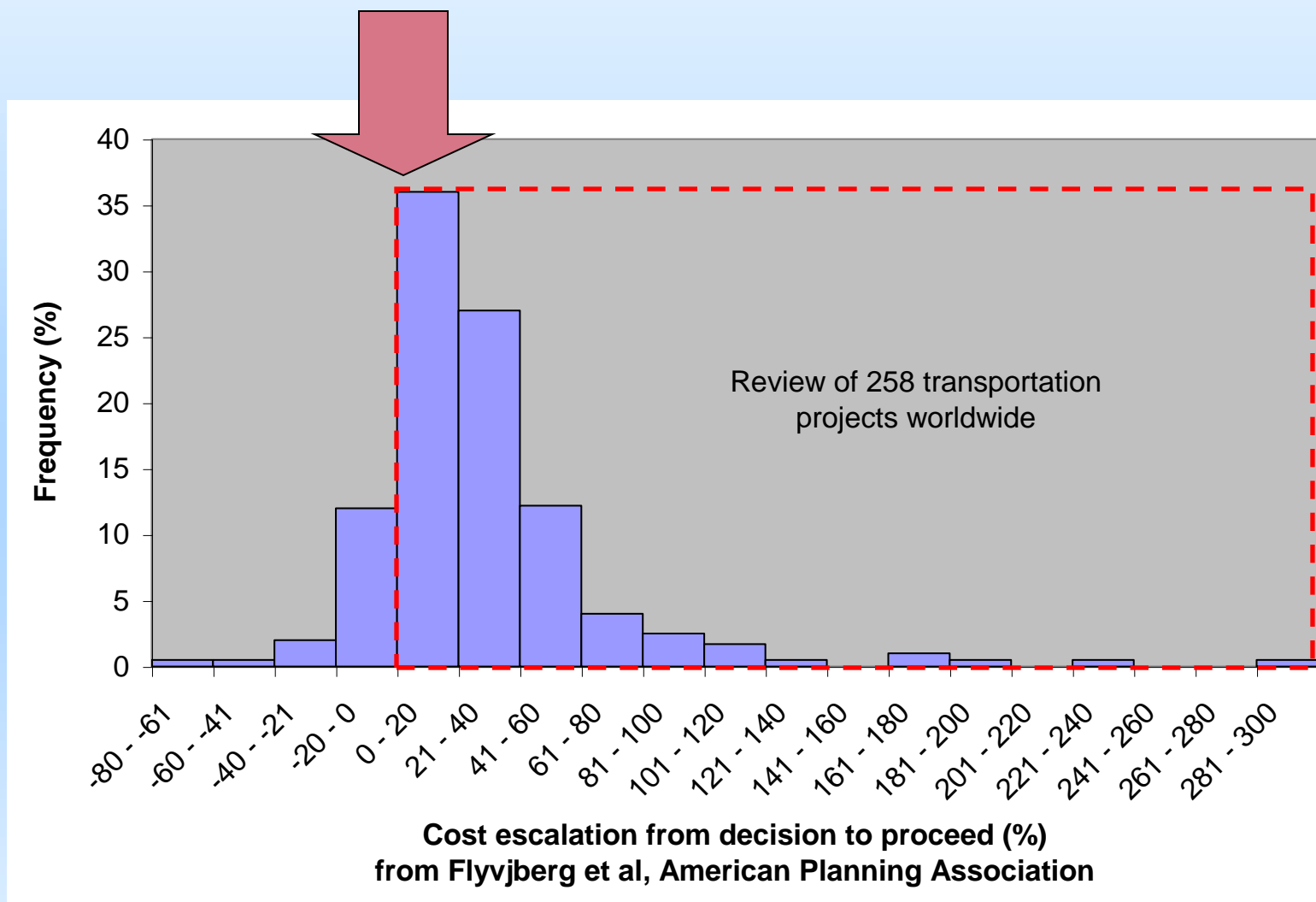
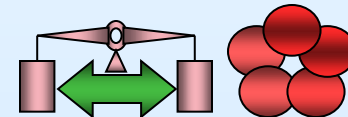
- Need to assess which groups are affected (income, gender, ethnicity, disability etc)
- Consider legality, fairness and impact on economy and society
- Poor people value an additional pound more than rich people
- GB distributional weightings:
  - Apply where data allow
  - But think about distribution anyway



# PUBLIC SECTOR TREATMENT OF RISK OPTIMISM BIAS

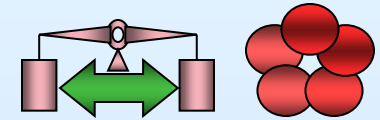


# Optimism Bias in Appraisal





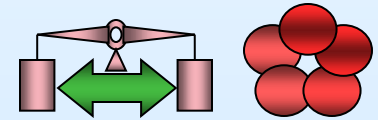
# Optimism bias



- Potential types of over-optimism
  - Costs underestimated
  - Time to complete project unrealistic
  - Benefits overstated
  - Risks not properly understood / provided for
- Causes of over-optimism
  - Accuracy of cost and time estimates
  - Technological hurdles
  - New / innovative projects
  - Changes during project (to scope / in circumstances)
  - Political / local opposition (local national / international)



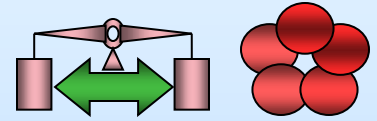
# Optimism bias: Methodology



- Adjust strategic/outline business case cost and benefit estimates with an allowance for optimism bias based on evidence from similar projects or use generic Green Book guidance.
- Reduce optimism bias as contributory risk factors are identified and costs of risk management are included in the full business case prior to contract
- Independent review (can be internal) of mitigating contributory factors
- Note: this is the job of the economic case, not financial case



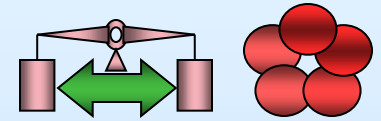
# Treatment of Risk in the public sector



- Public sector risk is incurred as an unavoidable consequence of the requirement to take action, make regulations or hold assets in pursuit of public policy
- The public sector's objective is to mitigate risks by managing them, making provision for contingency and placing risk where it can best be managed.



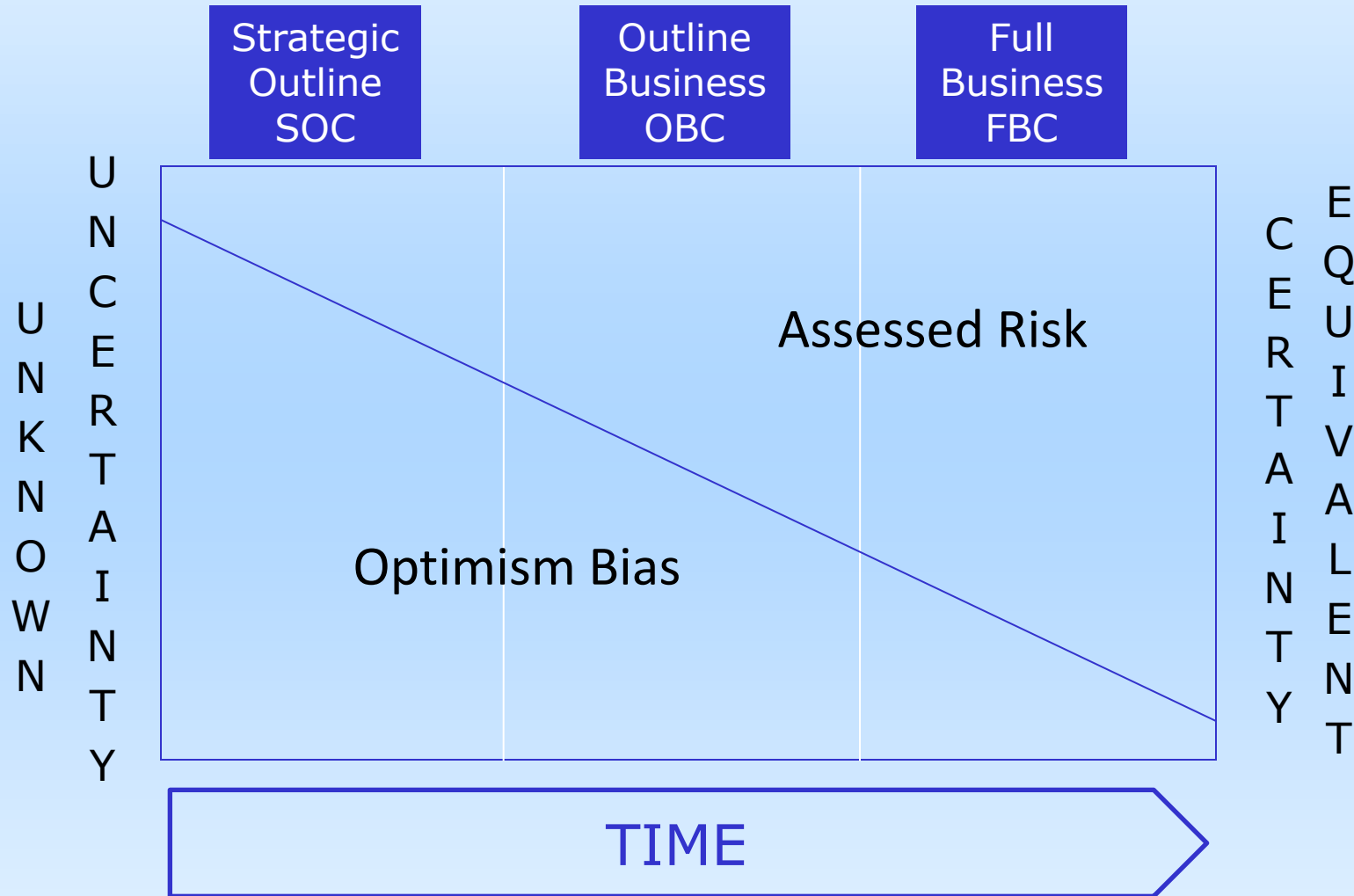
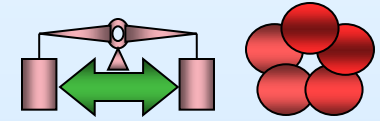
# Green Book and Risk



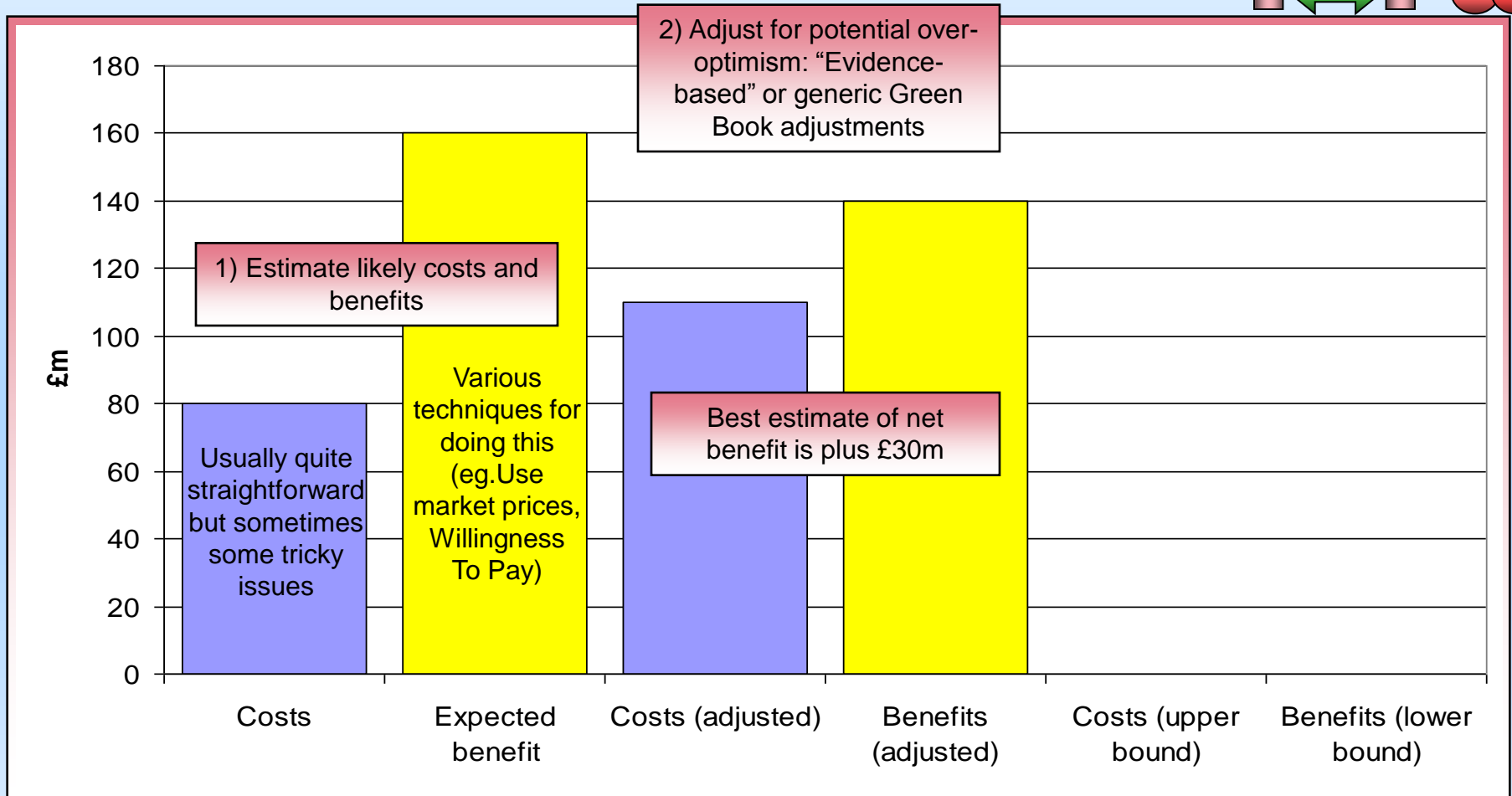
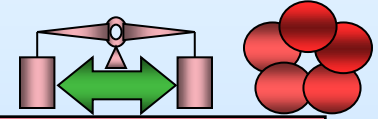
- Apply an allowance for Optimism Bias
- Identify proposal specific risks
- Create and maintain a risk register
- Place risk where it is best managed
- Be realistic about residual risk and contingent liabilities
- Calculate the cost of risk mitigation
- Explore sensitivity, worst case scenarios and switching values
- Build in risk management costs
- Reduce optimism bias as specific risk costs are accounted for



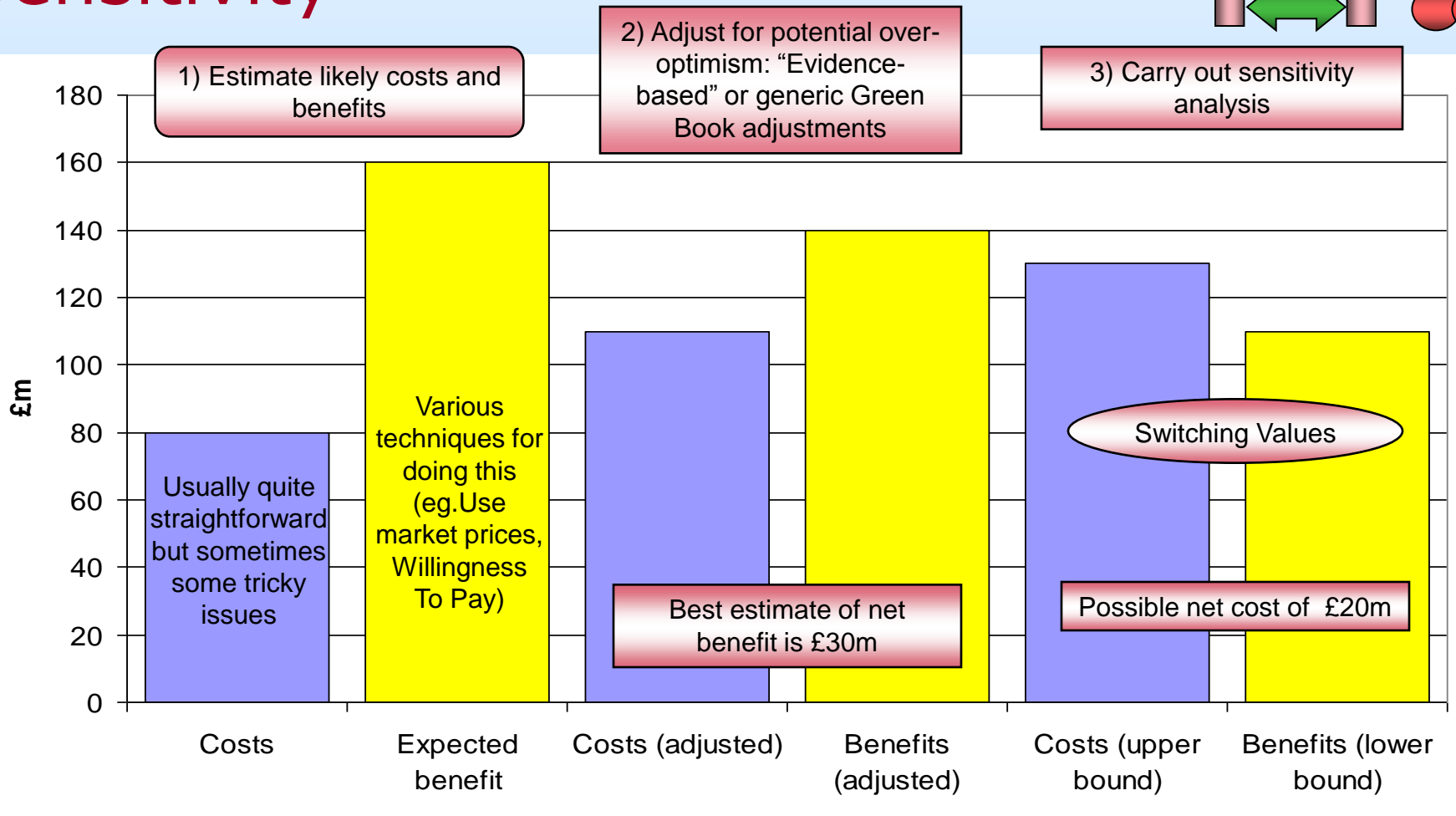
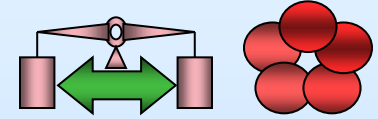
# Uncertainty Optimism Bias & Risk



# Appraisal: Simplified Example Optimism Bias

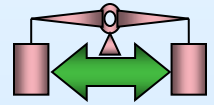


# Appraisal: Simplified Example - Worst Case Sensitivity



# DISCOUNTING



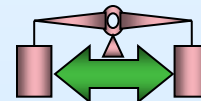


# Appraisal: Discounting

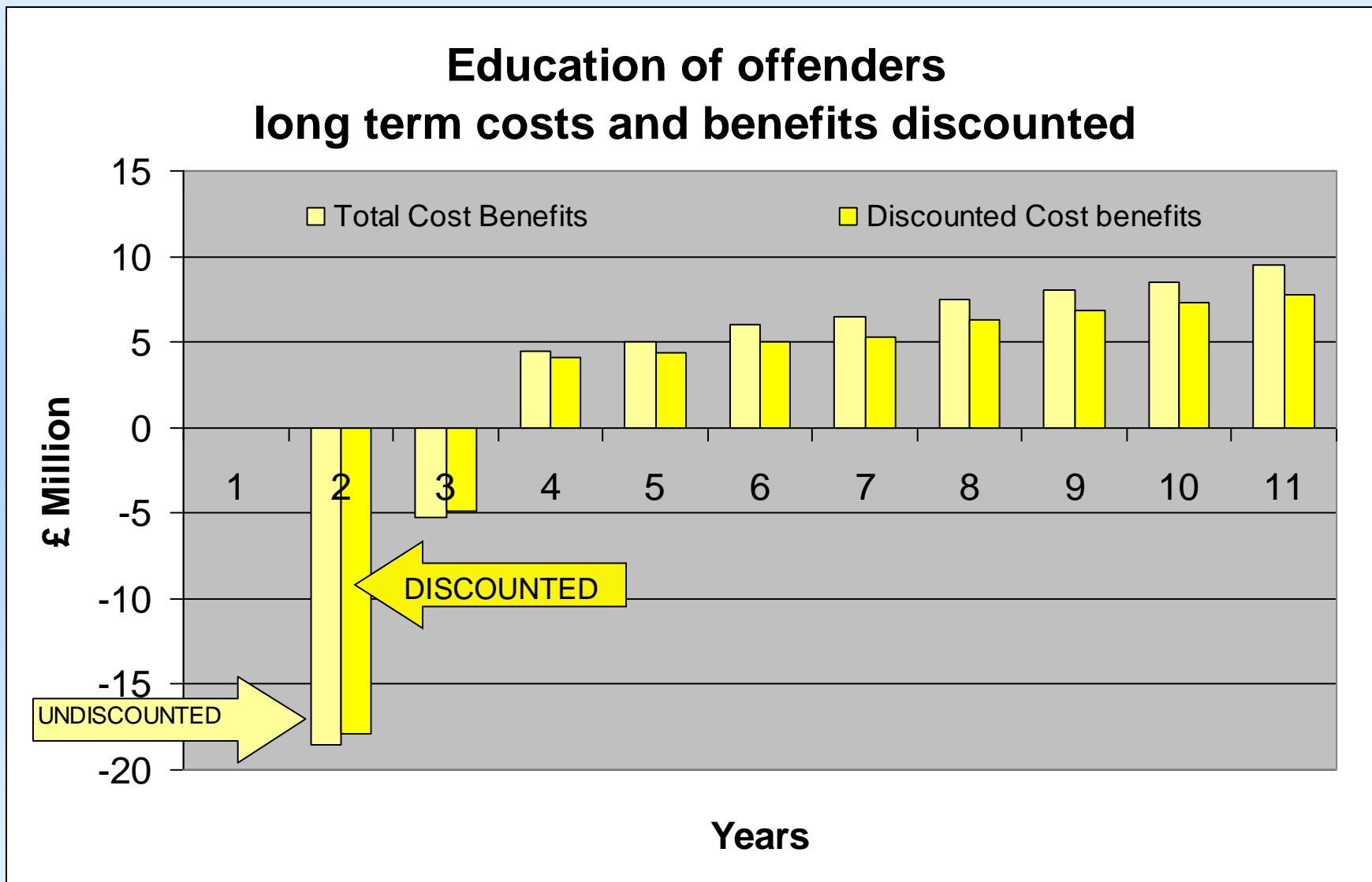
- **Discount** the future at rate of 3.5% pa (the discount rate or **Social Time Preference Rate**); the rate at which society values the present above the future
- **Net Present Value (NPV)**: discounted total of benefits minus costs
- Lower rates over the very long term (over 30 years)

**TABLE 6.1: THE DECLINING LONG TERM DISCOUNT RATE**

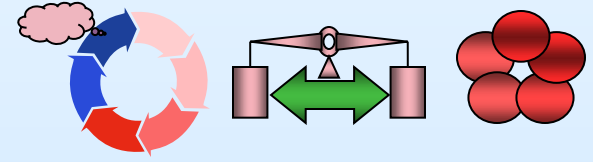
Period of years	0–30	31–75	76–125	126–200	201–300	301+
Discount rate	3.5%	3.0%	2.5%	2.0%	1.5%	1.0%



# Appraisal: Simplified Example



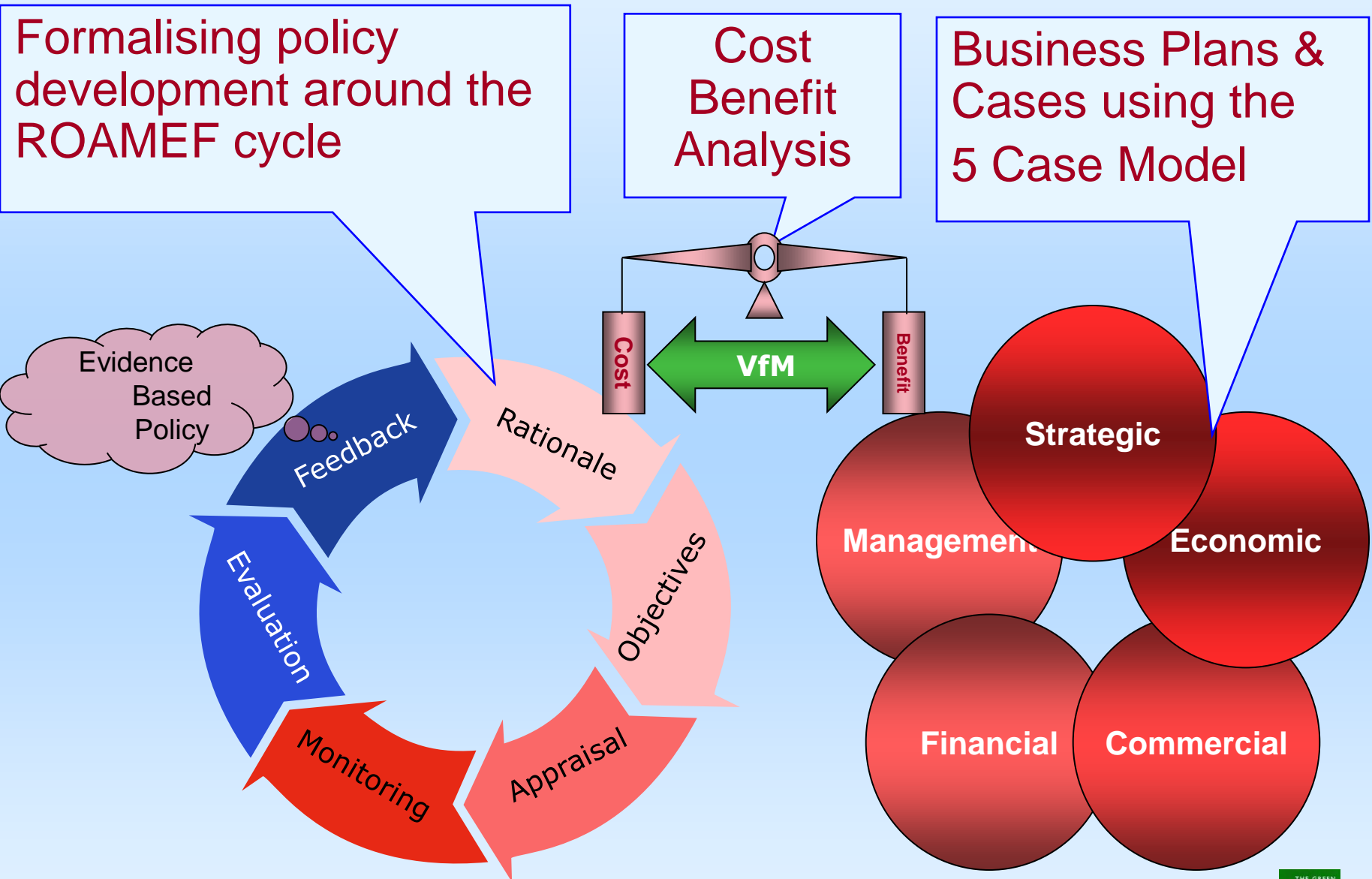
# Overview



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- 2) Economic Appraisals and Evaluations tell us about Value to Society and VfM
- 3) Use of the Green Book guidance and the 5 Case Model to produce rigorous Policy Appraisal, Impact Assessments and Business Cases
- 4) Appraisal, transparency and use of evidence the heart of all business planning/cases and impact assessments.



# The Green Book recommends



# Questions and Further Information

## Contact

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## Further Information

### **Green Book homepage**

[http://www.hm-treasury.gov.uk/green\\_book.htm](http://www.hm-treasury.gov.uk/green_book.htm)

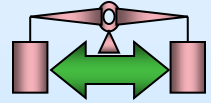
### **Business Case Resources page**

[http://www.hm-treasury.gov.uk/data\\_greenbook\\_business.htm](http://www.hm-treasury.gov.uk/data_greenbook_business.htm)



END

# Appraisal: Components of the discount rate



## Three elements

2%

Wealth effect

Society  
tends to get  
richer over  
time

+

1%

Catastrophe risk

Uncertainty  
about the  
future

+

0.5%

Social time  
preference

People prefer goods /  
services sooner  
rather than later

= 3.5%