



Institute of
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New Zealand

Public Sector Economics: The Basics for Non-Economists

Microeconomics

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Economics is about behaviour

- It is about how people make choices
- *Microeconomics* examines individual behaviour – firms and households
- *Macroeconomics* examines economic aggregates - income, output, employment, and so on – behaviour on a national scale

Economics is central to policy

- Economics uses a simple, logical, consistent framework, with transparent assumptions, to analyse policy problems and the effects of policy changes
- It uses criteria to assess the efficiency and equity impacts of policies
- Many of the familiar words used in policy analysis are economic – eg incentives, tradeoffs, opportunity costs, cost-benefit analysis
- Economics is particularly useful to frame policy questions and solutions when there is little empirical evidence
- Economics does not have all the answers...
- ...but it is the starting point for thinking about policy
- So we will start by understanding the economic way of thinking

What we will talk about today

1. The economic way of thinking
2. The rationales for government intervention
3. Policy levers
4. Policy decision-making

The economic way of thinking

Scarcity is everywhere

- Everything is scarce - even things that seem abundant are finite and limited
- Scarcity means we need to make choices about how to use scarce resources such as time, money, water, air
- Scarcity is a fundamental principle in economics
- It leads to further principles
 - Institutions – rules guide choices
 - Constraints – all choices are constrained
 - Tradeoffs – making choices involves weighing alternatives
 - Opportunity cost – the cost of a choice is the next best alternative forgone

Institutions are the “rules of the game”

- Scarce resources are inevitably over-exploited when there are no rules
- Rules create costs and benefits to affect incentives and behaviour
- Different institutions have different effects
- Institutions can be assessed on their effectiveness, efficiency and equity
- Comparative institutional analysis is the heart of policy



Choice is constrained

- Scarcity means that all choices are constrained
- Decision-makers do the best they can when choices are constrained
- Policy choices are often constrained by budget availability or political feasibility



Choices involve tradeoffs

- Using a scarce resource for one purpose means it is not being used for another
- Time, attention, and money are limited so choices involve tradeoffs
- Most policy choices involve tradeoffs



Every choice has an opportunity cost

- Scarcity means that the opportunity cost of a choice is the value of the best alternative forgone
- The cost of something is what you have to give up to get it
- Deciding in favour of one option always means deciding against some other option (the opportunity cost)
- All policy choices have an opportunity cost



People choose purposively

- People make the best choices they can, in the circumstances, to maximise their interests
- Rationality means people in general act in relatively predictable ways to further their interests – this is core to policy design
- But sometimes people's decisions are limited by their cognitive ability and unconscious biases
- Rationality is a fundamental concept in economics
- It involves further principles
 - Incentives - people respond to incentives
 - Marginality – people choose at the margin
 - Information - people get th

People respond to incentives

- Both positive and negative incentives affect people's choices and behaviour
- Responses to incentives are generally predictable because people usually pursue their self-interest
- Policy changes behaviour by altering incentives through rewards and penalties
- Understanding the incentives people face is crucial in predicting responses to policy



Economic thinking is marginal thinking

- Marginal changes are incremental adjustments in activity
- People compare the costs and benefits of each additional unit of activity eg extra slice of cake vs extra kilo weight
- At some point, the marginal cost will equal the marginal benefit - this is the optimal level
- The optimal level of most “bad stuff” that policy seeks to reduce (eg pollution, smoking) is not zero because it becomes too costly to eliminate relative to the benefits



People get just enough information

- Like other resources, information is scarce
- People try to get the best information they can
- But information is never perfect
- So all decisions are made under uncertainty
- Policy decisions are fraught with uncertainty



Markets work...most of the time

- Specialisation - People specialise in what they do best
- Trade - Trade makes both parties better off
- Price - Price is a signal that brings goods to market
- Markets - Trade allows scarce resources to be used efficiently

People specialise in what they do best

- People specialise where they have a comparative advantage
- They trade with other people who specialise in producing other things
- Everyone consumes goods and services produced by many other people in New Zealand and around the world
- Trade allows everyone to enjoy a greater quantity and variety of goods and services
- The principle of comparative advantage applies to countries as well as people



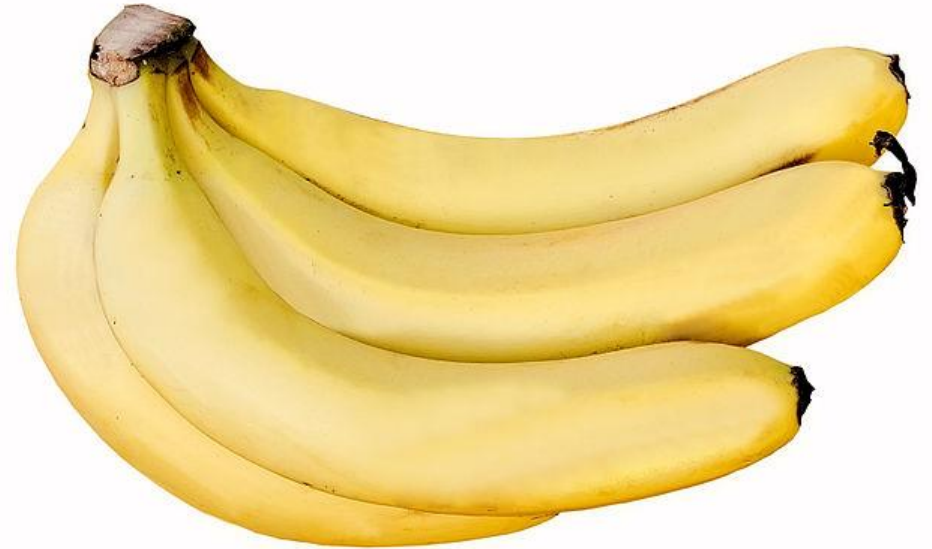
Trade makes both parties better off

- Trade occurs when a buyer is willing to pay a higher price for a good than it's worth to the seller
- Trade creates value for both parties
 - The difference between the price paid and the price the buyer was willing to pay is the *consumer surplus*
 - The difference between the price paid and what the seller was willing to accept (ie to cover all costs) is the *producer surplus*



Price is a signal that brings goods to market

- Trade between buyers and sellers sets prices
- Prices rise and fall to reflect shortages and surpluses
- Prices changes act as signals between consumers and producers ie the “invisible hand”
- Higher prices are a signal to suppliers to expand production to meet higher demand
- Lower prices eliminate a surplus of goods in the market



Trade allows goods to be used efficiently

- Trade moves goods to the person who values them most highly ie the market is allocatively (Pareto) efficient
- Other measures of efficiency used to assess policy include productive efficiency (the value of output relative to the value of inputs) and dynamic efficiency (incentives for technical progress)
- But the outcome of an efficient market may not be fair
- One or more “market failures” is generally present to some extent - yet most markets work pretty well most of the time
- If a market failure is bad enough, it may warrant government intervention – if the government can do better
- The market requires other institutions to operate effectively +

The rationales for government intervention

Externalities lead to too much harmful and too little beneficial activity

- Generators do not bear the costs/enjoy the benefits of their activities
- Policies seek to make generators bear the full costs of their activities
- Market mechanisms
 - Cap and trade
 - Taxes/subsidies
- Non-market mechanisms
 - Regulation
 - Information, suasion



There is no incentive for the private sector to provide public goods

- Public goods are *nonrivalrous* in consumption and *nonexcludable*
- The government can provide public goods with taxes (eg national defence)
- Local public goods (eg streetlights) are provided by councils
- Club goods are provided by members (who may tolerate free-riders)



Imperfect information makes it difficult to make welfare-enhancing choices

- Information asymmetries result from
 - inability to observe quality
 - hidden actions (moral hazard)
 - hidden characteristics (adverse selection)
- Private solutions include signalling, co-payments, branding, guarantees
- Policies include mandated disclosure, occupational licensing



Firms with market power can raise prices

- Firms have market power when consumers have no substitutes and there are barriers to entry by new firms
- Consumers lose more than monopolists gain from market power
- Monopolists eliminate competition by
 - Mergers - buying out competitors
 - Cartels - colluding with competitors
 - Predation - forcing competitors out of business
- Competition law seeks to block these routes

Missing markets prevent transactions

- Market may not exist or be incomplete
- Policies are bespoke
 - establishing and enforcing property rights
 - creating a market (eg ITQs, ETS)
 - as part of a system overview to address gaps in the functioning of the system
 - addressing co-ordination problems

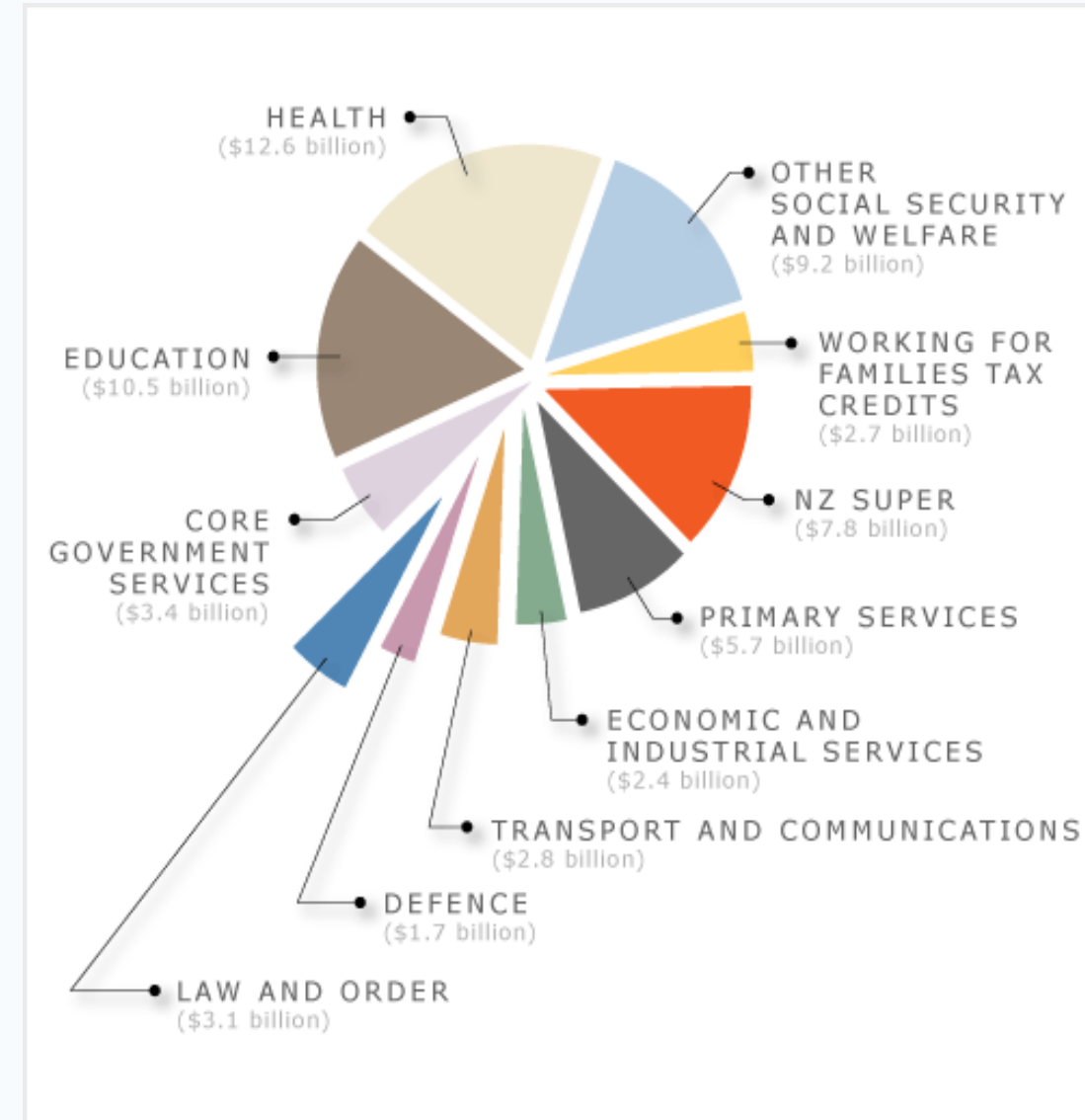
People may be boundedly rational

- People may not be able to make decisions that make them better off because of eg
 - limited information
 - cognitive limitations/biases
 - vulnerability
- Consumer protection policies support sound decision-making



Equity is an important reason for intervention

- Equity is the basis of much government intervention – it is not a ‘market failure’ rationale
- What is fair is ultimately a political decision – economic analysis can provide information on the distribution of costs and benefits
- Other rationales apart from market failure include “government failure”, risk-bearing, morality, and the provision of legal and political institutions



Policy levers

The government's levers are carrots, sticks and sermons

- Regulation
 - Legal framework (eg electoral)
 - General (eg competition)
 - Industry (eg banking)
- Taxation
 - General taxation (eg GST)
 - Excise taxes (eg alcohol)
- Funding
 - Redistribution (eg welfare)
 - Services (eg health, education)
 - Subsidies (eg home insulation)
- Ownership/provision
 - Public goods (eg defence, parks)
 - Infrastructure (eg schools, hospitals)
- Information
 - Disclosure (eg food labels)
 - Provision (eg Geonet)
- Behavioural “nudges”

Choices can be influenced by behavioural “nudges”

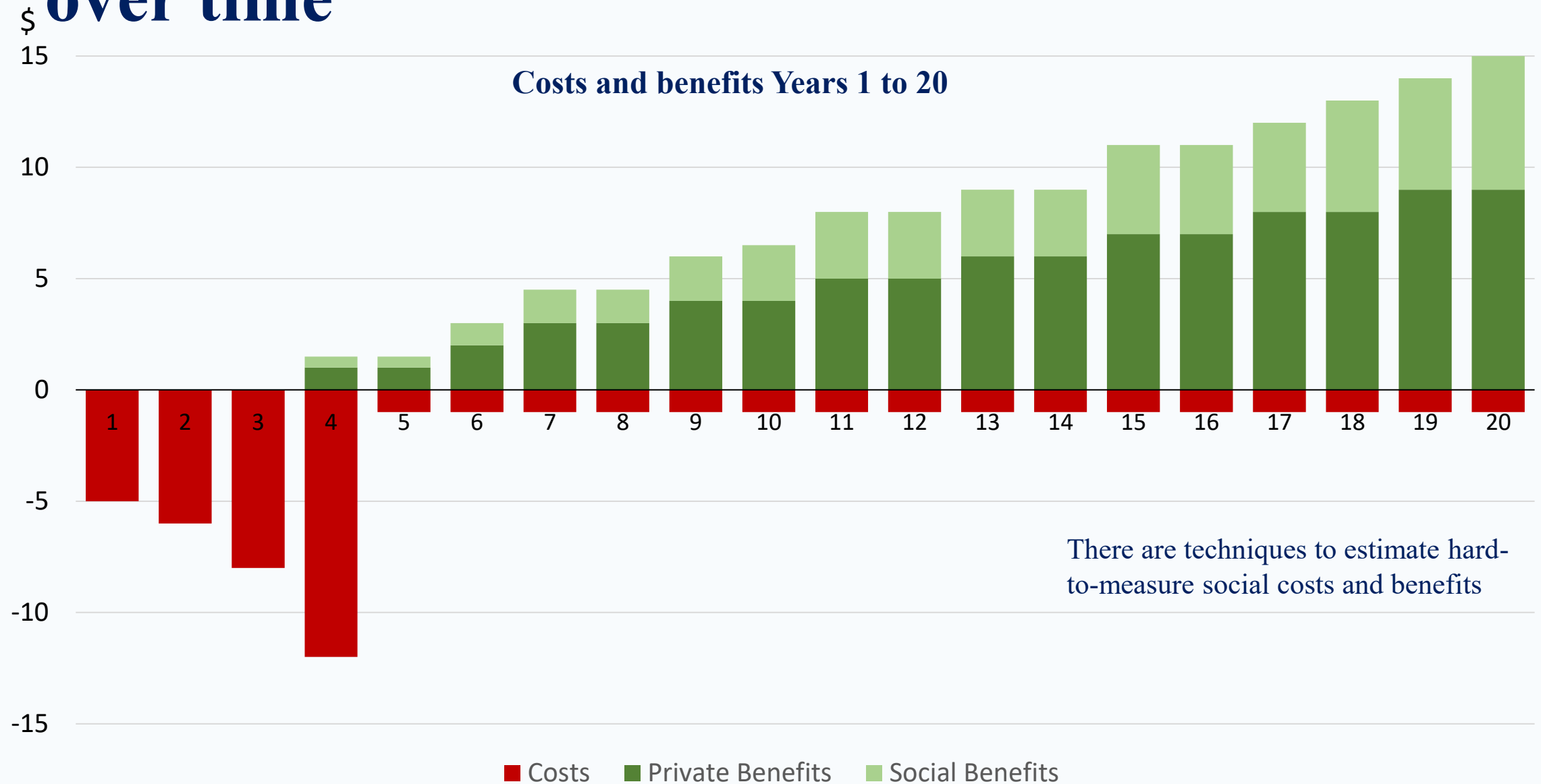
- **Cognitive biases and bounded rationality mean people are *predictably* irrational**
 - **Loss aversion** – weigh losses more than gains -> tax at source
 - **Default bias** – stick with the first option -> use opt-outs rather than opt-ins
 - **Social norms** – conform to norms -> say what others do
 - **Rules of thumb** – mental shortcuts economise on cognitive effort -> simplify choices & messages
 - **Projection bias** – forecast future on the current state -> encourage self-commitment; reminders
 - **Framing** – how messages are framed affects choices -> reframe incentives
- **Nudges can shape choices without closing off options**
 - **E – Easy** -> use default options, simple messages, make processes easy
 - **A – Attractive** -> attract attention; use simple choices
 - **S – Social** -> show the desired behaviour is the norm, encourage social commitment
 - **T – Timely** -> text reminders; prompt when people are most receptive

Policy decisionmaking

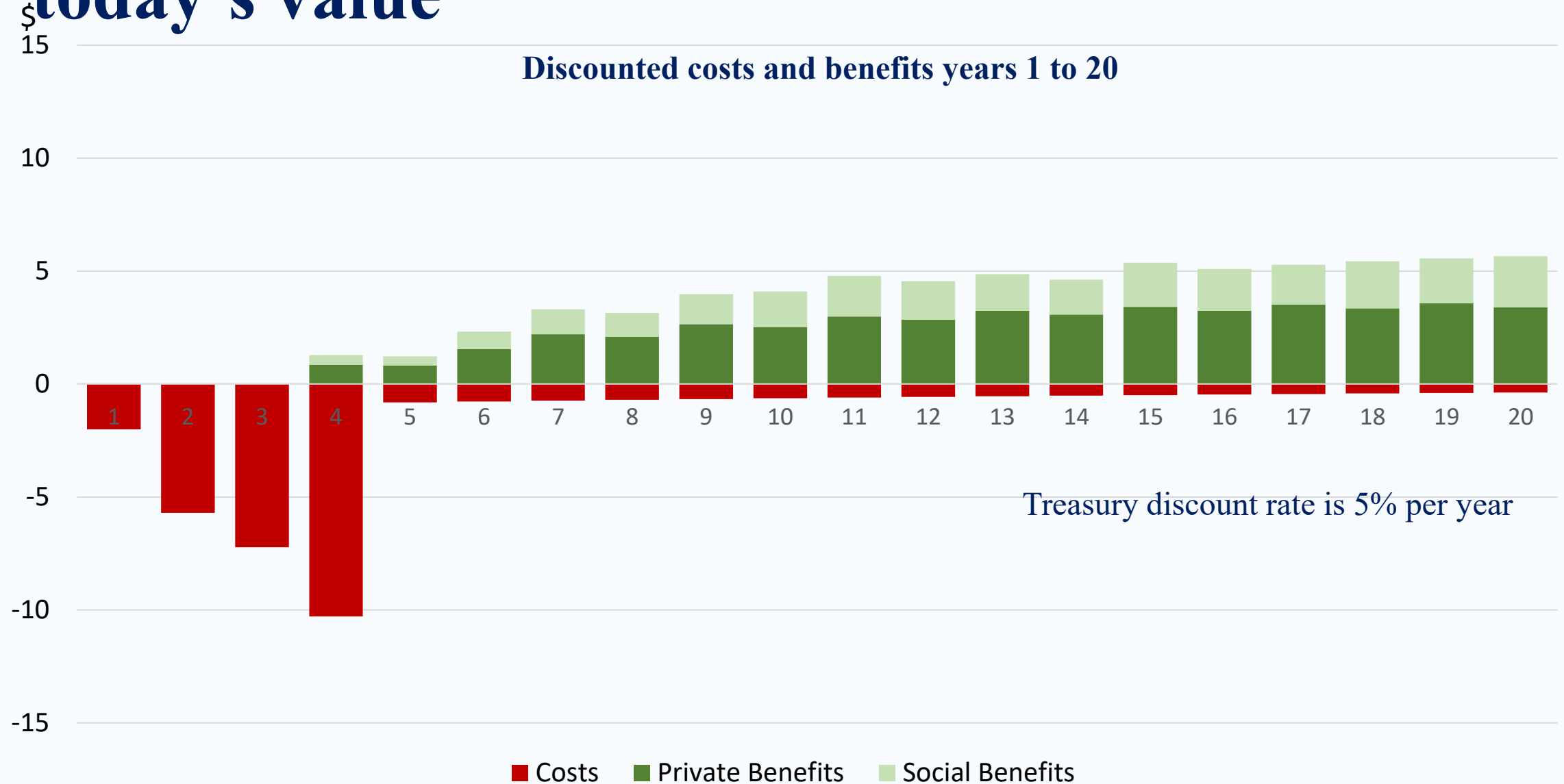
Economics provides tools for assessing policy

- The main criteria for assessing policy are:
 - **Effectiveness** – will it work? Predict the responses to incentives
 - **Equity** – is it fair? Estimate who wins and who loses and by how much
 - **Efficiency** –
 - Does it distort behaviour (allocative efficiency)?
 - Does it prevent innovation (dynamic efficiency)?
 - Do the benefits outweigh the costs (productive efficiency)? Use Cost-Benefit Analysis

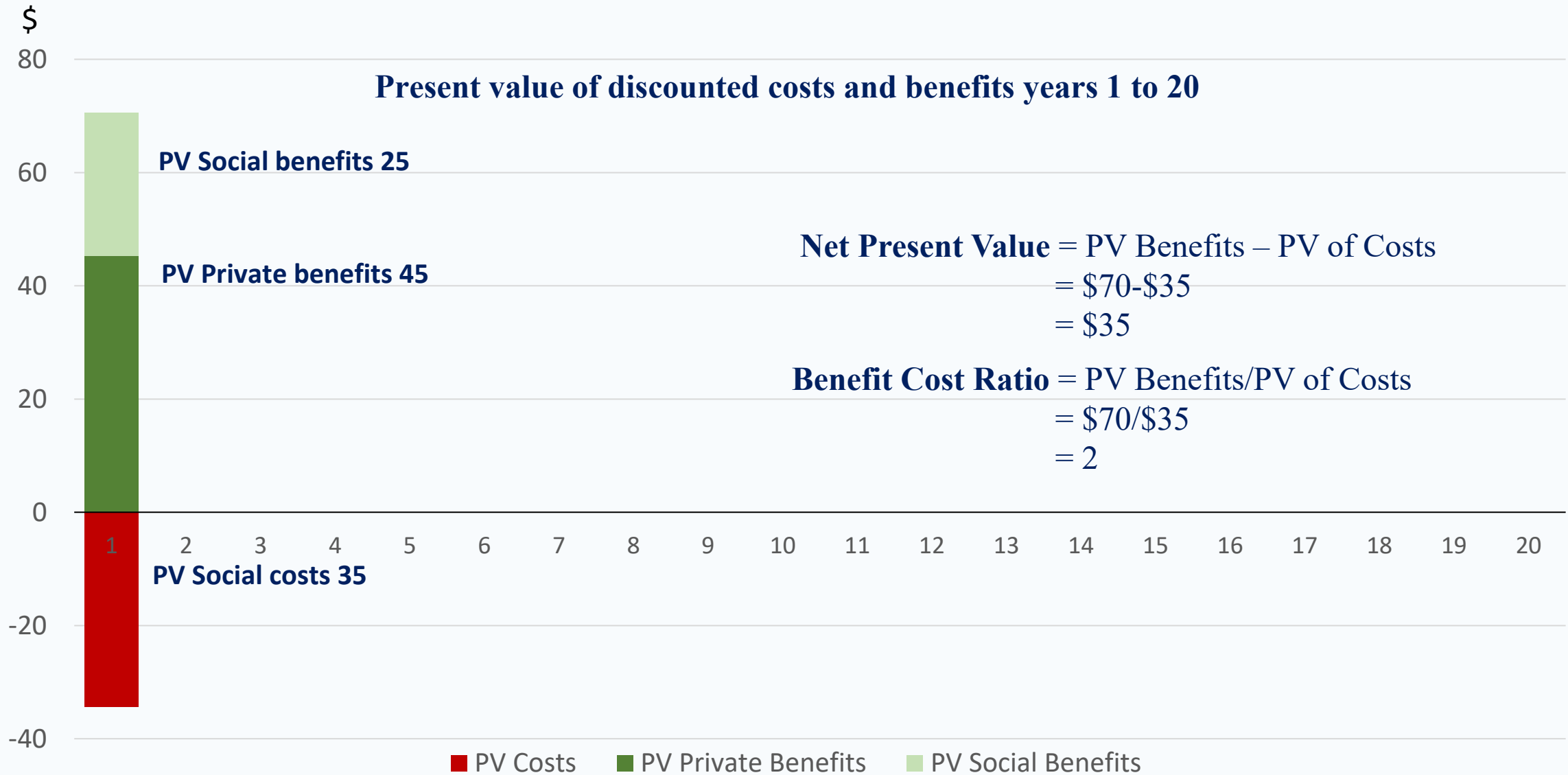
CBA: Estimate costs and benefits and array over time



Discount future costs and benefits to bring to today's value



Assess whether investment is worthwhile



Policy decisions are made under uncertainty

- The effects of policy are always uncertain, given the complexities and interdependencies in society and economy, and the unpredictability of people's reactions to change
- The bigger the policy issue, the more robust the evidence and analysis needs to be
- So sound policy advice under uncertainty should include:
 - Systems thinking to understand wider linkages in complex systems
 - Robust policy analysis. Economic theory provides a sound, logical and rational framework for decision-making in the absence of good evidence
 - The best available evidence on the policy problem and solutions, with transparency about its limitations and risks
 - Assessment of options. Economic modelling and scenarios can help identify impacts of policy choices
 - The ability to learn and to continue, correct or terminate policies (eg through pilots, monitoring and evaluation, feedback loops)

What we've covered today

Microeconomics - The Basics

Economic Thinking

Scarcity – Everything is scarce

- Constraints – all choices are constrained
- Institutions – rules guide choices
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- Opportunity cost – the cost of a choice is the next best alternative forgone

Rationality – People choose purposively

- Incentives - people respond to incentives
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Markets work ...most of the time

- Specialisation - people do what they do best
- Trade - both parties benefit from trade
- Price - signal that brings goods to market
- Markets - trade allows scarce resources to be used efficiently

Rationales for government intervention

Market failure – Helping the market work better

- Externalities – unintended, uncompensated impacts on 3rd parties
- Public goods – non-rival and non-excludable
- Market power – monopolist sets quantity or price
- Information asymmetry – parties have different information
- Missing markets – not possible to trade or transact
- Rationality – bounded ability to make good decisions

Equity – Making distribution of goods and services fairer

Others eg

- Government failures
- Legal framework
- Residual risk bearer
- Morality

Policy levers

Regulation

- Legal framework
- General
- Industry

Taxation

- General taxation
- Excise taxes

Funding

- Redistribution
- Services
- Subsidies

Ownership/provision

- Public goods
- Infrastructure

Information

- Disclosure
- Provision

Behavioural “nudges”

- E - Easy
- A – Attractive
- S – Social
- T – Timely

Policy decisionmaking

Assessment criteria

- Effectiveness – will it work?
- Equity – is it fair?
- Efficiency - do the benefits outweigh the costs/ does it distort behaviour/ does it prevent innovation?

Cost Benefit Analysis

- Discount rate
- $NPV = PV \text{ benefits} - PV \text{ costs}$
- $B:C \text{ Ratio} = PV \text{ benefits} / PV \text{ costs}$

Uncertainty and complexity

- Robust policy analysis
- Systems thinking
- Best available evidence
- Transparency about limitations and risks
- Assessment of options
- Feedback loops and learning