Cost-Benefit Analysis in Public Policy

Crime Policy

Why Cost-Benefit Analysis?

- The benefits of public policies & programs come at a price: imposed costs
  - Public costs
    - Tax dollars
    - Government personnel
  - Private costs
    - Economic costs
    - Constraints on rights

} Opportunity Costs

How do we know when the benefits are worth the costs?

- Setting a common standard for determining at what level of services a policy/program may be worth implementing
- Setting a common standard for choosing among policies/programs that compete for public resources
- <u>NOT objective/scientific standards for decision-making</u>
  - Cannot tell us whether or not a program/policy is worthwhile

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Social Intent Matters

- Benefits do NOT have to be > Costs
  - Aid to dependent Children
  - National Security

- Program A
  - Cost = $10,000,000
  - Benefit= $15,000,000

  - Benefit – Cost
    - $5,000,000

- Program B
  - Cost = $6,000,000
  - Benefit= $6,000,000

  - Benefit – Cost
    - $0

Scale Matters

- Program A
  - Cost = $10,000,000
  - Benefit= $ 9,999,000

  - Benefit – Cost
    - $1000

- Program B
  - Cost = $10,000
  - Benefit= $ 9,000

  - Benefit – Cost
    - $1000

Executive Order 12291

- February 1981 -- Reagan
- Regulatory Impact Analyses
  - Cost-Benefit Analysis required
  - Submitted by all agencies
  - Reviewed by Office of Information & Regulatory Affairs
    - OMB office in White House

Executive Order 12291

- Potential benefits to society must outweigh potential costs
- Regulatory objectives must maximize net benefits to society
- Regulations must impose least net costs to society in achieving objectives
- Regulatory priorities must maximize aggregate net benefits to society taking into account
  - The state of the economy
  - The state of particular industries

Clinton EO 12866

- CBA to include non-quantifiable measures:
  - "…both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nevertheless essential to consider. . . . Agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health, and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach."

Cost-Benefit Analysis as Method

- Monetize all *significant* costs & benefits
- Discount future costs and benefits
  - Time-value of money
- Discount for Uncertainty of Outcomes
- Compare Costs-Benefits within a Program
- Compare Costs-Benefits between Programs

CBA & Economic Efficiency

- Assumes a Core Goal for Government Performance = Economic Efficiency
  - Getting the most "output" for the least "input"
- Maximizing *overall social welfare* for every $ spent on government programs
  - All problems are equal: there are no overarching societal priorities

CBA - Advantages

- Comparability
- Transparency
- Ignorance Revelation

CBA - Limitations

- Economic valuation of public goods highly uncertain
  - Not traded in markets
- Costs are easier to monetize than public benefits
  - Public costs in bureaucracy, program implementation
  - Private costs in taxes, fees, transaction costs, etc.
- Many parameters are Judgment values
  - USACE Barge Study
- Non-material values difficult to monetize
  - Existence values
  - Nuisance values
  - Aesthetic values
  - Cultural & social values
  - Historical values

CBA - Limitations

- Standing (stakeholders)
  - Whose benefits and costs do we count?
    - Among existing interests
    - Future generations
    - "non-human" stakeholders?
- Ignores distributional effects
  - Those receiving benefits and those burdened with costs may not be the same
    - Caldor-Hicks criterion
      - Societal standpoint it does not matter

CBA - Limitations

- Societal Welfare $\neq \sum$ Individual Welfare
  - What we want individually may not be what we want collectively
  - What about intensity of preferences?
- Unstable Societal/Individual Preferences
- Policy Outcomes are Uncertain
  - Sensitivity to characterization of probabilities
- Future Values need discounting
  - sensitivity to choice of rates & timeframe

Discounting: Net Present Value
"Time-value" of money

- $PV = \sum \dfrac{(B_t - C_t)}{(1+r)^t}$ for t=0, T

- $PV = \dfrac{B-C}{r}$ for T=∞

Vagaries of Discounting

- Goals with long time frames are discounted
  - Programs with near-term costs and far-term benefits look especially bad
    - Endangered Species Protection
- What is the appropriate time value for discounting?
- Outcomes of CBA very sensitive to discount rate
  - Different Government Agencies use Different Rates
    - OMB: 10% + inflation correction
    - GAO: current yield of treasury debt
      - With sensitivity analysis
    - CBO: current treasury borrowing rate
      - With sensitivity analysis

Crime Policy

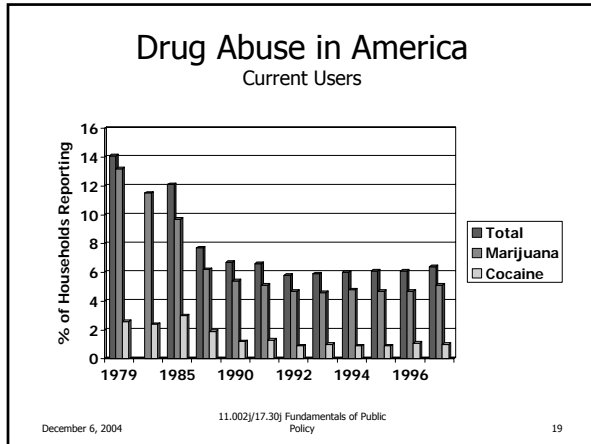### War on Drugs: Should we Surrender?

Goal of Drug-Crime Policy?

- Discourage drug use
- Discourage drug sales
- Punish drug use
- Punish drug sales
- Stop drug-related violence & theft
- Stop drug-related killing of law enforcement officials
- Stop drug-related corruption

Drug Abuse in America
Current Users

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Data courtesy of the Bureau of Justice Statistics of the US Department of Justice.

Costs of the Drug War

- Federal spending: $19 billion/yr
  - $13 billion to reduce supply
  - $6 billion for treatment
- State Spending: $20 billion/yr
- 1.7 million people incarcerated
  - ~30% for drug crimes
  - ~$20,000 per inmate per year
    - $10 billion/yr

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Costs of the Drug War

- Enormous Drug Profits
  - According to the United Nations
    - a kilogram of heroin in Pakistan costs an average of $2,720, and sells for an average of $129,380 in the United States.
    - a kilogram of coca base in Colombia cost an average of only $950 in 1997. In the United States in 1997, a kilogram of cocaine averaged just under $25,000, with a "street price" of $20-90 a gram.
- Corruption in Law Enforcement
- Violent Crime

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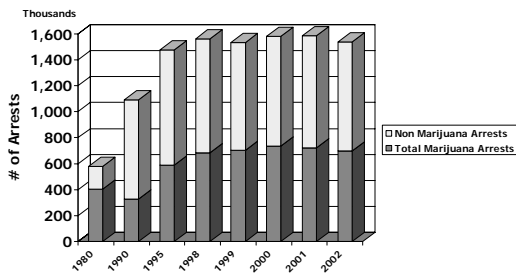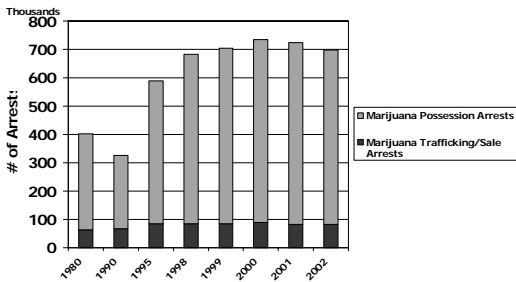
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Drug Arrests 2002

- Total: 1,586,902
- Possession: 1,235,667 (80%)
- Sale/Manufacture: 303,146 (20%)

Drug Arrests

Data courtesy of the Bureau of Justice Statistics of the US Department of Justice.

Marijuana Arrests

Data courtesy of the Bureau of Justice Statistics of the US Department of Justice.

U.S. Homicide Rate

per 100,000

Prohibition

War on Drugs
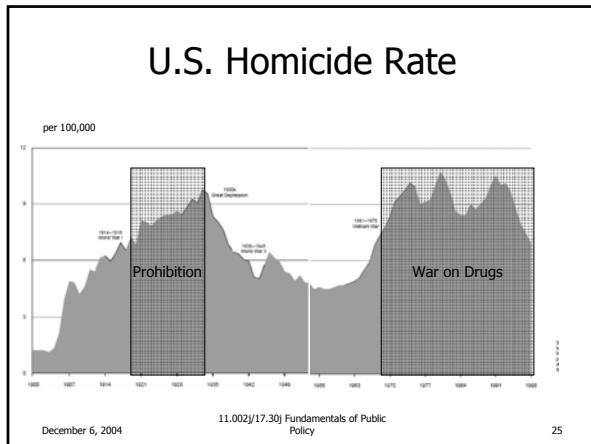
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Data courtesy of the Bureau of Justice Statistics of the US Department of Justice.

Cost-Benefit & Drug Policy

- How much $ to allocate for education & treatment?
- How much $ to allocate for enforcement/incarceration (deterrence)?

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Cost-Benefit & Crime Policy

- Who pays the cost?
  - Victim vs. Society (taxes)
- Should criminals be punished regardless of the cost-benefit ratio?
- Are there victimless crimes?
  - Does society suffer even if individuals do not?

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Cost Benefit Analysis

- A method for *informing* decisions – not making them
- <u>Example</u>

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