Welfare Economics

- Benevolent «social planner» (policy-makers)
  - Maximises social welfare
- Individualism
  - each individual is the best judge of himself
  - collective well-being derives from the aggregation of individual preferences
- Choice of the aggregation rule
  - Pareto Criterion
  - Voting
  - SWF

Pareto Efficiency Criterion

- Pareto Criterion: A situation A is preferable to B if in A someone is better off and no one is worse off.
- Pareto Efficiency is a situation where no individual can be made better off without making at least one individual worse off

Pareto Efficiency

	U1	U2
A	3	3
B	2	9
C	4	5
D	7	2

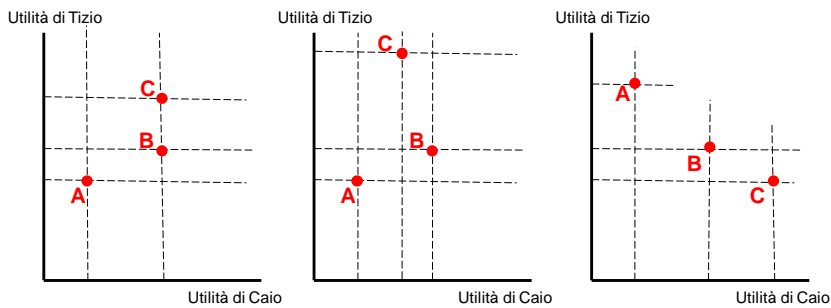## Limits of Pareto criterion

- It is an efficiency criterion and **does not take equity into account**.
  - *"A society can be Pareto optimal and still perfectly disgusting."* (Sen)
- It is static.
- **Does not allow a complete ordering**
- It is biased towards the *status quo*

Limits: equity

	U1	U2
A	**100**	**1000**
B	**101**	**2000**

	U1	U2
A	**100**	**1000**
B	**900**	**999**

Limits: incomplete ordering

Utilità di Tizio   Utilità di Tizio   Utilità di Tizio

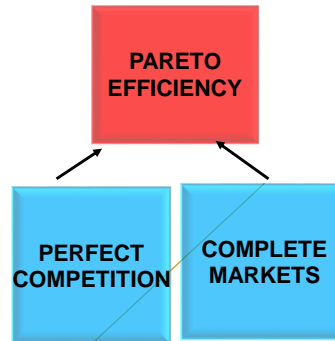Utilità di Caio   Utilità di Caio   Utilità di Caio

B is preferred to A.
C is better than B
and A.
C is optimal

B and C better than A
B and C are not
comparable
B and C are optimal

A, B and C are
not comparable
**They are all
optimal**

6

3

Theorems of Welfare economics

- ❏ **I**: *Under complete markets, any competitive equilibrium leads to a Pareto efficient allocation of resources.*
- ❏ **II**: *any efficient allocation can be obtained as a competitive equilibrium.*

```
        ┌──────────────┐
        │    PARETO     │
        │  EFFICIENCY   │
        └──────────────┘
         ↑            ↑
┌──────────────┐  ┌──────────────┐
│   PERFECT    │  │   COMPLETE    │
│ COMPETITION  │  │   MARKETS     │
└──────────────┘  └──────────────┘
```

Market failures

- ■ If markets are not perfectly competitive
    $$MR=MC \rightarrow P>MC$$

- ■ Externalities: private benefits or costs are different from social benefits of costs
    - ❏ Over-production of negative externalities
    - ❏ Under-production of positive externalities

- ■ Asymmetric information → market incompleteness
- ■ Public goods
- ■ Merit goods

Individual preferences and Social Ordering

- Is it possible to aggregate individual preferences in order to obtain a complete social ordering? Can we find a Rule that allows us to choose a point on the Pareto frontier (set of efficient outcomes)?

- **Arrow's impossibility Theorem**: *in a <u>democracy</u> there is no general rule to consistently aggregate individual's preferences into a policy choice that, in addition to the <u>Pareto criterion</u>, satisfies other two axioms (dewsirable) properties*: Unrestricted domain and Independence of irrelevant alternatives

- Majority voting and the Paradox of vote

So ….

- Assuming uni-modal preferences, it is possible to obtain a complete order through **majority voting**

- Assuming cardinal measurability and comparability of individual utilities, it is possible to construct a **Social Welfare Function**
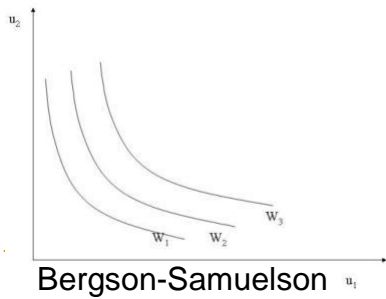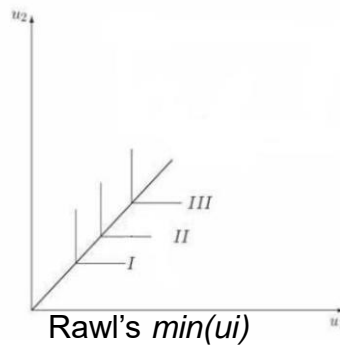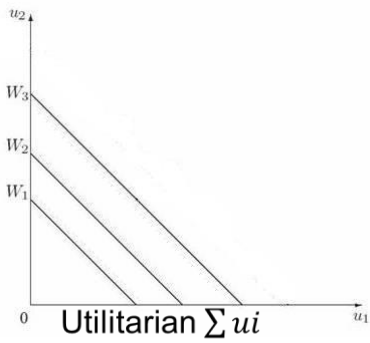
Social Welfare Function

- Aggregate individual preferences to "social preferences"
- **Welfarist approach**: construct a SWF aggregating individual utility functions:

  $$W(u_1, u_2. \ldots u_N)$$

  - Utilitarian: $W = \sum u_i$
  - Rawls: $W = \min u_i$
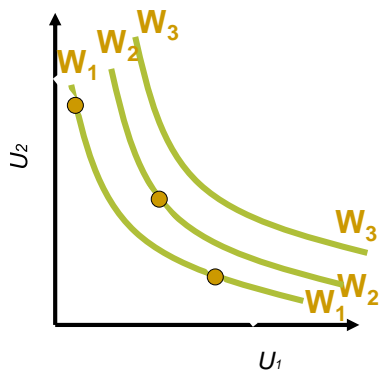- Max W under possibility set –> tangency condition

Social Welfare Function

- If it is possible to measure and thus compare individual utilities (e.g. income or life expecstncy or QALY)

  $$W(y_1, y_2. \ldots y)$$

  - Utilitarian: $W = \sum y_i$
  - Rawls: $W = \min y_i$

Utilitarian $\sum u_i$

Rawl's *min(ui)*

Bergson-Samuelson

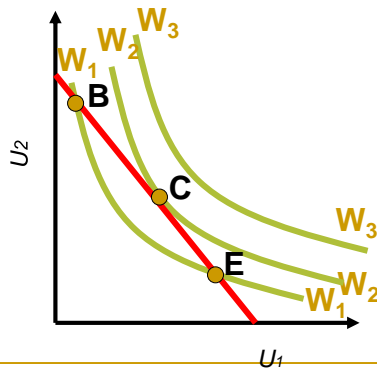They differ in the relative weight of *equity and efficiency.*

Social welfare function

Society's optimal choice

Given the constraint, the tangency condition gives society's optimal choice (**point C**)

Social Welfare Function

- Single Valued Welfare Function
  - Utilitarianism
    - Cost Benefit Analysis
    - Human Development Index
- Multivalued Function
  - Commission on the Measurement of Economic Performance and Social Progress – Dashboard
  - Millennium Development Goals
  - Sustainable Development Goals

Cost Benefit Analysis as Applied Utilitarianism

- We can measure utility changes in a money metric – money equivalent of proposed change
- Take social welfare change to be sum of money metric utility changes
- If positive we have Potential Pareto Improvement with compensation
- Without compensation we assume social value of money is equal across people – bizarre

Cost Benefit in Health

- Value of life higher for richer people
- Saving a rich life is worth more than saving a poor life
- Goal of health system should be to maximize money value - health adjusted by willingness to pay
- Seems reasonable with compensation principle but very difficult morally without this
- Money as a welfare metric?

Commission on the Measurement of Economic Performance and Social Progress

- consumption and wealth
- **health**
- **education**
- personal activity
- political voice and governance
- social connectedness
- environmental conditions
- personal insecurity
- economic insecurity

Non market activities
Sustainability as well as current levels
Distribution as well as averages

Challenges to Social Welfare Approach

- **Interpersonal comparison of utility**
- Rule versus act utilitarianism
- Aggregating preferences – Arrow's impossibility theorem
- Deliberative process rather than social welfare function
- Comparison of Law and economics – *fair process rather than fair outcome*

Social Welfare: other approaches

- Ethics
    - Theory of Justice
        - veil of ignorance – resolves efficiency versus distribution tradeoff
        - Liberty/Freedom
    - Maximin principle
        - capabilities
- Human Rights
    - Natural rights
    - Legal Rights

Sen's freedom and capabilities approach

- Critics of welfare economics
    - A society can be Pareto optimal and still perfectly disgusting
    - The impossibility of a paretian liberal
- Ethics and Economics
    - Why equality?
    - Equality of what? (income, opportunities, rights)
- **Functionings** (being healthy, having a good job ..)
- **Capabilities** are the alternative combinations of functionings that are feasible for a person to achieve

Sen

- Health equity versus equality in health
- Health is key for human capabilities
- Fairness in health is critical
- Distinguish health achievement from health capability (personal responsibility issue?)
- Many factors affect health – genetics, choices, health care

Ethics

- Does health have a special moral significance?
  - Health as fundamental – rights
- Difference between equality and equity – when are health inequalities unjust?
- Fair process, procedural justice
  - Moral constraints on process outcome
- Meeting health needs fairly with resource constraints → priority setting.

Responsibility for Health

- Health depends on individual behaviors
- Redress –"luck" but not "choice"? Economics of insurance
- Social responsibility even for people with well informed bad choices?
- Taste for wine – no claim- taste for risky health behavior – social claim?
- Health promotion – behavioral economics

Trolley problem

- supposed a runaway tram which he can only be switched from one narrow track on to another; five men are working on one track and one man on the other; anyone on the track it enters is bound to be killed.
- It is headed for the track with five workers should you throw the switch to divert it to the track with one worker?

Variants

- It is headed for the track with one worker – would you throw the switch to divert it to the track with five workers?
- You know the one worker but not the five – would you divert the trolley
- You are on a bridge above the track would you push a fat person off a bridge to block the trolley from hitting 5 workers?
- You know the one worker but not the five – would you divert the trolley