# Talking Freedom of Choice Seriously

## Susumu Cato

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Road Map

1. Introduction...10 minutes

2. Basic Framework...5 minutes

3. Results...15 minutes

4. Future research...5 minutes

Freedom of Choice

- Choice situation 1;
  Choice from {Guitar,Piano,Trumpet}

- Choice situation 2;
  Choice from {Guitar,Piano,Trumpet,Drums}

- Measure of Freedom of Choice is the cardinality of opportunity set.

- In choice situation 1 , freedom of choice is three.

- In both choice situations, Davis,M. chose Trumpet.

- How evaluate goodness of Davis?

  − In both situation, Davis achieve same utilities.

- Consequentialism;

  − Consequence matters, and opprtuni-
    ties don't matter.

  − Situation 1 and 2 are indifferent.

- Nonconsequentialism;

  − Nonconsequential feature mattars.

  − In choice situation, Freedom of Choice
    is nonconsequential feature.

  − Freedom of choice matters.

  − Situation 2 is better than 1.

Related Literature

- Sen(1985,1988,1991,1992,2002)

- Suzumura and Xu(2001,2003,2004)

- Pattanaik and Xu(1990,2000), Bossert, Pattaniak and Xu (1994)

- Gravel(1994,1998)

- Kreps(1979), Jones and Sugden(1982)

- Puppe(1995,1996), Baharad and Nitzen(2000), Romeo-Medina(2001)

Motivation

- My approach; Multiple opportunity set

- In actual life, we face the opportunity of many choices...a life plan, educational choice, books, and food

- Situation 3:
  Choice from {Car,Bus} and {Guitar,Tranpet}

- Situation 4:
  Choice from {Car} and {Guiter,Piano,Tranpet}

- Which situation is better for nonconsequentialist?

- certain some opportunity sets are important, while other opportunity sets are not so important.

- Relation to single opportunity set...
  $A_1 = \{$Lady Chatterley's Lover(L), My Fair Lady(M)$\}$ and $A_2 = \{$Teacher(T), Artist(A)$\} \Rightarrow$
  $A := A_1 \times A_2 = \{(L, T), (L, A), (M, T), (M, A)\}$

## Basic Framework

- $X_1, X_2$;set of alternatives

- $x_1, y_1, z_1, \cdots$;the elements of $X_1$

- $K_1$;collection of non-empty subset of $X_1$

- $x_2, y_2, z_2, \cdots$;the elements of $X_2$

- $K_2$;collection of non-empty subset of $X_2$

- $A_1, B_1, C_1, \cdots$; the elements in $K_1$

- $A_2, B_2, C_2, \cdots$; the elements in $K_2$

Extended Alternatives;
$(x_1, x_2; A_1, A_2), (y_1, y_2; B_1, B_2) \in \Omega$

Alternative $x_1$ is chosen from the opportunity set $A_1$ and $x_2$ is chosen from the opportunity set $A_2$.

The consequence is $(x_1, x_2) \in X_1 \times X_2$.

$\succeq$ is an ordering over $\Omega$.

$\succeq$ be a reflexive, complete and transitive binary relation over $\Omega$.

The asymmetric and symmetric part of $\succeq$ will be denoted by $\succ$ and $\sim$, respectively.

Basic Concepts

According to Suzumura and Xu(2001), we define the following concepts.

- Extreme Consequentialism...Only consequence matters.

- Strong Consequentialism...First, consequence matter. If consequences are indifferent, opportunities matter.

- Extreme Nonconsequentialism...Only freedom of choice matter.

- Strong Nonconsequentialism...First, freedom of choice matter. If opportunities are indifferent, consequence matters.

Evaluation of freedom of choice

Freedom of Choice of $(x_1, x_2; A_1, A_2)$

- Additive class

  – Partial-ranking...$|A_1|$ or $|A_2|$

  – Lexicographic ranking...First $|A_1|$ matters. Next, $|A_2|$ matters

  – Sum-ranking...$|A_1| + |A_2|$

  – Weighted sum ranking...$\alpha|A_1| + \beta|A_2|$

- Multiplicative class...$|A_1| \times |A_2|$

My Future Research

- General Framework...Trade off between consequence and opportunity...
  $f : \mathbb{R} \times \mathbb{Z} \times \mathbb{Z}$ such that
  $f(u(x_1, x_2), |A_1|, |A_2|) \geq f(u(y_1, y_2), |B_1|, |B_2|)$

  - Additive Case

  - Multiplicative Case

- Re-examination of Arrovian Impossibility Theorem... Resolution of dictatorship in strong consequentialist society