PHPE 400
Individual and Group Decision Making

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Mary seashore P museums P camping

Sam camping P museums P seashore

- ► The seashore is the only alternative that Mary finds bearable, although she feels more negative about going to the mountains than to the museums.
- ► Each choice is fine with Sam, although he would much prefer going to the mountains.

	Mary	Sam	Total
Seashore	20		
Museums	10		
Mountains	9		

	Mary	Sam	Total
Seashore	20	86	
Museums	10	93	
Mountains	9	100	

	Mary	Sam	Total
Seashore	20	86	106
Museums	10	93	103
Mountains	9	100	109

	Mary	Sam	Total
Seashore	20	86	106
Museums	10	93	103
Mountains	9	100	109

For Mary, the difference between the seashore and the mountains crosses the threshold between the bearable and the intolerable. She feels that her "right to an emotionally recuperative vacation will be violated by following a utilitarian scheme.

	Mary	Sam	Total
Seashore	200	86	286
Museums	100	93	190
Mountains	90	100	190

Mary: My preferences are so intense in comparison with yours that my scale should range between 0 and 1,000, if yours range between 0 and 100.

	Mary	Sam	Total
Seashore	20	86	106
Museums	10	93	103
Mountains	9	100	109

Sam: You think that my preferences are rather weak, but the fact is I feel things quite deeply. I have been brought up in a culture very different from yours and have been trained to avoid emotional outbursts...But I have strong feelings all the same.

	Mary	Sam	Total
Seashore	20	86	106
Museums	10	93	103
Mountains	9	100	109

Sam: I do not think that extra weight *should* be given in a utilitarian calculation to those who are capable of more intense preferences.

► Is Mary's preference for the seashore *really* stronger than Sam's for the mountains? Or, is Mary just a more vocal person?

► If some people's preferences are in fact stronger than others', how could we *know* this?

► Does it make any more sense to compare Sam's preferences with Mary's than it does to compare a dog's preference for steak bones with a horse's preference for oats?

► Even if we answer all these questions affirmatively, is it morally proper to respond to such information in making social choices?
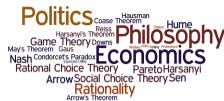
Relative Utilitarianism

A. Dhillon and J.-F. Mertens. *Relative Utilitarianism*. Econometrica, Vol. 67, No. 3, pp. 471 - 498, 1999.
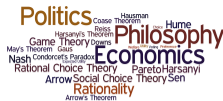
Relative utilitarianism: Use the sum utilitarian social welfare function *after normalizing the voters' utilities*.

Relative Utilitarianism

Suppose X is finite so that each voter has a maximum and minimum utility.

Relative Utilitarianism

Politics Coase Theorem Hausman Rawls Hume
Harsanyi's Theorem Philosophy
Game Theory Downs
May's Theorem Gauss
Nash Condorcet's Paradox Economics
Rational Choice Theory Pareto Harsanyi
Arrow Social Choice Theory Sen
Rationality
Arrow's Theorem

Suppose *X* is finite so that each voter has a maximum and minimum utility.

For any such profile **U**, we define its *Kaplan normalization* $\mathcal{K}(\mathbf{U})$ such that for all $i \in V$ and $y \in X$: Let M_i be voter *i*'s maximum utility and m_i be voter *i*'s minimum utility. Then, the normalized utility for *y* for voter *i* (denoted $\mathcal{K}(\mathbf{U})_i(u)$ is:

$$\mathcal{K}(\mathbf{U})_i(y) = \frac{\mathbf{U}_i(y) - m_i}{M_i - m_i}.$$

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The SWFL of Relative Utilitarianism defines $x \, f_{RU}(\mathbf{U}) \, y$ if and only if $x \, f_U(\mathcal{K}(\mathbf{U})) \, y$ where f_U is the Sum Utilitarian function.

Criticism of Relative Utilitarianism

Arrow (1951) claims that "It is not hard to see that [Relative Utilitarianism] is extremely unsatisfactory" (p. 32), and his reason has to do with its failing **IIA**.

Criticism of Relative Utilitarianism

U

	x	y	z
Alice	1	.9	0
Bob	1	.9	0
Cora	.5	1	0

U'

	x	y	z
Alice	1	.9	1
Bob	1	.9	1
Cora	.5	1	.5

Criticism of Relative Utilitarianism

$\mathbf{U}$

	x	y	z
Alice	1	.9	0
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$\mathbf{U}'$

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Alice	1	.9	1
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Cora	.5	1	.5

The utilities of x and y are the same in $\mathbf{U}$ and $\mathbf{U}'$

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U'

normalize

$\mathcal{K}(\mathbf{U})$

	x	y	z
Alice	1	.9	0
Bob	1	.9	0
Cora	.5	1	0

$\mathcal{K}(\mathbf{U'})$

	x	y	z
Alice	1	0	1
Bob	1	0	1
Cora	0	1	0

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Alice	1	.9	1
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Cora	.5	1	.5

normalize ↓

normalize ↓

$\mathcal{K}(\mathbf{U})$

	x	y	z
Alice	1	.9	0
Bob	1	.9	0
Cora	.5	1	0
Sum	2.5	2.8	0

$\mathcal{K}(\mathbf{U}')$

	x	y	z
Alice	1	0	1
Bob	1	0	1
Cora	0	1	0
Sum	2	1	2

y is ranked above x

x is ranked above y

Criticism of Relative Utilitarianism

U

	x	y	z
Alice	1	.9	0
Bob	1	.9	0
Cora	.5	1	0

U′

	x	y	z
Alice	1	.9	1
Bob	1	.9	1
Cora	.5	1	.5

According to Relative Utilitarianism,
y is ranked above x in **U** and x is ranked above y in **U′**,
even though the utilities of x and y are the same in both profiles.

Cora	.5	1	0
Sum	2.5	2.8	0

Cora	0	1	0
Sum	2	1	2

y is ranked above x

x is ranked above y

Objections to Utilitarianism

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There are at least two kinds of standard objections to welfarist SWFL's that take the $\mathbf{U}_i$ functions to be utility functions according to the economists' notion of utility:
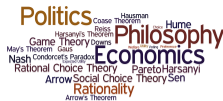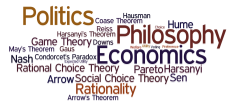
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There are at least two kinds of standard objections to welfarist SWFL's that take the $\mathbf{U}_i$ functions to be utility functions according to the economists' notion of utility:

► Epistemological objections;

► Moral objections.

We already discussed the epistemological objection.

A standard moral objection

Suppose there are two agents, Alice and Bob.

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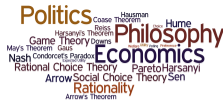Rationality
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Suppose there are two agents, Alice and Bob.

Let x be the alternative that the robot leaves Alice and Bob alone, such that $\mathbf{U}_a(x) = 5$ and $\mathbf{U}_b(x) = 6$.

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Suppose there are two agents, Alice and Bob.

Let x be the alternative that the robot leaves Alice and Bob alone, such that $\mathbf{U}_a(x) = 5$ and $\mathbf{U}_b(x) = 6$.

Let y be the alternative that the robot pushes Alice to the ground for Bob's enjoyment, such that $\mathbf{U}_a(y) = 2$ and $\mathbf{U}_b(y) = 10$.

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A standard Utilitarian reply is that, well, there may be other people who find out about the pushing and experience an overcompensating utility loss, etc.

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Then Utilitarianism says that y is better than x.

A standard Utilitarian reply is that, well, there may be other people who find out about the pushing and experience an overcompensating utility loss, etc. But this seems to dodge the fundamental issue: Utilitarianism allows the robot to *use one person as a resource* to increase total utility.

A second moral objection

There is another problem in the Alice-Bob example, in addition to the Utilitarian robot using Alice as a resource to benefit Bob.

A second moral objection

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A second moral objection

There is another problem in the Alice-Bob example, in addition to the Utilitarian robot using Alice as a resource to benefit Bob.

It is that Bob enjoys a utility gain from watching another person suffer. According to Utilitarianism, such a utility gain cannot be ignored.

Utility monsters

Nozick: "Utilitarian theory is embarrassed by the possibility of utility monsters who get enormously greater gains in utility from any sacrifice of others than these others lose. For, unacceptably, the theory seems to require that we all be satisfied in the monster's maw, in order to increase total utility" (*Anarchy, State, and Utopia*, p. 41).

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Of course, a Utilitarian could claim that in the actual world, there are no utility monsters—raising again the epistemological problem of how they know this—while of course admitting, true to their doctrine, that if there were utility monsters, we *should* be sacrificed for them.

Anti-Aggregationism

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Suppose that you have a choice between:

1. Cure one young person of a terminal illness.
2. Cure n young people of a mild illness that will cause them to have a mild headache for one day.

How large must n be to justify choosing the second option?

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How large must n be to justify choosing the second option?

Anti-Aggregationism: there is no n that would ever justify the second option.

More reading about Utilitarianism

K. Arrow (1973), "Some Ordinalist-Utilitarian Notes on Rawls's Theory of Justice," *The Journal of Philosophy*, Vol. 70, No. 9, 245-263.

R. Nozick (1974), *Anarchy, State and Utopia*, Basic Books, Inc.

J. Rawls (1971), *A Theory of Justice*, Harvard University Press.

A. Sen (1970), *Collective Choice and Social Welfare*, Holden-Day.

A. Sen (1998), "The Possibility of Social Choice," Nobel Memorial Prize Lecture.

J. J. C. Smart and B. Williams (1973), *Utilitarianism: For and Against*, Cambridge University Press.

Thank you!

Course Evaluation:

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