

Behavioural Economics:

Some Policy Links;
Some Research Progress;
a Few Speculations

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BEHAVIOURAL SCIENCES
AND INVESTOR EDUCATION
CONFERENCE

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Admonishments to Analysts

“A core set of economic assumptions should be used in calculating benefits and costs.”

(Arrow, et al., 1996)

“Any measurement technique ... should be consistent with economic theory.”

(Freeman, et al, 2014)

Economists' "Reviews" of Behavioural

**“...behavioral economics literature does not as yet have specific insights to offer to practical benefit-cost analysis”
(Smith/Moore, 2010).**

“...we conclude that the evidence from behavioral economics remains insufficient to support the wholesale rejection of rational choice theory” (Shogren/Taylor, 2008).

“...but existing work appears to be far from ready for practical policy analysis” (Gillingham/Palmer,2014).

Certain vs. Risky Outcome

A. Certain +\$800

or

B. 80 % Chance of +\$1000

20 % Chance of \$0

Certain vs. Risky Outcome (II)

C. Certain -\$800

or

D. 80 % Chance of -\$1000

20 % Chance of -\$0

Problem => Behavioural Insights => Policy Design => Result

Changing Pension Plan Contributions:

**From: Pay out of current earnings
(a loss – very salient / aversive)**

**To: Portion of future wage increases
(forego gain in future –
not very salient / aversive)**

Savings rates:

Pay from current earnings 3.5 %

Pay from future wage increases ?? %

(Thaler / Benartzi 2007)

Mental Accounting

Std. Theory Assumes Money is Fungible

Where Come, Where Go: No Difference

Evidence Suggests Often Matters

Spend dividends, “not dip into capital”

Decoupling purchase from paying

Avoid debt

Sunk cost effect

Monetary Measures of Changes in Economic Welfare (Values)

Standard Economic Theory:

Gain = Max willing to pay for it (WTP)

Loss = Minimum demanded to accept it (WTA)

**“... we shall normally expect the results to be so close together that it would not matter which we choose”.
*(Henderson, 1941)***

“... economists expect that the difference between them will be small in most cases” *(U.S. EPA, 2010)*

Preferences: Mug vs. Chocolate

	Prefer	
	<u>Mug</u>	<u>Chocolate</u>
Simple Choice	56%	44%
Give up Chocolate for Mug	10%	90%
Give up Mug for Chocolate	89%	11%

(Knetsch, 1989)

Natural Experiments

Price elasticity of eggs (Putler, 1992)

Price decreases (gains, insensitive) -0.45

Price increases (losses, sensitive) -1.10

Reluctance to realize losses (Odean 1998)

Sell “winners” and keep “losers”

Shares sold gained 3.4% more than those kept

Professional Golfers Putts (Pope/Schweitzer 2011)

Prevent loss (bogey) *More accurate*

Achieve gain (birdie) *Less accurate*

Meta-Analyses of WTA/WTP Studies

Over 200 studies:

WTA/WTP Ratio Mean 6.7 Median 2.6

(Horowitz and McConnell, 2002)

76 Studies, 337 Experiments and Surveys:

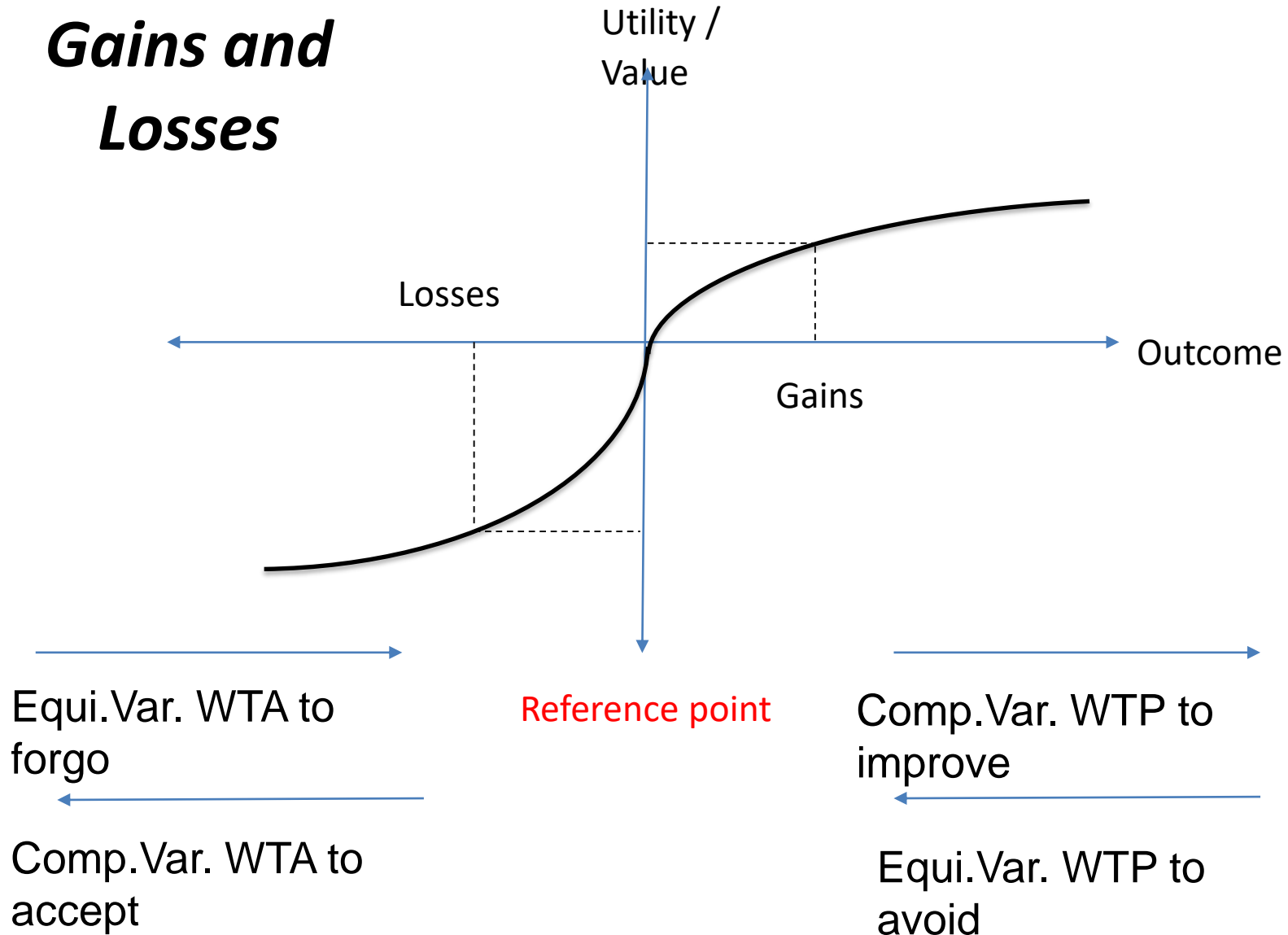
WTA/WTP Geometric Mean: 3.28

(Environmental: 6.28; Health/Safety: 5.09

Lotteries: 1.56; Leisure/Travel: 1.45)

(Tuncel and Hammitt, 2014)

Value of Gains and Losses



The Choice of Measure

Positive Change:

Gain (Domain of gains - WTP)?

or

Reduction of Loss (Domain of losses - WTA)?

Negative Change:

Loss (Domain of losses - WTA)?

or

Forego Gain (Domain of gains – WTP)?

“Putting a Value on Injuries ... The 2010 BP Gulf of Mexico Oil Spill”

Science 2017, “20 Distinguished Researchers, estimated the monetary value of the natural resource damage...”.

US-NOAA Expert Panel, After 1989 Alaskas Spill:

“The correct measure of the value ... is WTA.”

BP Spill Study (“after >3 years design process”):

“... respondents told another spill will take place in 15 years.”

Then asked WTP to prevent such a spill.

Use of “Certain vs. Risky Choice” Test for Choice of Measure

[Prefer Certain for Gains, Risky for Losses]

Accidental deaths: many years 6 per 100,000

A. Certain 6 to 9 per 100,000 (32%)

B. 50% Chance 6 to 12; 50% stay 6 (68%)

Negative Change => Loss => WTA Accurate

Accidental deaths: many years 12 per 100,000

C. Certain 12 to 9 per 100,000 (33%)

D. 50% Chance 12 to 6; 50% stay 12 (67%)

Positive Change => Reduction Loss (Not Gain) => WTA

Gain (WTP) or Reduction Loss (WTA)?

Stop Physical Assault (WTA to continue)
Return Stolen Goods
Increase Road Safety and Reduce Accidents
Treat Illnesses
Clean-up Oil Spills
Reduce Traffic Congestion
Establish Historic / Cultural Sites
Reduce Climate Change
Restore Wildlife Habitat

Bias in Analyses and Social Well-Being

Near Universal Use of WTP for:

Losses, Risks of Losses, Reductions of Losses

Systemic Understatement of Their Value

Happiness Studies Find Importance of Losses

Family Illness, Job Loss, Damage Environment

Ignoring Behavioural Findings Not Free

What is Fair?

Store auctions last doll to highest bidder

Store keeps money Unfair 74% Fair 26%

Store donates money Unfair 21% Fair 79%

[One party gains at the expense of another unfair]

Housing scarce, raise rent 25% Fair

Costs increase, raise rent 75% Fair

[OK to pass on cost increases]

Cut worker's wage 39% Fair

Cut worker's bonus 80% Fair

[Wage cut a loss, bonus cut a foregone gain]

Possible Future Inclusions

Behavioural Findings: Design Collective Action

Pigouvian Taxes: Improve Behaviours

Better Economics: Predict, Explain, Prescribe

Inclusion of More Worthy Issues / Topics