# Numbered Figures for Prospect Theory for Risk and Ambiguity

by Peter P. Wakker (2010);

provided on internet July 2013 (with permission of CUP)

The figures were made using 2009 software, mainly the drawing facilities of MS-Word. They were updated March 2017 to a new version of MS Word. If no elucidation is added to a figure, then it was made using only facilities of MS Word. Sometimes there are curves “drawn by hand” which means using the curve-mouse-drawing facilities of MS-Word.

Sometimes I used graphs of functions. Those graphs I made using the program Scientific Workplace. I would then turn them into wmf windows metafiles. Those I introduced as picture in the MS Word drawing program. (It works better to first introduce pictures in Powerpoint, and then transfer them from powerpoint to MS Word, so this is how I did it.) I would then only take the curve from the wmf file and nothing else, so I would drop all letters, axes, and so on from the wmf file. Those I would all make using MS Word.

Apart from 3 exceptions (added where relevant), I never kept the Sc. Workplace TeX input file, if they are easy to redo.

p. 26:

Figure 1.5.1. Arbitrage (a Dutch book)

(x,... , x) (y,... , y)  
 .  
 .  
 .  
(x,... , x) (y,... , y)

<

∑x … ∑x

∑y … ∑y

<

+

+

+

+

p. 42:

=

+

+

~

P(E1)x1

~

P(E1)x1 + P(E2)x2 + . . . + P(En)xn

Figure 1.11.1. Deriving expected value

.

.

.

E2

E1

En

x1

x2

xn

+

.

.

.

~

P(E2)x2

~

P(En)xn

*Amplifying  
event indicators*

*Combining prospects*

E2

E1

En

x1

0

0

E2

E1

En

0

x2

0

E2

E1

En

0

0

xn

*Decomposing a general prospect*

.

.

.

.

.

.

.

.

.

p. 51:

40

20

40

20

.3

.7

.4

.6

(b)

.7

.3

80

60

(c)

1

50

4

0

16

0

.03

.97

.69

.31

(d)

80

60

95

70

.5

.5

.5

.5

(a)

Figure 2.4.1.

0

.2

.8

(e)

1

50 × 106

10 × 106

0

0

.90

.10

.89

.11

(h)

50 × 106

10 × 106

0

0

.96

.04

.95

.05

(f)

50 × 106

10 × 106

1

0

.01

(g)

.10

.89

50 × 106

10 × 106

10 × 106

p. 52:

.95

.05

96

0

~

...

1

(a)

.97

.03

4

0

~

...

1

(b)

Figure 2.4.2

p. 54:

Figure 2.5.1

p1

pn

x1

xn

.

.

.

p1U(x1) + … + pnU(xn)

the *expected utility* (*EU*) of the prospect

p. 56:

30

~

100

0

0.40

0.60

70

~

100

0

0.80

0.20

30

70

100

0

0

1

0.8

0.4

Figure 2.5.2. Two indifferences and the resulting U curve

$

U

p. 56:

p

α

~

1−p

M

m

Figure 2.5.3. The SG probability p of α

p. 59:

1/2

1/2

1/3

2/3

200

0

1/3

2/3

100

0

1/6

1/6

2/3

100

200

0

Figure 2.6.1.

w

p. 60:

1−λ

λ

y

x

Figure 2.6.2

1/3

2/3

0

200

1/3

2/3

0

100

(a)

(b)

(c)

p. 60:

1/2

1/2

5

2

y =

;

(λ = 4/5)

The mixture x4/5y

can be depicted as

and is equal to

Figure 2.6.3.

1/4

2/4

1/4

8

5

0

x =

;

1/4

2/4

1/4

8

5

0

1/2

1/2

5

2

1/5

1/10

1/2

1/5

5

8

2

0

4/5

1/5

p. 61:

Figure 2.6.4. The lottery-equivalent method of McCord & de Neufville (1986) (λ> 0)

p

1-p

M

m

~

C

λ

1-λ

α

C

λ

1-λ

p. 62:

p

α

~

1-p

M

m

Figure 2.6.5. *SG consistency* holds if

p

1-p

M

m

~

C

λ

1-λ

α

C

λ

1-λ

implies

for all outcomes α, M, m, all probabilities p and λ, and all prospects C.

p. 65:

.

.

.

.

.

.

p2

pm

x2

xm

p

β

q2

qn

y2

yn

.

.

.

p

β

p2

pm

x2

xm

p



q2

qn

y2

yn

.

.

.

p



implies

Figure 2.7.1. The sure-thing principle for risk

p. 66:

.95

.05

96

24

~

...

1

(a)

.31

.69

16

0

~

...

1

(b)

Figure 2.8.1

p. 68:

pn

.

.

.

xn

.

.

.

pj

p1

x1

xj

pn

.

.

.

xn

.

.

.

pj

p1

x1

1‑U(xj)

U(xj)

M

m

~

1‑U(x1)

U(x1)

M

m

1‑U(xn)

U(xn)

M

m

pn

.

.

.

.

.

.

pj

p1

1‑U(xj)

U(xj)

M

m

~

1 ‑ p1U(x1) ‑ ... ‑ pnU(xn)

p1U(x1) + ... + pnU(xn)

M

m

=

Figure 2.9.1

p. 70:

radio-therapy

recurrency, surgery

0.6

0.4

artificial speech

🕱

0.6

0.4

cure

recurrency

0.7

0.3

cure

artificial speech

normal  
voice

0.7

0.3

artificial speech

🕱

Figure 3.1.1. Choice between radio-therapy or surgery for a patient with larynx-cancer (stage T3)

surgery

🕱: death

p. 71:

Figure 3.1.2. The SG question: For which p is the gamble equi-

valent to the certain outcome?

1−p

p

normal

voice

🕱

~

artificial speech

p. 72:

For the prospect , the expected utility, \*, is lower than \*, the utility of the expected value.

U(β)

U(pα + (1−p)β)

pU(α) + (1−p)U(β)

U(α)

α

\*

pα + (1−p)β

β

$

U

1−p

p

α

β

\*

Figure 3.2.1. Risk aversion

Elucidation: This Figure was made using only MS Word. I drew the curves by hand.

p. 72:

U

U concave

U

U linear

U

U convex

Figure 3.2.2. Concavity, linearity, and convexity

Elucidation: This Figure was made using only MS Word. I drew the curves by hand.

p. 75:

p1

pj

pn

.

.

.

xn

x1

xj

Figure 3.3.1. Aversion to elementary mean-preserving spreads

.

.

.

1‑q

p1

pj

pn

.

.

.

xn

x1

.

.

.

q

M

m

qM + (1−q)m = xj, so that the means are the same.

p. 79:



Figure 3.5.1. Power utility curves, normalized at 1 and 2

Elucidation: This Figure contains a graph of the following function, drawn fat, and indicated in the figure by **θ=0**:

*ln*(α) ‑ 1

*ln*(2) ‑ 1

u(α) =

, further the function, also drawn fat, and indicated in the figure by **θ=1**:

u(α) = α − 1

and further the functions (not drawn fat)

αθ ‑ 1

2θ ‑ 1

u(α) =

for the other θ values indicated in the figure (θ = −20, −5, −2, −1, −0.5, −0.1, 0.1, 0.5, 2, 5, and 30).

I made the graphs using Scientific Workplace (did not keep input files) as explained above.

p. 81:

θ = −2

θ = −0.6

θ = 0

θ = 0.6

θ = 2

Figure 3.5.2. Exponential utility, normalized at 0 and 1.

$

−2

−1

−1

−2

2

1

2

1

U

Elucidation: This Figure contains graphs of the function:

u(α) = α (indicated in the figure by θ=0)

and of the functions

1 ‑ *exp*(−θα)

1 ‑ *exp*(−θ)

u(α) =

for the other θ’s as indicated (θ = −2. −0.6, 6, and 2).

I made the graphs using Scientific Workplace (did not keep input files) as explained above.

p. 86:

1−p

(Q,T)

p

(Q,M)

(Q,0)

~

1−p

(H,T)

p

(H,M)

(H,0)

~

⇒

Figure 3.7.1. *SG invariance*

p. 87:

p1

(x11,...,x1m)

Figure 3.7.2. A prospect with multiattribute outcomes and its expected utility

p2

pn

(x21,...,x2m)

(xn1,...,xnm)

p1U(x11,...,x1m) + ... + pnU(xn1,...,xnm)

→

.

.

.

p. 88:

marginal for life duration

½

½

(5 years, blind)

(20 years, healthy)

½

½

(5 years)

(20 years)

prospect of Eq. 3.7.2

Figure 3.7.3. Two prospects with the same marginals

marginal for health

½

½

(blind)

(healthy)

the marginals

½

½

(5 years, healthy)

(20 years, blind)

prospect of Eq. 3.7.3

p. 96:

Indicate in each Fig. which outcome on the dotted line ... makes the two prospects indifferent (the switching value).

Figure 4.1.1 [*TO Upwards*]. Eliciting α1 … α4 for  
unknown probabilities

(a) Your switching value on the dotted line is α1.

cand1 wins

cand2 wins

...

1

~

cand1 wins

cand2 wins

10

8

(b) Your switching value on the dotted line is α2.

cand1 wins

cand2 wins

...

1

~

cand1 wins

cand2 wins

α1

8

(c) Your switching value on the dotted line is α3.

cand1 wins

cand2 wins

...

1

~

cand1 wins

cand2 wins

α2

8

(d) Your switching value on the dotted line is α4.

cand1 wins

cand2 wins

...

1

~

cand1 wins

cand2 wins

α3

8

p. 97:

Indicate in each fig. which outcome on the dotted line ... makes the two prospects indifferent (the switching value).

Figure 4.1.2 [*2nd TO Upwards*]. Eliciting β2, β3, β4

(a) Your switching value on the dotted line is G.

cand1 wins

cand2 wins

α1

g

~

cand1 wins

cand2 wins

10

(b) Your switching value on the dotted line is β2.

cand1 wins

cand2 wins

...

g

~

cand1 wins

cand2 wins

α1

G

(c) Your switching value on the dotted line is β3.

cand1 wins

cand2 wins

...

g

~

cand1 wins

cand2 wins

β2

G

(d) Your switching value on the dotted line is β4.

cand1 wins

cand2 wins

...

g

~

cand1 wins

cand2 wins

β3

G

...

p. 98:

(a) Elicitation of γ2.

~

α4

...

α0

(b) Elicitation of γ1.

~

2

...

α0

(c) Elicitation of γ3.

~

0.5

0.5

0.5

0.5

0.5

0.5

α4

...

2

Figure 4.1.3 [*CEs*]. Eliciting 2,1,3

Indicate in each Fig. which outcome on the dotted line ..., if received with certainty, is indifferent to the prospect.

p. 99:

Indicate in each fig. which outcome on the dotted line ... makes the two prospects indifferent (the switching value).

Figure 4.1.4 [*TO Downwards*]. Eliciting δ3 … δ0

(a) Your switching value on the dotted line is δ3.

cand1 wins

cand2 wins

...

8

~

cand1 wins

cand2 wins

α4

1

(b) Your switching value on the dotted line is δ2.

cand1 wins

cand2 wins

...

8

~

cand1 wins

cand2 wins

δ3

1

(c) Your switching value on the dotted line is δ1.

cand1 wins

cand2 wins

...

8

~

cand1 wins

cand2 wins

δ2

1

(d) Your switching value on the dotted line is δ0.

cand1 wins

cand2 wins

...

8

~

cand1 wins

cand2 wins

δ1

1

p. 100:

1 − ...

(a) Elicitation of PE1.

~

α4

...

α0

α1

Figure 4.1.5 [*PEs*]. Eliciting  
PE1, PE2, PE3

Indicate in each Fig. which probability on the dotted lines ... makes the prospect indifferent to receiving the sure amount to the left.

1 − ...

(b) Elicitation of PE2.

~

α4

...

α0

α2

1 − ...

(c) Elicitation of PE3.

~

α4

...

α0

α3

p. 104:

α0

α1

α2

α3

1

8

α4

outcome  
under cand1

Curves designate indifference.

outcome

under cand2

Figure 4.3.1. Your indifferences in Figure 4.1.1

(= 10)

this point indicates the prospect (cand1:α1, cand2:8)

Elucidation: This Figure was made using only MS Word. I drew the curves by hand.

p. 104:

¼

=

10

0

α0

α1

α2

α3

α4

$

½

¾

1

U

Figure 4.3.2. Utility graph derived from Figure 4.1.1

p. 109:

outcome

under cand2

Figure 4.5.1. αβ ~t δ



β

α

yEc

outcome under cand1

Curves designate indifference. α instead of β apparently offsets yEc instead of xEc, and so does γ instead of δ.

xEc



prospect βEy

Elucidation: This Figure was made using only MS Word. I drew the curves by hand.p. 114:

E

**δ**

E

y2

x2

Fig. 4.7.1a. αβ ~t γδ for uncertainty

.

.

.

**γ**

.

.

.

**β**

E2

Em

x2

xm

.

.

.

E

**α**

B2

Bn

y2

yn

E

~

E2

Em

x2

xm

B2

Bn

y2

yn

.

.

.

~

and

E2, …, Em: outcome events of x beyond E;

B2, …, Bn: outcome events of y beyond E.

E is nonnull.

Fig. 4.7.1b. αβ ~t γδ for risk

.

.

.

**γ**

.

.

.

**β**

p2

pm

xm

.

.

.

p

**α**

q2

qn

y2

yn

p

~

p2

pm

x2

xm

p

q2

qn

yn

.

.

.

p

**δ**

~

and

p2, …, pm: outcome probabilities of x beyond p;

q2, …, qn: outcome probabilities of y beyond p.

p > 0.

p. 120:

0.3

Figure 4.9.1. Matching proba-bility of all rain (tomorrow) is 0.3.

all rain

not all rain

$1

$0

~

0.7

$1

$0

p. 121:

$1

For additivity to hold, the bold probability 0.4 should have been 0.3 + 0.2 = 0.5.

~

rain (all or some)

$1

$0

all rain

not all rain

~

Figure 4.9.2. Violation of additivity (Raiffa 1968 §4)

0.2

0.8

$1

$0

$1

$0

some rain

no rain or all rain

~

**0.4**

0.6

$0

$1

$0

no rain

0.3

0.7

$1

$0

p. 121:

**0.5**

$1

0.2

$1

Figure 4.9.3. Probabilistic matching

0.3

0.7

$1

$0

$1

$0

all rain

not all rain

~

0.8

$0

$1

$0

some rain

no rain or all rain

~

$1

$0

no rain

~

0.5

$0

rain (all or some)

⇒

The first three indifferences imply the fourth for all x1, x2, x3, and thus transfer EU from risk to uncertainty.

no rain

some rain

all rain

x1

x2

x3

~

0.5

0.2

0.3

x1

x2

x3

p. 123:

p2

.

.

.

xn2

p1

.

.

.

p1

p2

pn

Fig. 4.9.4a. An analog of the mul-tiattribute utility prospect of Figure 3.7.2

x11

x12

x1m

h2

hm

.

.

.

h1

x21

x22

x2m

h2

hm

.

.

.

h1

xn1

xn2

xnm

h2

hm

.

.

.

h1

Fig. 4.9.4b. Anscombe & Aumann’s model as mostly used today

.

.

.

h1

h2

hm

p2

p1

.

.

.

xn1

pn

x21

x11

pn

x22

x12

.

.

.

x1m

xnm

x2m

pn

p2

p1

.

.

.

h1

h2

hm

p1U(x11) + ... + pnU(xn1)

p1U(x12) + ... + pnU(xn2)

p1U(x1m) + ... + pnU(xnm)

Fig. 4.9.4c. A step in the evalua-tion of prospects in Anscombe & Aumann's model

⇓

∑pj(∑qiu(xji)): the evaluation by Eq. 3.7.7.

⇓

∑qi(∑pju(xji)): A rewriting of Eq. 3.7.7.

⇒

Figure 4.9.4. Different presentations and evaluations of multi-stage prospects

p. 126:

.

.

.

p1

p2

pn

Fig. 4.9.5. (p1:x1, …, pnxn) in the roulette-horse Example 4.9.6

x1

x1

x1

h2

hm

.

.

.

h1

x2

x2

x2

h2

hm

.

.

.

h1

xn

xn

xn

h2

hm

.

.

.

h1

p. 126:

.

.

.

h1

h2

hm

p2

p1

.

.

.

xn

pn

x2

x1

pn

x2

p2

p1

.

.

.

xn

x1

.

.

.

x1

xn

x2

pn

p2

p1

Fig. 4.9.6. (p1:x1, …, pnxn) in the horse-roulette Example 4.9.7

p. 134:

(a)

25K

25K

*0.87*

*0.87*

0.06

0.06

&

25K

25K

s

*0*

75K

r

*0*

0

25K

s

75K

r

0.07

0.07

25K

0

0.07

0.07

Figure 4.12.1. An example of the Allais paradox for risk

(b)

*0.87*

*0.87*

0.06

0.06

p. 134:

Figure 4.12.2. The certainty effect (Allais paradox) for uncertainty

&

25K

s

75K

r

25K

s

75K

r

H

H

H

H

(a)

(b)

25K

0

*0*

*0*

L

L

M

M

25K

25K

25K

0

M

M

L

L

p. 140:

α0

α1

α2

α3

β0

β1

α4

outcome

under E2

outcome under E1

Figure 4.15.1. Illustration of standard sequences

Curves designate indifference.

β2

β3

β4

prospect (E1:α3,E2:β1)

Elucidation: This Figure was made using only MS Word. I drew the curves by hand.

p. 146:

~

1

100

0

0.10

0.90

~

9

100

0

0.30

0.70

~

25

100

0

0.50

0.50

~

49

100

0

0.70

0.30

~

81

100

0

0.90

0.10

(a)

(b)

(c)

(d)

(e)

Figure 5.1.1. Five SG observations

p. 146:

(c)

(c)

p

$0

$100

0

1

0.3

0.7

$70

$30

$

(a)

(b)

(d)

(e)

Fig. a. A display of the data

$

p

$0

$100

$70

$30

0

1

0.3

0.7

(a)

(b)

(d)

(e)

Fig. b. An alternative way to display the same data

Figure 5.1.2. Two pictures to summarize the data of Figure 5.1.1

Under expected utility, the curve can be interpreted as the utility function, normalized at the extreme amounts.

Under Eq. 5.1.2, the curve can be interpreted as the probability weighting function w, to be normalized at the extreme amounts  
(w = 0 at $0 and w = 1 at $100).

Elucidation: This Figure was made using only MS Word. I drew the curves by hand. The right curve should be obtained from the left one by rotating left and flipping horizontally.p. 150:

p2

. . . .

x1

. . . .

Figure 5.2.1. Expected value

. . . .

. . .

. . .

. . . .

.

p3

pn

. . .

x2

x3

xn

0

p1

The area shaded by is the expected value p1x1 + p2x2 + ... + pnxn.

p. 150:

x3

Height is G(α), the probability of receiving an outcome to the right of α, i.e., better than α. (G(α) is the  
*rank* of α.)

. . . .

. . .

.

xn

0

. . . .

p3

pn

p2

p1

. . .

Fig. 5.2.2b. Expected value after (rotating left and) flipping horizontally

. . .

. . . .

. . . .

The area shaded by is the expected value.

x1

x2

α

. . . .

. . .

x3

. . .

p3

pn

p2

p1

. . .

.

. . . .

. . . .

. . . .

Fig. 5.2.2a. Expected value after rotating left

The area shaded by is the expected value.

x1

x2

xn

0

p. 151:

. . .

. . . .

. . . .

.

. . .

p1

. . .

To calculate expected utility, the distance from xj (“all the way”) down to the x-axis has been transformed into the distance U(xj), for all j.

U(x3)

Figure 5.2.3. Expected utility

U(x1)

. . . .

. . . .

U(xn)

p3

pn

p2

U(x2)

0

Expected utility

p1U(x1) + p2U(x2) + ... + pnU(xn) is area .

p. 152:

0

1

p

w

1

0

Figure 5.2.4. A probability weighting function

Elucidation: This Figure was made using only MS Word. I drew the curve by hand.

p. 152:

. . . .

. .

.

w(pn)

w(p1)

w(p2)

. . . .

. . . .

. . . .

. . .

. . . .

w(p3)

Figure 5.2.5. Transforming probabilities of fixed outcomes (the “old” model)

x3

. . .

xn

0

w(p1)x1 + w(p2)x2 + ... + w(pn)xn is the area

(value of the prospect).

x1

x2

The height of each single layer, i.e., the distance of each endpoint down to its lower neighbor, has been transformed.

p. 154:

w(p1 + p2)

w(p1)

redu-ced x1

ori-  
ginal  
 x1

. .

.

w(pn)

w(p2)

. . . .

. . . .

. . . .

. . . .

. . .

. . . .

w(p3)

w(p1)x1 + w(p2)x2 + ... + w(pn)xn is the area .

. . .

x2

x3

xn

0

Fig. 5.3.1a. Reducing x1 somewhat.

*area lost*

Figure 5.3.1. Eq. 5.2.1 violates stochastic dominance

Fig. 5.3.1b. Reducing x1 further.

w(p1)x1 + w(p2)x2 + ... + w(pn)xn is the area .

. .

.

w(pn)

w(p2)

. . . .

. . . .

. . . .

. . . .

. . .

. . . .

w(p3)

. . .

x2

w(p1)

x3

xn

0

x1

. .

.

w(pn)

w(p2)

. . . .

. . . .

. . . .

. . . .

. . .

. . . .

w(p3)

. . .

x2 = x1

w(p1)

x3

xn

0

Fig. 5.3.1c. x1 hits x2.

w(p1)x1 + w(p2)x2 + ... + w(pn)xn is the area .

w(p1+p2)x1

*additi-onal area*

-

p. 157:

rank

Figure 5.4.1. The usefulness of ranks

0

probab.  
density

outcome

y

x

Fig. a. Probability densities, the continuous analogs of outcome probabilities

0

1

outcome

y

x

Fig. b. Ranks, being 1 minus the distribution function

Fig. b displays the same prospects as Fig. a, but now in terms of ranks, i.e., the probability of receiving a strictly better outcome, which is 1 minus the usual “distribution function.”

Elucidation: This Figure was made using only MS Word. I drew the curves by hand.p. 162:

x3

xn

. . .

0

. . . .

. . . .

. . . .

. . . .

. . . .

. . . .

. . .

. . . .

.

. . .

. . . .

.

. . .

. . . .

(Economists’)  
outcome  
sensitivity (EU)

U(x3)

U(x1)

U(xn)

U(x2)

. . .

0

. . .

p1

p3

pn

p2

. . .

x3

xn

x1

x2

0

. . .

p2

p3

pn

p1

⇒

Expected value (risk neutrality)

way to model  
 risk attitude

non-risk-neutral value of prospect

0

0

0

. . .

x3

xn

. . . .

. . . .

. . . .

.

. . . .

. . . .

. . .

pn−1+...+p1

pn+...+p1

p1

p2 + p1

p3+p2+p1

x1

x2

. . . .

. . . .

0

. . . .

. . . .

. . . .

w(p1)

w(p2+p1)

w(pn−1+...+p1)

w(pn+...+p1)

w(p3+p2+p1)

.

. . . .

. . . .

. . . .

. . . .

x1

x2

Rank-  
dependent probabilistic  
sensitivity

⇒

. . .

. . .

x3

xn

x3

xn

. . . .

. . . .

. . . .

⇒

.

. . . .

. . . .

. . .

pn−1+...+p1

pn+...+p1

p1

p2 + p1

p3+p2+p1

0

. . .

0

x1

x2

. . . .

. . . .

. . . .

w(pn)

w(p1)

w(p2)

w(p3)

x1

x2

. . . .

. . .

.

. . . .

. . . .

. . . .

Old (psycholo-gists’) probabi-listic sensitivity

. . .

Figure 5.5.1. Combination of preceding figures, with rank dependence as an application of an economic technique to a psychological dimension.

Fig a.

Fig b.

Fig c.

p. 163:

w(p1)

w(p2+p1)

−

w(p1)

. . . .

. . .

. . . .

. . . .

. . . .

x3

w(G(α)): the w-transformed rank

. . .

.

xn

0

. . .

Figure 5.5.2. Rank-dependent utility with linear utility

The area shaded by is the value of the prospect. Distances of endpoints of layers (“all the way”) down to the x-axis are transformed, similar to Figure 5.2.3. The endpoint of the last layer now remains at a distance of 1 from the x-axis, reflecting normalization of the bounded probability scale.

x1

x2

α

w(p2+p1)

w(pn−1+ ...+p1)

1 = w(pn+...+p1)

w(pn+...+p1)

−

w(pn−1+...+p1)

p. 164:

. . . .

. . .

.

1 = w(pn + ... + p1)

U(x1)

w(p2+p1)

−

w(p1)

U(x2)

For points on the y-axis (“endpoints of layers”), their distance down to the x-axis are transformed using w. For points on the x-axis (“endpoints of columns”), their distances leftwards to the y-axis are transformed using U.

U(xn)

U(x3)

τ

...

Figure 5.5.3. Rank-dependent utility with general utility

. . . .

. . . .

w(p1)

. . . .

w-transformed probability of receiving  
utility > τ.

0

. . .

w(p2+p1)

w(pn−1 + ... + p1)

w(pn + ... + p1)

−

w(pn−1 + ... + p1)

p. 164:

w(p2+p1)

−

w(p1)

w(p1)

U(x2)

w(pn+

... + p1) (= 1)

U(x1)

U(xn)

U(x3)

τ

...

Figure 5.5.4. Another illustration of general rank-dependent utility

w-transformed probability of receiving  
utility > τ.

0

w(p2+p1)

w(pn−1 +

... + p1)

w(pn + ...+p1)

−

w(pn−1+...+p1)

. . .

Relative to Figure 5.5.3, this figure has been rotated left and flipped horizontally.