

# Assessing behavioural risk

Colm Fitzgerald FSAI  
University College Dublin

*European Congress of Actuaries  
Brussels – 21<sup>st</sup> April 2016*

What is an actuary?

- An accountant uses numbers to make judgments about the past
- An actuary uses numbers to make judgments about the future

Risk assessment is a key element

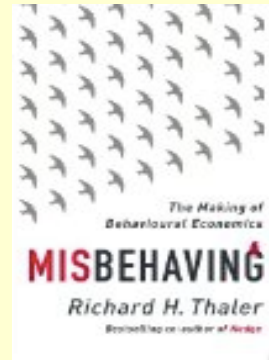
- Actuaries are considered experts in the logical and rational sides to risk management

Models and techniques for actuaries to (quantitatively) assess and manage behavioural risk

- Initial funding by the Society of Actuaries in Ireland.

Existing theory does not enable sufficient functional differentiation between individuals in relation to their behaviours

- Utility theory, 'rationality', behavioural economics
- Interesting theory, but has limited practical application



'New' theory - derived from classical thought

- Assumes individuals are human rather than merely rational
- What does it mean to be human?
- Simplified practical three part model of the human condition

Aim to complement existing tools that assess behaviour

- IQ tests, personality and aptitude tests, interviews and academic assessments.

## 1) Individuals have an ego:

- What is the ego?
  - the 'self' as distinct from other selves. Ego is the Latin for 'I'.
- What is the function of the ego?
  - to keep us feeling good about our selves.
- How does it work?
  - We can be happy by progressively meeting our needs, alternatively, the ego can use ego defense mechanisms which can distort reality to aid handling difficulties and setbacks and keep us feeling good (or at least keep us feeling ok)
  - We are mostly unaware of our own egos, otherwise the distortions would not have the desired effect.

.....

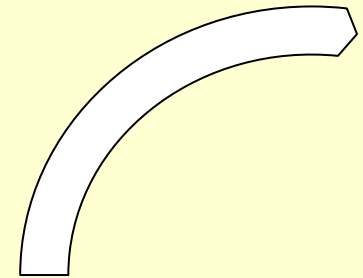
## 1) Individuals have an ego:

### - Theoretical foundation

- Comparable to the ego model of Anna Freud & Erich Fromm
- Actuarial theory – narrative risk
- Classical thought
  - Plato – Allegory of the Cave, Theory of Forms
  - Nietzsche – *“Strength of mind might be measured by the amount of “truth” it could endure – or to speak more plainly, by the extent to which it required truth attenuated, veiled, sweetened, damped, and falsified”*
  - Da Vinci – *“The greatest deception men suffer is from their own opinions”*
  - Adam Smith – *“This self-deceit, this fatal weakness of mankind, is the source of half of the disorders of human life”*

## 2) Nature of Life – The Hill:

- Progressively meeting our needs in life is an uphill battle
  - It is harder to progress than it is to regress
- Shape of the hill:
  - The hill is initially very steep but flattens on ascent
- Progressing - ascending the hill
  - We ascend according to how much we require of ourselves
  - Resources can flatten the hill but not change its shape
- Limitations
  - Ego can distort reality, distorting what is required
  - Other constraints – social pietas, filial pietas, general pietas
  - Realism implies a proportionate degree of humility is necessary



## 2) Nature of Life – The Hill:

### - Theoretical foundation:

- Antoine de Saint-Exupery - *“Civilisations are created from what is required of people, not from what is provided for them.”*
- Hesiod – *“Misery is there to be grabbed in abundance, easily, for smooth is the road, and she lives nearby, but in front of Excellence the immortal gods have set sweat, and the path to her is long and steep, and rough at first – yet when one arrives at the top, then it becomes easy, difficult though it still is.”*
- Democritus - *“Those who seek good things find them with difficulty; bad things come even to those who do not seek them.”*
- Aeschylus – *“We suffer into truth.”*
- Euripides - *“The task you speak of fits well with my destiny (a path ever hard to tread, ever leading uphill)”*.
- F. Scott Fitzgerald – *“Nothing any good isn’t hard.”*

## Examples:

### Ego perspective:

- Life is unfair
- Winning the lottery would solve all problems
- He is brainy/talented
- I need more drugs

### Reality:

- Life is a hill
- Likely to worsen your life if you require less of yourself
- “*Talent is nothing but a lengthy patience*” (Maupassant)
- I need to require more of myself

The model enables a distinction to be made between:

- *pseudodoxia* (distorted logic) and rationality

Need to differentiate the health of an individual's ego



## 3) Nature of the psyche

- Division of the psyche into ‘thought’, ‘reason’ and ‘spirit’
- Optimal alignment = humility of the Ego, which balances:
  - Confidence, optimism, courage and patience in an individual’s own thought, and
  - Ego-critical and pessimistic forms of rational and logical thinking.
- To reach the psychological potential of the human condition - the psyche must be operating in this manner
- The degree that it reaches its psychological potential depends on the level of spirit in the psyche

## 3) Nature of the psyche

- Theoretical foundation:
  - Hecate (goddess of the soul)
  - Plato's allegory of the chariot



- Einstein - *“The intuitive mind is a sacred gift and the rational mind is a faithful servant. We have created a society that honors the servant and has forgotten the gift”.*

# The 'Know Yourself' Test



- How do we assess an individual in the context of the human condition? How can we assess where they are on the 'hill'?
- Different psychological perspectives are assumed to be associated with different levels of the human condition.
- The extent to which an individual holds these perspectives is assumed to be an indication of the level of the human condition at which they are operating.
- The perspectives are assessed using a method which uses the individual's ego against itself to reduce the potential for gaming.

# The 'Know Yourself' Test



Scores are awarded to answers based on the degree of adherence to various psychological perspectives.

The main output is in the form of three coefficients:

- Potentiality Coefficient (indicating - where on the 'hill')
- Thought-Coefficient (indicating - quality of thought)
- Reasoning-Coefficient (indicating - quality of logical & rational thinking)

Tested using focus groups.

Statistical testing has shown moderate to strong indications of validity and reliability.

# The 'Know Yourself' Test



## Example:

*Which do you agree with most? (Honestly!)*

- A) *There is no freedom without responsibility*
- B) *I accept my responsibilities prudently*
- C) *It'd be great to have a few less responsibilities so that I could enjoy life more*
- D) *I would love to win the lottery and be completely free*

# The 'Know Yourself' Test

Results:

	<i>Potentiality -Coefficient</i>	<i>Thought- Coefficient</i>	<i>Reasoning- Coefficient</i>
Highest result	97	45	52
90 <sup>th</sup> Percentile	77.6	38.6	41
70 <sup>th</sup> Percentile	66	34	35
50 <sup>th</sup> Percentile	58	28	32
30 <sup>th</sup> Percentile	53.1	25	28.4
10 <sup>th</sup> Percentile	49.2	20.4	23.4
Lowest result	40	13	14
Average	61.63	29.23	32.40
Max possible	120	60	60
Min possible	0	0	0

# The Group Ego



People do not exist independently – they influence and are influenced by the group to which they belong

Group egos also exist in a similar way to which egos exist

So the health of the group ego is influential in practice

Example:

A CEO would want to know the health of the egos of the individuals on the board, but also how they influence and are influenced by the group.

# 'Know Your Group' Test



Quantitatively measures the degree to which the psychological capacity of a group of individuals is greater or less than the sum of the individual members' psychological capacities

Compares the 'Group-Potentiality-Coefficient' with the sum of each individual member's 'Individual-Potentiality-Coefficient'

If the 'Group-Potentiality-Coefficient' is greater/less than the sum of each individual member's 'Individual-Potentiality-Coefficients' then the group is greater/less than the sum of its individual members – from a psychological perspective.



# 'Know Your Group' Test



## Example

*The group invested a significant amount into a particular investment – albeit less than its peer group. The investment has performed very poorly, losing >50% of its value. Which do you most agree with?*

- A) The group did well to invest less than their peer group.*
- B) The group made a very bad investment.*

(Individual Question & Group Question)

Tools for actuaries to assess and manage the behavioural risk of both individuals and groups.

Useful when:

- Assessing or hiring somebody for a risk or investment role
- Hiring or re-hiring an investment manager, and wanting to assess the psychological capacity of their key staff?
- Reviewing and looking to enhance the performance of existing risk and investment personnel
- Aiming to improve the risk culture of a board of directors or a risk committee

Free trials available for actuaries

# Further Applications

Tests that lead to greater levels of self-realisation acting as a basis for:

- Professional coaching
- Workshops
- Other creative engagements

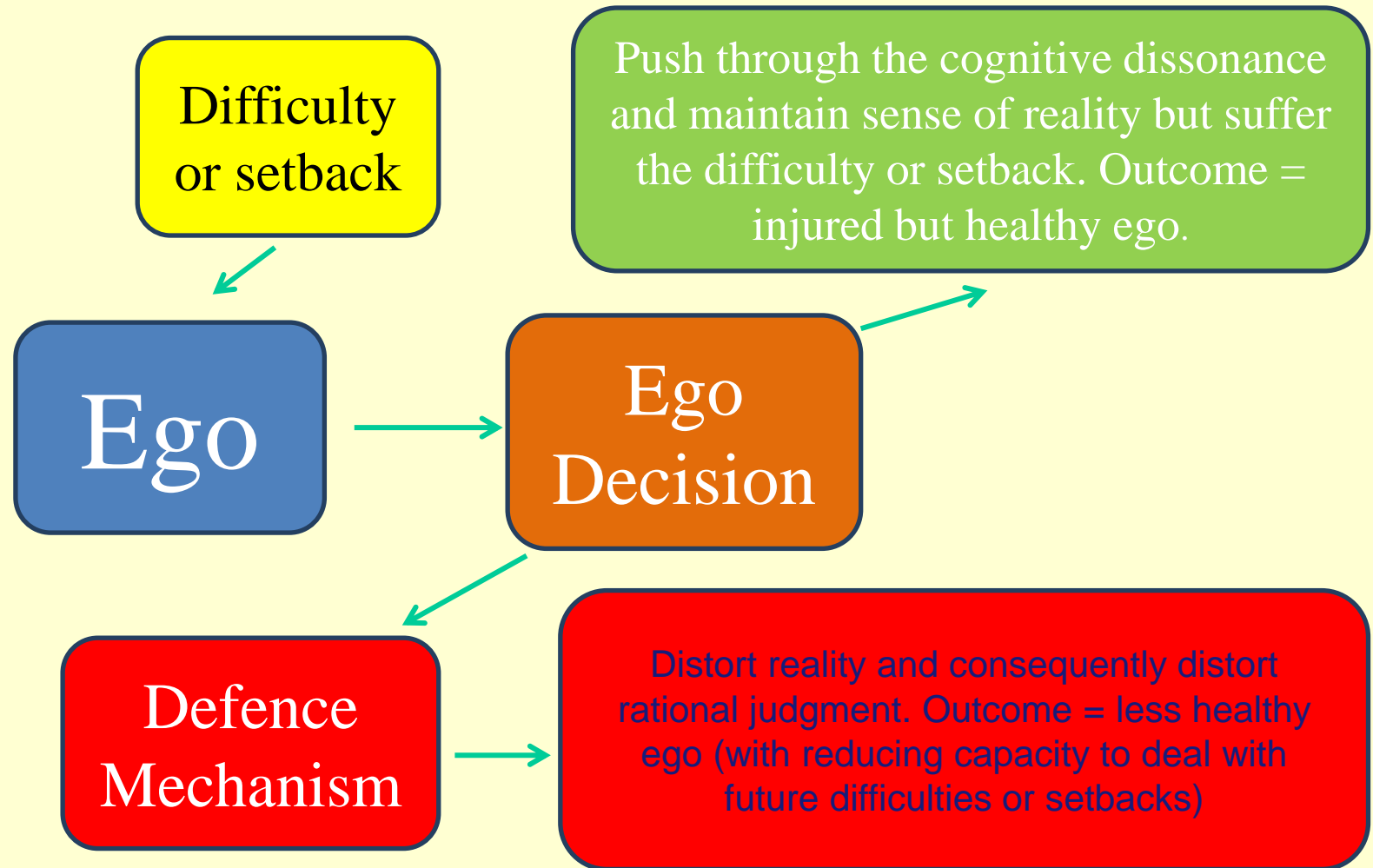
# Summary



- Actuaries are experts in the logical and rational sides to risk management
- Models and techniques to give a competitive advantage to actuaries in the area of assessing behavioural risk
- Recognition and assessment of ego / group ego
- Capability to offer remedial actions

Questions or comments welcome ?

If you would like further information about using the tests or would like to a free trial, please email: [colm.fitzgerald@ucd.ie](mailto:colm.fitzgerald@ucd.ie)



# Ego

Filters reality

-narratives

-defense mechanisms

-.....

