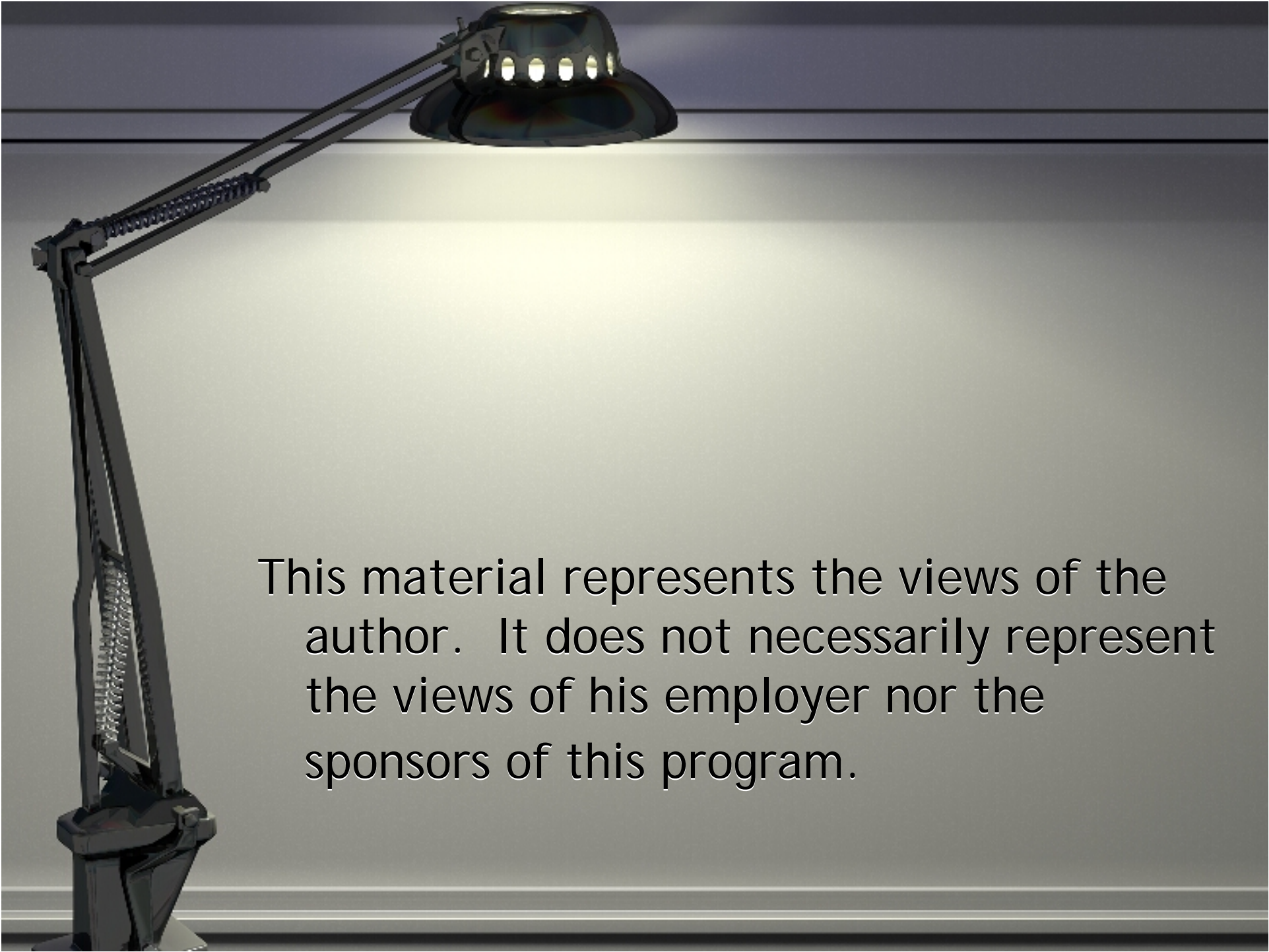


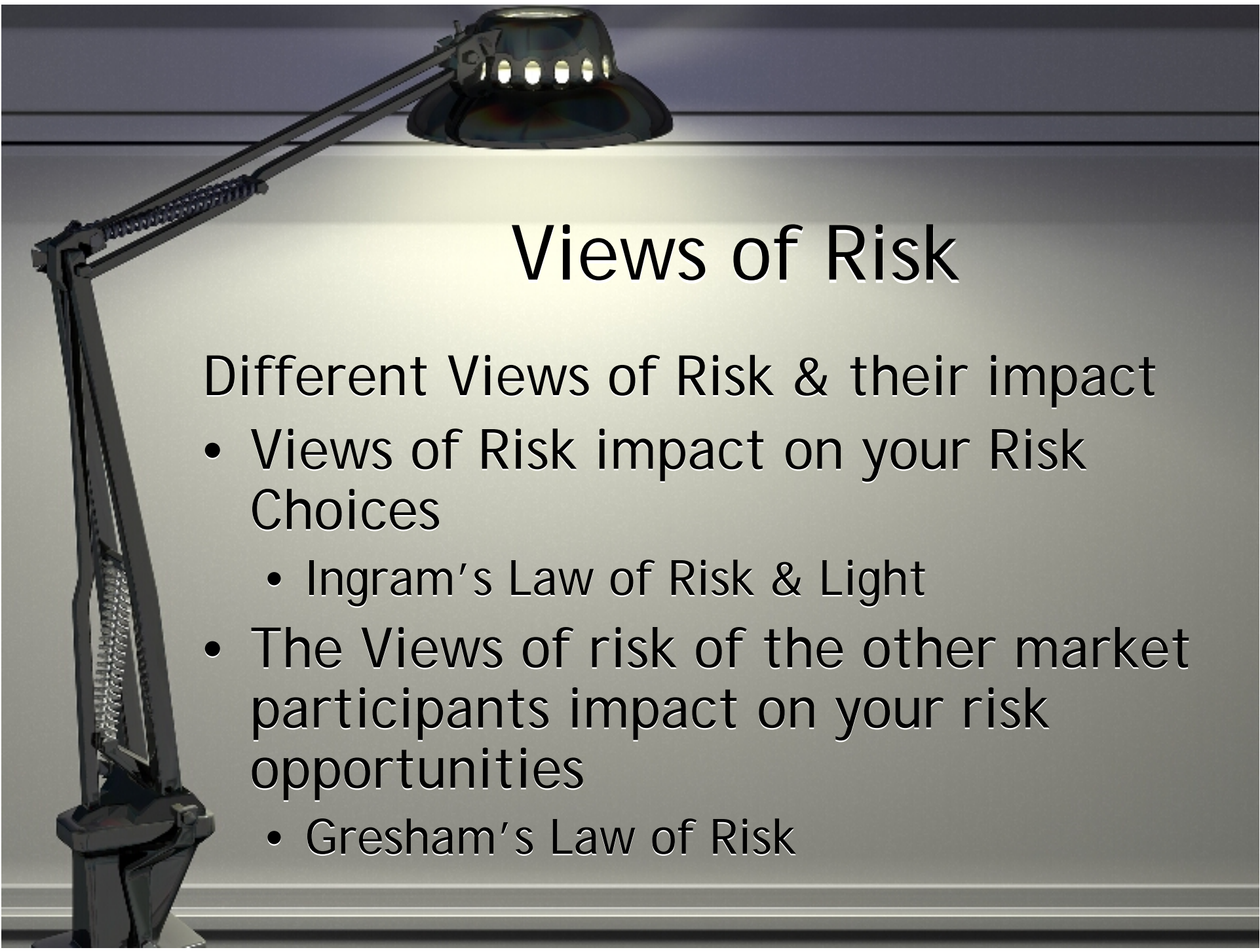
A desk lamp with a black adjustable arm and a silver-colored shade is positioned on the left side of the frame. The lamp is turned on, casting a warm, yellowish glow onto a light-colored wall. The title "Views of Risk" is written in a large, white, sans-serif font across the center of the wall, directly under the lamp's light. The background is a dark, gradient wall with horizontal lines.

Views of Risk

David Ingram, CERA, FRM, PRM

A desk lamp with a glowing light fixture, casting a beam of light onto a white surface. The lamp has a long, adjustable arm and a base. The light fixture is a dome shape with several small lights inside, creating a warm glow. The background is a plain, light-colored wall.

This material represents the views of the author. It does not necessarily represent the views of his employer nor the sponsors of this program.



Views of Risk

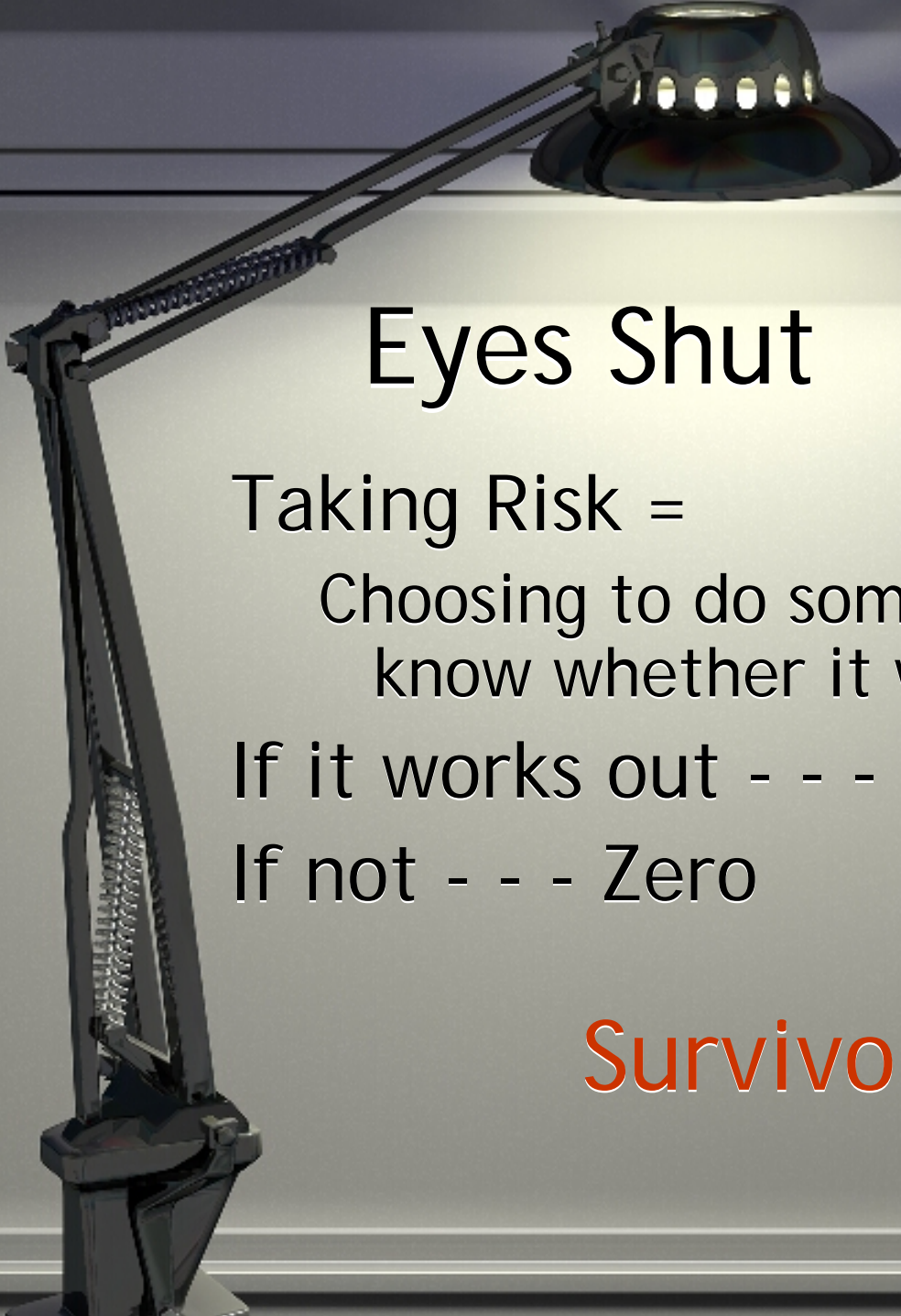
Different Views of Risk & their impact

- Views of Risk impact on your Risk Choices
 - Ingram's Law of Risk & Light
- The Views of risk of the other market participants impact on your risk opportunities
 - Gresham's Law of Risk



Some views of Risk

- Eyes Shut
- Quick Look
- One Eye
- Two Eyes
- 360 View



Eyes Shut



Taking Risk =

Choosing to do something when you cannot know whether it will work out or not

If it works out - - - HERO

If not - - - Zero

Survivor Bias



Eyes Shut Risk View

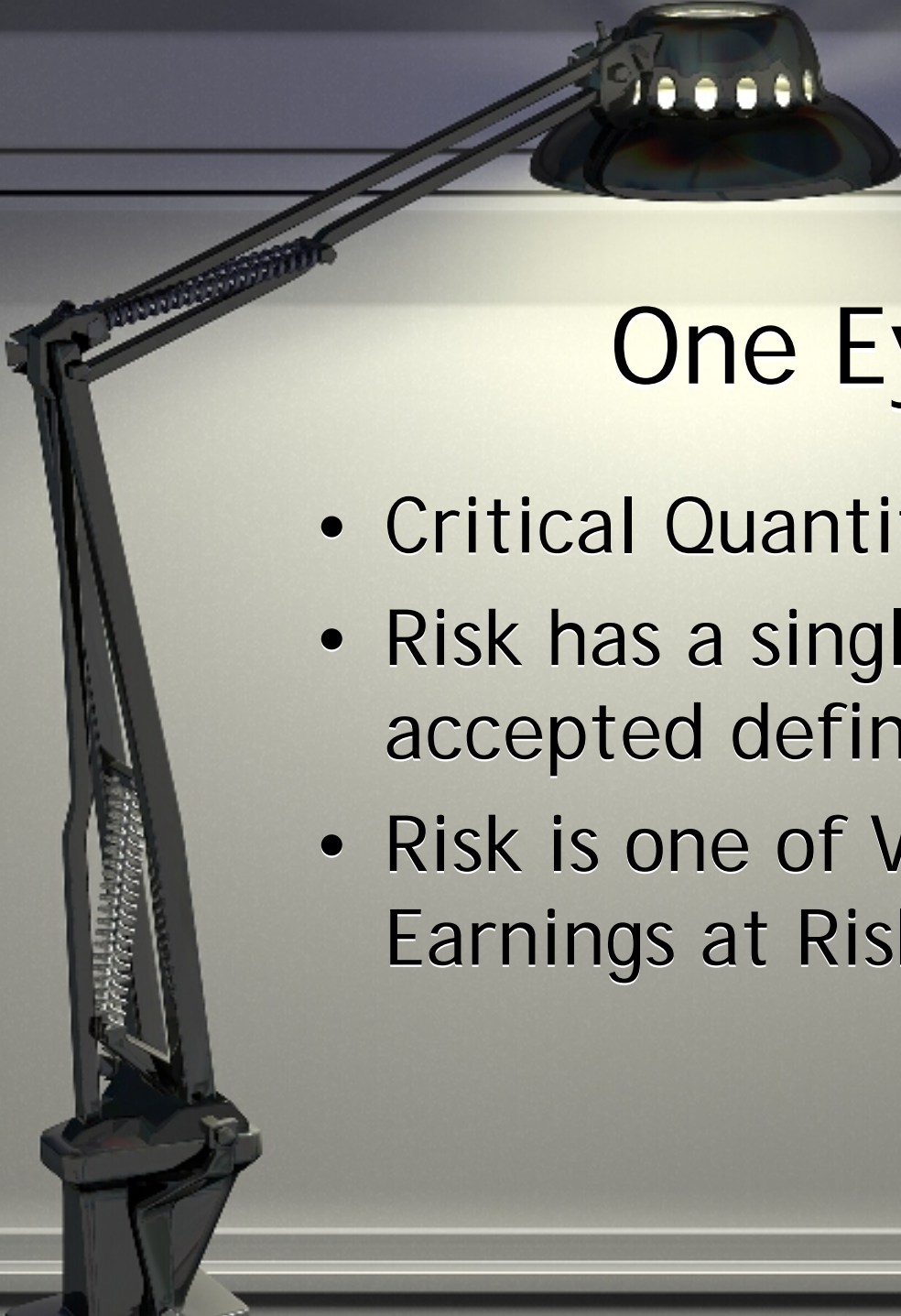
- Disdain for analysis
- “Knows” that the risks that will really reward - cannot be analyzed
- Bean counters will stymie any innovation with excess pessimism and/or analysis paralysis



Quick Look



- Seen this before?
- If no, Reject
- If yes, fit into an existing structure of levels of acceptability

A desk lamp with a single glowing eye, symbolizing a one-eyed view.

One Eye View



- Critical Quantitative Review of Risk
- Risk has a single, clear, widely accepted definition
- Risk is one of VaR, CTE, Volatility, Earnings at Risk, Economic Capital



One Eye Views

Short Term	Long Term	Intermediate Term
Volatility Oriented	Ruin/Capital Oriented	Earnings Oriented
Calibrated to Market	Calibrated to History	Calibrated to Future View

A desk lamp with a glowing light fixture is positioned on the left side of the slide. To the right of the lamp is a yellow smiley face with blue eyes. The background is a gradient from light to dark grey.

Two Eyes

- Critical Quantitative view of risks
- Risk has two aspects
- Might be short term & long term, or ruin & earnings



360 View



Tries to look at all aspects of risk

- Full Loss Distribution
- Multiple Time Frames
- Impact of degree of certainty/confidence
- Market vs. Fundamental Analysis
- Impact of others' actions



Advantages

Eyes Shut	Low cost. High Reward
Quick Look	It works. Low Cost.
One Eye	Can readily develop & explain risk reward trade-offs
Two Eyes	<i>((Will get back to this))</i>
360 View	Never have to say you're sorry.



Disadvantages

Eyes Shut	Low predictability. High Failure Rate.
Quick Look	Declining Returns. Tendency to sometimes ignore non-traditional risks.
One Eye	Expensive. Risks selection will tend towards concentration in risks aspects not measured.
Two Eyes	<i>((Will get back to this))</i>
360 View	Very Expensive. Can tend towards finding a reason not to do anything.



Wait a minute...

- Some of the best risk takers of all time seem to fall into the pejoratively titled “Eyes Shut” group!
- Isn't this just an argument for enforced mediocrity?



Legendary Risk Takers

- Self made billionaires
 - Microsoft
 - Berkshire Hathaway
 - Virgin
 - Tata
 - Google
- Corporate Ladder Climbers
 - Who take the steps 2 at a time
- Entrepreneurs



Two Categories

- Lucky
 - See Taleb Book “Fooled by Randomness”
 - Survivor Bias
- Transcendently Talented
 - Garry Kasparov - World Chess Champ (22 years)
 - “You have to rely on your intuition. My intuition was wrong very few times.”

How many of these Transcendently Talented folks exist?



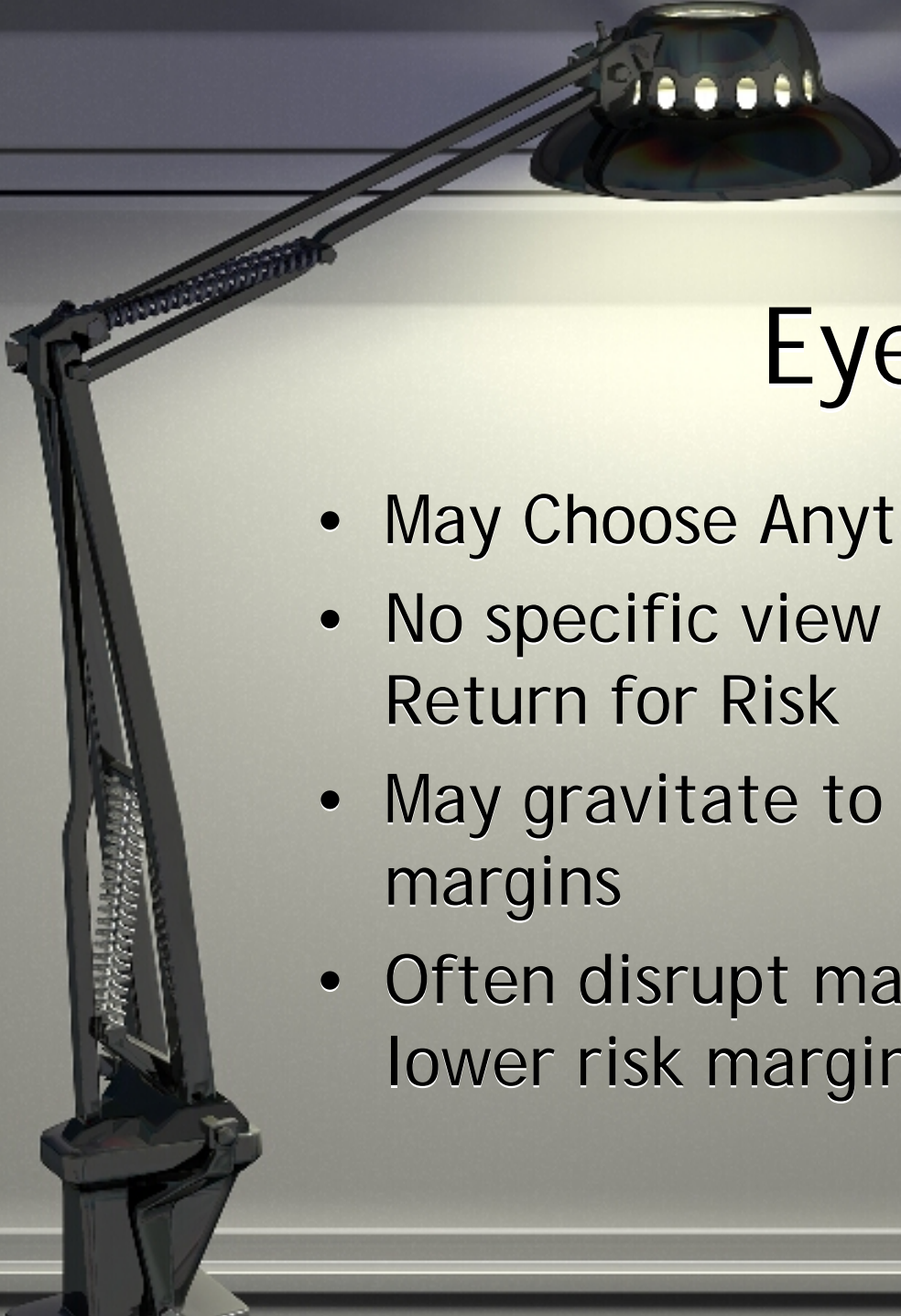
Impact of Risk Views

- How will Risk View impact on Risk Choices?



Ingram's Laws of Risk & Light

- Risks in the light shrink, Risks in the dark grow
- Return for Risks in the light shrinks faster than the Risk
- Return for Risks in the dark does not grow as fast as Risk



Eyes Shut

- May Choose Anything
- No specific view of appropriate level of Return for Risk
- May gravitate to areas with high risk margins
- Often disrupt markets by accepting lower risk margins



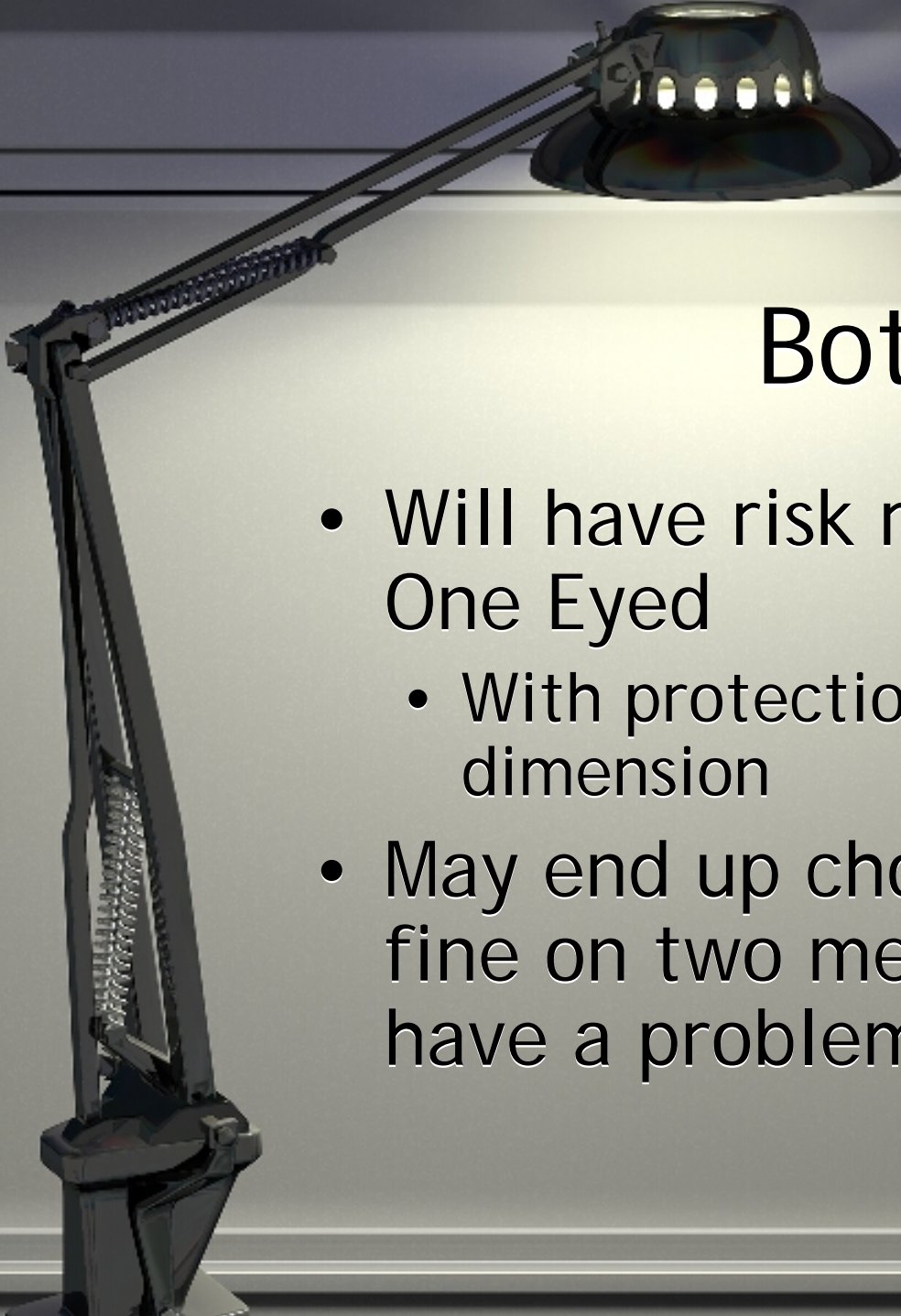
Quick Look

- Usually stay with the same risks
- Margins may decrease over time
- May not notice deterioration of risk quality or
- May ignore new aspects of risk and convince self that this is the same old same old
- May be subject to “pile on the chump” by competitors / counterparties



One Eye

- Analysis will allow ranking of risk reward, setting minimums, allocating resources to achieve max risk reward
- But risks chosen will tend to have higher and higher risks in areas not measured
 - Risk margins from those risks will make them look like smart winners
- Will tend to under-price some risks in the marketplace and drive out those who recognize those risks




Both Eyes

- Will have risk reward program of One Eyed
 - With protection against an additional dimension
- May end up choosing risks that look fine on two measures, but that have a problem in a third area



360 View

- In theory will see all aspects of risk
 - And look to get paid appropriately for all
- Will tend to be opportunistic
 - Looking for risks where there are few takers willing to be underpaid
- May make mistakes
 - But 360 view will make them fast recoverers



Aspects of Risk For 360 view

Type A Risk - Short Term Volatility of cash flows in 1 year

Type B Risk - Short Term Tail Risk of cash flows in 1 year

Type C Risk - Uncertainty Risk (also known as parameter risk)

Type D Risk - Inexperience Risk relative to full multiple market cycles

Type E Risk - Correlation to a top 10

Type F Risk - Market value volatility in 1 year

Type G Risk - Execution Risk regarding difficulty of controlling operational losses

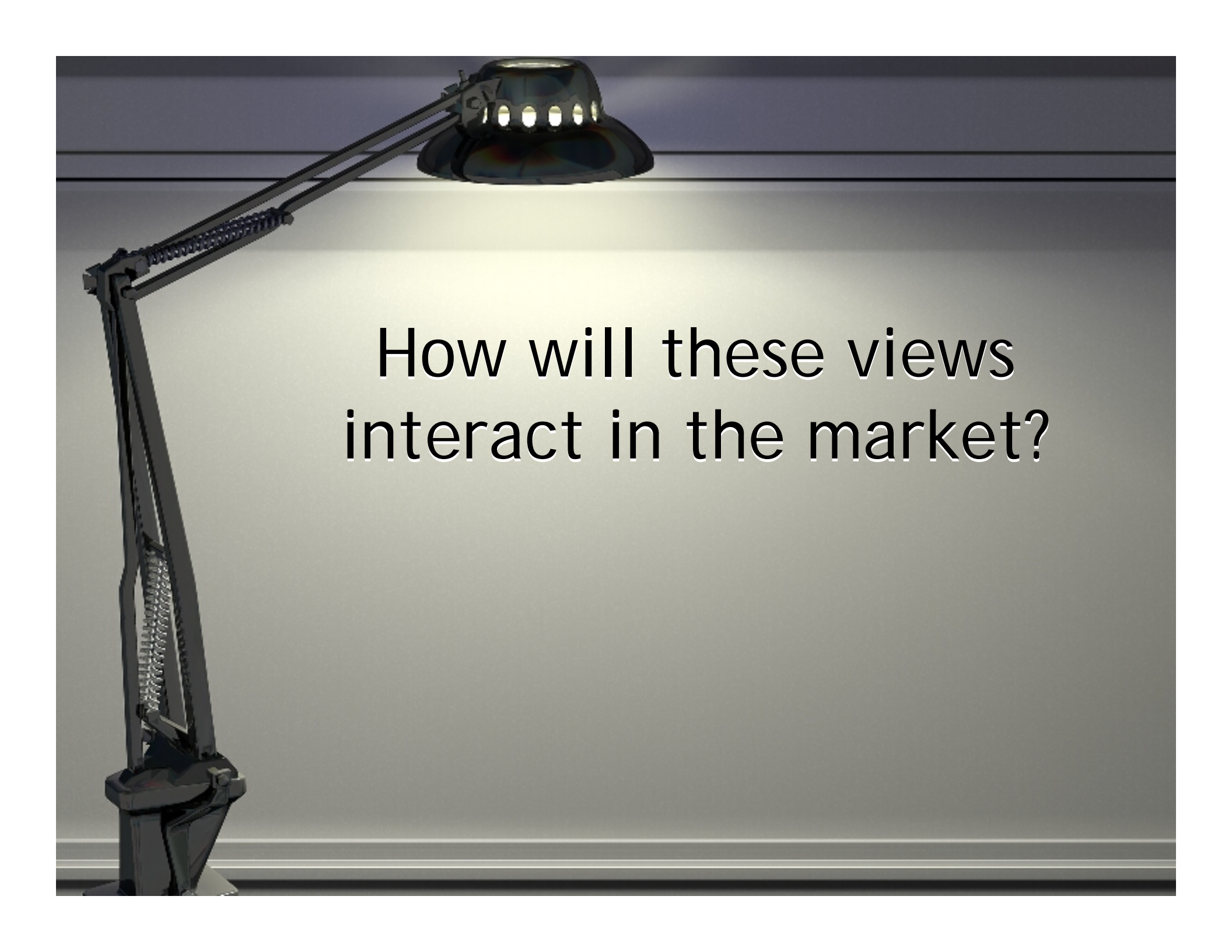
Type H Risk - Long Term Volatility of cash flows over 5 or more years

Type J Risk - Long Term Tail Risk of cash flows over 5 years or more

Type K Risk - Pricing Risk (cycle risk)

Type L Risk - Market Liquidity Risk

Type M Risk - Instability Risk regarding the degree that the risk parameters are stable

A desk lamp with a dark, adjustable arm and a circular shade with four small lights is positioned on the left side of the frame. It is directed towards a whiteboard that occupies the center and right portions of the image. The whiteboard is illuminated by the lamp, creating a bright, circular glow around the text. The background is a dark, gradient wall.

How will these views
interact in the market?



Gresham's Law

Bad Money Drives Out Good

Sir Thomas Gresham 1500's English
Financier



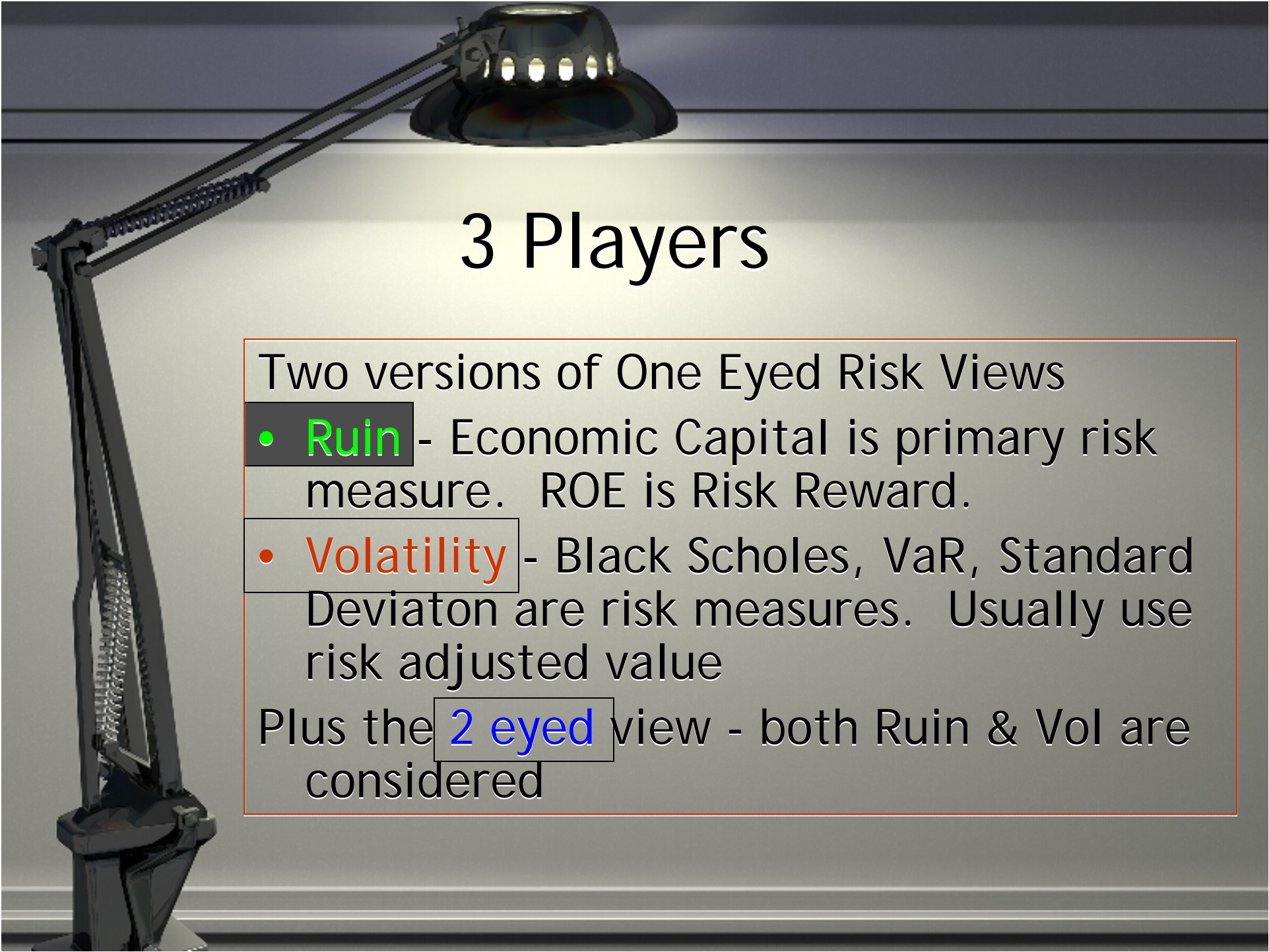
Gresham's Law of Risk

Bad Risk Management will drive out good

A desk lamp with a silver-colored metal arm and a black base is positioned on the left side of the frame. The lamp's adjustable arm is extended upwards and to the right, with a black, dome-shaped shade at the end. The shade has four small, rectangular cutouts that are illuminated from within, casting a soft, warm glow. The lamp is set against a dark, textured background that appears to be a wall or a screen. The overall scene is dimly lit, with the primary light source being the lamp itself.

Repercussions in 2 Dimensions

With Three market Participants



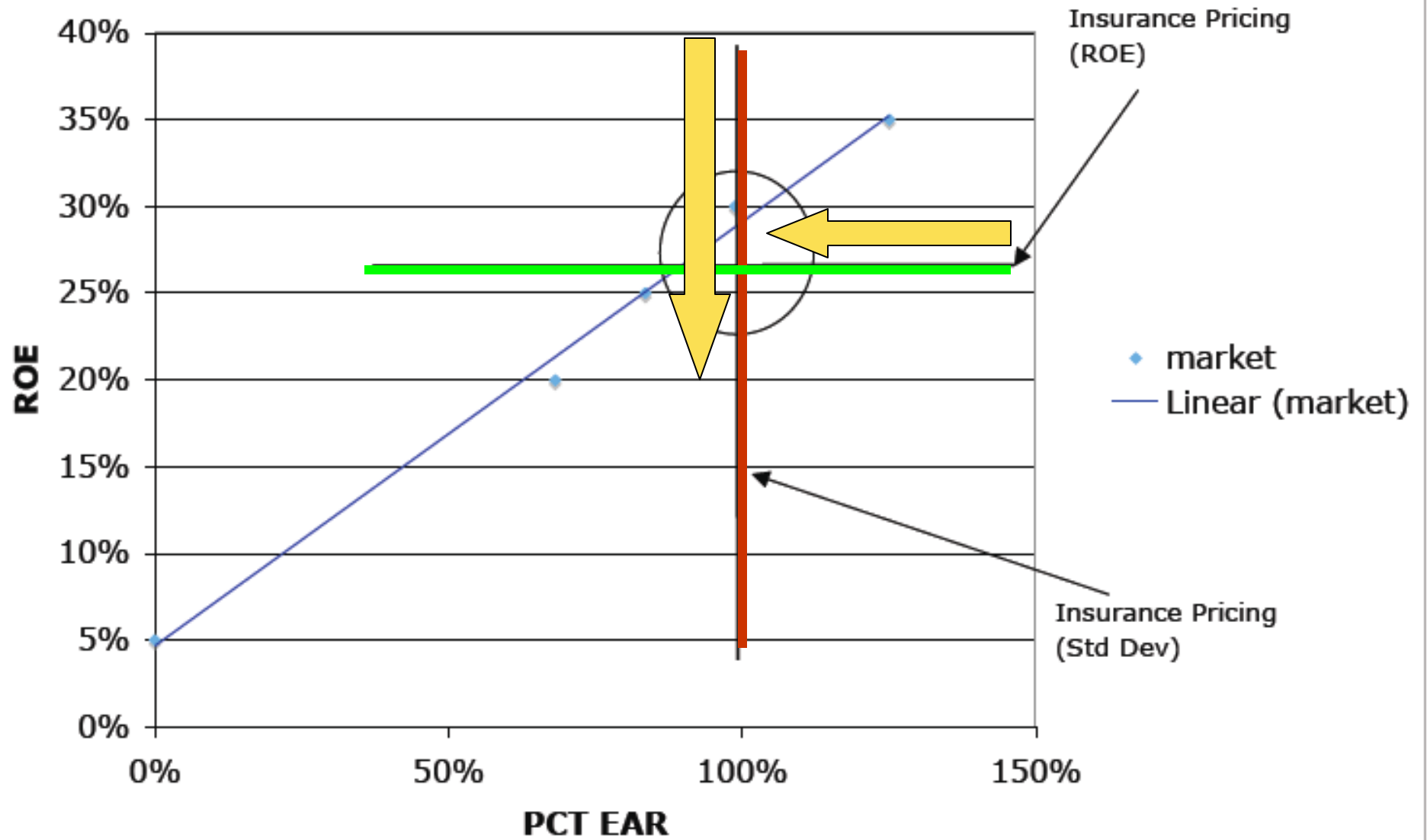
3 Players

Two versions of One Eyed Risk Views

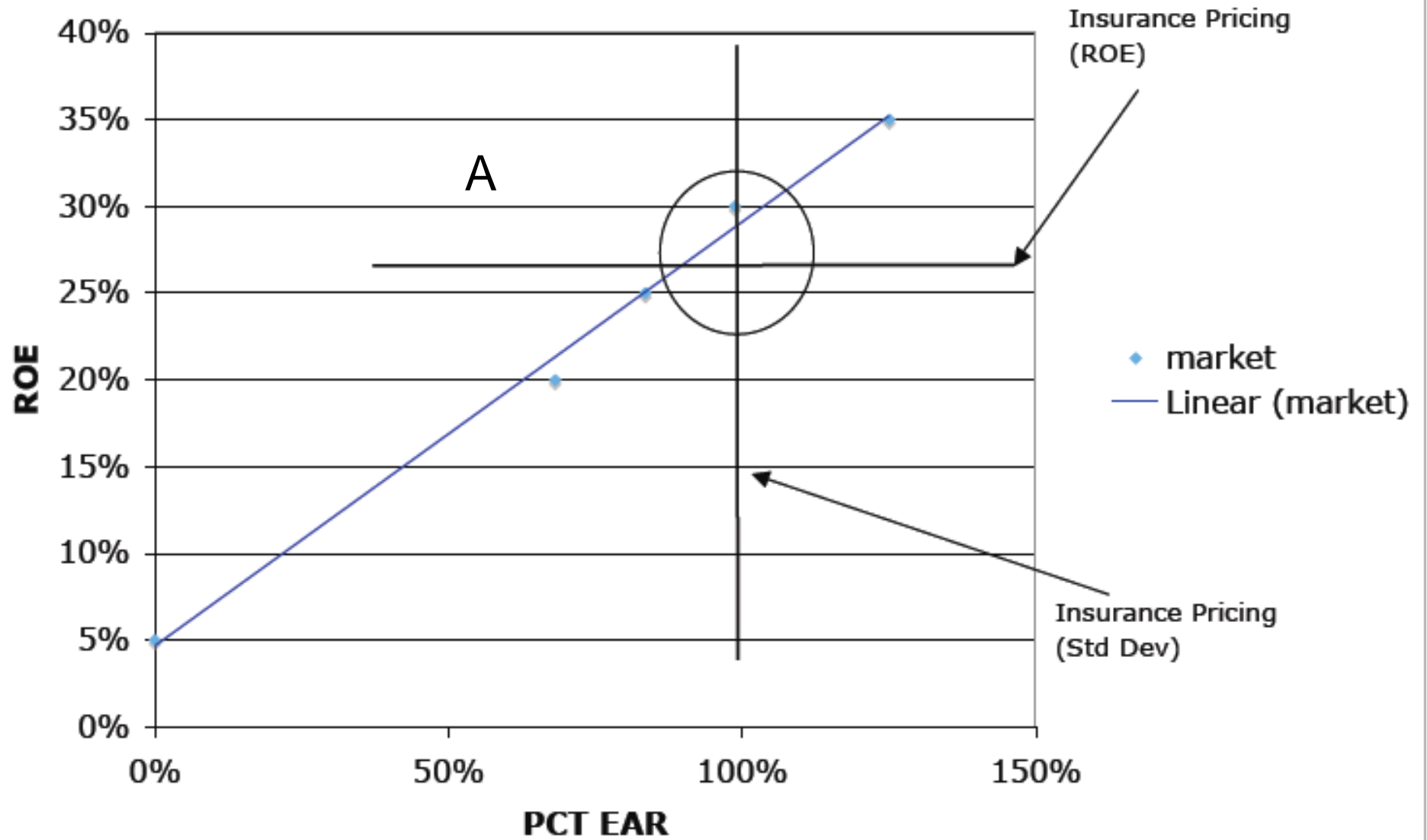
- **Ruin** - Economic Capital is primary risk measure. ROE is Risk Reward.
- **Volatility** - Black Scholes, VaR, Standard Deviaton are risk measures. Usually use risk adjusted value

Plus the **2 eyed** view - both Ruin & Vol are considered

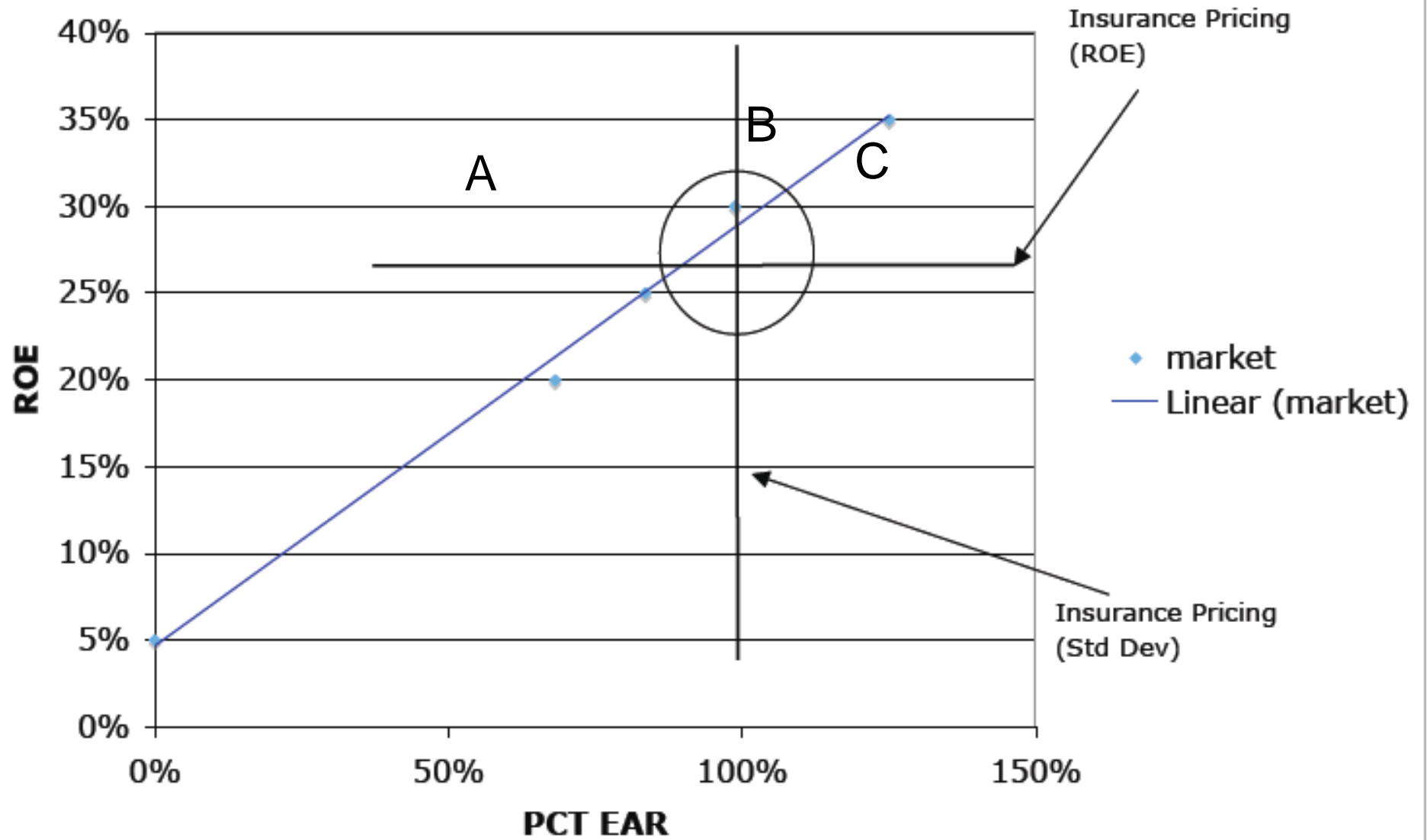
Risk & Reward



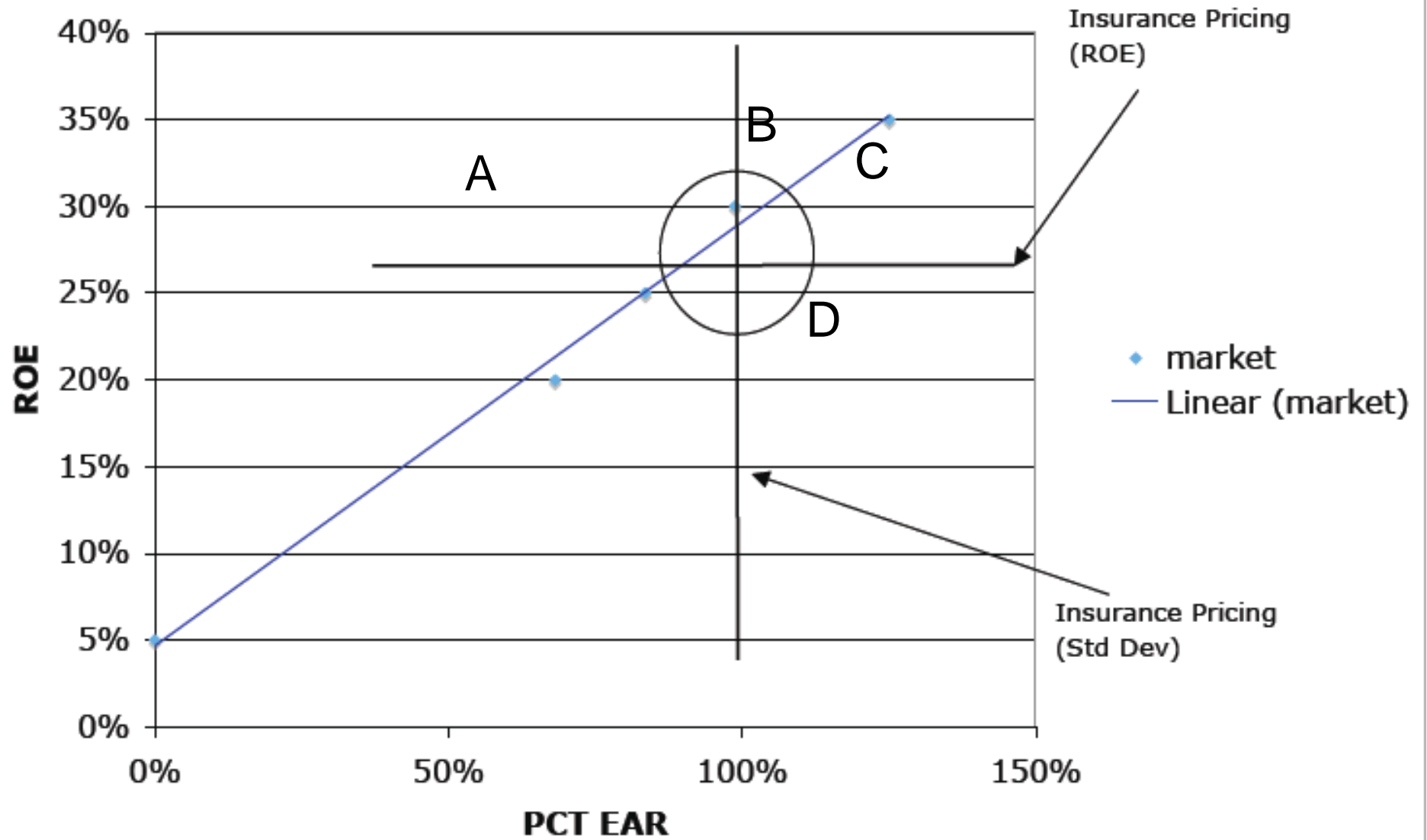
Risk & Reward



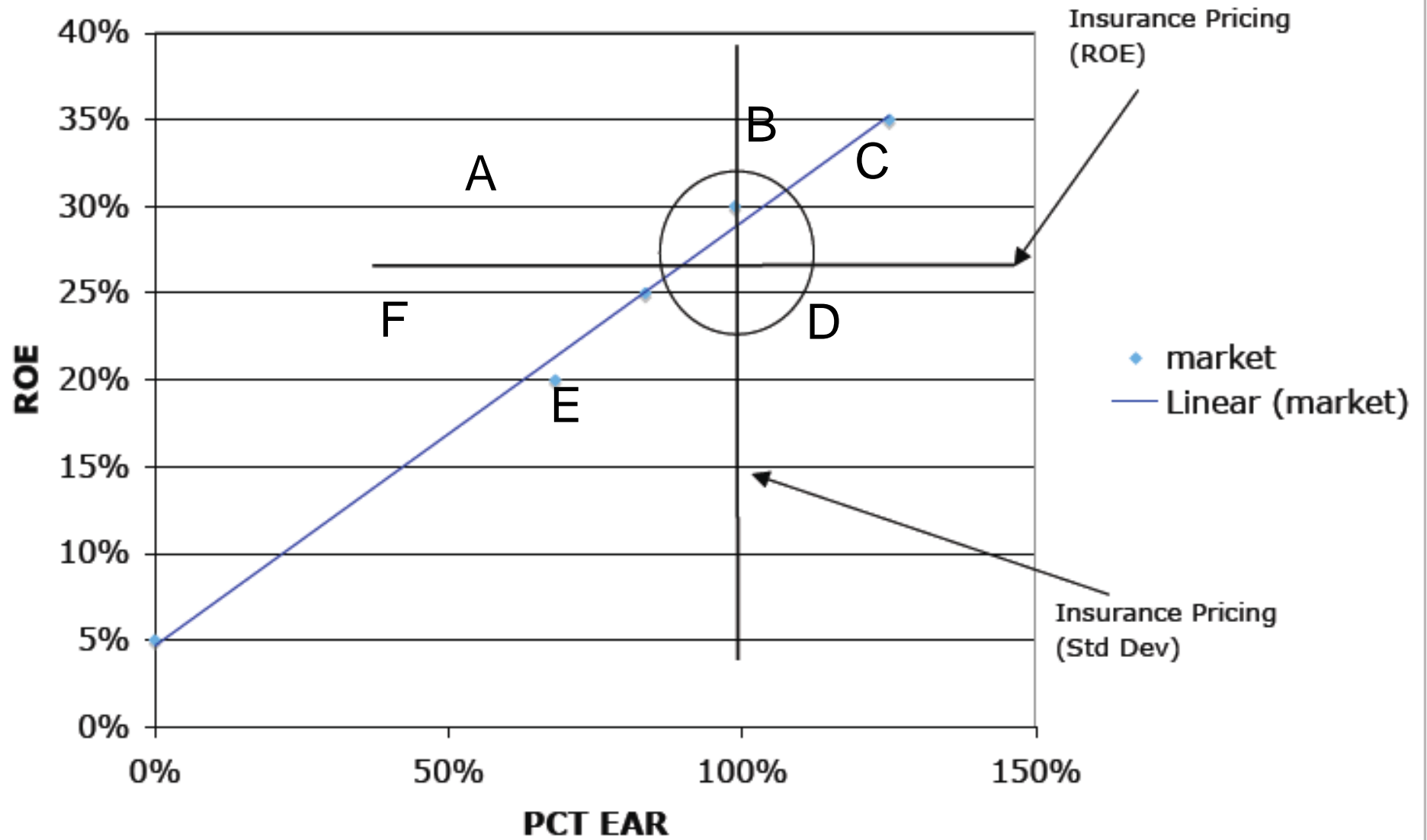
Risk & Reward



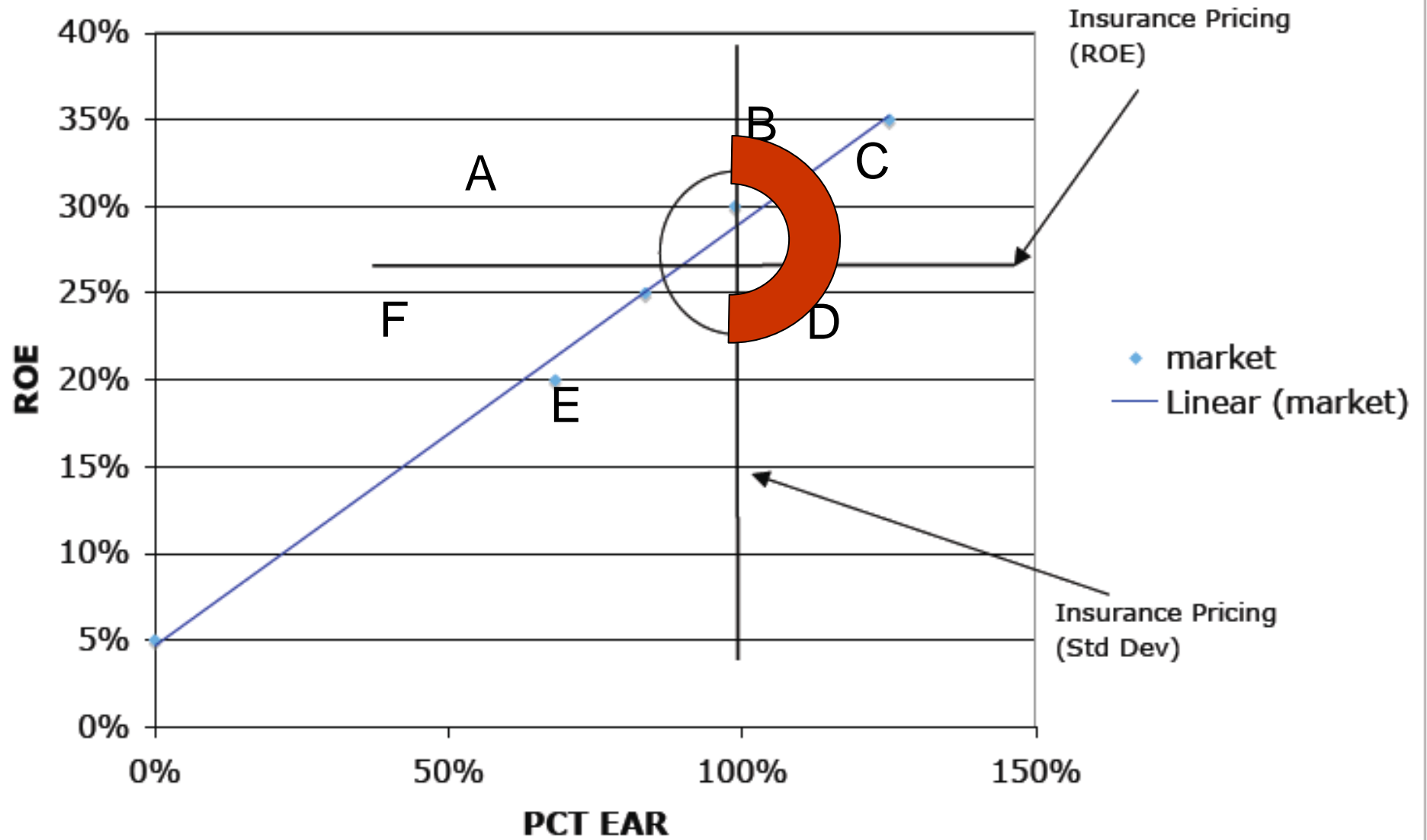
Risk & Reward



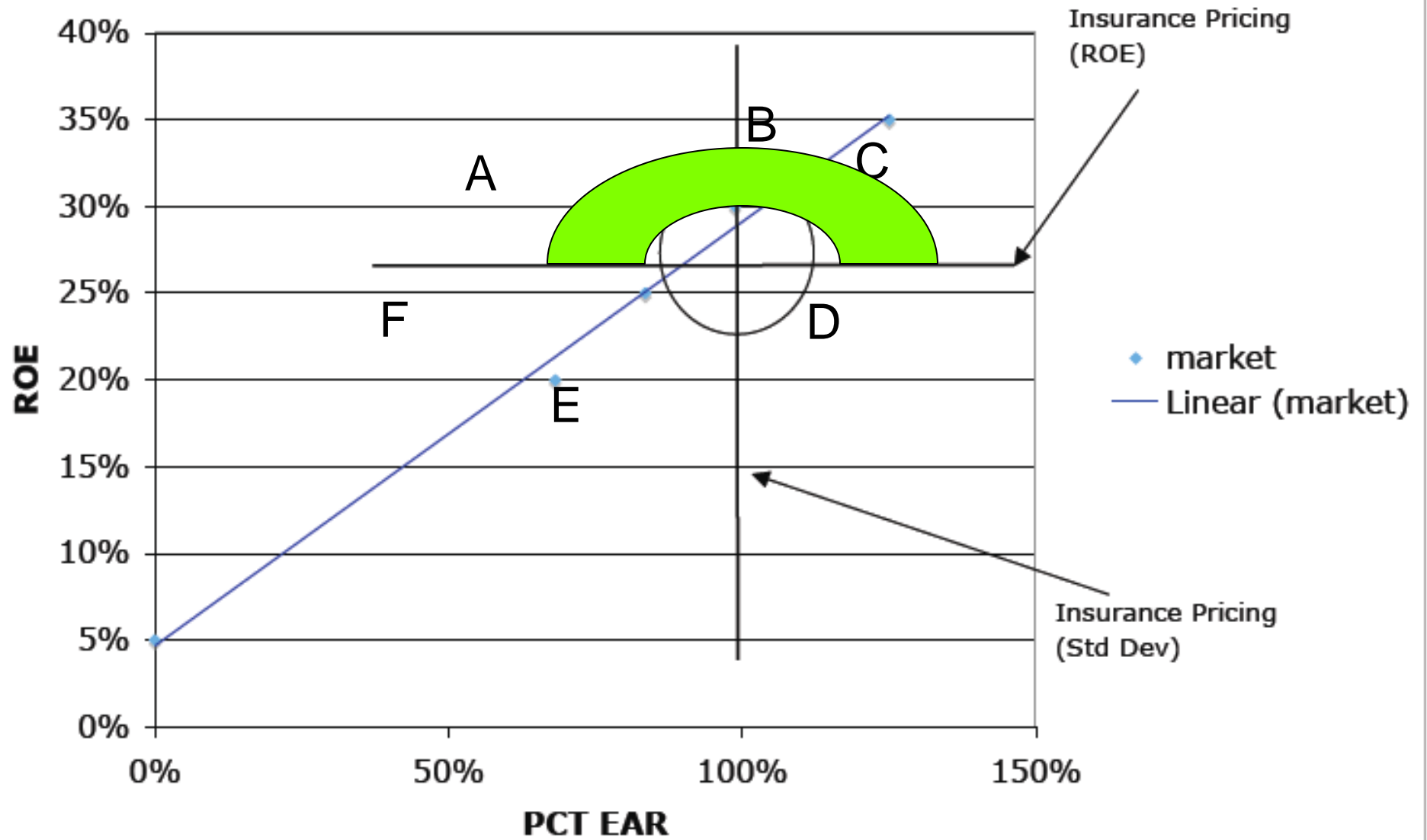
Risk & Reward



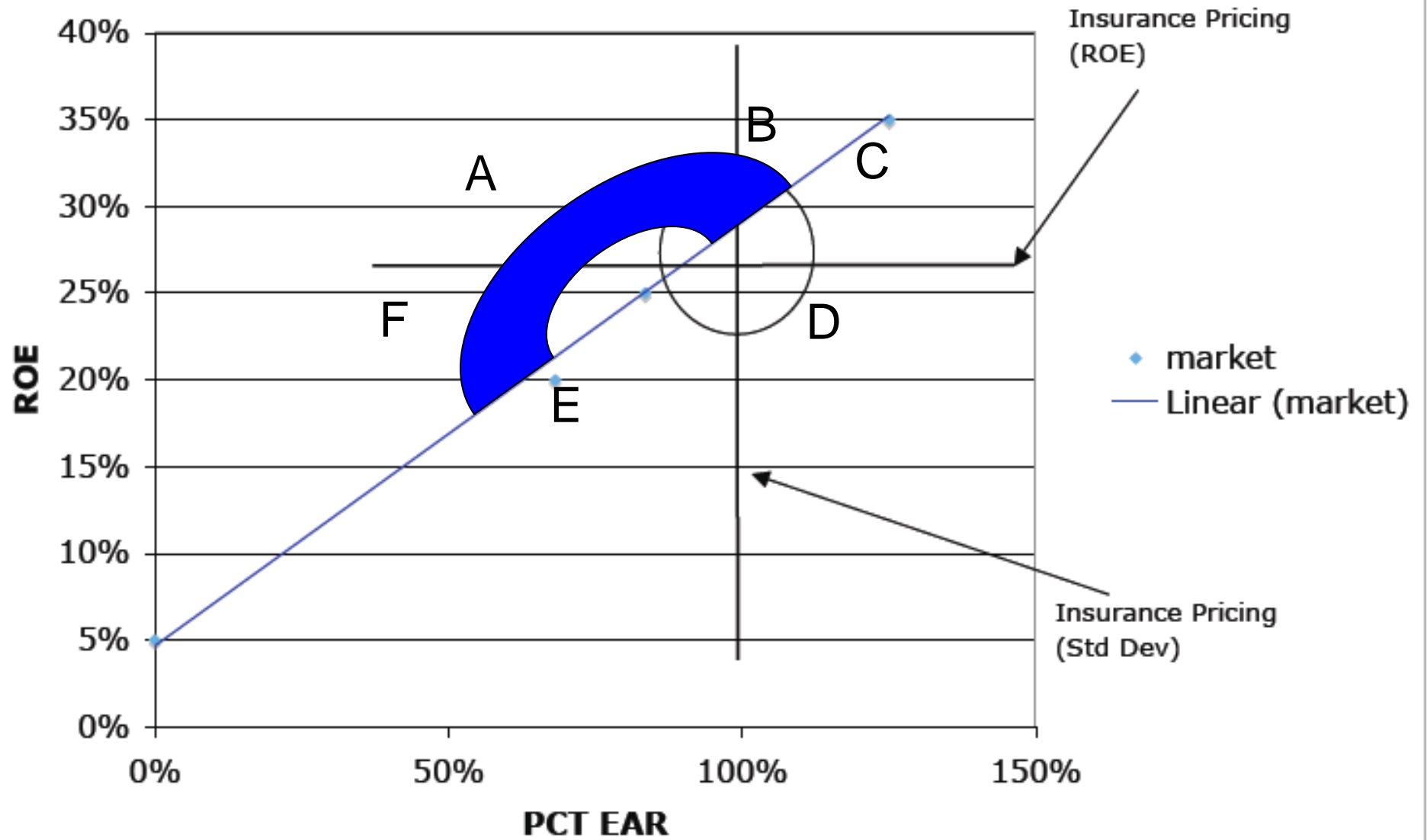
Risk & Reward



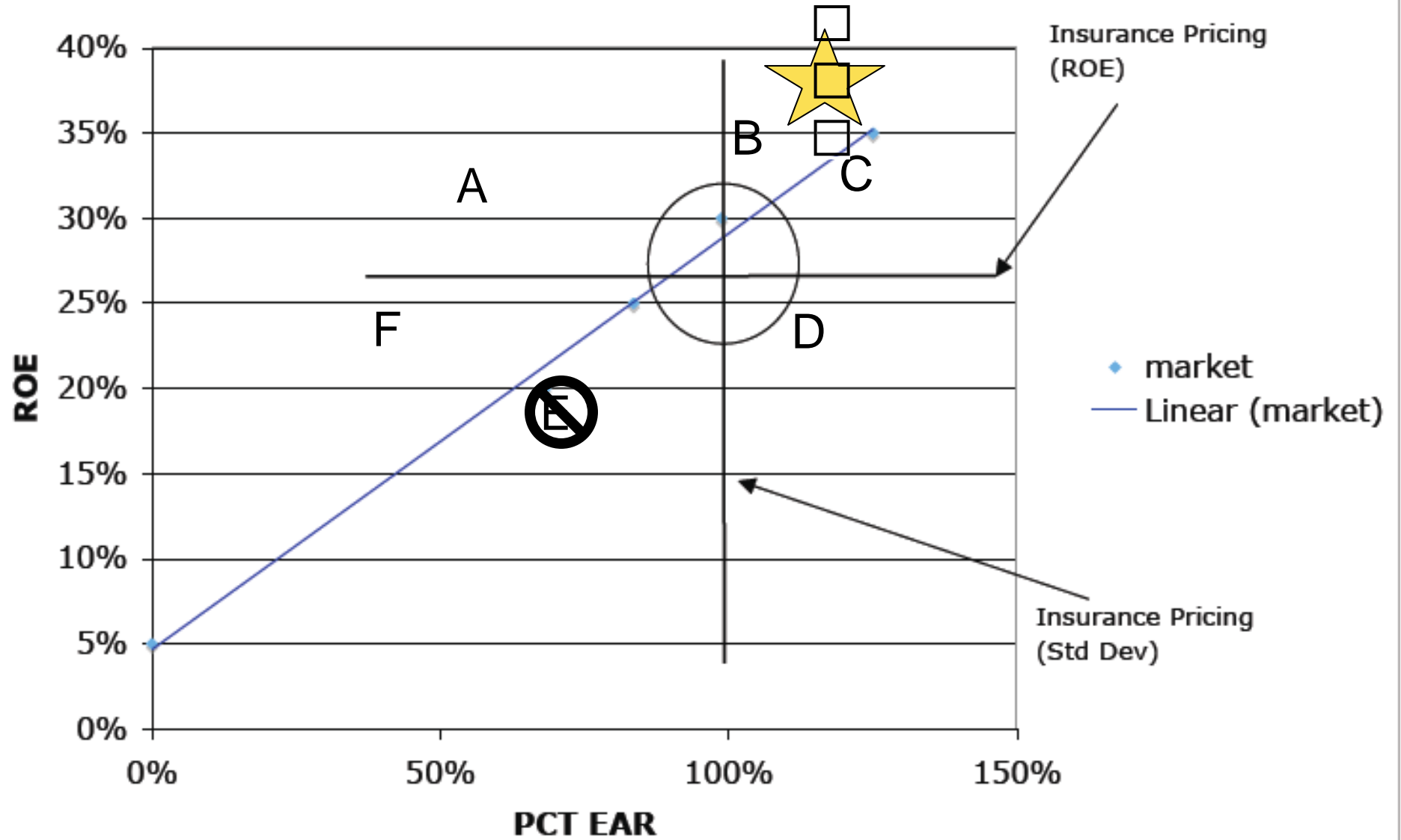
Risk & Reward



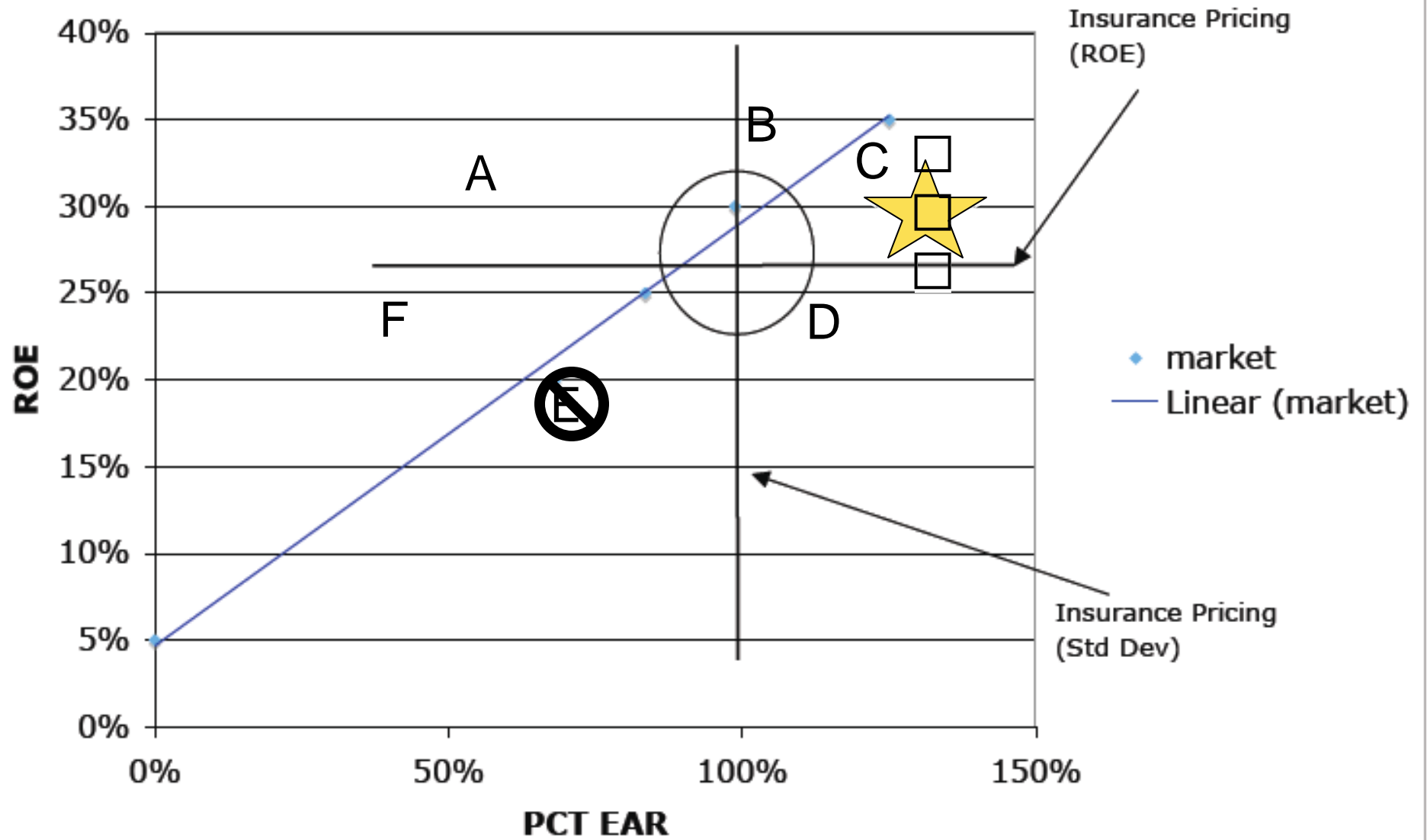
Risk & Reward



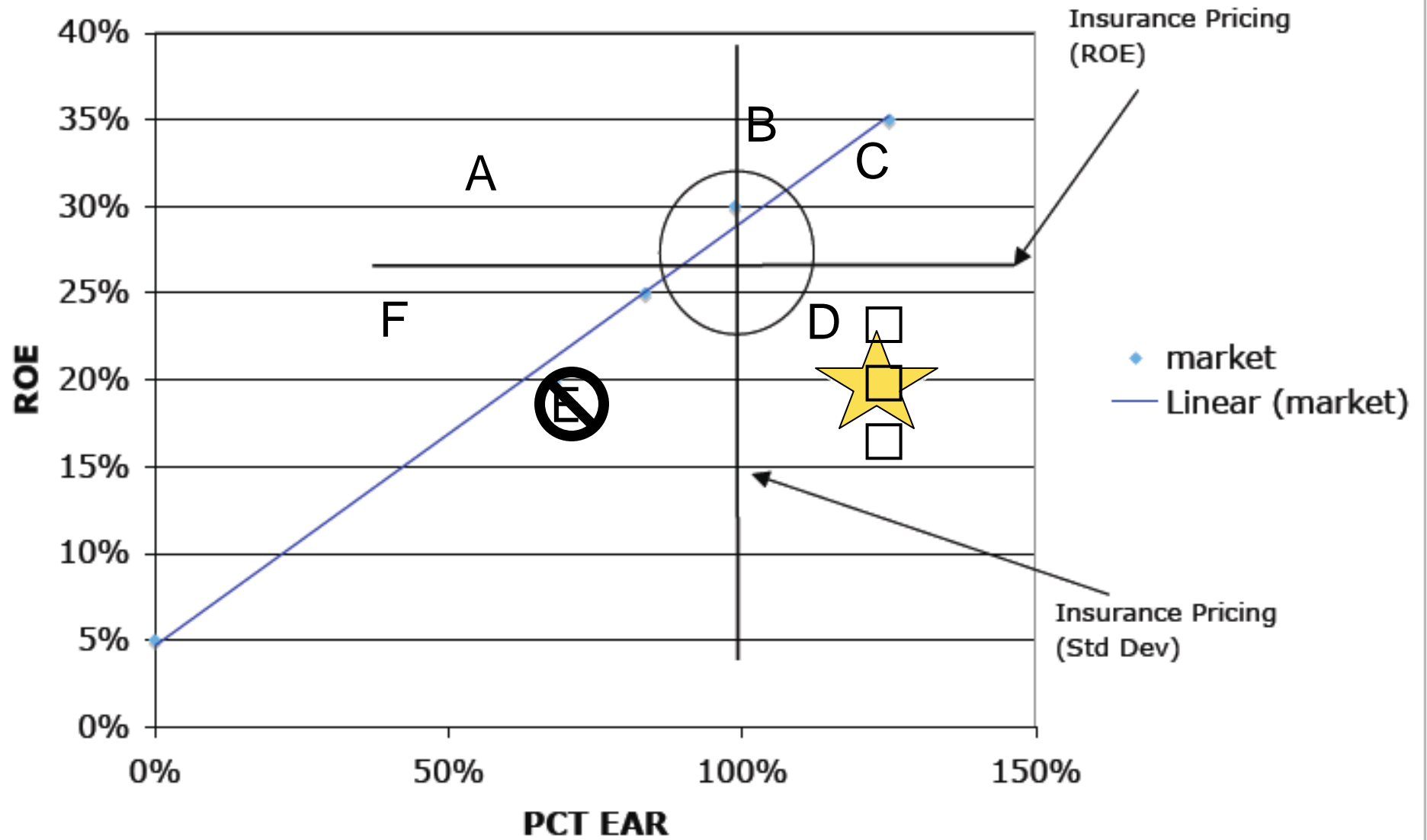
Risk & Reward



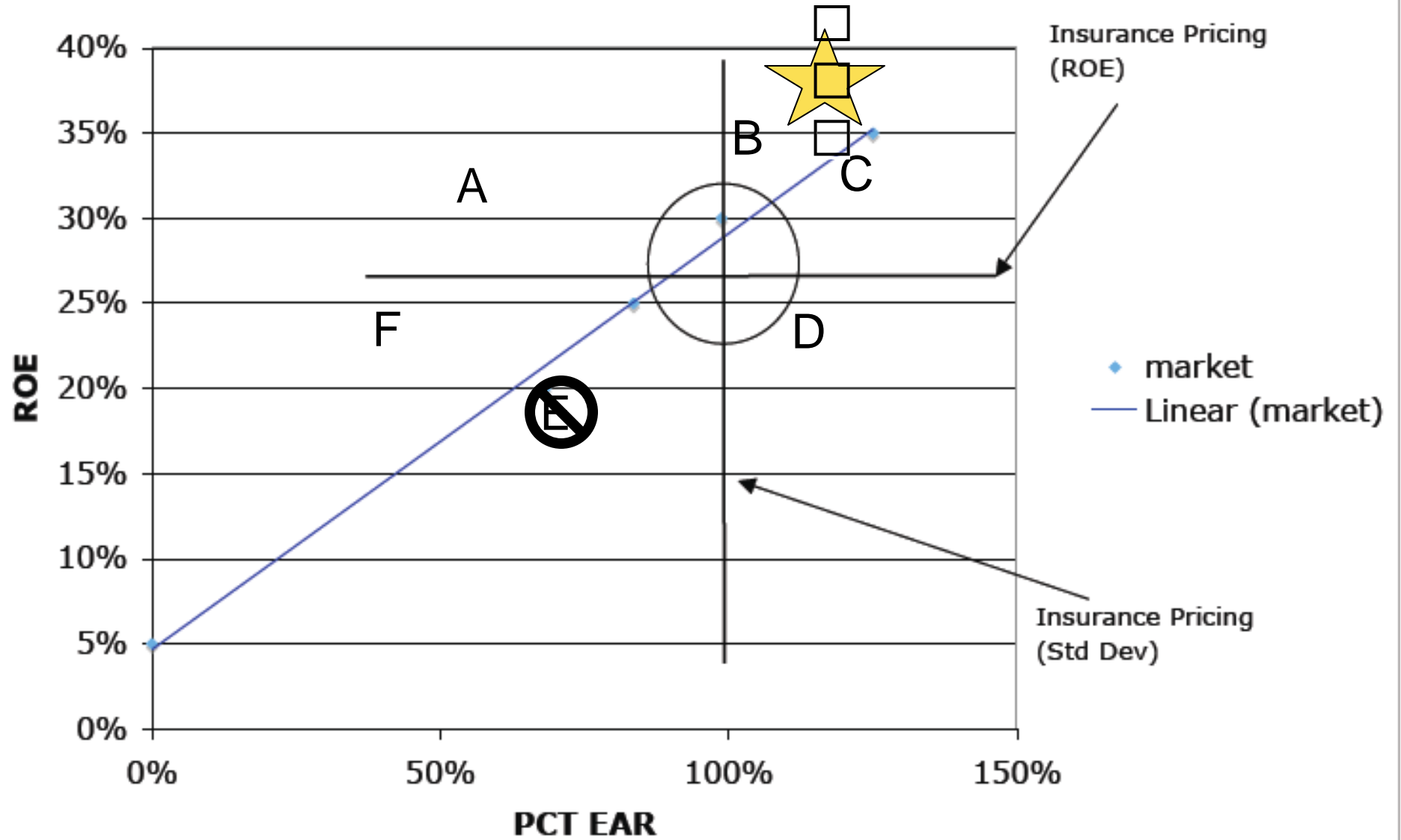
Risk & Reward



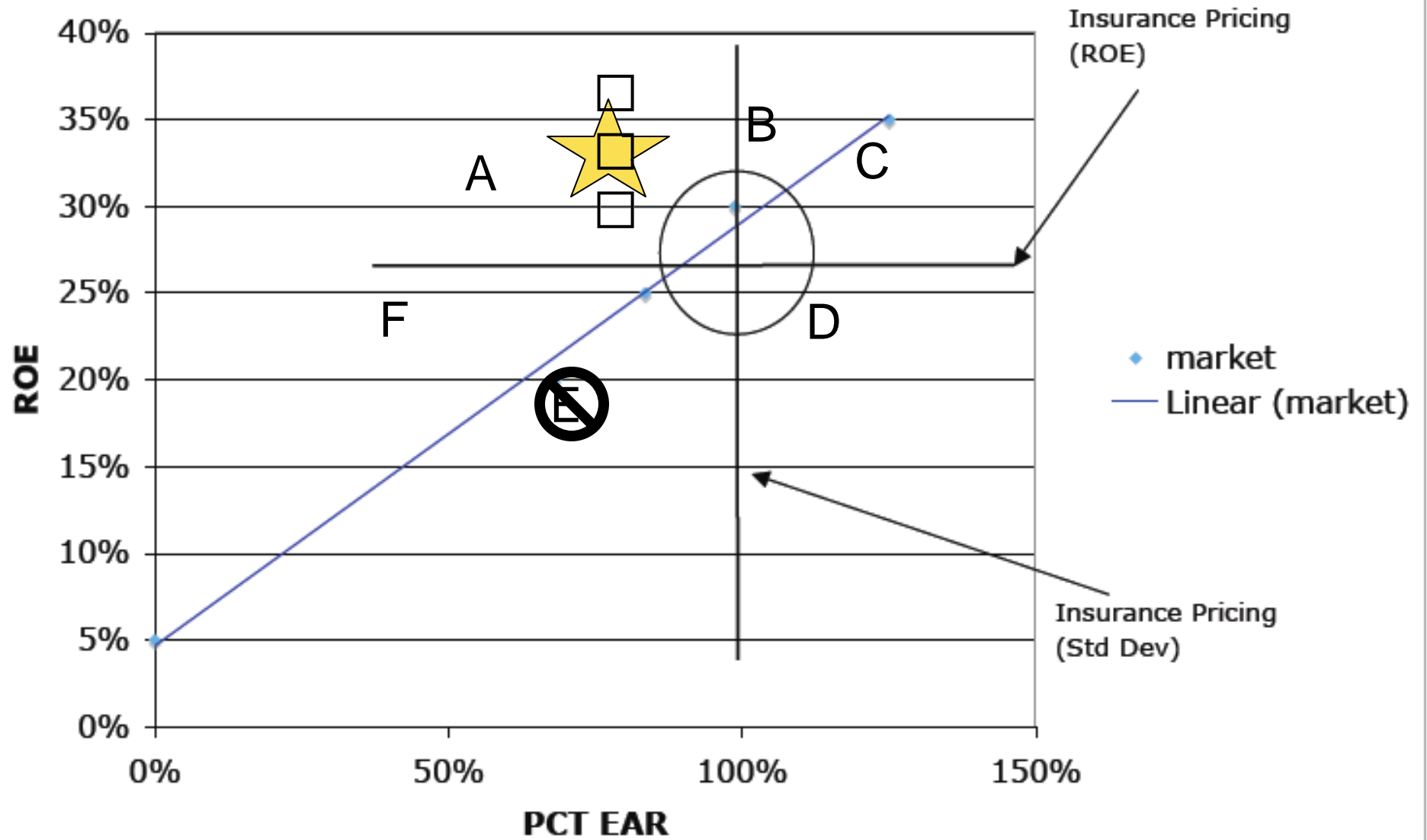
Risk & Reward



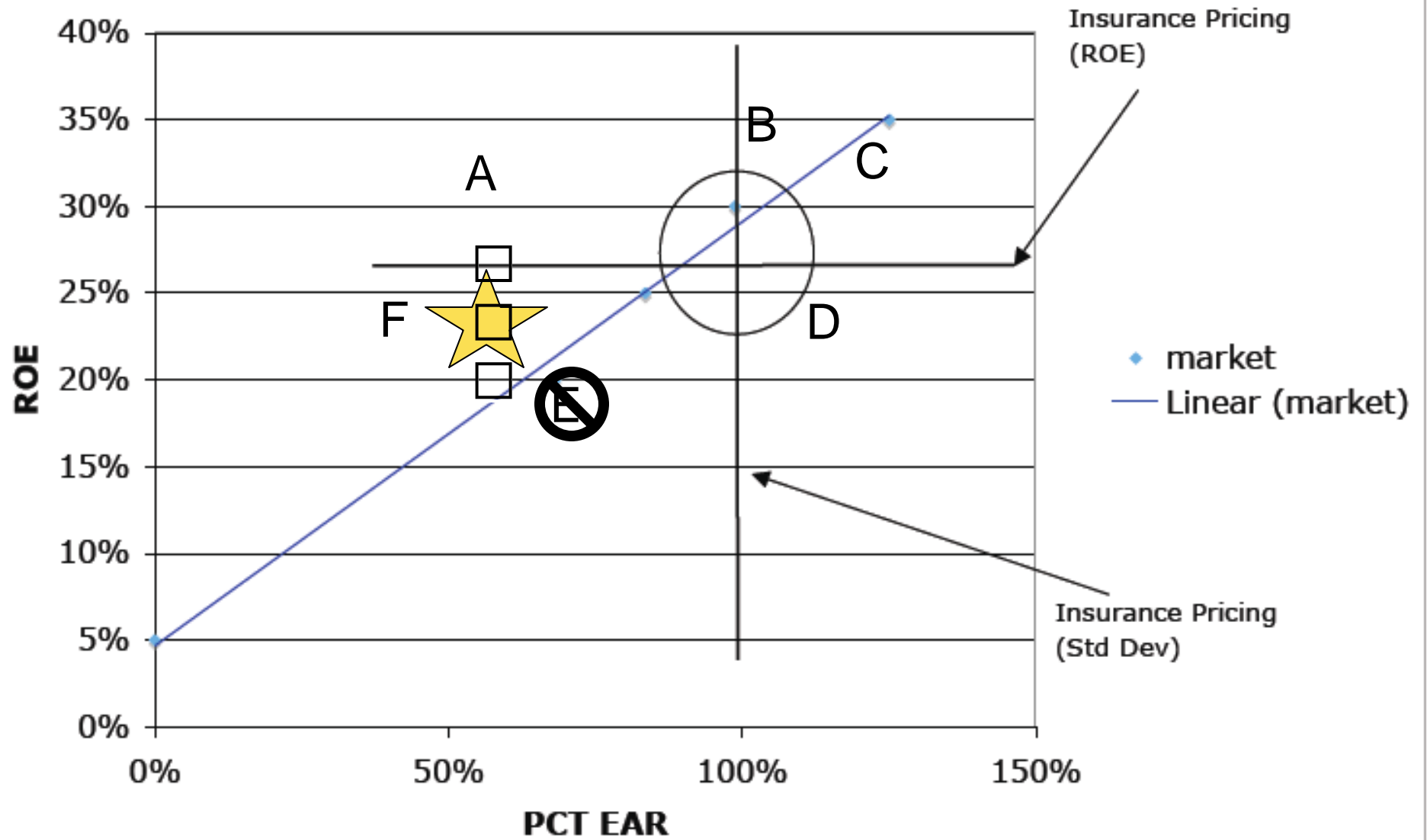
Risk & Reward



Risk & Reward



Risk & Reward





What is he talking about???

- For Insurance Products - reducing return just means reducing premiums for the same benefits
- Adding Vol means adding benefits that might cause some small but fairly likely losses
- Adding Ruin means adding benefits with potential for unlikely but large losses




Structured Products

- More like insurance than traded securities
 - Unique construction
 - Thinly traded
 - Non-Transparent Pricing Process



2 Dimensions & 3 players

- Different views of risk lead to looking for different opportunities
- The views of the other market participants will impact on choices for everyone
- Opportunities will be driven in the direction that the less sophisticated risk views will allow



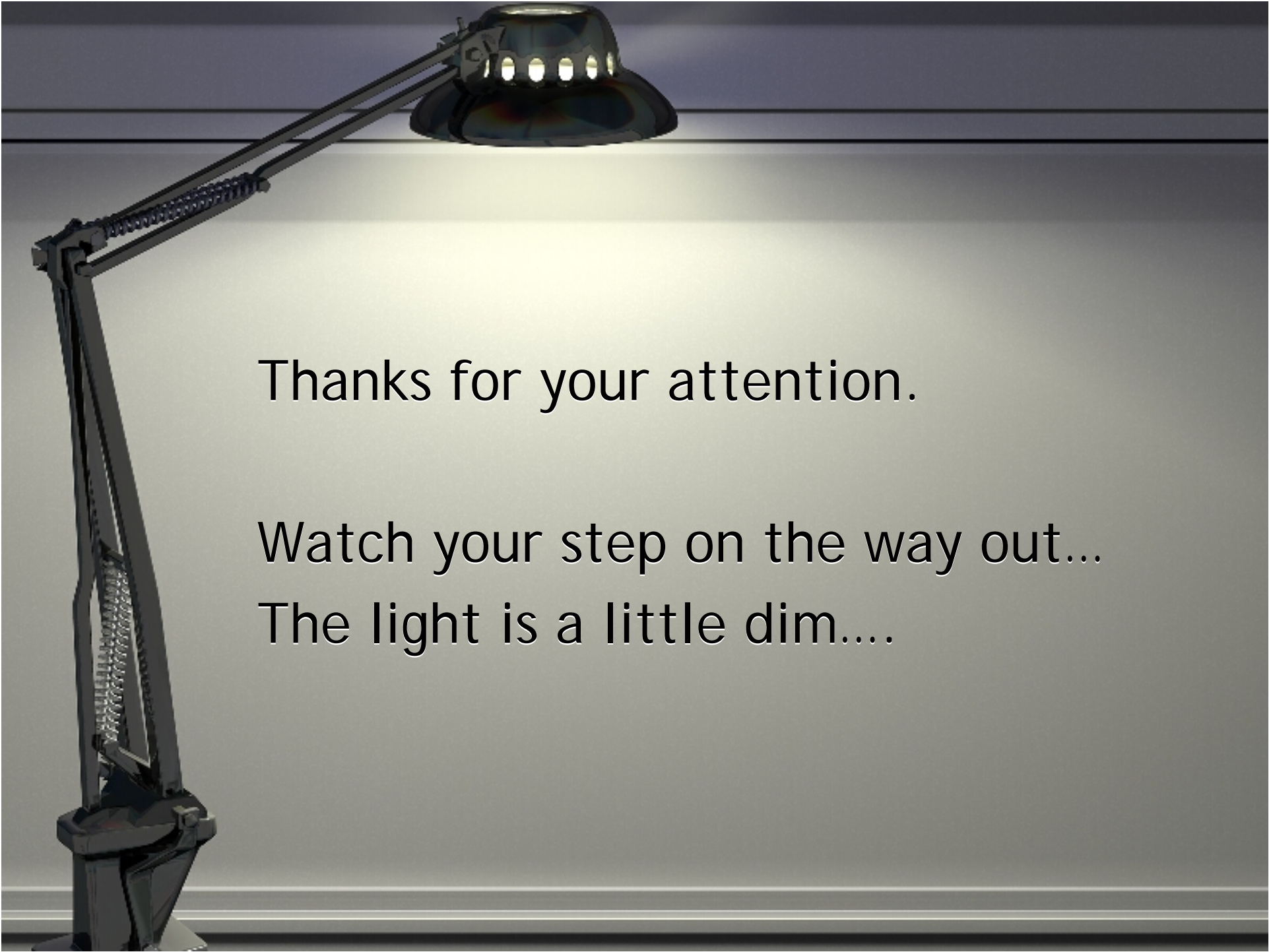
Is Two Eyes risk view really all that bad?

- Interest rate Risk - Duration is a one eye view
 - Need convexity & maybe KRD
- Equity Risk - Delta or Beta are each one eye views
 - Other Greeks



What can you DO with this?

1. Examine your organization's risk view.
 - Self knowledge is always a good starting place
 - Use principal component analysis to decide need to expand view
2. Can you id your competitor's risk view?
3. Can you id the place where the market is on a 2 D risk chart?
4. Set your strategy to deal with the expected risk & risk reward drift

A desk lamp with a glowing light fixture, casting a beam of light onto a surface. The lamp has a long, adjustable arm and a base. The light fixture is a dome shape with several small lights inside, and it is illuminated from within. The beam of light is a soft, yellowish glow that illuminates the surface below it. The background is a plain, light-colored wall.

Thanks for your attention.

Watch your step on the way out...
The light is a little dim....