Canadian Pension and Benefits Institute (CPBI)

Pensions : Tips to Manage Risks, Trends, and Innovation

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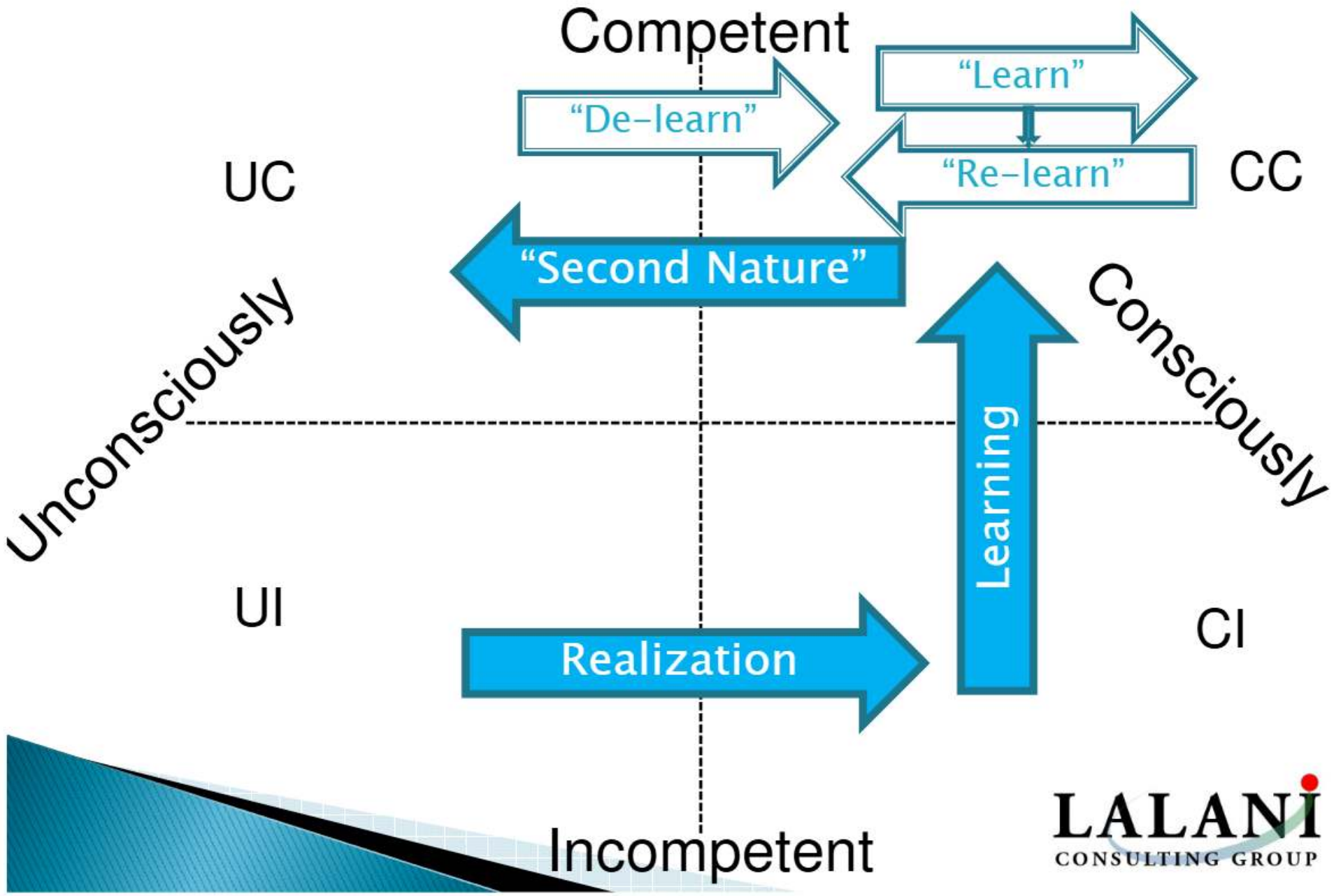
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AGENDA
Primer on Risk
Tips: Managing Risk
Trends
Innovation

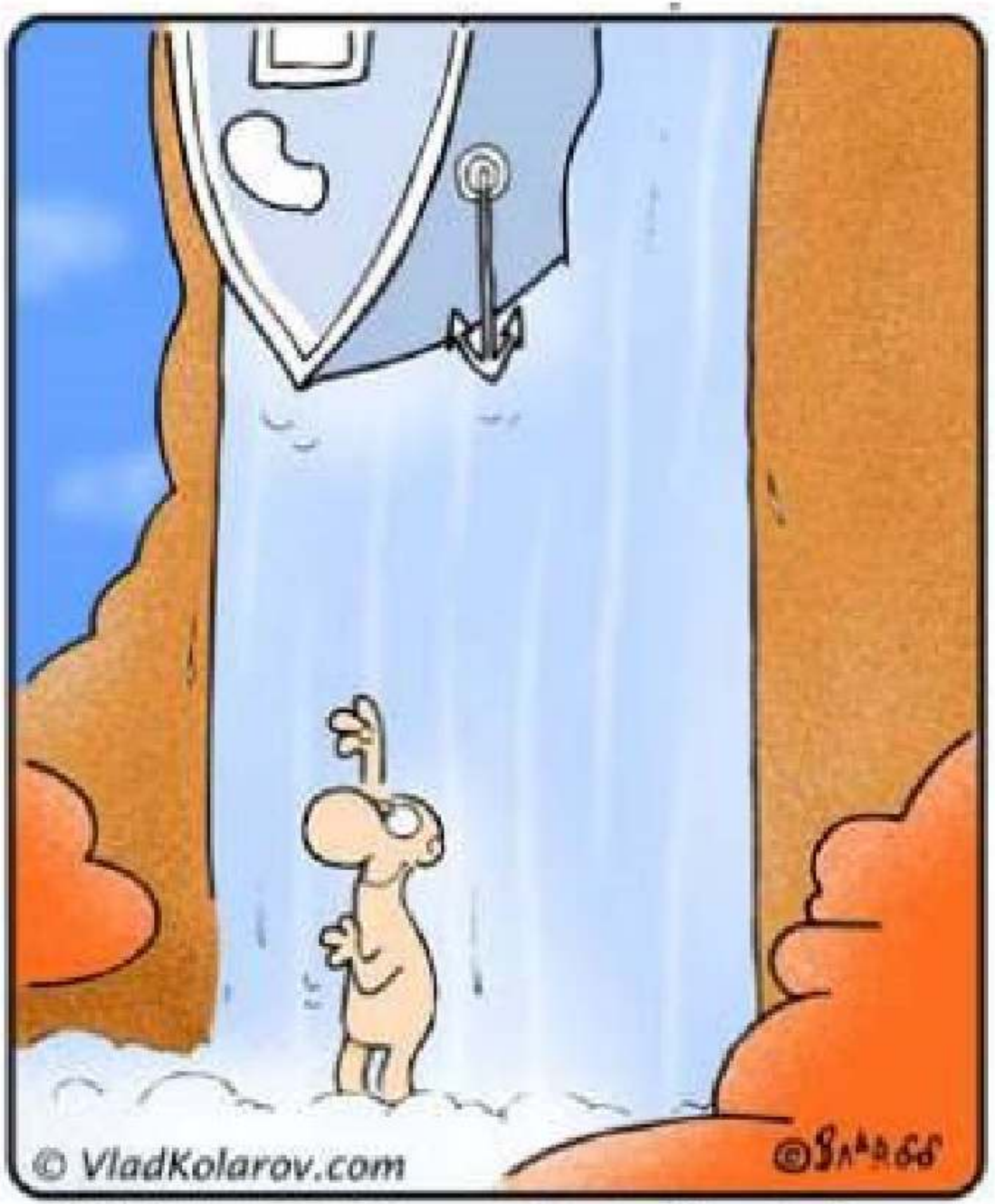
The Learning Framework



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RISK:

The Four Letter Word



Taking a bath can be quite risky...

Primer: Definition of Risk

- Most of us
  - Chance of something "bad" that can happen
- HR and Lawyers definition of risk
  - Outcome which has a negative financial impact and consequences to the reputation of the company
- Actuarial
  - Measurable Risk Metric, RM = F(E, L, S, T) where:
    - E : Existence of an uncertain event
    - L : Likelihood of an event occurring
    - S: Impact if the Event occurs
    - T : Time horizon for the Event to occur
  - Outcome is measurable and quantifiable to minimize loss or volatility

CAUTION

THIS SIGN HAS

SHARP EDGES

DO NOT TOUCH THE EDGES OF THIS SIGN



ALSO, THE BRIDGE IS OUT AHEAD



Test your Knowledge:
Understanding the Meaning of RISK

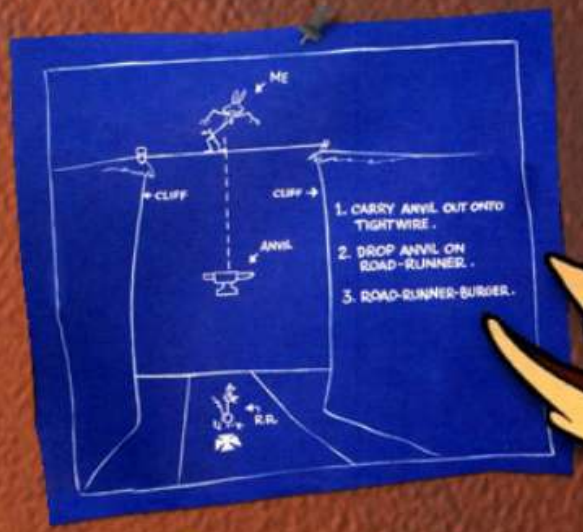
- Suppose you have three investments with the following information:
  - Investment A: Guaranteed (100% probability) 10% return
  - Investment B: 50% probability of a 0% return; and
    50% probability of a 20% positive return
  - Investment C: 50% probability of a 10% negative return; and
    50% probability of a 30% positive return

Which investment has the most risk?

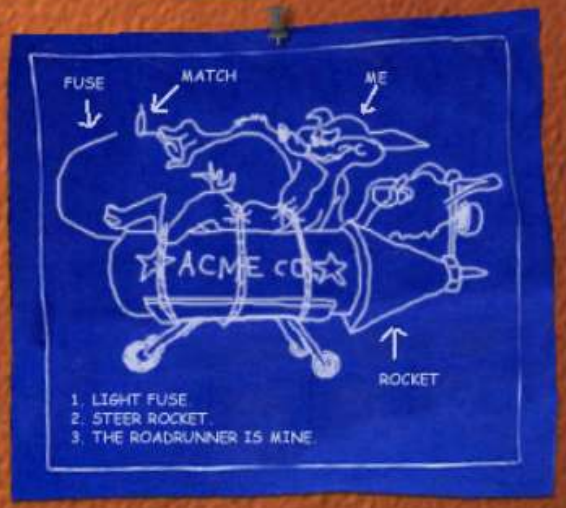
(Note: Each investment has the same expected return, or probability-weighted return of 10%)

RISK = "Measureable Uncertainty"





HOW BIG IS YOUR APPETITE?



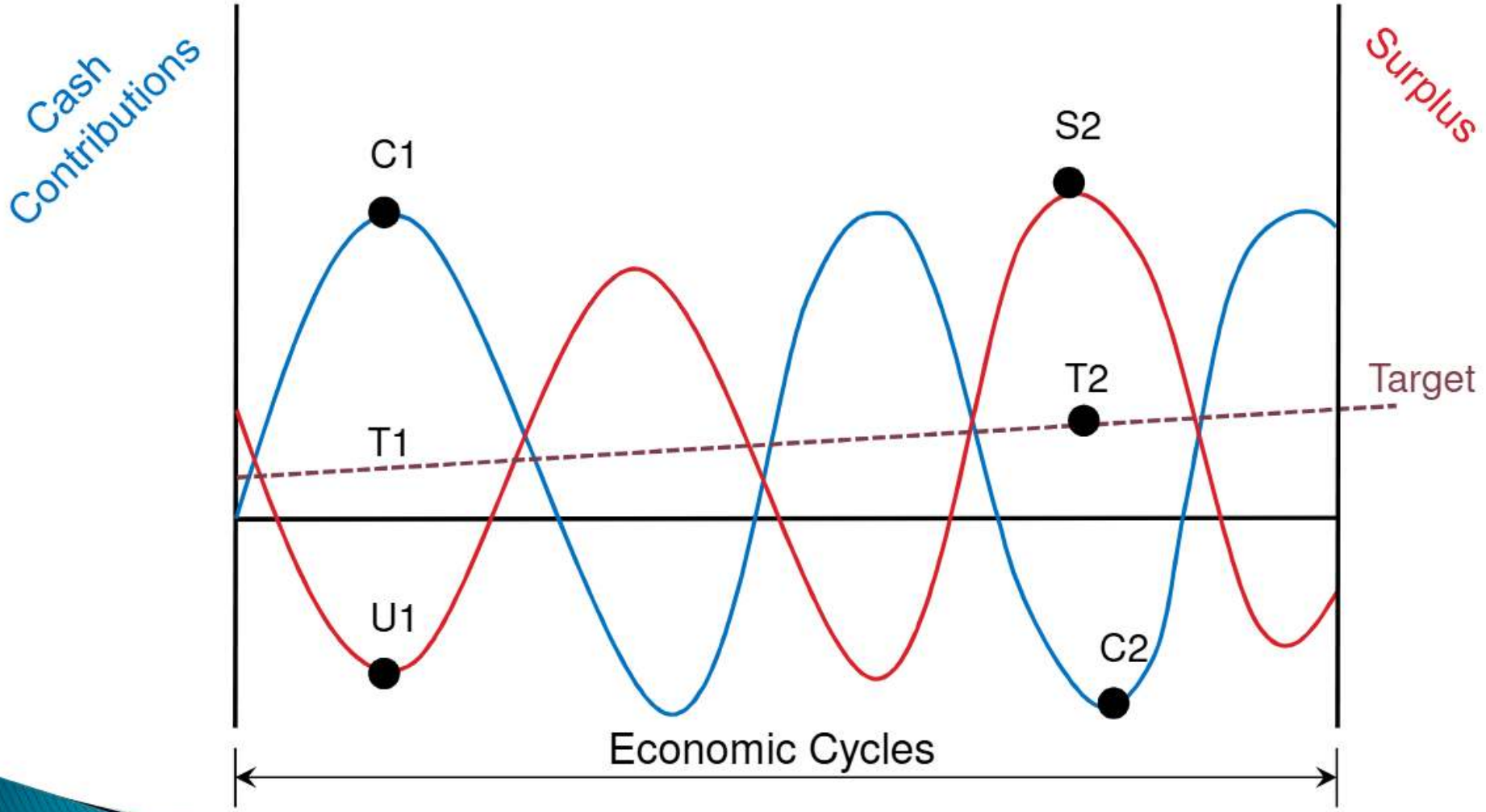


Primer: Understanding Risk

- Risk is Uncertainty that can be qualitatively or quantitatively measured
  - You can have Uncertainty without Risk
    - Winner of A or B (Who will win or lose?)

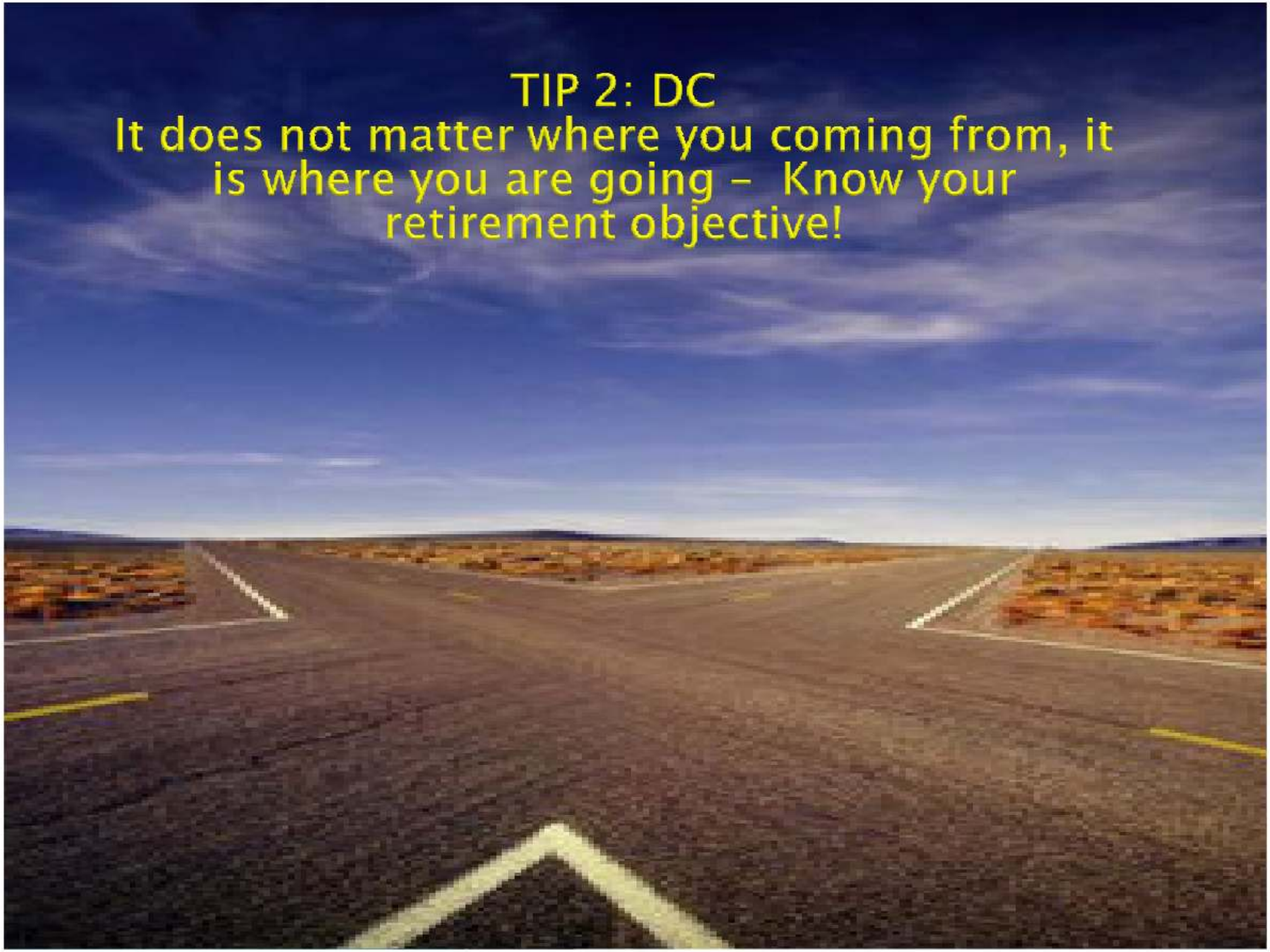
    (Note : if there is certainty, there is no risk!)
  - You cannot have Risk without Uncertainty
    - If you bet on A or B, there is *Risk* that you either win or lose
    - Qualitative : You have bragging rights, or lose face
    - Quantitative: You have a financial gain or loss
  - How much can you lose?
    - What is risk appetite and tolerance?
- What is Risk?
  - Discipline of managing downside losses and seizing upside opportunities within pre-determined tolerances to achieve objectives
  - Process that is applied comprehensively, consistently and systematically across a function, unit, or enterprise

TIP 1: DB
Focus on Target Level of Contributions



TIP 1 : DB Contribution Strategy – Focus on a pre-determined target level of contributions

- Employers usually fund at a minimum level to meet provincial, or federal pension regulatory requirements
  - Statutory contributions define the minimum and maximum level of contributions
  - Minimum contributions avoid generation of 'stranded' surplus that may not be available for reduction of on-going contributions, or at plan termination
- Prevalent employer strategy is counterintuitive
  - In good economic times and markets, surplus is used to reduce or eliminate contributions when cash flow is ample!
  - In bad economic times and markets, employer has to make higher contributions when these are least affordable
- Tip : Make employer contributions at a target level that is affordable on a long term basis in accordance with the business plan
  - Determine target level based on a long term view of the business using realistic assumptions and 'open valuation' actuarial techniques
  - Set contributions between the minimum and maximum level
  - Document contribution strategy in a well-articulated funding policy


TIP 2: DC
It does not matter where you coming from, it is where you are going – Know your retirement objective!

TIP 2 : DC Contribution Strategy – Focus on a pre-determined target level of retirement adequacy

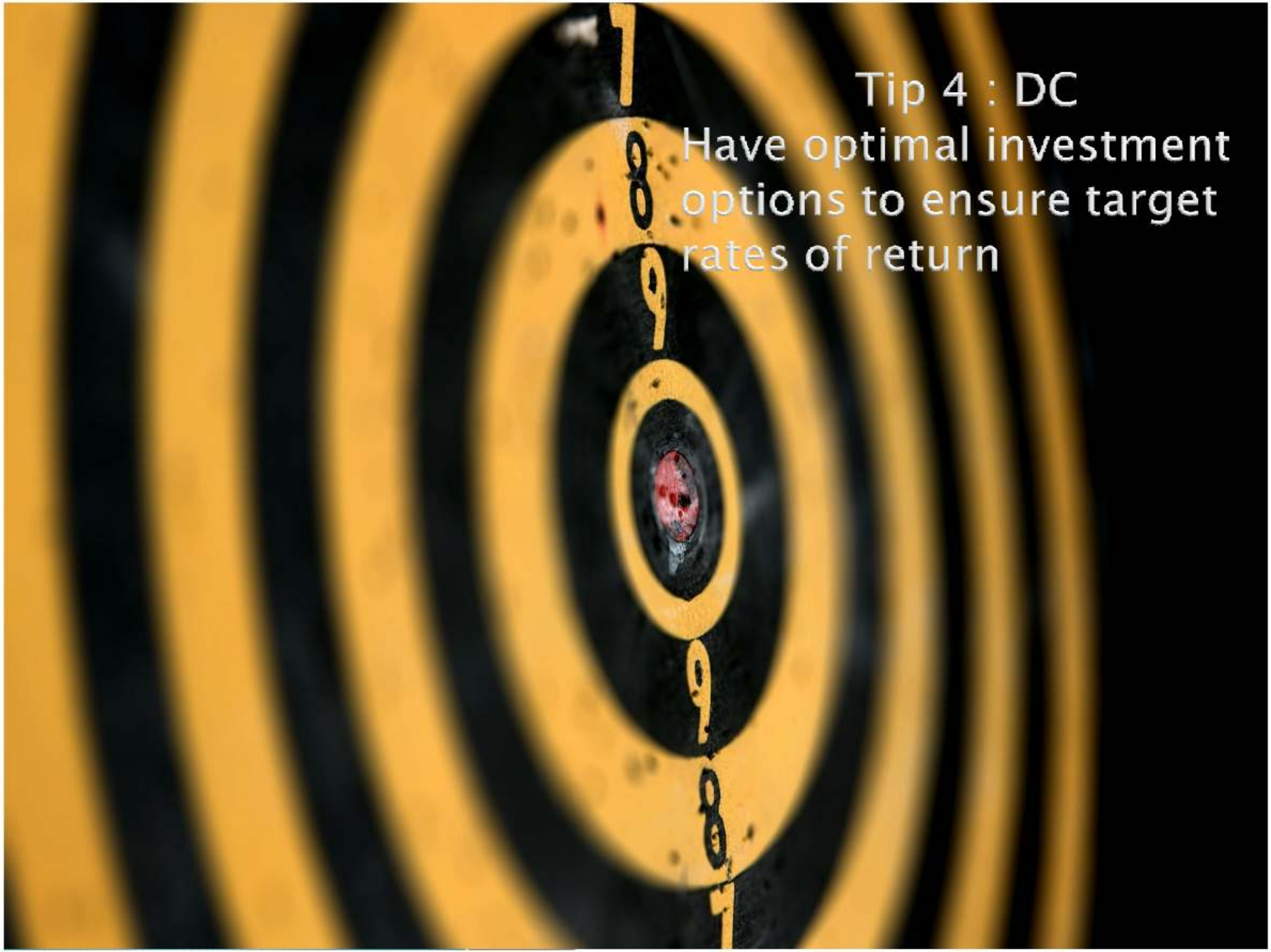
- Employers focus on level of contributions (required or matching)
  - Level of contributions are based on competitive levels ('herd mentality')
  - Monthly employee statements focus on balances (fund accumulation) and rates of return
  - Lack of understanding on the amount of retirement income that the level of contributions deliver
- Tip : Articulate the level of retirement income being targeted as follows:
  "we will contribute c% of earnings per year, this will provide a retirement pension of x% of earnings for a career employee with years of service at retirement age of z based on a target return of i% per year"
  - Example:
    - A 10% contribution will provide a retirement pension of 50% of earnings* at retirement age of 65 after 35 years of service based on an investment return of 7% per year.
      * based on internally consistent assumptions including salary growth and indexing
  - Communicate retirement expectation with employees


TIP 3: DB
A Good Match Goes UP Together
"Liability"
"Asset"

TIP 3 : DB Asset management strategy –Asset/Liability matching and using Non-traditional asset classes

- Volatility of funding contributions and solvency ratios can be attributed to the following:
  - Mismatch of asset and liability duration
    - Duration is the weighted-average of cash flows to maturity
    - Ex: Long term duration liabilities invested in shorter term duration assets
  - Misalignment of assets with the underlying plan provisions
    - Plan provisions may have fixed, or variable indexing provisions with significant long term costs
    - Traditional asset classes do not provide the necessary protection
  - Use of inappropriate actuarial assumptions
    - Too much regulatory focus on setting assumptions

- Tip: Review liability profile thoroughly ; incorporate asset classes that adequately match the liability profile ; ask your adviser to demonstrate that the asset/liability matching models are sound and robust ; incorporate infrastructure as an asset class.
  - Basic asset-liability studies are a good starting point but require significant enhancements to implement an asset/liability matching strategy.


Tip 4 : DC
Have optimal investment options to ensure target rates of return

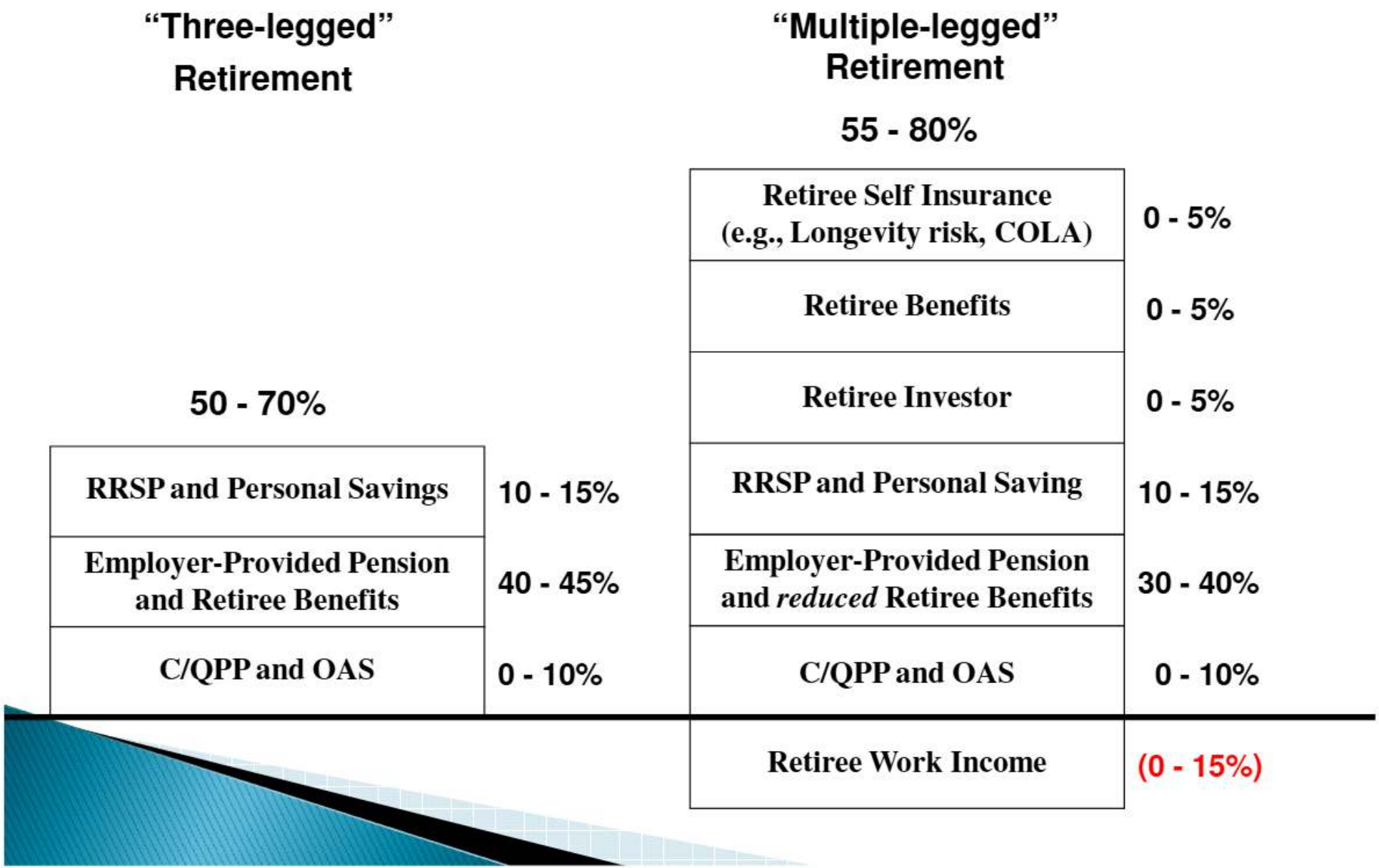
TIP 4 : DC Investment Options – Have optimal options to ensure a target rate of return

- Plan sponsors provide a range of investment options (average number of options is 8 to 10 depending on survey)
  - Employer investment choice caters to all participants and is less weighted towards meeting the target level of adequacy
  - Employees select investment options that meet their risk appetite and tolerance
  - Employees usually complete "know your client" assessment to understand their risk tolerance
- Plan sponsors *must* have a retirement adequacy target objective; robust analysis* should be undertaken to ensure that a combination of investment options do actually return a target rate over selected time horizons.

*scenario based (stress-tested), historical simulation and stochastic (forward-looking) analysis.

- Tip: Develop typical investment portfolios with a mix of asset classes (investment options) that will ensure a return of a target rate of investment return over multiple time horizons.
  - Communicate portfolios with participants
  - Illustrate target return versus actual return
  - Back-test investment results and review portfolios at least every year

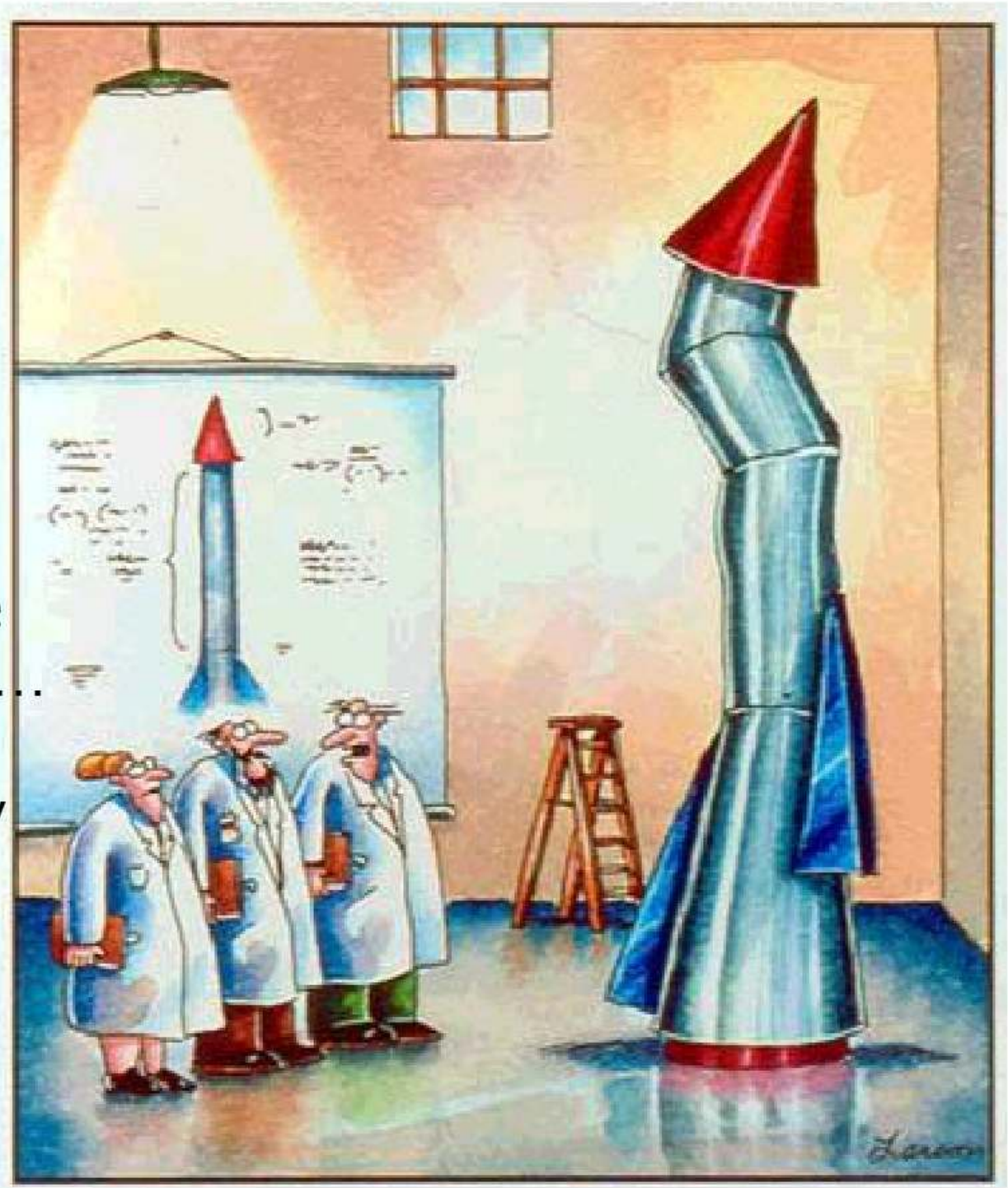
What is an Adequate Level of Income?



Tip 5: DB Ensure design is consistent with objectives – Avoid "Herd Mentality"

"It's time we face reality, my friends…

We're not exactly rocket scientists (or actuaries)!"



TIP 5 : DB Design – Ensure plan design is consistent with corporate objectives and optimizes long-term cost

- DB plan designs in Alberta are rich (costlier) in comparison with optimal designs that would meet corporate objectives
  - Significant number of DB plans are closed to new hires, however, these plans will be in existence for at least the next 15- 20 years.
    - Closed plans continue to have ancillary benefit provisions that are costly (early retirement provisions, bridging benefits, post-retirement spouse benefits, indexing)
    - Employee-sharing of plan costs are not optimal (low in comparison to non-Alberta peer groups)
- Tip: Review your corporate objectives and design drivers. Agree upon the optimal design that can be provided at an acceptable long term cost. Compare the current design with the desired design and determine the gaps that need to be addressed
  - Expected result : reduce or eliminate ancillary benefits, and introduce contributory-employee option
    - Increase early retirement reduction
    - Lower retirement spouse benefits
    - Cap, or eliminate indexing provision
    - Buy-back of ancillary using employee contributions


TIP 6 : DC
Consolidate capital accumulation plans and have a cohesive objective;
Review contribution levels

TIP 6 : DC Design – Ensure plan design focuses on retirement objectives and provisions deliver the results

- DC Plans in Alberta are modestly rich when other employer sponsored capital accumulation plans are taken into account and compared with non-Alberta peer groups
  - Employees perceive non-DC capital accumulation plans as saving plans to complement current discretionary spending *not* retirement plans
    - Saving plan design (lack of lock-up, minimal restriction on withdrawal) enforce employee perception
  - Some employers sponsor DC plan and optional RRSP to supplement retirement savings; the costs associated with RRSP may be minimal but administration savings can be directed more optimally
  - Career DC plan designs provide a lower level of contributions at the younger ages and a higher level of contribution at older ages
    - DC plan design attempts to mimic DB Plans
    - Counterintuitive : understand the magic of compounding / Rule of 72
- Tip: Review current capital accumulation plans; review retirement objectives; consolidate plans into "a" single retirement plan; re-design DC plan to optimize retirement income; ensure that DC plan costs are factored into the overall *benefits burden;* Communicate purpose of plan and retirement objectives to employees; Educate leadership on purpose of plan and linkage with corporate objectives.

TIPS 7 & 8: DC/DB Provide retirement education and counselling

Don't Fall Into The Trap Of Misinformation.



TIP 7 : DB Education – Provide retirement counseling and better communication to DB Plan participants

- The prevalent view is that DB plans are in 'trust' , the formula is 'defined' and guaranteed by the employer
  - Participants receive an annual pension statement and that is adequate information
  - Some plan sponsors undertake periodic presentations('road show') to explain plan provisions and provide sample calculations
  - All plan sponsors provide access to pension booklets (paper or on-line which are usually out-of-date!)
- Recent cases have 'exposed' issues related to DB Plans
  - Insolvent plans in combination with insolvent companies do not guarantee DB pensions; guarantees are limited to present value of solvency payments
  - DB pensions are "unsecured creditors" in event of bankruptcy
  - Post-retirement commitments (pension in payments and ad hoc increases) are not guaranteed; active and inactive participants usually treated equally (unless plan documents are very clear)
- Tip: Review your communication strategy and action items. Be up-front on your DB plan commitments in your communication material. Clearly report the financial state of the plan , consequences (if any) and actions to ensure long term security. Provide on-line retirement modelling tools

TIP 8 : DC Education – Provide more complete pre/post retirement counseling

- The prevalent view is that DC plan participants are fully responsible for the accumulation (pre) and distribution (post) phases of the DC plans
  - Plan sponsors believe that their responsibility is limited to making *defined contributions* and providing investment options
  - Plan sponsors also believe that their vendors (record keepers and investment managers) provide adequate information to DC participants
- The fact is that the current level of DC education is totally inadequate and plan sponsors are willfully 'negligent'
  - Periodic statement focus only on accumulated balances and return; participants do not clearly know what level of pension income to expect
  - Education does not cover post-retirement / settlement options
  - Vendor material is generic and on-line tools provides simplistic modeling
- Tip: Review your communication strategy and action items. Focus on providing better communication pension income expectations. Provide "gap-analysis" of the expected pension income and actual pension income to date. Ensure more communication is provided about DC risk in post-retirement period(longevity, interest rate risk, risk transfer via annuity purchases). Provide sophisticated retirement modeling tools

Test your Knowledge:
How Much Pension Income Can You Generate?

- I. A DB Plan participant retired at age 60. He elected a commuted value of $600,000 on January 1, 2010. He planned to invest the proceeds in a self-administered registered vehicle.
- II. A DC Participant retired at age 60. He had an accumulated balance of $600,000 on January 1,2010. He transferred the account balance to a self-administered registered vehicle.
- Which one of I or II generate more income?
  - A. Both I and II can generate the same income
  - B. I can generate more income than II
  - C. II can generate more income than I
  - D. All of the above are correct




TIPS 9 & 10 : DC/DB
Have active processes and documentation
Have active processes and documentation
Strategic Active Management

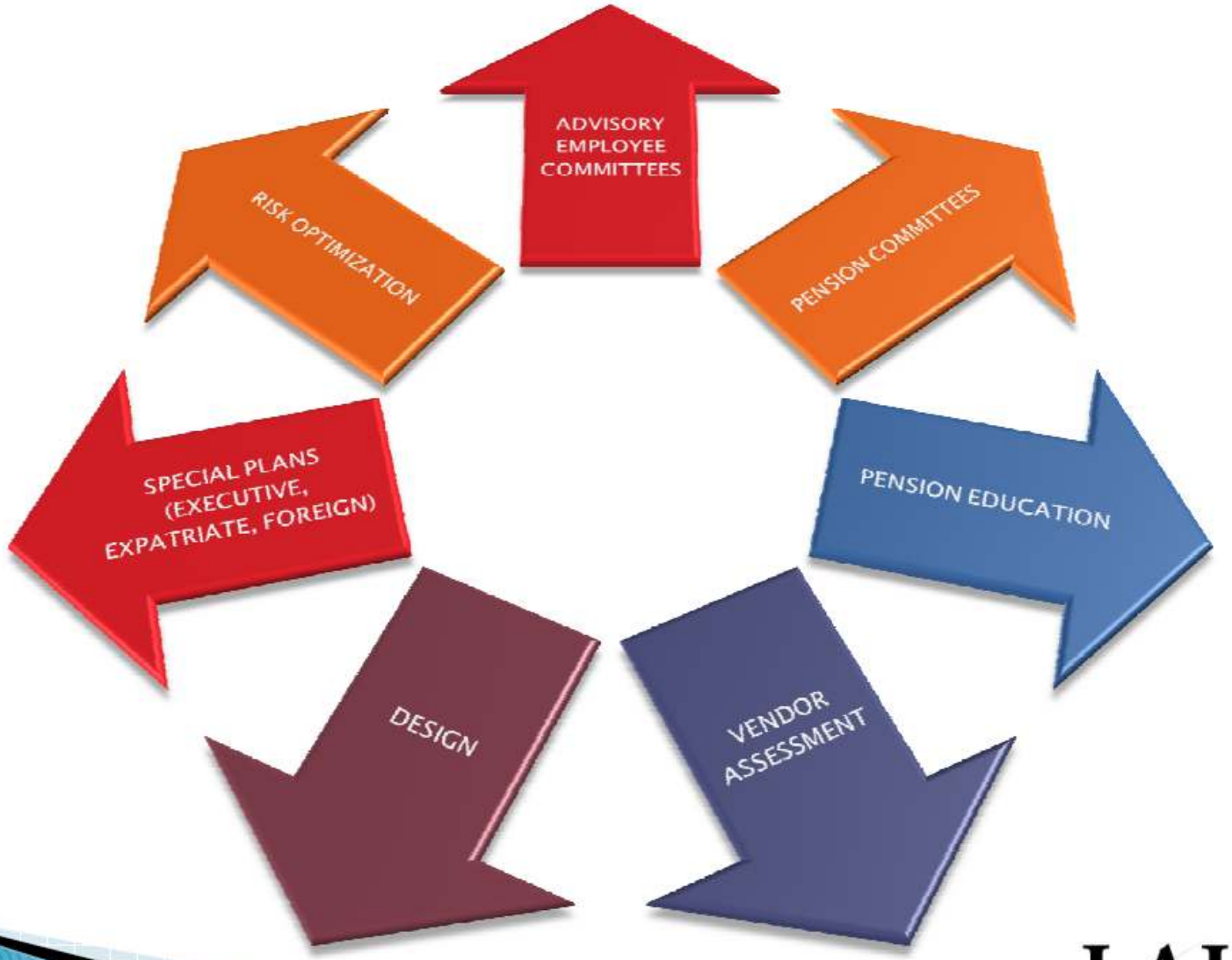
TIP 9 : DB Governance – Ensure strategic active management and complete documentation

- Pension governance in DB plans primarily focuses on tasks delegated to pension committee – annual pension contributions, on-going pension issues and administration – the strategic focus is very limited
  - DB plans for mature companies have a different asset/liability profile when compared to the enterprise
    - The enterprise has several board committees to ensure that robust audit, financial, risk processes are implemented; unfortunately, DB plans are not managed as effectively for its size and financial impact
    - Enterprise risk function does not coordinate pension risk, or collaborate in managing of pension risk
  - Board priorities should ensure that focus is medium-long term and strategic
    - Does the plan meet the corporate objectives?
    - What are the upside and downside of the current pension plan?
- Tip: Set board agenda to periodically include strategic review of the DB plan. Ensure DB plan strategy complements corporate strategy. Leverage corporate functions to assist with DB plan management. Incorporate DB plan within an enterprise framework. Ensure complete documentation on decisions taken.

TIP 10 : DC Governance – Ensure strategic active anagement and complete documentation

- Pension governance in DC plans primarily focuses on investment option management – the strategic focus is very limited
  - Investment option management – are there adequate number of options, have the managers returned the expected level of return, is the performance acceptable?
  - DC plans are relatively small in size when comparison to the enterprise and companies have a belief that there is no pension risk
  - Strategic active management should focus on retirement adequacy of DC plan, delivery of pension commitment, education of participants and communications with a view to minimizing long-term reputational risk.
- The fact is that DC plans will deliver lower than the anticipated level of pension income; participants believe that they will get a higher pension; the level of income will be woefully inadequate to retire resulting in litigation , reputational and workforce issues.
- Tip: Set board agenda to periodically include strategic review of the DC plan. Ensure that DC plan strategy complements corporate strategy. Have a better understanding of the risk profile of DC plans. Deal with each DC and document actions and decisions taken to minimize long-term reputational risk.

Pension Trends :Best Practices



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Pension Trends – Best Practices (DB and DC)

- Advisory employee committees
  - Addresses lack of employee representation in governance process
  - Best practice: Set up an employee committee; implement a process to nominate and elect members; incorporate the committee into your governance process; listen and act on employee representation

- Pension committees – External representation
  - Addresses conflict between fiduciary and management role of a member on the pension committee and lack of pension expertise
  - Best practice: Add external pension expertise to complement third party professional expertise; results in independent and balanced decision making from a fiduciary standpoint

- Pension education
  - Addresses lack of good education for participants and committee members
  - Best practice: Customized communication for participants; on-going education for committee members – education material should provide refresher on fiduciary role and provide ideas on emerging practices.

Pension Trends – Best Practices (DB and DC) …continued

- Vendor Assessment (Third Party Review)
  - Addresses systemic risk of inadequate service levels, poor professional advice, increasing on-going administration costs and non-competitive level of professional fees
  - Best practice: Set up a governance process to ensure that each vendor is reviewed once every three years. Develop assessment guideline template; Have a process to document each vendor's performance every year and share results with vendor to institutionalize continuous improvements

- Design
  - Move away from "herd mentality" with focus on linking pension design with corporate objectives
  - Best practice: Understand each component of the long-term business plan; link and consolidate each component of the plan to pension design. Be strategic and open-minded to change plan design. Review pension design when business plan is revised; Share and communicate decisions with leadership and stakeholders

Pension Trends – Best Practices (DB and DC) …continued

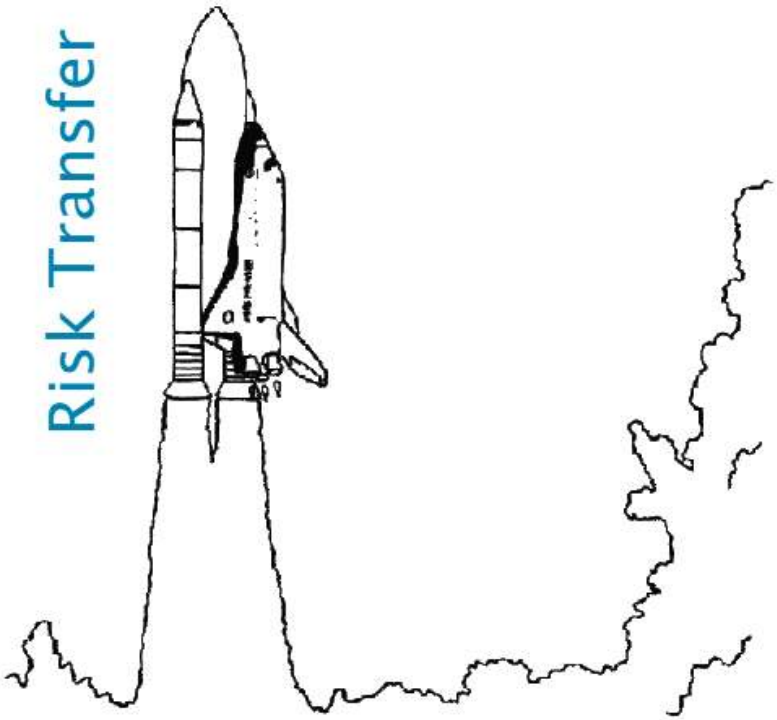
- Special Plans (Executive, Expatriate, Foreign)
  - These plans take significantly more time (per capita) and are costlier to manage than mainstream plans;
  - Best practice: develop policies for each plan; ensure consistency of approach among all plans; develop a function to deal with maintenance and administration of these plans; implement simple yet effective procedures to deal with "one-off" cases; attempt to avoid exceptions; document decisions

- Risk Optimization
  - The fact is that pension plans provide no significant competitive advantage; participants have no immediate appreciation of the plans ("deferred gratification") ; however, significant cash flow is spent by plan sponsors on pension plans
  - Best Practice: Better use of "dollar spent" on pension plan provisions valued most by participants and other benefits; determine the cash flow budget to spend; use survey / statistical techniques to optimize utility / value to participants; re-measure 'appreciation' on a periodic basis

Innovation

Risk Optimization

Pay for Performance Plans





Multi-employer Plans



Behavioural Risk

Innovation

- General
  - UK leads pension innovation; Canada lags UK; Canada tends to follow US
  - Canada and US are significantly different with respect to pension regulation
    - Ex: one federal pension legislation –ERISA versus multiple provincial and federal pension legislation
    - Ex: DC – US has safe harbour rules on investment options and Canada has no safe harbour rules
  - Convergence principle* – look at other countries and industries to come up with pension innovation

    * The Medici Effect by Johansson
- Pension Business
  - UK – Alberta trend is similar – shift to DC Plans; DB plans are closed to new hires; pension plan is not a 'core' business
  - Innovation:
    - Risk Transfer: Bulk pension buyouts, pension plan buy-out
    - Risk Optimization: (LDI, Bond-like products, Captives)
    - If no competitive advantage, establish multi-employer plan (similar plan for similar industries) and obtain economies of scale

Innovation
...continued

- Pay for Performance Plans (PPP)
  - Buzz about people performance and 'paying for performance'; unfortunately, new plan designs are not consistent with PPP
  - Counter argument – pension plans should have no 'pay for performance' provisions as pensions are unique!
  - Innovation:
  - Clearly articulate purpose of your pension plan; leverage your 'pay for performance' plan by incorporating plan into your DB supplemental, or DC (registered/supplemental) plans; or eliminate PPP from your pension plan design
  - Implement design that has principles of 'libertarian paternalism' (protect people from themselves – false assumption is that almost all people, almost all the time, make best choices in their best interest)
  - Provides dollars for retirement savings and allows for tax-deferral of pay

Innovation
...continued

- Behaviour Risk
  - Satisfice* – we do not have cognitive resources to maximize outcomes; our memories are weak and unreliable

    * word coined by Herbert Simon
  - Heuristics^ – experience based techniques, 'rules of thumb' or common sense to determine best or optimal solutions

    ^ Tversky and Kahneman
  - Choice architecture+ – organize context in which people make decisions that have a positive impact on behaviour and decision

    + Nudge by Thaler and Sunstein
    - Choosers are humans (us) so make designs easier – auto-enrollment, default funds, status-quo default
    - DB versus DC plans – DB plans are forgiving to the mindless individual whereas DC plans are not forgiving
    - DC Plans – Auto-matching, auto-contributions, auto-investment (introduce annuity product as an investment option closer to retirement), culture of education (via incentives)

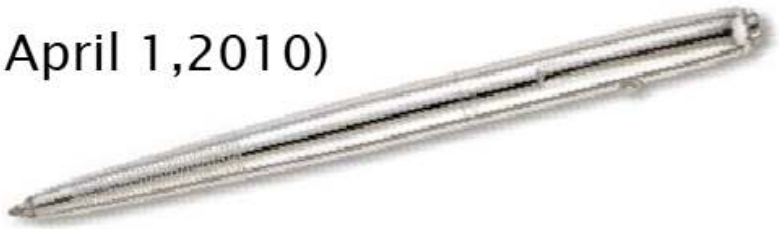
Closing

- Keep it Simple

  When NASA began the launch of astronauts into space, they found out that the pens wouldn't work at zero gravity. Ink could not flow down to the writing surface. In order to solve this problem, they hired Andersen Consulting (Accenture today). It took them one decade and 12 million dollars. They developed a pen that worked at zero gravity, upside down, under water, on practically any surface including crystal and in a temperature range from below freezing to over 300 degrees C. *As for the Russians... they used a pencil.*

- Contact Information (Effective April 1,2010)

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