

## Traditional DC Plan About the Framework

### About the plan being evaluated:

- This is modeled on a 401(k) style defined contribution plan. We are assuming that the employee may contribute up to legal maximums, with the employer contribution being paid as a match of 50% up to the first 6% of employee contributions (maximum employer contribution of 3%). No other employer contributions are made. The individual makes all investment decisions and typically has options for stocks (including employer stock), bonds and money market funds, including target date or lifecycle funds. The plan has auto-enrollment (3% of pay, no future contribution increase) and enrolls participants in a target date fund. The individual has discretion at retirement as to how funds are disbursed; the individual can annuitize only through individual annuity purchase (annuity not available through the plan). There are no requirements for spousal consent on account distribution. Note that we are not considering the particular advantages or disadvantages of stock option plans, ESOPs or other more specific defined contribution designs.
- We are not considering the voluntary nature of the system which means, primarily, that not all individuals have access to coverage. We have considered the ability of the employer to set and adjust contribution levels (including setting the employer contribution as a match) in setting ratings.

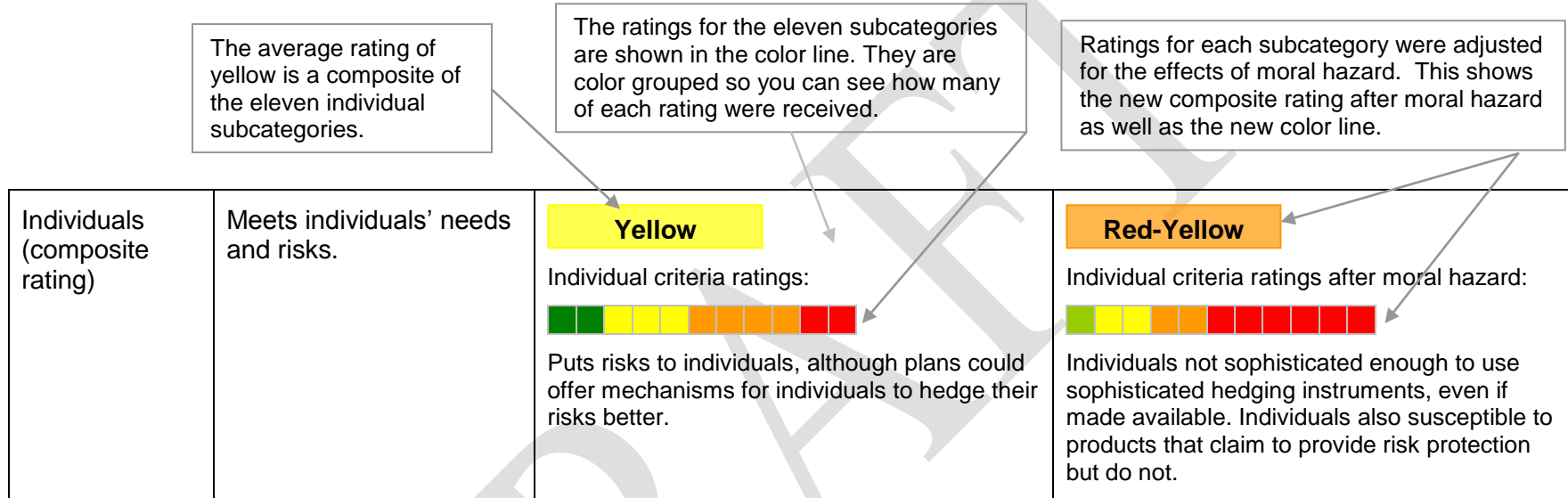
### About the ratings

- The overall ratings were done assuming a “perfect world” where actors understood and took advantage of the best features of plans. They do not consider moral hazard on behalf of stakeholders & agents.
- A second set of ratings were developed considering the effects of moral hazard. Moral hazard is defined in this application as when stakeholders (particularly individuals) can be led to not act in their own best interests based on a lack of understanding of features & consequences or, when agents take actions that don't align with interests of stakeholders, particularly individuals or shareholders/owners. While regulatory risk is its own category, we've considered regulatory risk as another moral hazard (elected officials, including the judiciary, may be guilty of overzealous regulation, affecting the action of individuals, employers and the markets).





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### About the categories





- Each of the stakeholder categories has a different number of subcategories, from 6 to 11 subcategories.
- The example below shows you how to read the summary of the individual category, with both the composite and sub-category ratings.



Traditional DC Plan  
Summary

Summary			
Criteria	Description	Evaluation	Effect of moral hazard
Society (composite rating)	Meets society's needs and risks.	<p><b>Yellow</b></p> <p>Individual criteria ratings :</p>  <p>Allocates costs directly, doesn't push costs of pensions to future generations. However, economically cyclical and creates winners and losers (generally aligned with economic status).</p>	<p><b>Red-Yellow</b></p> <p>Individual criteria ratings after moral hazard:</p>  <p>Put society at risk if individuals plan poorly or are caught by economic downturns; can it survive a large-scale economic downturn?</p>
Individuals (composite rating)	Meets individuals' needs and risks.	<p><b>Yellow</b></p> <p>Individual criteria ratings:</p>  <p>Puts risks to individuals, although plans could offer mechanisms for individuals to hedge their risks better.</p>	<p><b>Red-Yellow</b></p> <p>Individual criteria ratings after moral hazard:</p>  <p>Individuals not sophisticated enough to use sophisticated hedging instruments, even if made available. Individuals also susceptible to products that claim to provide risk protection but do not.</p>

Traditional DC Plan  
Summary

Summary			
Criteria	Description	Evaluation	Effect of moral hazard
Employers (composite rating)	Meets employers' needs and risks.	<p><b>Yellow</b></p> <p>Individual criteria ratings:</p>  <p>Shareholders don't hold investment or longevity risk, but do hold fiduciary and legal risk. Plan adapts well to new norms for work and retirement</p>	<p><b>Yellow</b></p> <p>Individual criteria ratings after moral hazard:</p>  <p>Simplicity of the plan means that regulatory hazards are less than with other types of design.</p>
Markets (composite rating)	Meets markets' needs and risks.	<p><b>Red-Yellow</b></p> <p>Individual criteria ratings:</p>  <p>Costs are transparent to shareholders but lack of fee disclosure to individuals. Transfers risk to individuals.</p>	<p><b>Red-Yellow</b></p> <p>Individual criteria ratings after moral hazard:</p>  <p>No incentive for sponsors or investment firms to make fees transparent to individuals.</p>

Traditional DC Plan  
Society

Society's Needs & Risks (Composite rating: Yellow <span style="background-color: yellow; border: 1px solid black; padding: 2px;"> </span> )			
Criteria	Objective	Evaluation	Effect of moral hazard
Adequate	Protects vulnerable citizens.	<div style="background-color: orange; border: 1px solid black; padding: 2px; text-align: center;"><b>Red-Yellow</b></div> <p>Low-paid individuals may have difficulty earning the match. Match signals participants that the contribution to earn the maximum match plus the match contribution create adequate retirement savings. Participants vulnerable to poor investment choices, swings in markets. No risk pooling. Individual accounts have higher administrative fees than pooled accounts.</p>	<div style="background-color: red; border: 1px solid black; padding: 2px; text-align: center;"><b>Red</b></div> <p>Regulators may be susceptible to lobbying by investment firms to make investment choices available that aren't always in individuals' best interest. Program adequacy dependent on employer paternalism.</p>
Affordable	Does not take resources from other social needs.  Ensures risk pooling done efficiently.	<div style="background-color: orange; border: 1px solid black; padding: 2px; text-align: center;"><b>Red-Yellow</b></div> <p>Individuals' lack of skill in retirement planning and investing will lead many individuals to do poorly, drawing on social resources. No risk pooling.</p>	<div style="background-color: orange; border: 1px solid black; padding: 2px; text-align: center;"><b>Red-Yellow</b></div> <p>Moral hazard not significant.</p>
Sustainable	Sustainable across and within generations.  Equitable across and within generations.	<div style="background-color: yellow; border: 1px solid black; padding: 2px; text-align: center;"><b>Yellow</b></div> <p>Creates high risk of failure, particularly for low paid and cohorts retiring during economic downturns. Low levels of contribution may create false sense of sustainability.</p>	<div style="background-color: orange; border: 1px solid black; padding: 2px; text-align: center;"><b>Red-Yellow</b></div> <p>Intergenerational risk transfer occurs if future generations must provide additional social benefits for inadequate savings by previous generation.</p>

Traditional DC Plan  
Society

<b>Society's Needs &amp; Risks (Composite rating: Yellow ■ )</b>			
<b>Criteria</b>	<b>Objective</b>	<b>Evaluation</b>	<b>Effect of moral hazard</b>
Robust	Fair, covers great majority, creates shared economic growth, avoids moral hazards	<p style="text-align: center;"><b>Yellow</b></p> <p>A design that focuses on matching favors wealthier individuals who are more easily able to save. Very hard to create shared growth for low paid.</p>	<p style="text-align: center;"><b>Red-Yellow</b></p> <p>Plans require participants join and set robust contribution levels, often higher than what is signaled by employer. Target investment funds may offer more risk than some participants can take.</p>
Does not promote economic risk	Efficiently allocates resources and encourages labor force participation.	<p style="text-align: center;"><b>Red-Yellow</b></p> <p>While it does not encourage early retirement and promotes longer work-force participation, it is structurally anti-cyclical (during economic booms, when workers are needed, more will retire, while during economic slowdowns, few will be able to retire). Plan design encourages employees to terminate to access funds.</p>	<p style="text-align: center;"><b>Red-Yellow</b></p> <p>Moral hazard not significant.</p>
Does not promote political risk	Promotes fiscal/political integrity and political stability.	<p style="text-align: center;"><b>Yellow-Green</b></p> <p>Relatively little political risk, except possibly for influence of investment managers in favor of high risk/high fee products</p>	<p style="text-align: center;"><b>Red-Yellow</b></p> <p>Politicians may see reducing the tax shelter as potential revenue decreasing ability of individuals to save. Generations of individuals retiring with small account balances during economic downturn could create political pressure for more social benefits.</p>

Traditional DC Plan  
Society

<b>Society's Needs &amp; Risks (Composite rating: Yellow ■ )</b>			
<b>Criteria</b>	<b>Objective</b>	<b>Evaluation</b>	<b>Effect of moral hazard</b>
Does not lead to system failure	Withstands shocks, not prone to instability or moral hazard.	<p style="text-align: center;"><b>Yellow</b></p> <p>Employers can adjust match levels easily. However, plans only succeed if contributions are consistently made; downward adjustment/elimination of employer money could create social pressure for additional benefits in the future. Also, individuals less able to save in times of economic slowdown.</p>	<p style="text-align: center;"><b>Red-Yellow</b></p> <p>Shocks hit poorer individuals most acutely (lower level of savings, less ability to save in good times). Prolonged economic downturn could put pressure on system for other solutions if generations cannot retire as needed.</p>
Addresses imperfections of other stakeholders	Promotes strong individual decision making and covers lack of market instruments.	<p style="text-align: center;"><b>Red-Yellow</b></p> <p>Shelters owners/shareholders from investment risk. While auto-enrollment and target date funds helps individuals get enrolled and invested, withdrawals and loans send mixed signals as to the purpose of the money (it's not solely for retirement savings). Match design can send improper signals of the proper level of saving. Individuals generally do not understand investments and their inherent risk and are exposed to market cycles.</p>	<p style="text-align: center;"><b>Red</b></p> <p>Auto enrollment and target date funds assume one plan fits all. Does not account for ability of individuals to take or not take risk. Target date funds do not hedge risks, particularly longevity risk.</p>
Promote social solidarity/integrity	Ensures basic standards of living; ensures risks are shared.	<p style="text-align: center;"><b>Red-Yellow</b></p> <p>Match design sends signals as to a sufficient level of savings and investment which generally do not provide sufficient retirement income.</p>	<p style="text-align: center;"><b>Red</b></p> <p>As DC plans arose as an "add-on" contribution, levels started low and haven't increased.</p>



Traditional DC Plan  
Society

Society's Needs & Risks (Composite rating: Yellow <span style="color: yellow;">■</span> )			
Criteria	Objective	Evaluation	Effect of moral hazard
Adjusts to changing demographic and economic conditions	As demographic and economic conditions shift, plan can respond to meet societal needs.	<div style="background-color: orange; padding: 2px; display: inline-block;"><b>Red-Yellow</b></div> While plan automatically adjusts to changing life spans, individuals may not understand they need to work longer to save more/shorten their retirement period. Anti-cyclical economically – individuals will likely continue work in a down economy when it may be better to pare down the number of workers.	<div style="background-color: red; color: white; padding: 2px; display: inline-block;"><b>Red</b></div> Individuals may not understand the need to adjust retirement plans for changing lifespans (leading to inadequate retirement income) or realize may be less likely to be able to retire in down market.

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Traditional DC Plan  
Individuals

Individual's Needs & Risks (Composite rating: Yellow <span style="background-color: yellow; border: 1px solid black; padding: 2px;"> </span> )			
Criteria	Objective	Evaluation	Effect of moral hazard
Guaranteed income	Provides substantial level of income protection.	<div style="background-color: orange; border: 1px solid black; padding: 2px; text-align: center;"><b>Red-Yellow</b></div> <p>Typical contribution (6% employee with 3% employer match) does not provide adequate income for most individuals. Cumbersome and expensive for individuals to convert account balances to guaranteed income; conversion can also have negative tax consequences</p>	<div style="background-color: red; border: 1px solid black; padding: 2px; text-align: center;"><b>Red</b></div> <p>Individuals may be sold products that provide unneeded features, or that do not provide true longevity guarantee. Cost of conversion at an individual rather than group rate harmful for less wealthy individuals with small account balances.</p>
Predictability of income	Facilitates retirement planning.	<div style="background-color: orange; border: 1px solid black; padding: 2px; text-align: center;"><b>Red-Yellow</b></div> <p>Works better for wealthier rather than less wealthy individuals (who can afford professional advice). Difficult to manage and understand value of account balance, particularly small balances.</p>	<div style="background-color: orange; border: 1px solid black; padding: 2px; text-align: center;"><b>Red-Yellow</b></div> <p>Moral hazard not significant.</p>
Retirement flexibility	Allows choice of retirement age, including possibility to phase into retirement.	<div style="background-color: green; border: 1px solid black; padding: 2px; text-align: center;"><b>Green</b></div> <p>Unrestricted ability to choose retirement age.</p>	<div style="background-color: lightgreen; border: 1px solid black; padding: 2px; text-align: center;"><b>Yellow-Green</b></div> <p>No protection for individuals who find they might have to retire early due to disability or other impairment.</p>
Portability	Minimizes loss upon employment termination.	<div style="background-color: green; border: 1px solid black; padding: 2px; text-align: center;"><b>Green</b></div> <p>Perfect portability</p>	<div style="background-color: yellow; border: 1px solid black; padding: 2px; text-align: center;"><b>Yellow</b></div> <p>Leakage is common, as participants take small account balances in cash on termination.</p>

Traditional DC Plan  
Individuals

Individual's Needs & Risks (Composite rating: Yellow ■ )			
Criteria	Objective	Evaluation	Effect of moral hazard
Sensitive to employment conditions	Benefits may vary in line with employment conditions.	<b>Yellow</b> Can adjust contribution levels, but otherwise cannot tailor for more or less physically demanding jobs (which may require different retirement dates). Difficult to incent early retirement.	<b>Red-Yellow</b> As noted earlier cannot ease out individuals during time of economic downturn.
Sensitive to family needs	Benefits may vary in line with spousal and children needs.	<b>Yellow</b> Full account balance passes to beneficiaries. However, difficult for individuals to estimate joint life survival probabilities and structure income accordingly.	<b>Yellow</b> Moral hazard not significant.
Requirement for individual skills	Level of knowledge required to plan for retirement.	<b>Red-Yellow</b> Plans typically require individuals to make investment choice which requires great degree of individual sophistication in investment and retirement planning; auto-pilot features help but individuals don't understand risk embedded in those features.	<b>Red</b> Individuals could be susceptible to poor advice and poor decisions made could lead to society having to make up difference.
Investment risk	Protects against fluctuations in market returns.	<b>Yellow</b> Individuals subject to downside risk but also upside potential. Hedging vehicle could be made available.	<b>Red</b> Individual always bears full brunt of investment risk. Hedging products aren't always available, and when they are individuals don't know how to use them. Professional advisors may encourage investments which maximize advisor income, which are often complicated and risky.



Traditional DC Plan  
Individuals

Individual's Needs & Risks (Composite rating: Yellow <span style="color: yellow;">■</span> )			
Criteria	Objective	Evaluation	Effect of moral hazard
Longevity risk	Protects against possibility to outlive assets.	<b>Red</b> No inherent longevity protection; can purchase annuities but can be expensive as done at individual rates (insurers assume anti-selection).	<b>Red</b> Individuals may not understand need for longevity protection, and may be confused by strategies that only appear to offer protection.
Inflation risk	Includes both pre and post retirement inflation.	<b>Red-Yellow</b> Ability of benefits to grow with market returns provides weak inflation protection (not strongly correlated). Can purchase inflation linked bonds (TIPS) but not commonly offered.	<b>Red</b> No incentives for plan sponsors to provide inflation linked strategies; investment firms will tend to favor equity over inflation protection.
Premature retirement risk	Protects against forced early retirement due to disability, family circumstances, and involuntary termination.	<b>Red</b> Retirement earlier than planned can be disastrous unless individual has over-saved. Market timing (retiring in a down market) can also deplete savings.	<b>Red</b> Over-saving is an inefficient way to prepare for retiring early than expected and a strategy not realistically used by poorer individuals. Could affect ability to educate children.

Traditional DC Plan  
Employers

<b>Employer Needs &amp; Risks (Composite Rating: Yellow <span style="background-color: yellow;">■</span>)</b>			
<b>Criteria</b>	<b>Objective</b>	<b>Evaluation</b>	<b>Effect of moral hazard</b>
Supports primary business purpose	Enhances core purpose of the employer's business.	<b>Yellow-Green</b> Allows employer to focus on core business, although still requires employer sponsorship with some HR and administrative costs.	<b>Yellow-Green</b> Moral hazard not significant
Workforce management: attraction & retention	Enhances business value by allowing attraction and retention of the "right employees".	<b>Yellow</b> Existence of a plan more important than actual design. Better at attracting younger rather than older employees. Does not generally enhance retention.	<b>Yellow</b> Moral hazard not significant
Workforce management: transition of employees	Enhances business value by facilitating the orderly transition of employees.	<b>Red-Yellow</b> Little incentives for employees to stay or retire on a voluntary basis. Cannot encourage or discourage behavior.	<b>Red-Yellow</b> Moral hazard not significant
Supports new norms for work and retirement	As needed, supports shifting norms for work and retirement, e.g. phased retirement, return to work, etc.	<b>Yellow-Green</b> Easily supports new norms for work and retirement. Does not easily support different retirement ages for classes of workers with different retirement needs	<b>Yellow-Green</b> Moral hazard not significant



Traditional DC Plan  
Employers

<b>Employer Needs &amp; Risks (Composite Rating: Yellow ■ )</b>			
<b>Criteria</b>	<b>Objective</b>	<b>Evaluation</b>	<b>Effect of moral hazard</b>
Responsive to owners	Responds to needs of owners, e.g., shareholders for public companies, which may limit amount of risk to be taken.	<b>Green</b> Known financial commitment. No long-term commitment.	<b>Green</b> Moral hazard not significant.
Business risk	Ability to react quickly to changes in the competitive landscape.	<b>Green</b> Can change contribution level instantaneously, with no long phase-out period.	<b>Green</b> Very little risk that regulations could change business' ability to change future benefits quickly.
Regulatory risk	Allows plan to be operated to fit needs and change to meet conditions easily within regulatory framework.	<b>Yellow-Green</b> Flexible in terms of changes to future design. Because contributions are tax deferred, it does attract regulatory oversight.	<b>Yellow</b> Regulatory framework may be too loose – employers often offer many investment options and more employee choice believing this will mitigate litigation risk. Could see regulators pushing more risk back to employers (e.g. poor investment outcomes).
Fiduciary risk	Allows plan to be easily operated to minimize fiduciary liability.	<b>Red</b> Fiduciary responsibility is complicated and often not well understood. Concerns about liability may lead all employers to act in similar manner, which may be detrimental to both employees and shareholders.	<b>Red</b> Moral hazard not significant.

Traditional DC Plan  
Employers

Employer Needs & Risks (Composite Rating: Yellow <span style="color: yellow;">■</span> )			
Criteria	Objective	Evaluation	Effect of moral hazard
Litigation risk	Allows management of plan to avoid lawsuits.	<p><b>Red-Yellow</b></p> <p>Lawsuits can lead to reputation risk. Individuals who make poor outcomes may look to employer for restitution; cannot cure this systematically through the plan.</p>	<p><b>Red-Yellow</b></p> <p>Moral hazard not significant.</p>

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Traditional DC Plan  
Markets

<b>Markets Needs &amp; Risks (Composite Rating: Red-Yellow ■ )</b> (includes both financial markets and intermediaries (e.g. insurers))			
<b>Criteria</b>	<b>Objective</b>	<b>Evaluation</b>	<b>Effect of moral hazard</b>
Maximizes use of markets	Effectively uses markets and hedging mechanisms; stakeholders can purchase hedging instruments cost effectively.	<b>Yellow</b> Could be designed to make better use of market mechanisms. Lifecycle accounts are a weak attempt; they don't hedge.	<b>Red-Yellow</b> Little incentive for plan sponsors to maximize use of markets, and little incentive for fund providers to design better market hedges.
Transparent (cost)	Costs of plan are transparent (fees, costs to sponsors, other stakeholders, etc).	<b>Red-Yellow</b> Plans do not disclose fees, so individuals do not know which investments are more costly.	<b>Red</b> Lack of disclosure of fees means plan participants pay high fees relative to other consumers; no incentive for employer or investment industry to change.
Strong Governance	Fiduciary roles of plan sponsors well defined. Plan structure minimizes agency issues, particularly regarding plan investment and risk taking.	<b>Yellow</b> Unclear what fiduciary standards around investments ought to be. Plans may work better when employers make decisions on behalf of employees.	<b>Red-Yellow</b> Lack of clarity around governance standards leads to "follow the leader" where the industry norm becomes best practice.

Traditional DC Plan  
Markets

<b>Markets Needs &amp; Risks (Composite Rating: Red-Yellow ■ )</b> (includes both financial markets and intermediaries (e.g. insurers))			
<b>Criteria</b>	<b>Objective</b>	<b>Evaluation</b>	<b>Effect of moral hazard</b>
Efficiently priced	Market price is well understood and accepted by stakeholders. Plan does not contain features which cannot be efficiently priced.  Plans incorporate discipline in pricing.	<b>Yellow</b>  Pricing is transparent to plan sponsor; individuals may not understand market risks or fees associated with investment choices.	<b>Red-Yellow</b>  Lack of incentive for sponsors to make hard choices about investment options and fees. Little incentive today for employers to disclose fees.
Efficient risk bearing	Plan efficiently pools idiosyncratic risks and hedges systematic risks (both economic and demographic).	<b>Red-Yellow</b>  Benefits of mutual funds can lower costs of investing (although they tend to have high fees). Plans do not pool idiosyncratic risk, including longevity risk.	<b>Red-Yellow</b>  Moral hazard not significant.
Allocation of risk	Plan efficiently allocates risk across stakeholders, giving each stakeholder the risk he can best bear.	<b>Red</b>  Investment risks could be hedged although these investment options typically aren't offered or used. . Demographic risks could be hedged in theory but market instruments aren't available because managers haven't shown interest.	<b>Red</b>  Moral hazard not significant.