

## "D" IS FOR DROP

It was a dark and stormy night. El Niño was attacking Northern California with a punch usually reserved for championship fights. Daylight had been blanketed away by a posse of clouds trying to atone for years of drought in a matter of hours. The pounding of the rain was finally cleaning my office windows. I had not been out of my office for days. Eight retirement plan design options, seven alternate assumption sets, six pricing groups, five-year forecasts. . .and a partridge in a pear tree. The combinatorial compounding gave me a rush usually associated with marathoners. I am an actuary, and numbers are my life-blood.

I had just finished reviewing final results when the phone rang. It was late for a call. I let it ring a second time before picking up the receiver. "Good evening." Technically it should have been good night, but that sounded too final.

"I'm glad you're still there," she responded in her distinctive high soprano. From the hour and her tone I could tell she had made one too many visits to Starbucks. She told me why. Negotiations with the firefighters had been going on for months. Last week, the firefighters asked for a DROP plan. The agency was told it would save money. "I've got 36 hours to put together a proposal for the Board." There was not enough time, but she knew I couldn't turn her down. Retirement plans – an actuary's favorite subject.

I told her I would stop by her office at 8:00 the next morning, and to lay off the lattes until I got there. She was going to need a clear head if we were to get through this. I checked the batteries in my calculator and charged the laptop as I cleared the files from my desk. This might require extra firepower.

### ***A Defined Benefit Plan Feature***

I walked into her office at 7:58. Styrofoam cups filled the trashcan. There was a mocha on her desk. Her normally cool exterior was beginning to ruffle. "I don't even know what a DROP plan is," she started. "How am I supposed to put a proposal together in a day?"

"The same way you always do". I tried to sound confident. "We'll start at the beginning."

She pulled out a pad of yellow paper. From her desk came a silver Cross pen, blue ink. She leaned over the desk as she got ready to write. I moved to the board, pulled the cap off a black dry-erase marker and began writing. "DROP stands for Deferred Retirement Option Program. It is a feature added on to a defined benefit plan."

"We have a pretty traditional plan," she said, trying to find her base. "Firefighters get a monthly amount at retirement determined on the basis of the employee's service with the agency and pay level at retirement. 2.5% at age 55 for each year worked, but not more than 80% of pay in total." She was on solid ground here, and started picking up speed. "Employees contribute 8% of their pay into the plan. The rest of the funding comes from the agency."

"When the firefighters retire, they start collecting these monthly checks and stop contributing to the plan." I was citing the obvious. I thought it might come in handy in the future.

### ***Plan Characteristics***

She relaxed a little. "So what kind of feature is a DROP?"

One step at a time, I told myself. "Each DROP plan is a little different. I've seen variations in eligibility, contributions, rights and benefits. Traditional DROP plans have 3 characteristics in common." I began to sketch on the board.

## 1. Commitment to retire

"First, the member agrees to retire at the end of the DROP period. This period is typically three to five years. In most cases, this is an irrevocable commitment. Plans usually allow the member to retire before the end of the DROP period, but not after." She jotted some notes, but remained silent. I went to the second characteristic.

## 2. Frozen benefit

"Second, the member's benefit is frozen at the beginning of the DROP period." I slipped into retirement lingo. It gave me a thrill, but I had to watch myself. "That means the member's benefit is calculated as if he retired at the time he entered into the DROP program."

No stranger to retirement issues, she followed like a shadow. "OK, the member's benefit stops growing," she said as she kept writing. "It gets calculated using the member's age, service and pay when DROP starts." She clammed up quickly. I could see she was thinking, and she wanted to hear the third characteristic.

## 3. Lump sum

"The third piece of the DROP puzzle is the lump sum amount. This is the most confusing part of the DROP program. We use the frozen benefit to determine the lump sum benefit. The amount of the lump sum benefit grows each month by the frozen benefit amount. The account is credited with interest."

I was ready to move on, but she wanted to know more.

"Do the members' contributions into the plan stop when the member enters the DROP program?"

"They usually stop at the beginning of the DROP period." Usually, but not always. I told her what happens the rest of the time. "The DROP plans that continue contributions tend to increase the lump sum amount by the amount of the contributions."

She was still curious. "Are the benefits credited with Cost-of-Living Adjustments after DROP starts?"

"Most DROP plans are designed to give them their COLA." COLA stood for Cost-of-Living Adjustment. She took another sip of her mocha.

A smile came across her face. The fluorescent lights made her look like the Mona Lisa. "Why do you actuaries always think the simplest things are complicated?" she asked, shaking her head.

"The member retires when he enters DROP. The retirement benefits are paid into a savings account. The member gets to take the balance of the savings account when the DROP period is over."

"That's just how it looks, but..." I started to say.

Suddenly, the complications hit her. Her face dropped faster than an anvil in a Roadrunner cartoon. The questions came out in rapid-fire sequence. "Isn't that double dipping? How does someone retire and keep working? I thought retirement benefits could only be paid to retired people."

"Good questions." I suppressed the urge to tell her that she was starting to think like an actuary. For some reason, not everyone takes that as a compliment. I responded slowly. "The member hasn't retired. The monthly benefit amounts never leave the retirement plan." No reaction yet. I kept going. "By entering into the DROP program, the member's benefit stops accruing as a monthly annuity and starts accruing as a lump sum amount. No benefits are paid until the member

actually stops working. At that time, the benefit is paid in two pieces: a monthly annuity and a lump sum. No benefit is paid to a working employee. No rules are broken."

### ***The Member Perspective***

She downed the last of her mocha in one shot. She was about to call her secretary and ask for another. I suggested that we work through an example to see how DROP would work.

"Let's look at the lifetime firefighter this program is targeted at," she suggested and started spewing statistics. "Hired at age 23. Now 55 years old, making \$4,000 per month. He hit his 80% of pay maximum benefit. He expects his pay to increase 4% each year until he retires." That was the increase rate they had settled on in negotiations.

"Good choice," I responded as I pulled out my PC. "To keep it simple, we will assume that he enters DROP for 5 years, inflation is running at 3% and the lump sum is credited with 8% interest, compounded monthly."

"Sounds reasonable," she replied. I put the following numbers up on the board:

Without DROP			With DROP		
	Monthly Benefit	Monthly Benefit		Lump Sum	Monthly Benefit
<u>Age</u>	<u>Retire at 55</u>	<u>Retire at 60</u>	<u>Age</u>	<u>Balance</u>	<u>Retire at 60</u>
55	\$3,200		55	\$0	
56	\$3,296		56	\$40,064	
57	\$3,395		57	\$84,535	
58	\$3,497		58	\$133,802	
59	\$3,602		59	\$188,285	
60	\$3,710	\$3,893	60	\$248,440	\$3,710

I provided commentary as I wrote. "The member will receive the 3% COLA if he retires at 55. This increase also appears in his benefit under DROP." I mentioned that, without DROP, the member would receive a larger benefit at age 60 due to pay increases. "The benefit design without DROP gives him a strong incentive to retire at age 55, when he hits the 80% plan maximum," I noted. "The benefit paid to a member who works until age 60 (\$3,893) is not much larger than the age 60 benefit paid to a member who retires at age 55 (\$3,710). But the age 55 retiree receives five extra years of payments."

She looked at the numbers. "The early retirement incentive works pretty well. More than half of our members retire when they hit the 80% plan maximum." She copied several of the numbers onto her pad before continuing. "It doesn't work for everyone, though. Some firefighters in this situation keep working all the way to age 60, and maybe later."

"DROP changes the incentives," I brought her attention to the other side of the table. If the member agrees to retire at age 60, he receives the \$248,440 lump sum, plus a benefit of \$3,710 each month."

The lump sum was the attention grabber. More money than most people would see at any one time in their lives. It caught her attention. "This looks like a quick, painless way for the member to catch up on their retirement saving. I can see why the firefighters are interested."

"It is even less painful than it looks," I reminded her. "The member has stopped making contributions into the plan."

"OK," she spoke aloud as she summarized her notes. "It's the people who hit the maximum who benefit from DROP."

"Yes, but not only those people." Actuaries are trained to give complete answers. "DROP gives larger benefits to many employees who have not reached the plan maximum. Their monthly benefit is lower under DROP, but the lump sum more than makes up for it in many cases. I'd be happy to run some more examples to show you." I got excited at the thought of more numbers, but we were in a hurry.

### ***The Cost Perspective***

"An 8% increase in take-home pay and larger benefits." She jots down another note. "Less money going into the plan. More money paid out. This has to cost the agency a lot."

Not necessarily." An actuary's typical response. "Under your current plan, many members retire when they hit the 80% plan maximum." I reminded her that retiring members should receive monthly payments from age 55 until the member died. "If DROP is offered, that member may not retire immediately," I explained. "He may enter DROP and work until age 60." We looked at the benefit pieces under DROP. I showed her how the lump sum was nothing more than an accumulation of the monthly age 55 retirement benefits from age 55 to age 60. "The unpaid benefits from age 55 to 60 move into the DROP account, receive interest and are paid out," I told her. "The lump sum payment form is different, but the value is equivalent to the monthly retirement benefit."

"And the monthly DROP benefit after age 60 matches the amount the retiring member would have received after age 60." She drew a big circle round the lump sum figure. "This means there is no cost for these DROP benefits."

I nodded. "Yes, because our member would have retired at age 55 and received these benefits anyway. For such a member there is no cost."

"However, there are other members who would have worked to age 60 without having received the DROP incentive. For these employees there is cost because they receive a higher benefit under DROP."

### ***The Bottom Line***

She slowly got out of her chair and retched. "OK, I think I understand the concepts. We were told this would save money. How does that work?"

It was a good thing that I brought along the PC. It was going to be getting a workout. "Let's look at the example above and see how the benefit values change," I suggested. "We will assume that the safety member is single. If the member retires at age 55, his benefit would be worth approximately \$520,000."

"That's because it's the same benefit, paid out of the plan at a later date." She had been listening. "So there is no cost. Are there any savings?"

"Not if you focus only on retirement liability for this individual," I began. "If this member had retired at age 55, you would have hired someone to take his place."

"We probably would have hired a new entry-level firefighter."

"So," I continued, "the agency would have made contributions for the new firefighter for the 5 years. The agency also would have incurred costs to hire and train the firefighter 5 years earlier. A number of systems have also noticed lower disability rates among retirement-eligible members after DROP plans have been put into place."

"OK, we save on retirement plan contributions for the new firefighter," she jotted on her notes. "We delay recruitment and training costs. And hopefully, we see a decrease in disability costs. On the other hand, we are paying a larger salary for the more experienced firefighter." She thought for a moment. "But not everyone was retiring at age 55. It costs money if the member was going to retire at age 60 without DROP."

I agreed. "Let's see how the numbers change if the member was going to retire at age 60 before DROP, and now enters DROP at 55," I suggested as I ran the liabilities. "By offering DROP, the liabilities increase by 38%, from \$570,000 to \$790,000." The increase was large. She underlined it twice.

I summarized the results. "If you expect employees to work longer because of DROP, DROP can save you money. If you expect little or no change in retirement patterns under DROP – in other words, if members elect DROP and leave DROP when they would have retired anyway – DROP will cost money. Generally, the costs are much larger than the savings. So," I paused for emphasis, "unless a significant majority of DROP participants are extending their retirement date, DROP will cost money."

### ***The Agency Perspective***

"I understand the attraction to the firefighters, and the costs to the agency," she flipped to the next page on her pad. "What does the agency get from a DROP plan?"

I started to move to the dry-erase board, but she stopped me. "I can figure this out," she said, "If we offer the DROP plan to employees who have hit the 80% maximum benefit, they will see how much money they can get by working a few more years. This will get them to stay on for the extra 3 to 5 years instead of retiring." She paused for effect. "The agency gets the expertise of these employees for a few more years, as well as reduced recruiting and training costs."

She was picking up speed like a snowball at Squaw Valley. "I can also see DROP helping us with some employees we would like to get rid of. They enter DROP to get the lump sum, and are forced to leave at the end of the DROP period."

A puzzled look crossed her face. "How do I know which employees have stayed longer, and which employees are retiring earlier?" she asked.

"There is no way to know with certainty," I reminded her, citing the ambiguous nature of retirement plans. I noted that some employees will work longer to get benefits under DROP. Other groups of employees will leave early because of DROP, or time DROP to maximize their benefit without changing their retirement date at all. "As employees become more comfortable with DROP, they will learn to maximize their benefit with as little change in their retirement date as possible."

This led me to the strengths of DROP. "DROP requires a commitment to retire. This makes it a good tool for succession planning. It lets you know when your senior people will be leaving and gives you time to train replacements."

"Not all aspects of DROP are positive," I continued. "Your retirement plans for Safety employees are designed with large retirement benefits that reach maximum levels at relatively early retirement ages. This encourages Safety members to retire at early ages, while they are still fit enough to be climbing up and down ladders. To take advantage of the experience of these workers, DROP plans pay additional benefits to encourage the safety members to stay on for a few more years."

"That means," she rubbed the back of the pen against her forehead, "these employees are offered large pensions to retire early. DROP gives them the larger pensions without making them retire early." I nodded.

### ***'E' Is For Everybody***

She turned the page on her yellow pad. "We're running low on time. I've got a few more questions, though."

I powered down the PC, but kept it out of the case. A good actuary is always ready to crunch numbers.

"I understand how DROP works," she started. "Are there special rules that only allow DROP for firefighters? Can't we give DROP to anybody?"

I took a breath before answering. "Nothing stops you from providing DROP to all plan members. Teachers are eligible for DROP plans in Texas and Louisiana. But there are reasons these plans show up more often for safety members." I drew another breath. "Police officers and firefighters generally have valuable early retirement incentives built into their retirement plans. They hit their maximum benefits at earlier ages than other employees do. DROP was created to keep these employees working a few more years."

### ***'F' Is For Payment Form***

She seemed satisfied with that answer, and scribbled some quick notes. "Are there other ways we can let members receive their benefit in two pieces, or is DROP the only choice we have?"

An excellent question. My energy level jumped as I thought of all the possibilities. "Lot of ways. Let me give you a few examples." I walked back to the dry-erase board. "Your plan currently allows members to elect additional beneficiary protection."

"You mean our Joint and Survivor options?" she asked.

"That's right," I responded. "You let members trade a portion of their retirement benefit in exchange for a benefit that will get paid to a beneficiary after their death. She knew the benefit reductions were calculated so there would be no long-term cost to the plan.

"Your plan could allow the member to trade a portion of their retirement benefit for a lump sum." It was an interesting idea, but there were many complications, and it was getting late.

"Any other options?" she asked looking at her watch.

"Plenty," I answered. "A defined benefit plan is extremely flexible. The biggest limitations are administrative. You can let members trade a portion of their benefit for a larger cost-of-living adjustment, for example. You can even change some of the key DROP characteristics to meet

## "D" IS FOR DROP

Page 7

your own objectives. Remember to carefully think through the side effects of any change before you go too far." As an actuary, I had to temper my euphoria with practicality.

"So we could let them drop DROP," she said with a smile. "Great. I've got enough for tomorrow's meeting. Care to join me for an espresso?"

The rain was still coming down. I had not checked messages for the entire day. It was going to be a long night. "Sure," I said as I packed my PC, "make mine a double."

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