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THE LIFE OF A PLAN CASE STUDY
Cash Balance Plan

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Charlie is an enrolled actuary with over 15 years of experience working on all types and sizes of defined benefit plans. For the last 5 years he has been the owner and chief actuary of Cash Balance Actuaries, LLC. CB Actuaries is based in Minnesota but has employees and clients all over the country. Charlie's specialty is designing and explaining tax-focused cash balance and defined benefit plans to plan sponsors, TPAs, financial advisors, accountants, and attorneys in an accurate, easy-to-understand manner. He has been speaking to various industry groups about cash balance plans since 2009. Starting in 2016 he is one of the actuarial experts answering defined benefit questions for the Technical Answer Group (TAG).

Case Study Assumptions

- 5th of a six part case study going through a sample life of a retirement plan *(setup, testing, acquisition, corrections, **cash balance** and termination)*
- The current IRS limits for 2016 will be used for all of the case study sessions
- Not focusing on the choice of investment provider or recordkeeper but will assume non-bundled TPA platform using a third party actuarial firm.

The Initial Test Subject

- Sample Company, LLC
- LLC taxed as a partnership with husband and wife 50/50 members
- Started with a SIMPLE plan *(match)* because advisor buddy said it would be "easy" to have a plan with "no" costs
- Successful years prompt their CPA to encourage them to find a way to shelter more income from taxes
- They added a 401(k) plan, maxed out their contributions, merged with another company, and now they have plenty of cash and are paying way too much in tax every year

Now They're Making the Big Bucks (Cash Balance Plan Example)

- Updated Census Information for the 12/31/18 Plan Year

Name	DOB	DOH	DOT	W2 pay	Hours	401k	Catch Up	K1's
Robert	7/14/1959	3/1/2014		265,000.00	2,080	18,000.00	6,000.00	500,000.00
Beverly	10/6/1959	3/1/2014		265,000.00	2,080	18,000.00	6,000.00	500,000.00
Jim	2/16/1984	10/17/2014		70,000.00	2,080	7,000.00		
Sara	3/24/1988	3/1/2015		25,000.00	1,200	-		
James	6/16/1964	3/1/2014		41,000.00	1,660	-		
Clara	11/12/1981	6/6/2014		55,000.00	2,080	3,500.00		
Steve	7/17/1984	9/15/2014		40,000.00	2,080	1,200.00		
Carrie	10/27/1974	10/17/2014		66,000.00	2,080	4,800.00		
Eve	1/13/1955	1/3/2015		48,000.00	2,080	4,000.00		
Sally	4/7/1985	1/3/2015		42,000.00	2,080	-		
Alex	12/9/1996	7/6/2015		30,000.00	2,080	-		
Mary	5/4/1982	8/1/2015		55,000.00	2,080	-		
Kia	8/2/1990	9/15/2014		8,000.00	480	-		

Plan Design Process

- Change the 401(k) Plan provisions to work well with the Cash Balance Plan
  - IRS guidance on safe harbor plans probably require these changes to be made in 2017 so the 2018 safe harbor notice is accurate
  - Provide the combined plan top heavy in the 401(k) Plan
    - It's almost always too expensive to give it in the CBP
  - Give SH Nonelective to NHCEs only
    - Can still max owners, just allows for additional flexibility in bad years
    - If the plan isn't covered by the PBGC, we might need to keep HCE profit sharing down to keep the total under 6% of covered payroll
  - Keep each person in his or her own allocation group and no last day or 1000 hours requirements
    - If we need a terminated or part-time employee to help pass testing, we can give them whatever contribution is necessary

Plan Design Process

- Determine the cash balance allocation formula for the owners
  - Option #1 – Flat dollar amount
    - \+ Very easy to understand
    - \- Not very flexible
  - Option #2 – Percentage of Pay
    - \+ Relatively easy to understand
    - \- Some flexibility
  - Option #3 – Tiered Formula
    - \+ A little more complicated, but still not bad
    - \- Extremely flexible
  - All 3 options can offer different formulas for different groups

Plan Design Process

- Determine the required cash balance allocation formula for the employees
  - Option #1 – Flat dollar amount
    - \+ Often saves a little staff cost since higher paid people don't generally help testing anyway
    - \- Amendments required more frequently as age and pay increase
  - Option #2 – Percentage of Pay
    - \+ Fits well for HR and doesn't require amending as often
    - \- Highly paid employees tend to cost more
  - Option #3 – 0.50% Accrual
    - \+ Never needs to be amended to pass testing
    - \- Costly if all employees are included
    - \- Difficult to understand
  - No matter which option is chosen, the plan must provide for a meaningful benefit for at least 40% of the employees

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Plan Design Process

- Determine the gateway minimum
  - Gateway is driven mainly by the formula chosen in the previous steps. Often we'll start with the maximum for the owners and work down from that point
  - Older owners require higher gateway minimums so these plans require the 7.5% maximum
  - Gateway is met with small cash balance contribution normalized to a current year allocation value plus the safe harbor non-elective allocation plus the profit sharing allocation
  - Gateway also depends on the crediting rate in the CBP. Higher crediting rates equal higher gateway minimums but also mean that the employee cash balance allocation is worth more to offset the gateway

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Plan Design Process

- Pass the Rate Group Test
  - The rate groups for a combination of cash balance and profit sharing plans work basically the same way as they do for a stand alone cross-tested DC plan
  - Older HCEs generally have lower EBARs and can therefore receive larger contributions without requiring more for employees
  - Cash balance allocations are generally projected at lower interest rates than profit sharing allocations, so it's easier to pass testing with HCEs getting more in the CBP and NHCEs getting more profit sharing
  - The DC EBAR is added to the CB EBAR to get the total for testing
  - 401(k) deferrals and match are added in at 8.5% projection for the average benefits percentage test if the 70% ratio isn't met

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Plan Design Process

- See if you can do better by changing the cash balance plan interest crediting rate
  - I'm a fan of flat rates between 3% and 5%, but there are many other choices as well
  - Any variable rate will eventually cause testing issues when it becomes too high (401(a)(4) and 415 issues) or too low (401(a)(26) issues)
  - Anything above 5% could give you 415 limit problems and anything below 3% could be considered too low by plan participants
  - Low rates help with rate group failures and generally work well when there isn't a large disparity between HCEs and NHCEs
  - High rates keep the 401(a)(26) minimum lower and work well when the ages are nicely spaced between older HCEs and younger NHCEs

Plan Design Process

- Check your deduction limits
  - Combined plans that are covered by the PBGC have the same limits as the plans do separately
  - Plans that aren't covered by the PBGC (owner only plans and professionals with 25 or fewer active employees) can deduct 31% of covered payroll or if the deductions in the DC plan are kept to 6% of covered payroll or less, the DC contributions plus any CB contributions
- Other Helpful Tips
  - Test some Rate Groups on Contributions if HCEs are younger than NHCEs or if low paid HCE is causing ABPT problems
  - Make sure to build in some cushion for future years
  - Even though testing is worse, put as much into the DC plan as possible for flexibility and the use it or lose it nature of the DC deductions

Flat Dollar Plan Design Option

DIV	FIRST NAME	AGE @ BOY	K-1 or W-2 COMPENSATION	PLAN COMPENSATION	401(K) DEFERRALS	CATCH UP CONTRIBUTIONS	SAFE HARBOR NONELECTIVE CONTRIBUTIONS	MATCH	PROFIT SHARING CONTRIBUTIONS	HYPOTHETICAL CASH BALANCE ALLOCATIONS	OWNER & FAMILY ALLOCATIONS
1	Robert	58	500,000.00	239,827.63	18,000.00	6,000.00	0.00	0.00	35,000.00	187,000.00	246,000.00
1	Beverly	58	500,000.00	241,827.63	18,000.00	6,000.00	0.00	0.00	35,000.00	185,000.00	244,000.00
2	Jim	34	70,000.00	70,000.00	7,000.00	0.00	0.00	0.00	5,250.00	2,500.00	14,750.00
2	Sara	30	25,000.00	25,000.00	0.00	0.00	0.00	0.00	1,875.00	2,500.00	4,375.00
3	James	54	41,000.00	41,000.00	0.00	0.00	1,230.00	0.00	1,640.00	1,250.00	4,120.00
3	Clara	36	55,000.00	55,000.00	3,500.00	0.00	1,650.00	0.00	2,200.00	1,250.00	5,100.00
3	Steve	33	40,000.00	40,000.00	1,200.00	0.00	1,200.00	0.00	1,600.00	1,250.00	4,050.00
3	Carrie	43	66,000.00	66,000.00	4,800.00	0.00	1,980.00	0.00	2,640.00	1,250.00	5,870.00
3	Eve	63	48,000.00	48,000.00	4,000.00	0.00	1,440.00	0.00	1,920.00	1,250.00	4,610.00
3	Sally	33	42,000.00	42,000.00	0.00	0.00	1,260.00	0.00	1,680.00	1,250.00	4,190.00
3	Alex	21	30,000.00	30,000.00	0.00	0.00	900.00	0.00	1,200.00	1,250.00	3,350.00
3	Mary	36	55,000.00	55,000.00	0.00	0.00	1,650.00	0.00	2,200.00	1,250.00	5,100.00
4	Kia	27	8,000.00	8,000.00	0.00	0.00	240.00	0.00	160.00	0.00	400.00
			OWNER HCE'S =	$ 481,655.26	$ 36,000.00	$ 12,000.00	$ 0.00	$ 0.00	$ 70,000.00	$ 372,000.00	$ 490,000.00
			NON-OWNER HCE'S =	$ 95,000.00	$ 7,000.00	$ 0.00	$ 0.00	$ 0.00	$ 7,125.00	$ 5,000.00	$ 19,125.00
			NHCE'S =	$ 385,000.00	$ 13,500.00	$ 0.00	$ 11,550.00	$ 0.00	$ 15,240.00	$ 10,000.00	$ 36,790.00
			TOTAL =	$ 961,655.26	$ 56,500.00	$ 12,000.00	$ 11,550.00	$ 0.00	$ 92,365.00	$ 387,000.00	$ 545,915.00

		Safe Harbor + Profit Sharing	Cash Balance
Div # 1	Owners	Maximum	Maximum
Div # 2	Children	7.50%	$2,500
Div # 3	Employees	7.00%	$1,250
Div # 4	Never Met 21 & 1	3.00%	Not Yet Eligible

Tiered Percent Plan Design Option

DIV	FIRST NAME	AGE @ BOY	K-1 or W-2 COMPENSATION	PLAN COMPENSATION	401(K) DEFERRALS	CATCH UP CONTRIBUTIONS	SAFE HARBOR NONELECTIVE CONTRIBUTIONS	MATCH	PROFIT SHARING CONTRIBUTIONS	HYPOTHETICAL CASH BALANCE ALLOCATIONS	OWNER & FAMILY ALLOCATIONS
1	Robert	58	500,000.00	240,848.36	18,000.00	6,000.00	0.00	0.00	35,000.00	186,393.65	245,393.65
1	Beverly	58	500,000.00	242,242.01	18,000.00	6,000.00	0.00	0.00	35,000.00	185,000.00	244,000.00
2	Jim	34	70,000.00	70,000.00	7,000.00	0.00	0.00	0.00	5,250.00	2,100.00	14,350.00
2	Sara	30	25,000.00	25,000.00	0.00	0.00	0.00	0.00	1,875.00	750.00	2,625.00
3	James	54	41,000.00	41,000.00	0.00	0.00	1,230.00	0.00	1,640.00	1,230.00	4,100.00
3	Clara	36	55,000.00	55,000.00	3,500.00	0.00	1,650.00	0.00	2,200.00	1,650.00	5,500.00
3	Steve	33	40,000.00	40,000.00	1,200.00	0.00	1,200.00	0.00	1,600.00	1,200.00	4,000.00
3	Carrie	43	66,000.00	66,000.00	4,800.00	0.00	1,980.00	0.00	2,640.00	1,980.00	6,600.00
3	Eve	63	48,000.00	48,000.00	4,000.00	0.00	1,440.00	0.00	1,920.00	1,440.00	4,800.00
3	Sally	33	42,000.00	42,000.00	0.00	0.00	1,260.00	0.00	1,680.00	1,260.00	4,200.00
3	Alex	21	30,000.00	30,000.00	0.00	0.00	900.00	0.00	1,200.00	900.00	3,000.00
3	Mary	36	55,000.00	55,000.00	0.00	0.00	1,650.00	0.00	2,200.00	1,650.00	5,500.00
4	Kia	27	8,000.00	8,000.00	0.00	0.00	240.00	0.00	160.00	0.00	400.00
			OWNER HCE'S =	$ 483,090.37	$ 36,000.00	$ 12,000.00	$ 0.00	$ 0.00	$ 70,000.00	$ 371,393.65	$ 489,393.65
			NON-OWNER HCE'S =	$ 95,000.00	$ 7,000.00	$ 0.00	$ 0.00	$ 0.00	$ 7,125.00	$ 2,850.00	$ 16,975.00
			NHCE'S =	$ 385,000.00	$ 13,500.00	$ 0.00	$ 11,550.00	$ 0.00	$ 15,240.00	$ 11,310.00	$ 38,100.00
			TOTAL =	$ 963,090.37	$ 56,500.00	$ 12,000.00	$ 11,550.00	$ 0.00	$ 92,365.00	$ 385,553.65	$ 544,468.65

		Safe Harbor + Profit Sharing	Cash Balance
Div # 1	Owners	Maximum	10% up to $155k +200% over $155k
Div # 2	Children	7.50%	3.00%
Div # 3	Employees	7.00%	3.00%
Div # 4	Never Met 21 & 1	3.00%	Not Yet Eligible

Cash Balance Plan Document

- Now we've decided on a design and are ready to prepare the document. The good news is that there aren't as many choices for plan sponsors of a CBP as there are in DC plans
- Most of the choices were actually handled in the plan design process (interest rate, plan formula, eligibility)
- Match the 401(k) document whenever possible (compensation definitions, year of service definitions, TPG, top heavy, etc.)
- Vesting decisions regarding the schedule and when to start counting years of service (some will say the plans need to match, but we've never had an issue with different schedules upon audit)
- Other options should generally be minimized (optional forms, no early retirement, have actuarial equivalence equal the crediting rate, etc.)

Actuarial Valuation

Cash Balance Plans can use beginning or end of year valuation dates, which one is better for you?

- Ease of Understanding (EOYs are better)
  - Most TPAs have an easier time of understanding EOY valuations since everything ties out nicely and they look more like DC plans
- Contribution Flexibility (BOYs are better)
  - With a BOY valuation contributions are calculated based on last year's assets and this year's formula. Both can be changed after the valuation date. With an EOY valuation contributions are calculated based on this year's assets and this year's formula. Neither can be changed after the valuation date.
- Timing (Depends)
  - BOY valuations are nice because there is extra time to complete the work and the clients usually aren't in a rush to get them. EOY valuations are nice because the majority of the work is done at the same time.
  - With sole proprietorships and partnerships, BOY valuations can be done without knowing the contribution for the year. EOY valuations for pass through companies require a circular calculation, so the contribution must be known as it affects the liability amounts. However, because it affects the liabilities, it's easier for the minimum and maximum to correspond to compensation.

Actuarial Valuation

- Range of Contributions
  - The lower the projected crediting rate, the lower the minimum required contribution, the higher the AFTAP, and the wider the range of contributions
  - The higher the projected crediting rate, the higher the minimum required contribution, the lower the AFTAP, and the higher the maximum deductible contribution
  - As interest rates change the minimum contribution moves more slowly than the maximum since the minimum is based more on historical averages. This is the main thing that creates the large ranges right now
  - Most other assumptions are out of the actuary's control these days

Actuarial Valuation

- Other things to look for in the Report
  - What is the AFTAP?
    - Over 110% means there should be no issues at all
    - Between 100% and 110% means no quarterlies but possibly restricted lump sums for HCEs
    - Between 90% and 100% means no certification deadline to avoid 101(j) notices, but quarterlies will probably be required
    - Between 80% and 90% means no restrictions now but must certify early next year
    - Below 80% indicates a problem for all plans other than owner only plans
  - Did the plan have an actuarial gain or loss?
    - Actuarial Gains generally mean that assets did better than expected, people terminated earlier than expected, or hypothetical allocations were lower than expected
    - End of Year valuations tend to have fewer actuarial gains and losses

PBGC Filing

- If the plan is covered by the PBGC, an annual filing is due each year, and in most years, a premium will be due as well
- The PBGC filing due date is 10/15 of the current year except for newly covered plans which have slightly longer
- The actuary will calculate the premium due, but there is a flat premium based on the number of participants with a benefit and there could be a variable premium as well that tracks with the AFTAP (the higher the AFTAP, the lower the premium and vice versa)

Data Collection and Trust Accounting

- We've been discussing the timeline for a beginning of year actuarial valuation so the valuation has already been done before we get to the end of the year, but now we are there
- Data collection for a CBP is no different than it is for a DC plan
- Trust accounting is even easier because there is usually just one pooled account and gains and losses aren't allocated among participants
- TPAs will often do this work for the actuary

Nondiscrimination Testing

- Now that we have all of the final data, we run it through our nondiscrimination testing just like we did in the plan design process
- The difference is that some of the things are no longer variables
  - We can't change the plan formula, the interest crediting rate, or the demographics
  - So our flexibility comes mainly with the profit sharing allocation
- Communicating with the client as early as possible is important to avoid surprises at this stage
- Proper planning with flexible formulas and flexible DC plan allocation provisions is also crucial

Actual Results if K-1 is Only $450k

DIV	FIRST NAME	AGE @ BOY	K-1 or W-2 COMPENSATION	PLAN COMPENSATION	401(K) DEFERRALS	CATCH UP CONTRIBUTIONS	SAFE HARBOR NONELECTIVE CONTRIBUTIONS	MATCH	PROFIT SHARING CONTRIBUTIONS	HYPOTHETICAL CASH BALANCE ALLOCATIONS	OWNER & FAMILY ALLOCATIONS
1	Robert	58	450,000.00	224,137.18	18,000.00	6,000.00	0.00	0.00	35,000.00	153,774.36	212,774.36
1	Beverly	58	450,000.00	224,137.18	18,000.00	6,000.00	0.00	0.00	35,000.00	153,774.36	212,774.36
2	Jim	34	70,000.00	70,000.00	7,000.00	0.00	0.00	0.00	5,250.00	2,100.00	14,350.00
2	Sara	30	25,000.00	25,000.00	0.00	0.00	0.00	0.00	1,875.00	750.00	2,625.00
3	James	54	41,000.00	41,000.00	0.00	0.00	1,230.00	0.00	1,640.00	1,230.00	4,100.00
3	Clara	36	55,000.00	55,000.00	3,500.00	0.00	1,650.00	0.00	2,200.00	1,650.00	5,500.00
3	Steve	33	40,000.00	40,000.00	1,200.00	0.00	1,200.00	0.00	1,600.00	1,200.00	4,000.00
3	Carrie	43	66,000.00	66,000.00	4,800.00	0.00	1,980.00	0.00	2,640.00	1,980.00	6,600.00
3	Eve	63	48,000.00	48,000.00	4,000.00	0.00	1,440.00	0.00	1,920.00	1,440.00	4,800.00
3	Sally	33	42,000.00	42,000.00	0.00	0.00	1,260.00	0.00	1,680.00	1,260.00	4,200.00
3	Alex	21	30,000.00	30,000.00	0.00	0.00	900.00	0.00	1,200.00	900.00	3,000.00
3	Mary	36	55,000.00	55,000.00	0.00	0.00	1,650.00	0.00	2,200.00	1,650.00	5,500.00
4	Kia	27	8,000.00	8,000.00	0.00	0.00	240.00	0.00	160.00	0.00	400.00
			OWNER HCE'S =	$ 448,274.36	$ 36,000.00	$ 12,000.00	$ 0.00	$ 0.00	$ 70,000.00	$ 307,548.72	$ 425,548.72
			NON-OWNER HCE'S =	$ 95,000.00	$ 7,000.00	$ 0.00	$ 0.00	$ 0.00	$ 7,125.00	$ 2,850.00	$ 16,975.00
			NHCE'S =	$ 385,000.00	$ 13,500.00	$ 0.00	$ 11,550.00	$ 0.00	$ 15,240.00	$ 11,310.00	$ 38,100.00
			TOTAL =	$ 928,274.36	$ 56,500.00	$ 12,000.00	$ 11,550.00	$ 0.00	$ 92,365.00	$ 321,708.72	$ 480,623.72

		Safe Harbor + Profit Sharing	Cash Balance
Div # 1	Owners	Maximum	10% up to $155k +200% over $155k
Div # 2	Children	7.50%	3.00%
Div # 3	Employees	7.00%	3.00%
Div # 4	Never Met 21 & 1	3.00%	Not Yet Eligible

Sample Actuarial Valuation Page

Sample Company, LLC
Cash Balance Plan
Actuarial Valuation Date: January 1, 2019
EIN: 01-23456789; Plan Number: 002

COMPARISON OF VALUATION RESULTS

	Current Year	Prior Year
1. Participants	13	13
2. Funding Target	268,907	0
3. Adjusted Market Value of Plan Assets	314,119	0
4. Funding Target Attainment Percent (FTAP)	115.81%	100.00%
5. Funding Shortfall	0	0
6. Target Normal Cost	258,937	302,724
7. Minimum Required Contribution	216,758	302,724
8. Maximum Tax-Deductible Contribution	432,805	394,057
9. Hypothetical Account Balances		
a. Owners	307,549	0
b. Non-Owners	14,160	0
c. Inactive Non-Owners	0	0
d. Total	321,709	0

Form 5500 and Participant Statements

- Once the plan sponsor has made and confirmed the dates and amounts of their contributions, we can prepare the 5500
- The 5500 has all of the same schedules and rules as for a DC plan with an additional Schedule SB required
- Participant statements can actually be prepared earlier since all of the information needed is defined in the plan document and has nothing to do with contributions or earnings, but most clients like the idea of tying them to the actual contribution just like they would in a DC plan
- Usually the next actuarial valuation and PBGC filing is also prepared at this time since all information is now known if using a BOY valuation date

Other Issues that don't apply to DC plans

- Plan Amendments
  - Decreases in future benefits require a 204(h) notice at least 15 days prior to the change and can't happen after the participant has accrued the benefit (usually 1000 hours)
  - Increases in benefits must happen by the end of the plan year unless the increase passes testing on its own
  - A 412(d)(2) election can be used to have amendments done after the valuation date but within 2 ½ months of the end of the plan year count for deduction purposes, but deduction purposes only
- Cumulative 415 Limits
  - Unlike DC plans that look at contributions from year to year, CB plans have an aggregate maximum based on age, compensation, and interest rates
- Prefunding Balances
  - Generally more hassle than they're worth, but be very careful if you have them

Questions?

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The following session still remains in the life of our plans:

Plan Termination

THANK YOU!

nipa National Institute of Pension Administrators