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PENSION PLAN DESIGN FOR SMALL PLANS—U.S.

Teaching Session

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This session will outline principles of pension plan design with emphasis on small (1-49 lives) United States plans. Topics to be covered will include:

1. Types of plan available
2. Considerations of corporate objectives and financial capabilities
3. Factors affecting normal retirement benefits
4. Ancillary benefit provisions

MR. PATRICK WELSH: The primary purpose of this session is to discuss the design of "small", qualified defined benefit pension plans covering the employees of a U.S. corporation. Design of a new plan (or redesign of an existing plan) cannot, however, begin with the assumption that a defined benefit plan will be the final product. In fact, the vast majority of new plans approved by the IRS each year - particularly, post-ERISA - are defined contribution plans.

There are a number of reasons that 80% of new plans are defined contribution plans. Probably as important as any is that you don't need an actuary to have one. Insurance agents, attorneys and accountants can sell, install and administer profit-sharing, money purchase and target benefit plans without our help. Since these other advisors often have control of the client, they may be inclined to recommend against a defined benefit plan.

More valid plan design considerations also come into play. Reasons generally offered by employers and professional advisors include:

1. Simplicity - Individual account plans are easier to understand. This makes the employer and his accountant more comfortable and the employee more appreciative.

2. Flexibility - Profit-sharing plans in particular offer the employer broad flexibility in his annual contribution. He can contribute nothing or as much as 15% of payroll. The decision can be made after the close of the year when corporate fiscal results are known. There is no minimum Funding Standard Account, as with defined benefit plans.

3. Termination - Individual account plans are easier to terminate because there is no potential PBGC liability or any PBGC filing. In addition, IRS approval is generally easier to obtain with a defined contribution termination. Also, the Ten Year Rules do not come into play.

4. Administration - Because the plans and the surrounding body of applicable law are simpler and more flexible, plan administration is simpler and less expensive. There are fewer forms to file (no Schedule B and PBGC) and calculations can be done by anyone. Annual fees are usually higher for defined benefit plans.

Based upon the foregoing, you may wonder why any employer would ever want to adopt a defined benefit plan. But as this session proceeds, the other half of this picture should unfold. There are some real advantages associated with defined benefit plans and counter arguments to many of the supposed advantages associated with defined contribution plans.

The primary advantage of a defined benefit plan is that its complexity gives you the tools to design a plan which best fits corporate objectives. Part of your responsibility is to use these tools effectively. Another key responsibility is to administer the plan efficiently in order to achieve simplicity for the client.

Although the topic is pension plan design for small U.S. corporations, within the category of "small" there are two sub-groups who we will be discussing today. They will be called:

1. Mini-Corporations - This includes Professional Service Corporations and other closely held corporations where the plan's primary (often sole) purpose is to build up deferred benefits for the owner(s). There is generally little interest in providing benefits for other employees, if there are any. Often, these plans are designed to answer the owners' question, "What is the most that can be put aside for me?"

2. Small Corporations - This is more likely an ongoing corporation, which is closely held, but has a life expectancy greater than the working career of the owner. It may be a manufacturing concern which has a union, or is trying to create a paternalistic attitude to avoid unionization. The boss wants the plan to benefit him, but also wants to reward other employees, especially long-term employees.

The recommendations and decisions involved with working with these two types of corporations are quite different. Design criteria are always affected by the viewpoint, the priorities and the maturity of the corporation. Despite these very real differences, however, the design process will usually begin with a somewhat similar set of questions for both types of corporations:

1. Who is the plan designed to benefit?

2. How much money is available to fund the plan?

3. How much is the available money subject to fluctuation?

Once these basic facts are known, it is up to you to take the employee census data, the corporate objectives and the applicable law to develop an appropriate plan.

It was stated earlier that the very complexity of a defined benefit plan could be turned to advantage because it helps provide great flexibility at the time that the plan is designed. Nowhere is this combination of complexity and flexibility more evident than with the normal retirement benefit formula. This formula is the equation which drives the plan. It is the answer to the question which is the basis of a defined benefit plan, "What does a participant get out of the plan?" (This is in contrast to a defined contribution plan which revolves around determination of what goes into the plan.)

The various elements of the defined benefit formula will now be outlined in conjunction with the effect these can have on plan costs, benefits and the common objective of the small employer to skew benefits toward himself. The discussion today is intended to be descriptive and we will avoid referencing IRS code sections, regulations and revenue rulings. In designing small plans, however, two factors which must always be kept in mind are:

1. Integration with Social Security - Revenue Ruling 71-446.

2. Limitations on Benefits and Contributions - IRS Code Section 415.

These factors always come into play in effective plan design and very often conflict with each other. Brief summaries of the code section and revenue ruling are included in the handout material.

One other factor to keep in mind is the IRS general prohibition against plan discrimination in favor of officers, shareholders and other highly paid employees. This consideration involves all areas of plan design and also the manner in which the plan operates in practice.

<u>Consideration of the Elements of the Normal Retirement Formula</u>

1. Participant Compensation

   (a) Total vs. Limited

      (i) IRS Regulations - Must show non-discrimination, if limited.
      (ii) Commissioned Salesmen - Special levelling (and limiting) techniques are often used.

   (b) Hourly Plans - Not usually a factor. Hourly employees prefer simplicity of "Dollars times Service" approach.

   (c) Career Average vs. Final Average

      (i) Cost Control - Dramatic, perhaps intolerable, cost increases with final average.
      (ii) Benefit Adequacy - If career average, periodic updating may be required.
      (iii) Administration - Recordkeeping usually more tedious with career average.

(d) Length of Final Averaging Period

(i) Effect on Cost - See examples.
(ii) Effect on Social Security Integration - 90% factor for 3 years; 95% for 4 years.
(iii) 415 Limitations - Based upon 3 consecutive years.

2. Length of Service

(a) Limitations - Can be used for cost and benefit control.

(i) Future only.
(ii) Limited past.

(b) Revenue Ruling 71-446 - Affects early retirement benefits and step-rate plans.

(c) Vesting vs. Benefit Accrual - Can have different starting point for each.

(d) Pre-incorporation service - Can it be counted for benefit accruals?

(e) Actuarial calculations - Past service can be used to compute an EAN past service base, even if it is not used to compute benefits.

(f) 415 Limitations - Maximum benefits require ten years of service.

(g) Distinction from defined contribution - Past service cannot be recognized effectively in accruing benefits.

3. Integration with Social Security

(a) Importance of thorough understanding - See attached.

(b) Step-rate vs. Offset Plans - Offset plans generally provide more effective integration in weighting benefits toward higher paid employees.

(c) The Future - Changes are likely because current guiding Revenue Ruling is now nine years old. Also, there is social pressure to do away with integration.

4. Normal Retirement Age

(a) Effect on Cost - See examples.

(b) Effect on Integration (1/15, 1/30) - Reductions required below age 65.

(c) 415 Limitations - Reductions required below age 55.

(d) Post-retirement implications - What are the problems involved if the owner/employee does not retire at normal retirement age?

5. Form of Benefit Payment

(a) Effect on Cost - See examples.

(b) Joint and Survivor Requirements - Not necessarily the form which determines the plan funding.

(c) Effect on Integration - Not affected by a joint-and-surviving spouse normal form, but affected by other forms which are better than life only.

(d) 415 Limitations - Reduced if form is other than life only or qualified joint-and-survivor.

(e) Lump Sum Payments - Popular with owners, but may affect 415 limits. Current taxation can be beneficial through ten year averaging.

MR. WILLIAM BARRETT: Unlike large employers, where the motivation for establishing qualified retirement plans is usually associated with employee relations (union or threat thereof or "keeping up" with competition), the motivation for small employers to adopt qualified retirement plans is usually for the tax planning reasons. That is not to say that employee relations considerations are completely absent in small employer situations; second and third generation businesses may well be affected by feelings of paternalism by the owners of the business.

Tax planning as a motivation for the small business employer to establish a qualified retirement plan is based on the significant tax deferral available:

1. Corporate contributions are deductible by the employer and not currently taxed to the employee.
2. Income on investments held in trust is generally exempt from current taxation.
3. There are significant income, gift and estate tax advantages ultimately gained by the employee upon distribution.

1. Participation and Vesting

The problem in small plans is to devise the simplest possible approach to eligibility while at the same time requiring a reasonable waiting period for entry into the plan on a basis which is easily explainable to all plan participants. The approach generally applied to the small plan is one of the following:

(a) If there is a percentage vesting schedule, either (i) or (ii) below:

(i) Provide a single entry date--usually the plan anniversary--on which an employee will become a participant upon attainment of age 24 1/2 and completion of 6 months of service. (Note that no proration of hours is permitted if the waiting period for plan entry is less than one year.)

(ii) Provide semi-annual entry dates on which an employee will become a participant upon attainment of age 25 and completion of one year of service. (Note that a year of service can be defined to be a 12-month period in which the employee has completed at least 1,000 hours of service.)

(b) If there is 100% immediate vesting, the approach is similar to that described above except for the length of service (e.g. for a single entry date--age 24 1/2 and 2 1/2 years of service and for semi-annual entry dates--age 25 and 3 years of service.) This has not been a popular approach for small plans, although increased usage may result if the IRS is successful in tampering with the "4/40" safe-harbor vesting schedule.

In dealing with a new plan for a new corporation, be sure that the prohibited group employees can satisfy the eligibility requirements that are being imposed upon future employees.

A problem to many employers is the impact of controlled group rules on plan design. The intent of ERISA was to make it clear that the coverage and anti-discrimination provisions cannot be avoided by operating through separate corporations instead of separate branches of the corporation. IRS Sec. 414(b) provides that for purposes of sections 401 (qualification), 410 (participation), 411 (vesting), and 415 (limitations on benefits and contributions), all employees of all corporations which are members of a controlled group of corporations shall be treated as employed by a single employer. IRS section 414(c) extends the concept of controlled corporate groups to partnerships and proprietorships. Controlled group rules can have significant impact on many small employers, particularly professional corporations.

In order to satisfy requirements as to coverage, a plan must cover

(a) 70% or more of all employees, or 80% or more of all employees who are eligible to benefit under the plan if 70% or more of all the employees are eligible to benefit under the plan, excluding in each case employees failing to meet minimum plan age and service requirements and all employees of a collective bargaining unit with which the employer has bargained in good faith on the subject of pensions; or

(b) Such employees as qualify under a classification set up by the employer and found not to discriminate in favor of employees who are officers, shareholders, or highly compensated.

Such tests must be met at least once in each calendar quarter.

While ERISA permits a defined benefit pension plan to exclude an employee hired within five years of normal retirement date, such exclusion may not be possible, in small plans, if the coverage tests described above would not be met.

Prior to ERISA, plans were required to provide vested rights to participants on attaining normal retirement age, on plan termination and when contributions to the plan were completely discontinued. Otherwise, vesting was prescribed by the Service only when necessary to prevent prohibited discrimination; various rules were imposed by various IRS Offices around the country.

The problem in small plans is to design a vesting schedule for a small plan which will satisfy IRS requirements and which will be administratively simple and easy to explain.

ERISA requires that the plan provide for complete vesting of all accrued benefits derived from employee contributions. ERISA established alternative minimum vesting schemes with respect to accrued benefits derived from employer contributions--10 year "cliff" vesting, graded 5 year to 15 year vesting, "rule of 45" vesting, and class year vesting (applicable to defined contribution plans)--in each case permitting exclusion of service prior to age 22 and service prior to establishment of the plan. Such minimum vesting standards are generally not available to small plans unless the plan was established prior to the passage of ERISA. In order to prevent discrimination in favor of the prohibited group, the Service will impose "4/40" vesting on small plans. (note that "4/40" as a safe-harbor imposed by ERISA on the IRS is now under attack by the IRS in a proposed regulation.) It should be noted that the 4/40 vesting schedule relates to years of employment rather than years of service.

2. Type of Plan

Working within the limitations on contributions and benefits, the type of plan is usually selected on the basis of the amount of money available for plan contributions, the need for flexibility in the amount of contributions and the ability to skew a large proportion of the total contribution to the benefit of the owner-employee(s).

In small businesses, the external accountant (CPA) is usually closely involved in the day-to-day operation of the business and will be very influential in the decision regarding the choice of the type of plan. Unfortunately, many business owners and accountants are biased in favor of profit sharing plans due to impressions that a pension plan involves a fixed annual commitment whereas a profit sharing plan does not (e. g., no profits--no contributions). This impression is most misleading and does not take into account many other factors which are more important and may be more decisive in the selection of the type of plan and method of financing best suited to achieve the objectives and to provide the largest possible financial benefit and the best results taxwise for the business owner. A defined benefit pension plan need not involve a fixed annual financial commitment; it can be constructed with a surprisingly large degree of flexibility as to the size and timing of annual outlay.

The business owner should start by laying down definitely the objectives he wants to obtain. Next he should investigate both defined contribution and defined benefit plans and examine the merits and shortcomings of each type in light of his objectives and of his company's circumstances (the size and nature of the business, growth prospects, its ability to assume commitments) and make a study of the work force and a cost analysis.

Either a profit sharing or pension plan can be flexible, can reduce and defer taxes substantially, can give incentive and improve employee relations, can produce outstanding financial benefits for "key" employees. Each can be used to provide substantial additions to the income of executives and other employees without imposing on them an added current tax burden. Regardless of the type of plan selected, if contributions are not made fairly regularly and in sufficient amounts, the plan will fail to accomplish the purposes for which it was set up.

Defined contribution plans and defined benefit plans are opposites in many regards. A defined benefit pension plan aims at a specific retirement benefit for each participant while a defined contribution plan aims at the amount of company contribution allocated to each participant (with the ultimate benefit being a function of the amount of contributions and investment earnings thereon allocated to each participant). Defined contribution plans tend to waste employer contributions by providing substantially higher severance pay thru the vesting provisions.

The owner-employee's age and compensation in relation to that of other employees has a significant bearing on the type of plan selected. A young owner of a business employing older employees will be much more interested in a defined contribution plan while an older owner of a business employing primarily younger employees would be more interested in a defined benefit pension plan. The implied factor here is the percentage of the contribution inuring to the benefit of the owner-employee.

An illustration of benefits and contributions for a hypothetical situation, where $30,000 is available for plan contributions, is set forth in Exhibit I.

3. Retirement Benefits

The amount of retirement income provided by the qualified retirement plan will depend on the type of plan. Retirement income provided by a defined contribution plan depends on the amount of allocated contributions and investment earnings thereon. Retirement income provided by a defined benefit pension plan is determined from the formula contained in the plan, which may consider such factors as average compensation and/or length of service.

Small plans covering more than the owner-employee are generally integrated with Social Security to the maximum extent permitted under law. A qualified retirement plan may be integrated with Social Security based on rules set forth in Revenue Ruling 71-446.

(a) Defined Contribution Plans - The contribution may be first allocated by providing up to 7% of compensation in excess of a breakpoint, which may be any stated amount (or basis) not in excess of the Social Security Wage Base then in effect, and then allocating the balance of the contribution in proportion to total compensation.

(b) Defined Benefit Plans - Benefits may be integrated as follows:

(i) Step-Rate Formula: An additional benefit up to 37.5% of compensation in excess of Covered Compensation (reduced proportionately with less than 15 years of service) plus a benefit based on total compensation, or

(ii) Offset Formula: A percentage of compensation, which may be a function of length of service, reduced by a percentage, up to 83.33%, of the primary Social Security benefit.

The integration limits are reduced for unreduced retirement benefits prior to age 65, pre-retirement death benefits, post-retirement death benefits, and/or use of compensation averaged over a period less than 5 years.

Where a company's retirement program utilizes more than one plan (a common phenomenon), integration is usually accomplished as follows:

(a) a combination of an integrated money purchase pension plan and non-integrated profit sharing plan.

(b) a combination of an integrated defined benefit pension plan and a non-integrated profit sharing plan (rare - due to combined 25% limit on contributions)

(c) a combination of an integrated defined benefit pension plan and a non-integrated money purchase pension plan.

An important consideration in the design of a benefit formula is the age of the owner-employee's spouse. Use of 100% joint and survivor normal form - possibly together with normal retirement prior to age 65 and pre-retirement death benefits - will significantly destroy the advantages otherwise gained from integration. In this case, it may be better to integrate the defined contribution plan rather than the defined benefit plan.

In order to satisfy the Service's requirements as to nondiscrimination, compensation must include basic compensation and overtime. However, use of total compensation (which in itself may be discriminatory because of inclusion of discretionary bonuses) is always acceptable. However, other forms of compensation - such as commissions - may be excluded if a "cross-section" test indicates that such exclusion is not discriminatory.

With respect to owner-employees, the form of payment of benefits is normally decided by tax considerations.

(a) A qualified lump-sum distribution is afforded capital gains treatment (with respect to pre-1974 employer contributions) or special 10-year forward averaging treatment. The 10-year forward averaging method works essentially like this:

(i) Total amount of the distribution

(ii) Credit equal to $14,000 less 20% of Item (i), to a maximum of $10,000 and a minimum of 0

(iii) Equal to (i) less (ii)

(iv) 10% of (iii)

(v) The "zero basis" bracket from Table X of the IRS tax tables ($2,300 in 1979)

(vi) The sum of (iv) and (v)

(vii) The tax (Table X) on (vi)

(viii) The total tax is 10 times (vii)

Inasmuch as the lump-sum distribution is considered the only income for purpose of computation of the tax on the distribution, this method is generally preferable to capital gains treatment (the tax rate hits 25% at approximately $300,000). Note that a lump sum distribution is considered unearned income.

(b) Installment or annuity payments are considered earned income for tax purposes and are taxed as ordinary income.

4. Ancillary Benefits

Ancillary benefits - such as death and disability retirement benefits - can be provided in a qualified retirement plan provided they are incidental. Note, however, that inclusion of such benefits may, if not properly designed, reduce some of the advantage of integrating plan benefits with Social Security.

(a) Insured Pre-Retirement Death Benefits

(i) Considered incidental if, on a cumulative basis, insurance premiums are less than 50% of the contributions if permanent insurance is used (25%, if term insurance is used); in defined benefit plans only, an alternate test is that the death benefit not exceed 100 times the anticipated monthly normal retirement benefit

(ii) Premiums, which are part of the contributions, are deductible by the corporation

(iii) Death proceeds from an insurance policy owned by the trust are generally excludable from the gross estate if paid over 2 or more taxable years (in a lump sum, if irrevocable election made not to use 10-year forward averaging)

(iv) The term cost of the pure insurance element (e.g., the excess of the face amount over the cash surrender value) is taxable to the participant as imputed income

(v) Many insurance companies offer a special series of policies which may be issued on a simplified issue or guaranteed issue basis, and may include special features such as guaranteed annuity purchase rates

(vi) Separate waiting periods or use of different types of policies may be appropriate to avoid or minimize the effects of employee turnover

(vii) Depending on the size of the group, consideration may be given to use of group life insurance to fund pre-retirement death benefits

(viii) Inclusion of insured pre-retirement death benefits in a retirement plan should be based on need as determined by an estate planning analysis, taking into consideration all sources of death benefits.

(b) Post-Retirement Death Benefits

Post-retirement death benefits, other than those provided in the annuity form of payment of benefits, are not normally found in small plans.

(c) Total and Permanent Disability Retirement

(i) Considered incidental if benefits do not exceed the accrued normal retirement benefit

(ii) Participants normally become fully vested upon disablement

(iii) the design of disability retirement benefits in a retirement plan should properly consider other sources of income (other employer benefit plans, Social Security, etc.)

(iv) recent tax court rulings would seem to imply that a disabled employee would be able to withdraw his allocated funds tax free

(v) if insurance is included in the plan, it is normal to include the waiver of premium option

5. Other Considerations

(a) IRS Rollovers and Keough Plan Assets

While most small employers would like to consolidate plan assets from individual plans and self-employed plans with the assets of the corporate plan, they cannot do so unless the trustee of the plan is a bank or trust company or an insurance company and the plan and trust documents permit such rollovers and retain the same restrictions on such funds as were applicable in their former plans.

(b) Employee Contributions

Plans are allowed to permit employees to make voluntary contributions to qualified plans; mandatory employee contributions are rare in small plans and are limited by the Service to 6% of compensation. Employee contributions cannot exceed 10% of the employee's compensation and are considered as contributions to separate defined contribution plans for purpose of IRC Section 415 limitations. If, as an example, an employee were to make a contribution of 10% of pay, a portion of this contribution - 4% of pay - would be considered in the "annual addition" limitation.

(c) Participant Loans

Participant loans in larger plans are generally permitted only in "hardship" cases, if at all. In small plans, the primary motivating factor for inclusion of this feature is the interest of an owner-employee in borrowing funds from the plan. Loans may be made by the plan to a party-in-interest who is also a participant or beneficiary, provided that:

(i) It bears a reasonable rate of return,

(ii) It is adequately secured,

(iii) It is repaid within a reasonable period of time (no later than Normal Retirement Date),

(iv) The plan permits such loans,

(v) Loans are available to all participants and beneficiaries on an equivalent basis, and

(vi) Loans are not made available to the prohibited group in an amount greater than the amount available to other employees.

In order to qualify under IRS Section 401(a) a plan is presumed to be permanent and for the exclusive benefit of participants and beneficiaries. Accordingly, it is prudent for loans to be granted on a uniform and nondiscriminatory basis, on a secured note basis containing the specific terms for repayment of principal and interest.

(d) Trust and Investments

While a large number of small plans are trusteed with banks, trust companies and insurance companies, an equally larger number are self-trusteed, usually with the owner-employee and his spouse as trustees. In these situations the owner wears four "hats" - owner, employer, employee-participant and trustee - and assumes multiple fiduciary roles.

ERISA requires that a fiduciary shall discharge his duties with respect to a plan solely in the interests of participants and beneficiaries "with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent man acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims". Fiduciaries are specifically required to provide diversification and appropriate liquidity in plan assets and to avoid certain transactions prohibited by ERISA.

Many owners of small businesses consider themselves "experts" in investments and are attracted to such "exotic" investments as real estate, precious metals and jewels, etc. However, unless he is the sole participant in the plan, more prudent and conservative investments should be utilized.

While superior investment results in a defined contribution plan results in a direct benefit to participants, they result in potential reduction or elimination of deductible contributions to a defined benefit pension plan.

In defined contribution plans only, the plan may specify that each participant is responsible for his own investments. This approach may relieve the owner of some fiduciary responsibility as to investments provided there is an automatic default to a specified investment vehicle and common-law employees have the same choice (or access to those choices) as the owner-employee.

(e) Actuarial Methods and Assumptions

Under ERISA, an enrolled actuary must certify on Schedule B (Form 5500):

> "To the best of my knowledge, the information supplied in this schedule and on the accompanying statement, if any, is complete and accurate, and in my opinion the assumptions used in the aggregate (a) are reasonably related to the experience of the plan and to reasonable expectations, and (b) represent my best estimate of anticipated experience under the plan."

In theory, the selection of appropriate actuarial assumptions for small plans is no different than in large plans. In small plans, however, the actuary must not only recognize the impact of each financial and demographic assumption but the significant effect on total plan costs of the participation of one or two key employees. Simplified, "implicit" assumptions (usually an interest only discount prior to retirement) are frequently used in small plans not because the smallness of the plan and the fees collected do not justify more elaborate assumptions but rather because use of such simplified assumptions is more prudent and is in the best interests of plan participants given the facts of the situation. There is no magic number which dictates when implicit or explicit assumptions should be utilized - it depends on the specific features of the plan and its participants.

Selection of the appropriate actuarial funding method is not in the exclusive domain of the actuary but rather a joint decision of the company's financial advisor and the actuary, taking into consideration applicable regulations, the need for flexibility in contributions, the ability to meet emerging plan liabilities and the ability to handle actuarial gains and losses in an appropriate manner.

(f) Plan and Trust

The plan of a small employer should be written in a manner easily understood by laymen and should be designed with administration in mind. There is little interest in this market segment in "bare-bones - ERISA" type plans. The simpler the plan, the better.

COST EFFECT EXAMPLES

1. Effect of Length of Averaging Period

(a) For a non-integrated plan, based upon final average pay, assuming 6% annual salary increases, the relative value of various averaging periods is:

10 years	1.00
5 years	1.14
3 years	1.21

(b) If the plan is effectively integrated with Social Security, the relative values of the shorter averaging period will be greater, depending on the level of pay, the benefit percentage and the degree of integration. (Note, however, that use of a three year averaging period reduced the maximum integration levels)

Assume a last year salary of $24,000, resulting from 6% pay increases, and a normal retirement formula of 50% of Average Pay less 75% of primary Social Security. The relative values would be:

10 years	1.00
5 years	1.21
3 years	1.31

2. Effect of Normal Retirement Age

This example is a defined benefit plan which provides 100% of pay for life only at normal retirement. This is a mini-plan, using simplified actuarial assumptions of 6% interest only pre-retirement and 6% interest with 1971 Group Annuity Mortality post-retirement. The participant is a male, age 45, who earns $110,625 per year. The valuation is based upon the individual level premium method. The annual cost for various normal retirement ages is:

Age 65	=	$28,000
60	=	50,000
55	=	99,000

3. Effect of Normal Form

If the normal form of benefits in the preceding example was a joint-and-full surviving spouse benefit with a spouse the same age as the participant and an assumed five year age setback, the normal cost for the age 55 normal retirement benefit would be $127,000.

COST ALLOCATION EXHIBIT

CONTRIBUTIONS

Name	Sex	Age	Annual Salary	DEFINED Plan 1	DEFINED Plan 2	ALLOCATED Plan 3	ALLOCATED Plan 4	ALLOCATED Plan 5	ALLOCATED Plan 6	ALLOCATED Plan 7	ALLOCATED Plan 8
JACK JONES	M	55	$60,000	$9,000.00	$9,889.69	$9,796.00	$5,957.00	$16,999.00	$11,749.00	$20,021.00	$20,091.00
TOM SMITH	M	32	60,000	9,000.00	9,889.69	1,539.00	3,088.00	2,670.00	6,092.00	2,736.00	3,018.00
MARY BROWN	F	42	30,000	4,500.00	4,143.36	3,528.00	4,934.00	3,061.00	4,866.00	2,399.00	2,690.00
JOSEPH DAVIS	M	55	20,000	3,000.00	2,430.90	9,796.00	5,957.00	5,666.00	3,917.00	4,203.00	4,007.00
HOWARD WRIGHT	M	30	10,800	1,620.00	1,312.69	1,364.00	2,904.00	426.00	1,031.00	170.00	60.00
SUSAN TYPE	F	40	10,800	1,620.00	1,312.69	3,062.00	4,656.00	956.00	1,653.00	382.00	134.00
JOAN CASE	F	20	8,400	1,260.00	1,020.98	915.00	2,504.00	222.00	692.00	89.00	.00
	TOTALS:		$200,000	$30,000.00	$30,000.00	$30,000.00	$30,000.00	$30,000.00	$30,000.00	$30,000.00	$30.000.00

MONTHLY BENEFIT AT 65

Name	Sex	Age	Annual Salary	ESTIMATED Plan 1	ESTIMATED Plan 2	DEFINED Plan 3	DEFINED Plan 4	DEFINED Plan 5	DEFINED Plan 6	DEFINED Plan 7	DEFINED Plan 8
JACK JONES	M	55	$60,000	$ 996.07	$1,094.54	$1,084.21	$ 659.30	$1,881.28	$1,300.45	$2,215.82	$2,223.61
TOM SMITH	M	32	60,000	6,340.42	6,967.20	1,084.21	2,175.69	1,881.28	4,291.48	1,927.45	2,126.11
MARY BROWN	F	42	30,000	1,382.97	1,273.36	1,084.21	1,516.39	940.64	1,495.52	737.41	826.81
JOSEPH DAVIS	M	55	20,000	332.02	269.04	1,084.21	659.30	627.09	433.48	465.11	443.43
HOWARD WRIGHT	M	30	10,800	1,287.48	1,043.25	1,084.21	2,307.55	338.63	819.28	135.19	47.32
SUSAN TYPE	F	40	10,800	573.54	464.73	1,084.21	1,648.25	338.63	585.20	135.19	47.32
JOAN CASE	F	20	8,400	1,492.64	1,209.49	1,084.21	2,966.85	263.38	819.28	105.15	.00

Plan 1:	Defined Contribution	15% of Compensation - Allocated in Proportion to Compensation
Plan 2:	Defined Contribution	15% of Compensation - Allocation Integrated - 7% on Excess over $22,900 Balance Allocated in Proportion
Plan 3:	Defined Benefit	$1,084.21 Per Month
Plan 4:	Defined Benefit	$ 65.93 Multiplied by Years of Future Service 1971 GA 5% Annuity
Plan 5:	Defined Benefit	37.63% of Compensation
Plan 6:	Defined Benefit	2.6% of Compensation Multiplied by Years of Future Service
Plan 7:	Defined Benefit	15.02% of Compensation plus 37.5% of Excess over Social Security Wage Base (Table 1)
Plan 8:	Defined Benefit	53.41% of Compensation Minus 83-1/3% of Primary Social Security

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SUMMARY OF PRINCIPAL INTEGRATION FACTORS: REVENUE RULING 71-446 ET AL

by Richard G. Schreitmueller

"The integration and application of the integration regulations has assumed the proportions of a special field of expertise within the Internal Revenue Service and the pension consulting profession." — John K. Dyer, Jr., F.S.A.

The outline of integration factors presented here is not intended to turn the neophyte into an expert on integration. Rather, its goals are more modest — to give someone who is already familiar with Revenue Ruling 71-446 (1) a handy summary and checklist of the main factors contained in the Revenue Ruling, (2) a synopsis of several changes announced after 71-446 was published, and (3) a cross-reference to specific language that covers each item in more detail.

To use the outline, just pick out the appropriate column for the type of formula being tested (flat benefit, final average excess, career average excess or offset), then go down the column to look up the integration factors and references. While the outline is believed to be accurate, it does not mention some of the technical rules that apply to integrated plans, and the author (although now a government employee) cannot speak for Internal Revenue Service, the source of official pronouncements on integration rules. Try it out on a plan you are designing or submitting to IRS; I expect you'll find it helpful. (Section # of Revenue Ruling 71-446 is in parentheses.)

Checklist of Integration Limits and Possible Adjustments Thereto	Flat Benefit Plans	Unit Benefit Plans		Offset Plans (S.S. Computed at Time Offset is First Applied) [1]
		"Average Annual Compensation" (Final Average)	"Actual Compensation" (Career Average)	
1. BASIC LIMIT	37½% of "average annual compensation", reduced prorata for service under 15 years (#5.02) [2]	1.0% (#6.03) [2]	1.4% (#6.02)	83 1/3% of PIA (#7.01)
2. DISABILITY BENEFITS — a. If disability benefits are payable before 65	$\frac{9}{10}$ if benefit is any of: (a) accrued benefit, or (b) 70% of projected benefit based on service to 65, or (c) projected benefit based on service to 65 ratioed down by years of service with the employer divided by total years to 65 (#12.01)			$\frac{9}{10}$ and offset of disability benefits before age 65 limited to 64% of PIA (#12.02)
b. If disability benefits are deferred to age 65	No adjustment needed if benefit does not exceed projected benefit at 65 assuming no change in pay between date of disability and 65 (#12.01) [3]			(11)
3. PRE-RETIREMENT DEATH BENEFITS [4] — a. Reserve or Total Prior Contributions	8/9 (#8.01)			
b. 100 times Projected Monthly Pension	8/10 (#8.01)			
c. Greater of Reserve or 100 Times Pension	7/9 (#8.01)			
d. Spouse's Annuity	$\frac{7}{7+2K}$ where "K" equals amount of straight life annuity payable to spouse, expressed as a fraction of the employee's accrued benefit (#8.02)			
e. Alternative Rule	Present value of employee's retirement benefit divided by present value of employee's retirement benefit and death benefits (#8.03)			
4. NORMAL FORM — a. 5 c & c b. 10 c & c c. Life with 50% Spouse's Annuity d. Alternative Rule	97% (#9) 90% (#9) 80% (#9) Present value of straight life annuity divided by present value of total benefit form. (#9)			
5. EARLY RETIREMENT (Below Age 65) — a. Deferred Annuity Beginning at Age 65	Basic limit must be ratioed down by years of service with the employer divided by total years to 65 (#10.01)	No adjustment needed (#10.01)		No adjustment needed if no further income is assumed after retirement. If additional income is assumed, basic limit must be ratioed down by years of service with the employer divided by total years to 65 (#11.01) (Same factors as for unit benefit plans) (#11.02)
b. Annuity Commencing Before 65 — Presumed Actuarially Equivalent to 5.a. if:	Reduced 1/15 for each of first 5 years before 65, 1/30 for each of next 5 years and actuarially for each year thereafter (#10.02) [5]			
6. INTEGRATION LEVEL above Covered Compensation or S.S. Wage Base (Test in combination with Early Retirement to determine Worst Case)	"Covered Compensation" for oldest individual who is or may become a member divided by Plan integration level for that member (#5.03; 6.04) [1]		Wage Base for year divided by Plan's integration level for same year (#6.04) [1]	NOT APPLICABLE
7. VARIABLE ANNUITY before retirement	NOT APPLICABLE		$\frac{\text{A.I.R.} + 2\%}{7\frac{1}{2}\%}$ (#18.01) [6]	NOT APPLICABLE
8. EMPLOYEE CONTRIBUTIONS (addition to basic limit)	Same factors as for unit benefit (#13.03 and 13.04)	$\frac{1}{8}$ (#13.02 and 13.04)	$\frac{1}{6}$ (#13.01 and 13.04)	(No adjustment rule has been published)

1/ ERISA Sections 206(b) and 1021(e) preclude benefit reductions due to increases in social security benefit levels or wage base that take place after retirement or separation from employment if earlier.

2/ If pay is averaged over less than 5 years, Revenue Ruling 72-276 indicates that limit shown is to be multiplied by 90% for 3-year average or 95% for 4-year average.

3/ For offset plans this rule is given in Revenue Ruling 72-492.

4/ Information Release 1646 (July 1976) indicates that an ERISA-required pre-retirement survivor annuity may be provided *without* adjusting the integration limit set forth in Revenue Ruling 71-446.

5/ Revenue Rulings 75-480 and 76-76 remove the former 1/12 and 1/24 rule for flat benefit plans, and state that a plan using the 3% method to satisfy the ERISA backloading test cannot provide the full early retirement benefits that are otherwise allowed for an integrated plan by Revenue Ruling 71-446.

6/ Test applies only where A.I.R. is less than 5½%; numerator is rounded to next lower multiple of 1/2% if not an even multiple of 1/2%.

Money Purchase Plans: 7% of "actual compensation", or 5% of "average annual compensation" for service prior to inception of plan, adjusted if necessary for Integration Level (#14.01 and 14.02).

Profit Sharing or Stock Bonus Plan: Employer contributions and forfeitures are limited to 7% of actual compensation, adjusted if necessary for Integration Level (#15.02)

SECTION 415 LIMITATIONS

I. DEFINED CONTRIBUTION LIMITATIONS

A. Annual Additions Definition: The sum of:

1. Employer Contributions
2. Forfeitures
3. The smaller of:
   a. Half the employee contributions
   b. All employee contributions over 6% of pay

B. Annual Addition Limitations: The lesser of:

1. 25% of pay
2. An indexed dollar amount equal to:

1975	$ 25,000
1976	26,825
1977	28,175
1978	30,050
1979	32,700
1980	36,875

II. DEFINED BENEFIT LIMITATIONS

A. Annual Benefit at retirement is limited to the lesser of:

1. 100% of pay
2. Indexed dollar amount (= 3 x annual addition limit)

B. Modifiers

1. Pay is based on three (or more) years
2. Benefit is life only - or joint-and-surviving-spouse
3. Ten years of service are required
4. Begins at age 55 or later

III. 1.4 RULE

A. Defined Contribution Fraction

$$\frac{\sum \text{Actual Annual Additions from 1975 (or year hired, if later)}}{\sum \text{Annual Addition Limitations for those years}}$$

B. Defined Benefit Fraction

$$\frac{\text{Projected Annual Benefit at end of plan year}}{\text{Maximum Annual Benefit at end of plan year}}$$

C. $A + B \leq 1.4$

Comment: If maximum defined contribution plans have been in effect for a number of years, this will greatly limit the defined benefit maximum. Substitution (d.b. for d.c.) can lead to a pattern of sharply increasing costs.