Independent Actuaries, Inc.

Actuarial Speak 101 - Terms and Definitions

Introduction and Caveat: It is intended that all definitions and explanations are accurate. However, for purposes of understanding and clarity of key points, the definitions and explanations may, in some cases, be generalized or otherwise not address all exceptions to the rule.

TERM	EXPLANATION
10-year Certain and Life Annuity	A Life Annuity that is guaranteed to pay for at least 10 years whether or not the recipient lives that long.
415 Benefit	The maximum annual benefit payable under the law. It is the lesser of 100% of a participant's highest 3-year average compensation of a dollar amount of benefit. The dollar amount is adjusted periodically for cost of living increases. It is currently $225,000 for plan years ending in 2019. In 2001 it was $140,000. This limit is adjusted for retirement ages younger than 62 or older than 65.
417(e) Lump Sum	The lump sum determined using the rates prescribed under IRC Section 417(e).
Accrued Benefit	The monthly benefit earned based on compensation and service to date.
Accrued Liability	The actuarially determined lump sum value of benefits earned prior to a measurement date. An accrued liability can be calculated different ways under different actuarial cost methods.
Actuarial Cost Methods	Also called actuarial funding methods. An Actuarial Cost Method is a mathematical model used to assign cost and funding requirements for a defined benefit plan. Unit credit and entry age normal are examples of actuarial cost methods. Like a 15-year mortgage payment schedule and a 30-year mortgage payment schedule, regardless of the method used, the end result should be the systematic funding of the cost of the plan (or house in my example).
Actuarial Equivalence	A defined benefit plan typically offers more than one form of payment, e.g., a life annuity and a joint & survivor annuity. Two benefit forms are considered to be actuarially equivalent if they have the same present value when calculated using the actuarial assumptions.
Actuarial Gains and Losses	The difference in terms of pension funding between what actually happened and what was assumed to happen. For example, in developing the expected cost of a plan, an actuary may assume that employees will leave employment before retirement at a certain rate. If more leave than assumed, the plan has an actuarial gain associated with employee withdrawals.
Actuarial Standard of Practice	A codification of generally accepted actuarial practice in a specific actuarial practice area (for example, setting demographic assumptions in a defined benefit plan) intended to provide guidance to actuaries practicing in that area.
Actuarial Valuation	A valuation, usually done annually, to determine a plan's funded status and the amount the employer should contribute to the plan for the year. Some valuations develop both a minimum required contribution and a maximum deductible contribution.
Actuarial Value of Assets ("AVA")	The value of the plan's assets used by the Actuary to determine a plan's funding requirements. Most often, actuaries use fair market value as the actuarial value of assets. However, in some instances, an actuary will use an average asset value or otherwise develop an actuarial value of assets that is intended to smooth out fluctuations in fair marker value from one year to the next.

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Actuary	"The typical actuary is a man past middle age, spare, wrinkled, intelligent, passive, non-committal, with eyes like codfish...Happily they never reproduce ..." (Saturday Evening Post, 1940).
Adjusted Funding Target Attainment Percentage	A measurement of the funded status of the plan created by the Pension Protection Act of 2006. It is the benchmark for determining whether a plan is adequately funded or is subject to one or more of several restrictions that are imposed on an underfunded plan.
Asset Smoothing	Asset smoothing is a methodology used by an actuary to smooth out fluctuations in the value of assets from one year to the next. Asset smoothing is intended to develop an Actuarial Value of Assets that does not fluctuate as much as the fair market value of the plan's assets and thus tends to develop a more stable pattern of required contributions for the plan sponsor.
At-Risk Plan	A defined benefit plan with an AFTAP of less than 80% using standard assumptions and less than 70% using special at-risk assumptions. Only applies to plans with at least 500 participants, i.e., plans large enough to warrant special attention from the PBGC.
Burn a (Credit) Balance	Write off or reduce the amount of a Carryover and/or Prefunding Balance; may be mandatory (to bring the funded status of the plan to a specific level) or voluntary.
Career Average Compensation	Not all plans base an employee's retirement benefit on his or her compensation near retirement. A career average plan bases an employee's retirement benefit on all or most of the wages earned over an employee's entire working career.
Carryover Balance	See Credit Balance defined below. Together with the Prefunding Balance (also defined below) the Carryover Balance represents prior excess funding that a plan sponsor can use to offset current funding obligations.
Cash Balance Plan	A defined benefit that looks and "tastes" like a defined contribution plan with a guaranteed rate of investment return.
Cost of Living Adjustment	Some plans, particularly public sector plans, provide retirees with ad hoc or regularly scheduled increases to their benefit payments to adjust for increases in the cost of living. Some adjustments are tied to inflation, others are a fixed percentage such as 2% per year.
Credit Balance	The accumulated excess of employer contributions over minimum required funding. This is a pre-PPA term. A credit balance in existence at the end of the 2007 plan year becomes a Carryover Balance.
Credited Service	Employment service used to determine credits under a plan. For example, all years of service may be credited for purposes of determining an employee's vested benefit, but only service while in the plan may be credited for purposes of accruing a benefit under the plan.
Current Liability	The Present Value of Accrued Benefits using assumptions prescribed by the IRC for pre-PPA plan years (prior to 2008).
Cushion Amount	Generally, an amount equal to one-half of the Funding Target. Under PPA, a plan sponsor can advance fund a portion of a defined benefit plan's liabilities. The Cushion Amount is a component of the amount that can be advance funded.
Demographic Assumptions	Actuarial assumptions related to the demographic characteristics of the group of employees covered by a plan, such as rates of mortality, expected future wages, ages at which employees will retire, and rates at which employees leave employment before death, disability or retirement.
Discount Rate	The interest rate used to determine the present value of a future liability. In a defined benefit plan, most benefits are expected to be paid at a future date. The discount rate is used to value those future events in today's dollars so that they may be compared to today's plan assets to determine the funded status of the plan and the required future contributions to adequately fund promised benefits.

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Discounted Value of Contributions	The minimum required contribution under PPA is determined as of the first day of the plan year. Contributions made after the first day of the plan year must be discounted to its present value as of the first day of the plan year at the plan's Effective Rate.
Early Retirement Benefit	The monthly benefit payable on an early retirement date. Usually the accrued benefit on that date, reduced to reflect early commencement.
Early Retirement Date	A date defined by the plan prior to normal retirement date on which a participant can retire and commence receiving retirement benefits. Defined by age and often years of service.
Economic Assumptions	Actuarial Assumptions related to the economic factors affecting the determination of liabilities of a defined benefit plan such as the discount rate, salary scale, and assumed rate of return on plan assets.
Effective Rate	Under PPA, the plan sponsor must add interest to the otherwise required contribution amount if the contribution is made after the valuation date. The Effective Rate is the interest rate used for this purpose. Pre-PPA a contribution made in January was give the same funding credit as a contribution made in September.
Enrolled Actuary	A pension actuary who by experience and examination has been certified by the US Department of Treasury to be qualified to value and report on the funded status of a defined benefit plan. Not all actuaries are enrolled. Only an Enrolled Actuary can sign a Schedule SB.
Experience Study	An actuarial analysis of the experience of a defined benefit plan compared to what was expected to happen. For example, if the actuary was assuming plan assets would grow at 8.0%, the experience study will determine whether the plan has an actuarial gain if the actual rate of return on assets was greater than 8.0% or a loss because the rate of return was less than 8.0%.
Extroverted Actuary	The actuary who looks at *your* shoes when he is talking to you.
Final Average Pay	An average of the compensation earned by an employee near retirement age that is used to determine his or her benefit. A commonly used average is an employee's highest 36-month or three-year average. Other plans use a highest or last 60-month or 5-year average.
Fixed Benefit	A type of benefit formula that does not base the benefit on years of service, e.g., a benefit of 50% of final average pay is a fixed benefit formula whereas a benefit of 2% of final average pay per year of service is called a unit benefit. A fixed benefit formula might include a reduction for short service employees, e.g., 50% of final average pay, reduced 1/25th per year if the employee does not have 25 years of service at retirement.
Floor Offset	A combination of a defined benefit plan and a defined contribution plan where the defined benefit plan provides a minimum benefit from both plans combined. The accrued benefit from the defined benefit plan is reduced (or offset) by a benefit equivalent to the defined contribution plan account balance.
Funding Target	The present value of all accrued benefits determined using assumptions prescribed by law under PPA for plan years beginning after 2007.
Funding Target Attainment Percentage	A measurement of the funded status of the plan, determined using the plan's Funding Target and Actuarial Value of Assets.
Hybrid Plan	Defined benefit plan with characteristics of a defined contribution plan. Cash balance plans and pension equity plans are the most common hybrid plans.

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Joint & Survivor Annuity	A monthly benefit that lasts as long as two people live. May pay reduced amount to the survivor upon death of the other. For example, a 50% Joint and Survivor Annuity would continue to pay 1/2 of the starting benefit to the survivor after the death of the primary annuitant.
Life Annuity	A benefit that lasts as long as the annuitant lives. Payments stop upon the death of a the annuitant (recipient).
Lookback Month	The U.S. Treasury publishes a set of interest rates every month. These interest rates are used to determine a plan's Minimum Required Contribution and to determine the lump sum value of some benefit distributions. The Lookback Month is the month used to determine the applicable interest rates.
Maximum Compensation	An employee's benefit in a plan can only be based on compensation up to a maximum amount. Currently that maximum is $280,000 for plan years beginning in 2019.
Minimum Required Contribution	The amount a plan sponsor must contribute to a defined benefit plan for a plan year in order to satisfy its statutory minimum funding requirements for that year. It is reported on the Schedule SB.
Mortality Table	The results of a study of the rates at which people are dying at any given age. New studies are done periodically by actuarial organizations and governments. The actuary for a large defined benefit plan may do a mortality study to take into account the unique characteristics of the mortality for its covered employee group. For many years, the most recent mortality studies have shown a consistent, meaningful improvement in life expectancy.
Multi-Employer	Also called Taft-Hartley plans. Primarily plans covering union employees of more than one employer whose terms are negotiated with the union.
Multiple Employer	A non-union plan covering employees of more than one employer.
Normal Cost	The portion of the cost of a defined benefit plan assigned to a plan year. In general, each year a plan sponsor should contribute an amount equal to the normal cost plus an amortization of any underfunding. This is fundamentally a pre-PPA term that has been replaced by the term Target Normal Cost post-PPA.
Normal Retirement Benefit	The monthly defined benefit on the plan's normal retirement date. Also used to refer to the formula for determining this benefit.
Normal Retirement Date	The date defined by the plan on which a participant is entitled to full benefits. Defined as a date, such as the first day of the month, in reference to a specified age and, sometimes a specified number of years of service or specified years after entry into the plan.
Partial Plan Termination	In general, a 20% or more reduction in an employer's workforce due to involuntary lay-offs is deemed a partial plan termination. The consequence of a partial plan termination is full, 100% vesting for the affected participants.
Past Service Liability	The liability for benefits accrued before a measurement date. For example, a new plan may grant benefit credit for years worked before the effective date of the plan. The past service liability is the liability for such benefits. Typically, the funding of the past service liability is amortized over several years.
Pension Benefit Guaranty Corporation (PBGC)	A federal agency created by ERISA that insures benefits earned under a defined benefit plan. Employers pay an annual premium to pay for the insurance. Not all defined benefit plans are covered by the insurance.
Permitted Disparity	A feature incorporated into the benefit structure in some plans that coordinates the benefits with benefit provided by social security. It has the general effect of providing additional benefits to wages earned above the social security wage base in order to provide equivalent total (social security plus plan) retirement income at all wage levels.

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Post-Retirement Medical Benefits	Medical benefits provided to retirees through a defined benefit plan.
Pre-Funding Balance	The Credit Balance developed from funding for PPA years (generally 2008 and after). A Prefunding Balance can be used to offset current funding obligations.
Present Value	The value today of a future payment or payments taking into account the probability of payment. A present value is determined by discounting the future payment or payments for interest and for contingencies like death or disability.
Present Value of Accrued Benefit (participant's)	The actuarially equivalent lump sum value of a participant's monthly accrued benefit. If a participant is cashed out of a defined benefit plan, the participant is entitled to receive the present value of his or her vested accrued benefit.
Present Value of Accrued Benefits (plan's)	The lump sum value of all the benefits that have been earned by plan participants as of a measurement date. It is a measure of the cost to liquidate a plan.
Quarterly Installment Contribution	If a defined benefit plan is underfunded, the plan sponsor must make regular quarterly contributions to the plan. Failure to do so will result in a larger Minimum Required Contribution and may be required to provide a notice to plan participants. If the plan is covered by the Pension Benefit Guaranty Corporation, it too must be notified.
Rate of Accrual	The rate at which benefits accrue each year. For example, the rate might be 1% of wages earned each year or 1.5% of wages earned each year.
Reserve	Typically, the lump sum amount of money needed at retirement age to fund a retiree's pension for the rest of his or her life (or joint lives if a joint and survivor annuity is elected).
Salary Scale	An economic assumption regarding future wages. A 3.0% salary scale means future wages for the covered employees are expected to grow at an average annual rate of 3.0%. For larger plans, salary scales can get quite intricate, e.g., separate assumptions for hourly and salaried employees.
Schedule B or SB	The form used to report a plan's compliance with the IRC prescribed minimum funding requirements. It is signed and certified to by an Enrolled Actuary and filed by the plan sponsor with the Form 5500 filing. Schedule B applies to pre-PPA years. Schedule SB applies to PPA years.
Segmented Yield Curve	To make calculations easier, the pension laws allow an actuary to divide the Yield Curve into three segments and use a representative interest rate for valuing a liability coming due any time during the segment. For example, the Segmented Yield Curve for April of 2009 specifies a 4.5% discount rate for liabilities coming due within five years of a measurement date, 6.0% for liabilities coming due between 5 and 20 years, and 6.5% for liabilities coming due after 20 years.
Shortfall Amortization Charge	An amount equal to a seven-year amortization (in special cases, 14 years) of the difference between a plan's Funding Target and its Actuarial Value of Assets. It is part of the Minimum Required Contribution.
Target Normal Cost	The present value of the benefit expected to be earned in the current plan year. This a PPA defined term.
Terminated Vested Participant	A plan participant whose employment has terminated but who retains rights to a benefit or account balance.
Transition Phase-In	A percentage applied to the Funding Target (beginning with 92% in 2008) when determining the Shortfall Amortization Charge. It is intended to ease the transition from PPA funding requirements to the more demanding Post-PPA funding requirements.
Turnover	A demographic assumption as to the rate at which employees will leave employment prior to death, disability, or retirement. In general, it is used to estimate the cost of the plan associated with employees who quit or get fired.

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Underfunded	A plan is underfunded when its liabilities exceed its assets. Since liabilities can be measured in different ways, underfunded does not always have the same meaning. For example, if liabilities are measured on a plan termination basis, underfunded means there is not enough money to pay for the lump sum value of the benefits accrued as of a measurement date.
Unit Benefit	A type of benefit formula wherein the benefit payable is based on both wages and years of benefit service, e.g., a benefit formula of 2% of final average pay per year of service. Someone who works 30 years prior to retiring would be entitled to a benefit of 60% (30 x 2%) of final average pay.
Unit Credit Cost Method	An actuarial cost method that assigns a normal cost each year equal to the present value of the benefit accrued that year. It is the method prescribed by PPA for determining the minimum required contribution for plan years beginning after 2007.
Unreduced Early Retirement Benefit	Also called a "subsidized" early retirement benefit. An early retirement benefit that is NOT reduced to reflect early commencement.
Yield Curve	A government prescribed set of interest rates used to determine a defined benefit plan's liabilities and funding obligations. It is tied to the yield on corporate bonds over varying time periods (e.g., six month, one year, eighteen months, up to 20 years or more). For example, the present value of a liability coming due in 10 years would be determined using the interest rate on the yield curve for a 10-year bond.

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Actuarial Speak 101 - Actuarial Acronyms

ACRONYM	MEANING
10 C&L	10-year certain and life annuity
AB	Accrued Benefit
AFTAP	Adjusted Funding Target Attainment Percentage
AL	Accrued Liability
AMC	Average Monthly Compensation
ASA	Associate of the Society of Actuaries
ASOP	Actuarial Standard of Practice
AVA	Actuarial Value of Assets
COB	Funding Standard Carryover Balance
COLA	Cost of Living Adjustment
DOL	Department of Labor
EA	Enrolled Actuary
EAN	Entry Age Normal (an actuarial cost method)
EBSA	Employee Benefit Security Administration, an agency of DOL
FASB	Financial Accounting Standards Board
FSA	Fellow of the Society of Actuaries (the highest designation of Society of Actuaries)
FSPA	Fellow of the American Society of Pension Professionals and Actuaries (the highest designation of ASPPA)
FT	Funding Target
FTAP	Funding Target Attainment Percentage
HCE	Highly Compensated Employee
IRC	Internal Revenue Code
IRS	Internal Revenue Service
J&S	Joint and survivor annuity
MAAA	Member of the American Academy of Actuaries
MRC	Minimum Required Contribution
NC	Normal Cost
NHCE	Non-Highly Compensated Employee
NRB	Normal Retirement Benefit
OPEB	Other Post-Employment Benefits (other than pension)
PBGC	Pension Benefit Guaranty Corporation
PFB	Prefunding Balance
PPA	Pension Protection Act of 2006
PSL	Past Service Liability
PVAB	Present Value of Accrued Benefit
TNC	Target Normal Cost

Actuarial Speak 101 - Law Acronyms

TERM/ACRONYM	EXPLANATION
ADEA	Age Discrimination in Employment Act of 1967
COBRA	Consolidated Omnibus Budget Reconciliation Act of 1985
DEFRA	Deficit Reduction Act of 1984
EGTRRA	Economic Growth and Tax Relief Reconciliation Act of 2001
ERISA	Employee Retirement Income Security Act of 1974
GATT	General Agreement on Tariffs and Trade, contained in the Uruguay Round Agreements Act
GUST	An acronym of acronyms. The term “GUST” refers to the following: • the Uruguay Round Agreements Act, Pub. L. 103-465; • the Uniformed Services Employment and Reemployment Rights Act of 1994, Pub. L. 103-353; • the Small Business Job Protection Act of 1996, Pub. L. 104-188; • the Taxpayer Relief Act of 1997, Pub. L. 105-34; • the Internal Revenue Service Restructuring and Reform Act of 1998, Pub. L. 105-206; and • the Community Renewal Tax Relief Act of 2000, Pub. L. 106-554.
HEART	Heroes Earnings Assistance and Relief Tax Act of 2008
KETRA	Katrina Emergency Tax Relief Act
MPPAA	Multiemployer Pension Plan Amendments Act of 1980
OBRA	Omnibus Budget Reconciliation Act of 1987, 1989 or 1993.
PPA	Pension Protection Act of 2006
REA	Retirement Equity Act of 1984
SBJPA	Small Business Job Protection Act of 1996
SEPPAA	Single Employer Pension Plan Amendments Act of 1980
TAMRA	Technical and Miscellaneous Revenue Act of 1988
TEFRA	Tax Equity and Fiscal Responsibility Act of 1982
TRA	Tax Reform Act of 1984, Tax Reform Act of 1986 or Taxpayer Relief Act of 1997. Proper reference must be determined by context.
USERRA	Uniformed Services Employment and Reemployment Rights Act of 1994
WRERA	Worker, Retiree, and Employer Recovery Act of 2008