Hewitt

EBRI
December 5, 2002

What Are the Income Replacement Ratios for Employees of Large Corporations?

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Introduction

- Income replacement ratio
  - — Annual retirement benefit as percent of pay immediately before retirement
  - — Indicator of retirement income adequacy
- We will answer the stated question but not whether that is enough

Introduction

- This paper presents the major findings of a Hewitt study of projected retirement income levels
  - Preliminary study for employees at 23 large employers
  - Part of a series of reports to be published, on the topic of retirement income adequacy in the United States
- Comparison with EBRI study in *Perspective*, Vol. 8/No. 3, “Can 401(k) Accumulations Generate Significant Income for Future Retirees?”

What the Analysis Covers

	Hewitt Report	EBRI Study
Defined Contribution (401(k) only)	√	√
Defined Benefit	√	–
Social Security	√	√
Retiree Medical	–	–
Grandfather Benefits	–	N/A
Previous Employer Pension Benefits*	–	N/A
Rolled Over Accounts	401(k) rollovers	401(k) and IRA rollovers

*Not rolled over into the plans of the current employer

Hewitt Study

Employers Studied

- 23 large employers
  - Spanning a broad range of industries
  - 560,000 employees
- Data represents a segment of Hewitt's 100+ Defined Contribution benefits administration clients
- Projected benefits for the employers studied are 1%–2% greater than benefit levels generally provided by Fortune 500 companies

Hewitt Study

Employees

	Studied	Not Studied
Average Employer Size	24,437	7,930
Average Age	41.2	36.9
Average Pay	$46,197	$23,300
Average Service	9.5 years	4.6 years
Average 401(k) Deferral Rate	5.95%	0.00%

Hewitt Study

Retirement Benefits Offered

- Defined Benefit (DB) plans
  - 18 of the 23 employers (78%) offer DB plans (69% in Hewitt universe*)
  - 11 of them are traditional final average pay (61% vs. 63% in Hewitt universe)
  - 7 are hybrid pension designs: 6 cash balance (33% vs. 25%); 1 pension equity (5% vs. 5%)

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*As determined using the 2002–2003 Hewitt Associates SpecBook™, Hewitt's plan specification database, with information on 960 companies, including 55% of the Fortune 500

Hewitt Study

Retirement Benefits Offered

- Defined Contribution (DC) plans
  - — All employers studied offer DC plans (99% in Hewitt universe)
  - — 5 offer only a DC plan (no DB plan)
  - — Average match: $.63 per dollar up to 6% of pay compared with $.60 on average for Hewitt universe

Hewitt Study

Approach and Methods

Step I	Actual 01/01/2002 qualified DC account balance (1) Reduced by 10% to reflect negative anticipated returns in 2002 (called year-to-date adjustment) (2) Projected to retirement age
Step II	Add projected qualified DB benefit at retirement
Step III	Add Primary Insurance Amount based on projected pay at retirement, under current Social Security formula
Step IV	Divide by projected pay at retirement

Baseline Scenario

Main assumptions:

- — Retirement Age = 65
- — Annual Interest on DC Balances = 7%
- — Year-To-Date Asset Adjustment = -10% (DC only)
- — Actual 401(k) Deferral Percentages, by Participant

Baseline Scenario—“Hot Zone”

Service at 1/1/2002

Age at 1/1/2002	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30+	35+	Total
Under 20									
20 - 24	23,916 $27,928 **113.1%**	1,734 $24,091 **99.8%**							25,650 $27,669 **112.2%**
25 – 29	42,665 $37,476 **111.2%**	14,743 $37,360 **102.3%**	1,106 $33,453 **105.8%**						58,514 $37,371 **108.9%**
30 – 34	40,157 $42,478 **98.4%**	24,517 $44,184 **100.4%**	11,778 $46,704 **107.5%**	900 $40,675 **106.6%**					77,352 $43,641 **100.5%**
35 – 39	34,134 $44,969 **85.5%**	21,456 $44,870 **89.1%**	19,317 $54,642 **105.6%**	9,746 $55,209 **111.2%**	1,353 $46,105 **107.0%**				86,006 $48,295 **94.2%**
40 – 44	29,939 $45,170 **75.3%**	18,653 $43,187 **79.1%**	16,578 $51,172 **94.8%**	14,832 $62,395 **106.2%**	13,173 $57,421 **108.8%**	1,238 $50,915 **108.3%**			94,413 $50,323 **89.5%**
45 – 49	23,164 $44,323 **68.7%**	14,952 $40,874 **72.8%**	13,110 $47,442 **86.5%**	11,080 $57,177 **99.2%**	14,598 $63,911 **105.2%**	10,035 $59,706 **109.0%**	806 $56,963 **108.4%**		87,745 $50,959 **87.0%**
50 – 54	17,182 $42,964 **62.5%**	10,939 $38,678 **67.0%**	9,811 $43,499 **80.4%**	7,993 $53,433 **92.2%**	9,172 $59,311 **96.0%**	9,548 $66,558 **103.0%**	7,147 $63,210 **109.3%**	608 $60,057 **115.2%**	72,400 $50,869 **83.5%**
55 – 59	10,228 $38,254 **58.3%**	6,819 $34,455 **61.9%**	5,884 $40,073 **73.4%**	4,450 $46,959 **84.6%**	4,528 $52,160 **87.8%**	3,647 $61,140 **92.3%**	4,552 $67,168 **100.0%**	2,388 $61,367 **106.9%**	42,496 $46,650 **77.0%**
60 – 64	4,478 $31,625 **57.3%**	3,648 $28,599 **61.1%**	2,693 $33,657 **70.3%**	1,758 $40,616 **76.3%**	1,694 $41,400 **81.9%**	1,096 $45,066 **83.3%**	890 $56,801 **88.8%**	1,216 $60,304 **100.0%**	17,473 $37,280 **70.6%**
65+									
Total	225,863 $40,546 **89.0%**	117,461 $41,015 **85.1%**	80,277 $48,159 **93.9%**	50,759 $55,972 **100.5%**	44,518 $58,450 **101.8%**	25,564 $61,416 **103.2%**	13,395 $63,753 **104.7%**	4,212 $60,871 **106.1%**	562,049 $46,197 **92.1%**

Legend

Count
Average Pay
Average Pay Replacement

		Count
Under 40%		0
40% – 59%		14,706
60% – 79%		135,631
80% – 89%		91,169
90% – 99%		90,361
100%+		230,182
Total		562,049

Baseline Scenario—By Pay Brackets

Pay	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30+	35+	Total
	Service at 1/1/2002								
Under $40,000	143,082 $24,090 **82.6%**	75,851 $25,626 **81.7%**	41,851 $27,570 **91.2%**	19,444 $28,980 **98.0%**	13,211 $28,971 **99.1%**	6,287 $29,901 **102.2%**	2,621 $30,467 **106.4%**	877 $29,923 **114.3%**	303,224 $25,673 **86.0%**
$40,000 to $84,999	66,656 $56,707 **103.6%**	32,207 $54,493 **89.4%**	30,424 $56,307 **96.8%**	24,061 $58,480 **102.5%**	24,833 $58,823 **102.7%**	15,164 $59,020 **104.3%**	8,463 $59,353 **105.8%**	2,721 $58,550 **105.5%**	204,529 $57,070 **100.3%**
$85,000+	16,125 $119,755 **84.9%**	9,403 $118,988 **98.0%**	8,002 $124,864 **97.0%**	7,254 $120,004 **100.4%**	6,474 $117,176 **103.4%**	4,113 $118,425 **100.9%**	2,311 $117,619 **99.1%**	614 $115,364 **97.4%**	54,296 $119,860 **95.2%**
Total	225,863 $40,546 **89.0%**	117,461 $41,015 **85.1%**	80,277 $48,159 **93.9%**	50,759 $55,972 **100.5%**	44,518 $58,450 **101.8%**	25,564 $61,416 **103.2%**	13,395 $63,753 **104.7%**	4,212 $60,871 **106.1%**	562,049 $46,197 **92.1%**

Legend

Count
Average Pay
Average Pay Replacement

		Count
Under 40%		0
40% – 59%		0
60% – 79%		0
80% – 89%		267,265
90% – 99%		125,260
100%+		169,524
Total		562,049

Baseline Scenario—Comments

- Employees at most age and service levels have replacement ratios at or over 75%–80%
- High levels of retirement income can be achieved by completing 30–35 years of service under these programs

Baseline Scenario—Comments

- Even mid-career hires do rather well under these programs:
  - Employees hired in their 40's and early 50's can achieve replacement rates of 60%–75% in their 15–20 years of participation
- The average replacement ratio of 92.1% is
  - 45.8% from DC plans
  - 31.2% from Social Security
  - 15.1% from DB plans

Baseline Scenario—Comments

Contrast with EBRI study

- Major differences:

	Hewitt Report	EBRI Study	Impact
Contributions	Actual data	Not always contributing	May overstate
Additional Loans	None	Allowed	May overstate
Additional Preretirement Withdrawals	None	Allowed	May overstate
At Job Cash-outs	Not applicable	Allowed	May overstate
Rate of Return on Investments	7%	Approx. 9.75%	May understate
Outside Assets	Excluded	Included	May understate

Baseline Scenario—Comments

Actuarial Assumptions Used

- Salary scale: 4%
  - Grading has no significant impact, so constant rate used
- Assumptions to convert DC balances to annuities:
  - Interest rate: 6%
  - Mortality Table: according to Revenue Ruling 2001-62[1]

[1]The Prevailing Commissioner's Standard Table unloaded, weighted 50% male and 50% female, with 8 years of mortality improvement

Baseline Scenario — Comments

Actuarial Assumptions Used(continued)

- Interest on DC balances: 7% annually
  - —Defined benefit funding assumption averages 8.29% for Hewitt clients (2001)
  - —401(k) participants may, over the long run, experience lower returns due to
    - Higher investment expenses
    - Lack of professional management
    - Conservative tendencies

Baseline Scenario—Comments

Actuarial Assumptions Used (continued)

- Employee 401(k) deferrals: 5.95% of pay on average for contributing participants
  - —Range from 3.53% to 9.38% (on average per employer)
- Retirement age: 65
  - —Typical retirement assumption
- Social Security: Starting at age 65
- Inflation: 3%
  - —Consensus forecast

Alternate Scenario 1—Impact of Employee Contribution Levels

Main assumptions:

— Retirement Age = 65

— Annual Interest on DC Balances = 7%

— Year-To-Date Asset Adjustment = -10% (DC only)

— ***Actual 401(k) Deferral Percentages, by Participant, increased by 2%***

Alternate Scenario 1—“Hot Zone”

Service at 1/1/2002

Age at 1/1/2002	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30+	35+	Total
Under 20									
20 - 24	23,916 $27,928 **132.7%**	1,734 $24,091 **119.7%**							25,650 $27,669 **131.8%**
25 – 29	42,665 $37,476 **127.1%**	14,743 $37,360 **118.2%**	1,106 $33,453 **121.0%**						58,514 $37,371 **124.7%**
30 – 34	40,157 $42,478 **111.1%**	24,517 $44,184 **112.9%**	11,778 $46,704 **119.8%**	900 $40,675 **118.5%**					77,352 $43,641 **113.1%**
35 – 39	34,134 $44,969 **95.3%**	21,456 $44,870 **98.7%**	19,317 $54,642 **115.0%**	9,746 $55,209 **120.3%**	1,353 $46,105 **115.6%**				86,006 $48,295 **103.7%**
40 – 44	29,939 $45,170 **82.7%**	18,653 $43,187 **86.4%**	16,578 $51,172 **102.0%**	14,832 $62,395 **113.2%**	13,173 $57,421 **115.8%**	1,238 $50,915 **114.7%**			94,413 $50,323 **96.6%**
45 – 49	23,164 $44,323 **74.1%**	14,952 $40,874 **78.1%**	13,110 $47,442 **91.7%**	11,080 $57,177 **104.3%**	14,598 $63,911 **110.3%**	10,035 $59,706 **114.0%**	806 $56,963 **112.9%**		87,745 $50,959 **92.1%**
50 – 54	17,182 $42,964 **66.0%**	10,939 $38,678 **70.5%**	9,811 $43,499 **83.8%**	7,993 $53,433 **95.5%**	9,172 $59,311 **99.3%**	9,548 $66,558 **106.4%**	7,147 $63,210 **112.6%**	608 $60,057 **118.1%**	72,400 $50,869 **87.0%**
55 – 59	10,228 $38,254 **60.3%**	6,819 $34,455 **64.0%**	5,884 $40,073 **75.4%**	4,450 $46,959 **86.5%**	4,528 $52,160 **89.8%**	3,647 $61,140 **94.3%**	4,552 $67,168 **102.1%**	2,388 $61,367 **108.8%**	42,496 $46,650 **79.0%**
60 – 64	4,478 $31,625 **58.2%**	3,648 $28,599 **62.0%**	2,693 $33,657 **71.1%**	1,758 $40,616 **77.1%**	1,694 $41,400 **82.7%**	1,096 $45,066 **84.1%**	890 $56,801 **89.7%**	1,216 $60,304 **100.9%**	17,473 $37,280 **71.5%**
65+									
Total	225,863 $40,546 **99.7%**	117,461 $41,015 **94.0%**	80,277 $48,159 **101.1%**	50,759 $55,972 **106.4%**	44,518 $58,450 **106.7%**	25,564 $61,416 **107.1%**	13,395 $63,753 **107.5%**	4,212 $60,871 **107.9%**	562,049 $46,197 **100.4%**

Legend

Count
Average Pay
Average Pay Replacement

	Count
Under 40%	0
40% – 59%	4,478
60% – 79%	97,267
80% – 89%	71,061
90% – 99%	89,512
100%+	299,731
Total	562,049

Alternate Scenario 1—Comments

- The longer an employee can save additional funds, the greater the impact on retirement income
  - —For employees age 20–24 with 5–9 years of service, the replacement ratio increases from 99.8% to 119.7% or a 20% increase
  - —For employees age 40–44 with 10–14 years of service, the replacement ratio increases from 94.8% to 102.0%, or a 7.5% increase

Alternate Scenario 2: Impact of Late Retirement

Main assumptions:

- ***Retirement Age = 67***
- Annual Interest on DC Balances = 7%
- Year-To-Date Asset Adjustment = -10% (DC only)
- Actual 401(k) Deferral Percentages, by Participant

Alternate Scenario 2—"Hot Zone"

Service at 1/1/2002

Age at 1/1/2002	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30+	35+	Total
Under 20									
20 - 24	23,916 $27,928 **127.3%**	1,734 $24,091 **112.0%**							25,650 $27,669 **126.3%**
25 – 29	42,665 $37,476 **125.4%**	14,743 $37,360 **115.4%**	1,106 $33,453 **114.2%**						58,514 $37,371 **122.7%**
30 – 34	40,157 $42,478 **111.4%**	24,517 $44,184 **113.1%**	11,778 $46,704 **120.4%**	900 $40,675 **119.9%**					77,352 $43,641 **113.4%**
35 – 39	34,134 $44,969 **96.9%**	21,456 $44,870 **100.1%**	19,317 $54,642 **116.4%**	9,746 $55,209 **122.2%**	1,353 $46,105 **116.9%**				86,006 $48,295 **105.2%**
40 – 44	29,939 $45,170 **86.6%**	18,653 $43,187 **89.9%**	16,578 $51,172 **106.0%**	14,832 $62,395 **118.2%**	13,173 $57,421 **120.6%**	1,238 $50,915 **116.3%**			94,413 $50,323 **100.7%**
45 – 49	23,164 $44,323 **79.9%**	14,952 $40,874 **83.2%**	13,110 $47,442 **97.2%**	11,080 $57,177 **110.3%**	14,598 $63,911 **116.3%**	10,035 $59,706 **118.5%**	806 $56,963 **117.9%**		87,745 $50,959 **97.7%**
50 – 54	17,182 $42,964 **73.4%**	10,939 $38,678 **77.7%**	9,811 $43,499 **91.9%**	7,993 $53,433 **104.0%**	9,172 $59,311 **107.2%**	9,548 $66,558 **114.4%**	7,147 $63,210 **119.9%**	608 $60,057 **123.8%**	72,400 $50,869 **94.6%**
55 – 59	10,228 $38,254 **68.9%**	6,819 $34,455 **72.6%**	5,884 $40,073 **85.1%**	4,450 $46,959 **97.3%**	4,528 $52,160 **99.8%**	3,647 $61,140 **104.0%**	4,552 $67,168 **110.7%**	2,388 $61,367 **116.2%**	42,496 $46,650 **88.1%**
60 – 64	4,478 $31,625 **67.3%**	3,648 $28,599 **71.2%**	2,693 $33,657 **81.9%**	1,758 $40,616 **88.4%**	1,694 $41,400 **93.1%**	1,096 $45,066 **93.8%**	890 $56,801 **100.1%**	1,216 $60,304 **109.4%**	17,473 $37,280 **81.2%**
65+	589 $27,322 **60.5%**	739 $22,103 **69.8%**	437 $24,098 **76.8%**	202 $34,834 **83.9%**	171 $31,232 **87.8%**	120 $35,057 **85.8%**	53 $52,989 **93.0%**	86 $62,071 **95.3%**	2,397 $28,239 **73.5%**
Total	226,452 $40,511 **101.2%**	118,200 $40,897 **96.4%**	80,714 $48,029 **105.1%**	50,961 $55,889 **112.0%**	44,689 $58,346 **113.1%**	25,684 $61,293 **113.6%**	13,448 $63,711 **115.3%**	4,298 $60,895 **114.9%**	564,446 $46,121 **103.7%**

Legend

Count
Average Pay
Average Pay Replacement

	Count
Under 40%	0
40% – 59%	0
60% – 79%	78,223
80% – 89%	74,372
90% – 99%	68,962
100%+	342,889
Total	564,446

Alternate Scenario 3: Impact of Early Retirement

Main assumptions:

- ***Retirement Age = 62***
- Annual Interest on DC Balances = 7%
- Year-To-Date Asset Adjustment = -10% (DC only)
- Actual 401(k) Deferral Percentages, by Participant

Alternate Scenario 3—“Hot Zone”

Age at 1/1/2002	Service at 1/1/2002 0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30+	35+	Total
Under 20									
20 - 24	23,916 $27,928 **92.4%**	1,734 $24,091 **80.7%**							25,650 $27,669 **91.6%**
25 – 29	42,665 $37,476 **90.4%**	14,743 $37,360 **82.8%**	1,106 $33,453 **82.6%**						58,514 $37,371 **88.3%**
30 – 34	40,157 $42,478 **79.5%**	24,517 $44,184 **82.1%**	11,778 $46,704 **86.3%**	900 $40,675 **84.9%**					77,352 $43,641 **81.4%**
35 – 39	34,134 $44,969 **68.5%**	21,456 $44,870 **70.8%**	19,317 $54,642 **84.6%**	9,746 $55,209 **89.2%**	1,353 $46,105 **85.4%**				86,006 $48,295 **75.3%**
40 – 44	29,939 $45,170 **60.2%**	18,653 $43,187 **62.8%**	16,578 $51,172 **76.2%**	14,832 $62,395 **85.5%**	13,173 $57,421 **88.2%**	1,238 $50,915 **86.5%**			94,413 $50,323 **71.7%**
45 – 49	23,164 $44,323 **54.2%**	14,952 $40,874 **56.8%**	13,110 $47,442 **68.6%**	11,080 $57,177 **79.7%**	14,598 $63,911 **85.2%**	10,035 $59,706 **87.9%**	806 $56,963 **88.3%**		87,745 $50,959 **69.2%**
50 – 54	17,182 $42,964 **49.1%**	10,939 $38,678 **52.6%**	9,811 $43,499 **64.1%**	7,993 $53,433 **74.2%**	9,172 $59,311 **77.7%**	9,548 $66,558 **84.2%**	7,147 $63,210 **89.9%**	608 $60,057 **94.7%**	72,400 $50,869 **67.0%**
55 – 59	10,228 $38,254 **45.4%**	6,819 $34,455 **48.7%**	5,884 $40,073 **58.6%**	4,450 $46,959 **68.2%**	4,528 $52,160 **71.1%**	3,647 $61,140 **75.5%**	4,552 $67,168 **83.0%**	2,388 $61,367 **90.0%**	42,496 $46,650 **62.0%**
60 – 64	2,874 $31,977 **43.6%**	2,077 $30,006 **47.8%**	1,399 $35,648 **56.6%**	951 $43,488 **63.6%**	998 $42,469 **67.8%**	621 $46,825 **70.1%**	629 $55,831 **75.5%**	867 $58,671 **85.9%**	10,416 $38,681 **57.4%**
65+									
Total	224,259 $40,614 **71.7%**	115,890 $41,208 **68.3%**	78,983 $48,432 **75.4%**	49,952 $56,275 **81.2%**	43,822 $58,745 **82.7%**	25,089 $61,769 **84.2%**	13,134 $63,845 **86.7%**	3,863 $60,556 **89.8%**	554,992 $46,337 **74.3%**

Legend

Count
Average Pay
Average Pay Replacement

		Count
Under 40%		0
40% – 59%		95,518
60% – 79%		227,907
80% – 89%		161,990
90% – 99%		69,577
100%+		0
Total		554,992

Alternate Scenarios 2 and 3—Comments

- Delayed retirement date helps increase replacement ratios about 12%–14%
  - — Virtually every group moves over 70%, except those 55 and older with low tenure
  - — Vast majority is over 85%
- Early retirement at age 62 is feasible only for employees with full careers under these (or comparable) plans, or outside assets

Conclusions

- Contributing employees of large U.S. employers are highly likely to have retirement income levels that are very close to their pre-retirement income
- Without the DC component (24.5% of the population considered for this study), replacement income levels drop dramatically
- The earlier additional contributions are made, and the longer retirement is deferred, the replacement ratio increases