

# Your Winning Retirement Plan

Henry K. Hebel

## Interlude – Index Fund Investments

At this point in the book you should be convinced that index funds should play a major part in your investment strategy. The book has mentioned investing in various index/ETF funds associated with the broad market, and we have mentioned how [Asset Allocation](#) (the way you divide your money among major investment categories like stocks, bonds, cash and other types of investments) and [Diversification](#) (spreading your money between different types of investments within each asset class) should play a key role in your retirement plans. The book helps you determine the appropriate Asset Allocation for your particular situation, but doesn't really give detailed information when it comes to how to diversify within these allocations. Just as a reminder, when we discuss Diversification we are talking about what equity sectors to invest in such as Large cap, Small cap, World Market, Real Estate, etc. We can slice and dice up markets in a multitude of ways (ie Large cap Value vs Large cap Momentum, Large cap Emerging, Large Cap International,....and so forth). Why are these various classifications identified? One big reason is that these sectors tend to have performance that run in cycles and many times these cycles between various sectors don't coincide. By adding diversification, we hope to add stability to our portfolio so that our portfolio performance will not be wholly dependent upon one sector alone and subject to the extreme gyrations of that sector.

Although there are a multitude of ways to divide equities, having too many sectors makes balancing and juggling our investments overly complicated with diminishing impact as the number of index funds in your portfolio grow. The [American Association of Individual Investors](#) (AAII) has researched this dilemma, and has a couple of presentations they have given on this topic:

- 2020-09-23 Paul Merriman: **Which Is the Best 1-, 2-, 3- and 4-Fund Strategy?**
  - [Recording](#) (MP4)
  - [Supporting Document](#) (PDF)
- 2020-10-22 Chris Pedersen: **Simple and Effective Balanced Portfolios for Lifetime Investing Success**
  - [Recording](#) (MP4)
  - [Supporting Document](#) (PDF)
- [Asset Allocation models to Maximize Your Returns](#)

These presentations are very informative in that they identify various approaches, and identify individual funds you can use to build your portfolio. I highly recommend you watch both of these presentations. The next few sections I summarize some of the key points and observations from these presentations.

## **Some Common Index Funds for various sectors:**

- **Large-cap stocks:** Vanguard 500 Index Admiral Shares (**VOO**)
- **Mid-cap stocks:** Vanguard Admiral Mid-Cap Index ETF (**VO**)
- **Small-cap stocks:** Vanguard Small Cap Index ETF (**VB**)
- **International stocks:** Vanguard Developed Markets Index ETF (**VEA**)
- **Emerging market stocks:** Vanguard Emerging Markets Stock ETF (**VWO**)
- **Intermediate-term bonds:** Vanguard Intermediate-Term Treasury ETF (**VGIT**)
- **Short-term bonds:** Vanguard Short-Term Treasury ETF (**VGSH**)

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Henry K. Hebeler

## Paul Merriman: Which Is the Best 1-, 2-, 3- and 4-Fund Strategy?

This presentation compares eleven investment strategies and shows how they would have performed over a ninety year period. It champions the 4 fund strategy and sets expectations for this approach. One of the biggest takeaways from this is that performance has a lot to do with pure luck over the short to mid-term (up to 20 years); this is in conflict with Hebeler's recommendation when reviewing the performance of your portfolio compared to the S&P 500. You need to decide if you will be content with following the S&P 500 index for your investment, or mix it up providing opportunity to (over the long hall) out perform the S&P 500 index with less volatility.

What Keeps Investors From Earning Best Return?

- Not enough time
- Not enough patience
- Not enough good luck
- Not enough sense of history

How to Prepare for Difficult Periods

- Start with believing upside potential
- Prepare for most obvious hurdle: losing periods
- Prepare for annual tracking error with benchmark
- Prepare for decades long tracking error

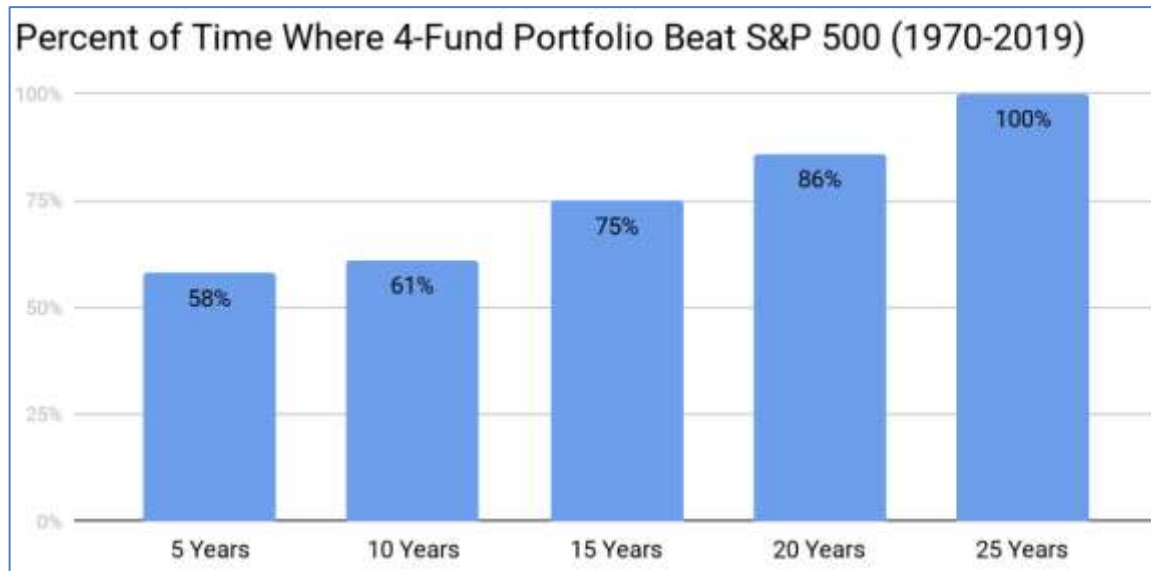
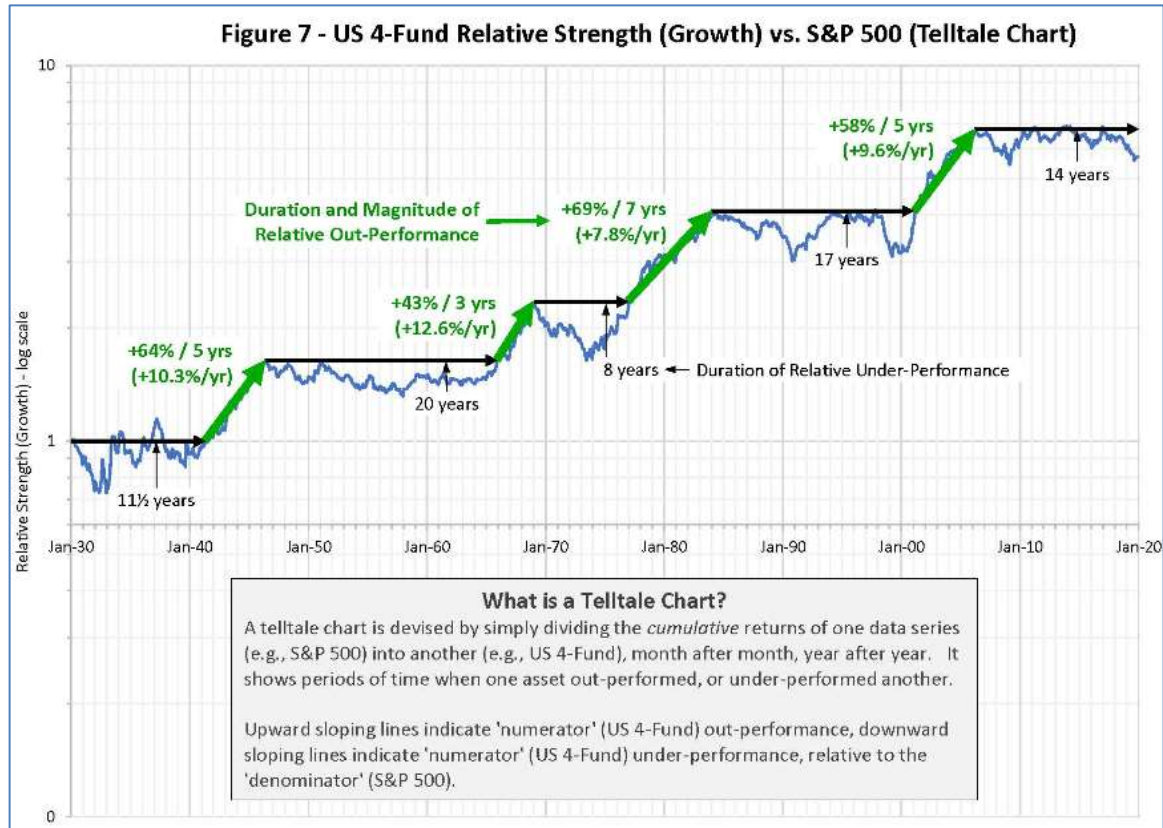
**Figure 1 - Annualized Asset Class Nominal Returns by Decade: 1930-2019**

*NOTE: Returns EXCLUDE the effect of Expense Ratios.*

	1930 -1939	1940 -1949	1950 -1959	1960 -1969	1970 -1979	1980 -1989	1990 -1999	2000 -2009	2010 -2019	1930 -2019
Long Term Gov't Bond	4.9%	US Small Cap Value 19.9%	US Small Cap Value 19.6%	US Small Cap Value 14.3%	US Small Cap Value 14.2%	US Large Cap Value 20.6%	S&P 500 18.2%	US Small Cap Value 12.5%	S&P 500 13.6%	US Small Cap Value 13.7%
US Small Cap Blend	2.3%	US Small Cap Blend 14.9%	4-Fund Combo 19.4%	US Small Cap Blend 13.0%	US Large Cap Value 12.1%	US Small Cap Value 20.2%	4-Fund Combo 17.0%	US Small Cap Blend 7.9%	4-Fund Combo 12.2%	US Small Cap Blend 12.2%
1-month Treasury Bill	0.6%	4-Fund Combo 14.3%	S&P 500 19.4%	4-Fund Combo 11.3%	4-Fund Combo 10.6%	4-Fund Combo 19.0%	US Large Cap Value 16.9%	Long Term Gov't Bond 7.7%	US Large Cap Value 12.0%	4-Fund Combo 11.9%
S&P 500	-0.1%	US Large Cap Value 12.7%	US Large Cap Value 19.2%	US Large Cap Value 9.5%	US Small Cap Blend 9.2%	S&P 500 17.5%	US Small Cap Value 16.5%	4-Fund Combo 6.0%	US Small Cap Blend 12.0%	US Large Cap Value 11.1%
4-Fund Combo	-0.8%	S&P 500 9.2%	US Small Cap Blend 19.2%	S&P 500 7.8%	1-month Treasury Bill 6.3%	US Small Cap Blend 16.9%	US Small Cap Blend 15.8%	US Large Cap Value 4.1%	US Small Cap Value 11.0%	S&P 500 9.8%
US Small Cap Value	-3.0%	Long Term Gov't Bond 3.2%	1-month Treasury Bill 1.9%	1-month Treasury Bill 3.9%	S&P 500 5.9%	Long Term Gov't Bond 12.6%	Long Term Gov't Bond 8.8%	1-month Treasury Bill 2.8%	Long Term Gov't Bond 7.6%	Long Term Gov't Bond 5.7%
US Large Cap Value	-4.8%	1-month Treasury Bill 0.4%	Long Term Gov't Bond -0.1%	Long Term Gov't Bond 1.4%	Long Term Gov't Bond 5.5%	1-month Treasury Bill 8.9%	1-month Treasury Bill 4.9%	S&P 500 -0.9%	1-month Treasury Bill 0.5%	1-month Treasury Bill 3.3%

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**Table 1 - No-Nonsense Portfolios for Sound Investing: Equity Asset Allocation**

	1-Fund Portfolios			2-Fund Portfolios			
	S&P 500 (Buffett)	Total US Market (J.L. Collins)	Total World Market	3-Fund - Equity only - (Bogleheads)	Total US + 30% US SCV (Fama/French)	Total World + 30% US SCV (Fama/French)	All Value US Only (Merriman)
<i>Dimensional Returns 2.0 Data Base Source</i>							
<b>US</b>							
Dimensional US Market Index		100%		70%	70%		
S&P 500 Index (US Large Cap Blend)	100%						
Dimensional US Large Cap Value Index							50%
Dimensional US Small Cap Index							
Dimensional US Small Cap Value Index					30%	30%	50%
Dow Jones US Select R&T Index							
<b>Int'l / Global</b>							
Dimensional International Market Index				30%			
Dimensional International Large Index							
Dimensional International Large Value Index							
Dimensional International Small Cap Index							
Dimensional International Small Cap Value Index							
Dimensional Global Market Index			100%			70%	

Note: All portfolios rebalanced annually.

	3-Fund	4-Fund Portfolios			
	Core 4 - Equity only - (Farr)	US Only 4-Fund (Merriman)	World 4-Fund (Trevett)	All Value World (Merriman)	Representative Expense Ratio applied to index
<i>Dimensional Returns 2.0 Data Base Source</i>					
<b>US</b>					
Dimensional US Market Index	60%				0.03%
S&P 500 Index (US Large Cap Blend)		25%	25%		0.03%
Dimensional US Large Cap Value Index		25%		25%	0.35%
Dimensional US Small Cap Index		25%			0.07%
Dimensional US Small Cap Value Index		25%	25%	25%	0.25%
Dow Jones US Select R&T Index	10%				0.12%
<b>Int'l / Global</b>					
Dimensional International Market Index	30%				0.11%
Dimensional International Large Index					0.05%
Dimensional International Large Value Index			25%	25%	0.39%
Dimensional International Small Cap Index			25%		0.39%
Dimensional International Small Cap Value Index				25%	0.38%
Dimensional Global Market Index					0.10%

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**Table 2a - No-Nonsense Portfolios for Sound Investing: Comparison Data**

1-Fund Portfolios (1990-2019)	S&P 500 (Buffett)	Total US Market (Collins)	Total World Market	2-Fund Portfolios (1990-2019)	3-Fund - Equity only - (Bogleheads)	Total US + 30% US SCV (Fama/French)	Total World + 30% US SCV (Fama/French)	All Value US Only (Merriman)
30 yr Growth of \$10K	\$172,616	\$185,357	\$83,605	30 yr Growth of \$10K	\$125,747	\$258,039	\$150,410	\$325,286
CAGR (90-19)	10.0%	10.2%	7.3%	CAGR (90-19)	8.8%	11.4%	9.5%	12.3%
(90-99)	18.2%	17.9%	11.0%	(90-99)	14.7%	17.8%	13.0%	16.7%
(00-09)	-0.9%	0.0%	1.1%	(00-09)	0.8%	4.0%	4.8%	8.4%
(10-19)	13.6%	13.5%	10.2%	(10-19)	11.4%	13.0%	10.7%	11.9%
Number of Up Yrs	24	24	21	Number of Up Yrs	22	24	22	23
Average Up Yr Gain	18.0%	18.3%	18.7%	Average Up Yr Gain	18.8%	19.4%	19.5%	23.3%
Sum of Up Yr Gains	431.0%	440.3%	392.5%	Sum of Up Yr Gains	413.3%	465.7%	428.1%	534.9%
Best Year	37.6%	36.9%	36.4%	Best Year	34.8%	41.8%	45.3%	51.8%
(1995)	(1995)	(1995)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)
Number of Down Yrs	6	6	9	Number of Down Yrs	8	6	8	7
Average Down Yr Loss	-14.6%	-14.7%	-13.8%	Average Down Yr Loss	-13.0%	-12.7%	-12.2%	-14.8%
Sum of Down Yr Losses	-87.6%	-88.1%	-124.4%	Sum of Down Yr Losses	-103.9%	-75.9%	-97.2%	-103.9%
Worst Year	-37.0%	-36.6%	-40.2%	Worst Year	-38.5%	-36.6%	-39.2%	-39.8%
(2008)	(2008)	(2008)	(2008)	(2008)	(2008)	(2008)	(2008)	(2008)
Std Dev (90-19)	17.2%	17.4%	17.5%	Std Dev (90-19)	17.1%	17.8%	17.6%	20.6%
(90-99)	17.2%	13.8%	13.3%	(90-99)	12.5%	14.6%	13.2%	18.5%
(00-09)	20.0%	20.5%	23.3%	(00-09)	22.1%	21.9%	23.5%	24.9%
(10-19)	11.6%	12.4%	12.9%	(10-19)	12.6%	13.4%	13.6%	16.8%

Note: All index return data has had a representative expense ratio subtracted. See Data Disclosure for details.

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**Table 3b - No-Nonsense Portfolios for Sound Investing: Annual Returns**

Year	1-Fund Portfolios			2-Fund Portfolios				3-Fund	4-Fund Portfolios		
	S&P 500 (Buffett)	Total US Market (Collins)	Total World Market	'3-Fund' - Equity only - (Bogleheads)	Total US + 30% US SCV (Fama/French)	Total World + 30% US SCV (Fama/French)	All Value US Only (Merriman)	Core 4 - Equity only - (Fenn)	US Only 4-Fund (Merriman)	World 4-Fund (TrevH)	All Value World (Merriman)
1990	-3.1%	-5.8%	-18.0%	-11.2%	-11.2%	-19.8%	-19.7%	-13.0%	-15.7%	-16.9%	-19.9%
1991	30.5%	34.5%	18.8%	27.2%	38.2%	27.2%	39.5%	26.1%	39.0%	22.9%	29.9%
1992	7.6%	9.7%	-5.2%	2.3%	17.2%	6.7%	25.9%	2.8%	20.8%	3.4%	13.9%
1993	10.1%	10.8%	20.7%	16.3%	15.3%	22.3%	23.9%	16.8%	19.6%	26.7%	28.6%
1994	1.3%	8.1%	5.5%	3.0%	0.9%	4.7%	2.6%	3.2%	1.5%	7.9%	6.6%
1995	17.6%	36.9%	19.8%	28.5%	35.2%	23.2%	36.0%	26.1%	35.2%	20.5%	27.0%
1996	23.0%	21.8%	12.8%	17.0%	23.0%	16.7%	26.4%	18.5%	24.5%	16.1%	20.7%
1997	33.4%	31.7%	15.4%	22.3%	33.9%	22.5%	38.6%	21.1%	34.0%	16.3%	26.1%
1998	28.6%	25.0%	20.9%	22.7%	15.9%	13.1%	1.6%	18.5%	7.3%	12.9%	4.6%
1999	21.0%	23.1%	27.8%	26.1%	18.6%	21.9%	8.3%	23.8%	15.1%	19.6%	12.5%
2000	-9.1%	-8.4%	-12.0%	-10.2%	0.3%	-2.3%	16.6%	6.2%	7.3%	2.5%	12.6%
2001	-11.9%	-10.8%	-15.7%	-14.0%	0.9%	-2.5%	15.5%	-11.7%	8.4%	-2.2%	8.5%
2002	-22.1%	21.5%	-18.0%	-18.9%	-17.1%	-14.7%	-9.7%	-16.4%	-13.7%	-10.4%	-7.8%
2003	28.7%	31.3%	36.4%	34.8%	41.8%	45.3%	51.8%	35.2%	46.9%	52.7%	54.8%
2004	10.9%	11.9%	16.8%	15.0%	15.5%	18.9%	21.6%	17.2%	19.0%	23.7%	24.8%
2005	4.9%	6.1%	11.3%	9.4%	6.5%	10.2%	8.6%	10.2%	7.3%	13.6%	12.5%
2006	15.8%	15.4%	20.0%	18.3%	17.3%	20.5%	21.9%	20.4%	19.8%	23.2%	24.2%
2007	5.5%	5.9%	9.1%	7.7%	0.7%	2.9%	-10.0%	5.4%	-4.7%	1.4%	-5.6%
2008	-37.0%	-38.8%	-40.2%	-38.5%	-36.6%	-39.2%	-39.8%	-38.8%	-38.2%	-41.9%	-41.8%
2009	26.5%	28.8%	32.0%	30.6%	35.2%	37.4%	39.4%	30.5%	36.0%	42.7%	42.8%
2010	15.1%	17.3%	14.3%	15.5%	21.4%	19.3%	25.7%	16.5%	24.0%	20.2%	22.9%
2011	2.1%	0.8%	-5.8%	-3.1%	-1.3%	-5.9%	-4.5%	-2.2%	-2.8%	-6.5%	-8.3%
2012	16.0%	16.2%	16.6%	16.4%	16.4%	16.6%	18.4%	16.5%	17.8%	17.8%	19.0%
2013	32.4%	35.1%	29.2%	31.2%	37.6%	33.2%	40.9%	27.8%	39.7%	31.5%	36.6%
2014	13.7%	11.8%	4.8%	7.1%	9.4%	4.4%	6.0%	9.1%	7.5%	1.3%	2.2%
2015	1.4%	0.3%	-0.4%	-0.2%	2.2%	2.7%	-6.5%	0.2%	4.2%	1.6%	5.2%
2016	12.0%	12.9%	8.8%	10.0%	20.2%	17.3%	30.7%	9.4%	24.9%	16.8%	25.0%
2017	21.8%	22.2%	23.6%	23.4%	17.7%	18.6%	11.5%	21.6%	14.5%	23.8%	16.4%
2018	-4.4%	5.1%	9.0%	7.9%	7.5%	10.3%	13.6%	7.8%	11.1%	13.4%	-15.0%
2019	31.5%	30.7%	27.8%	28.4%	27.0%	25.0%	23.2%	27.7%	25.3%	22.7%	22.1%
90-19	10.0%	10.2%	7.7%	8.8%	11.4%	9.5%	12.3%	8.9%	11.8%	9.7%	11.1%
90-99	18.2%	17.9%	11.0%	14.7%	17.8%	13.0%	16.7%	13.7%	17.1%	12.2%	14.0%
00-09	-0.9%	0.0%	1.1%	0.8%	4.0%	4.8%	8.4%	2.1%	6.1%	7.2%	7.8%
10-19	13.6%	13.5%	10.2%	11.4%	13.0%	10.7%	11.9%	11.3%	12.5%	9.9%	8.1%

Note: All index return data has had a representative expense ratio subtracted. See Data Disclosure for details.

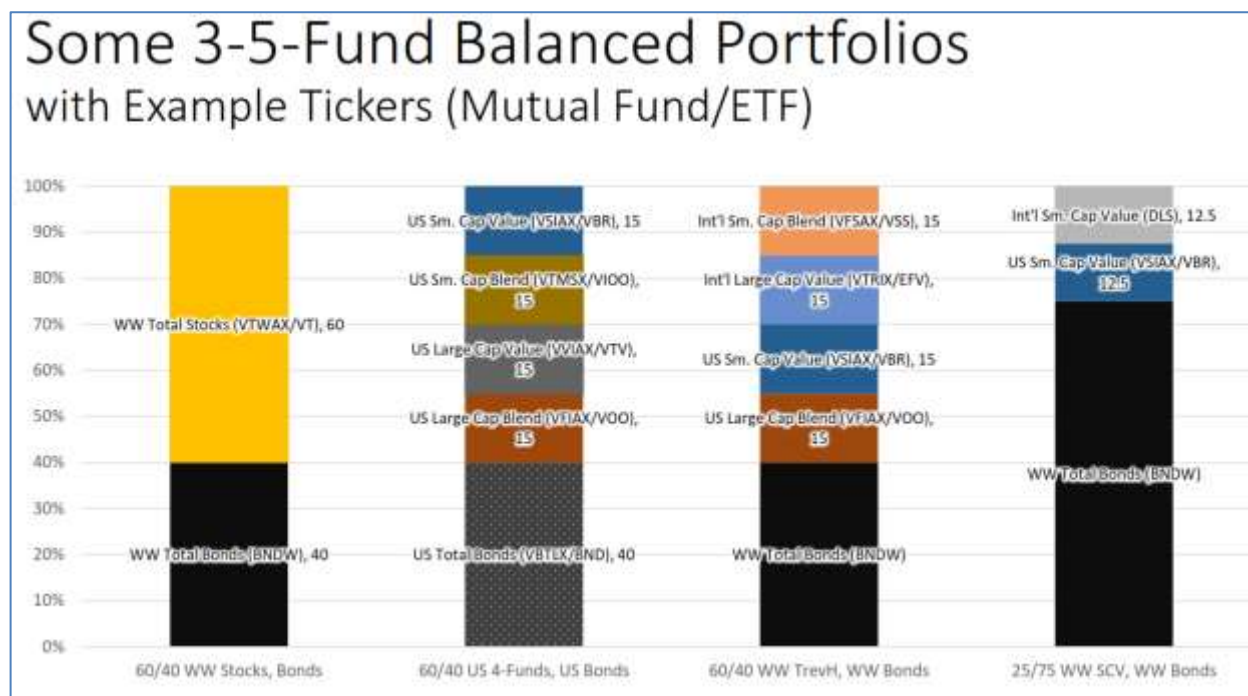
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## Chris Pedersen: Simple & Effective Balanced Portfolios for Lifetime Investing Success

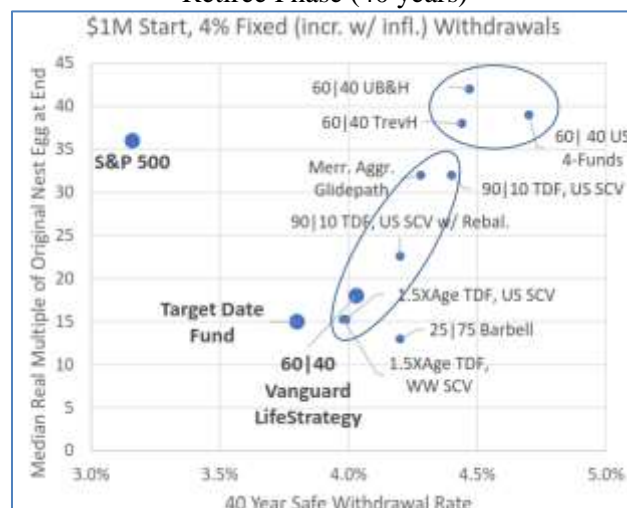
This presentation analyzes the risk/return of portfolios similar to the ones presented in Merrimans demonstration over a 40 year period. The goal is to maximize gain and minimize risk. Note, this presentation provides a number of great index funds that represent the various sectors (see image below)



### Accumulation Phase (40 years)



### Retiree Phase (40 years)



Conclusion: These presentations provide a broad overview of a few different approaches to take to create a simplified portfolio that may perform better with less risk over long time periods than a simple S&P 500 index, but the investor who decides to follow this approach must accept that their portfolio may not perform well for extended periods of time! Ultimately, the portfolio you select will not impact the mechanics of the application of your successful retirement plan presented in this book.

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## Chapter 5: Preretirement Planning

At this point we have reviewed the first three elements of a retirement plan:

1. **Allocation** – You have chosen the appropriate allocation of securities that fit your needs, risk tolerance and cash requirements.
2. **Vehicles** – You have selected the appropriate vehicles for your tax requirements.
3. **Place Investments** – You have identified individual investments and placed them in the appropriate investment Vehicle.

This chapter will now help you assess when you can afford to retire, how much you will need to save each year to meet your retirement goals. A planning system will be introduced to show a path to reaching your retirement goals and adjust the plan as market conditions change. This is accomplished through a Gate system as summarized below:

- Gate 1: **Quick and Dirty** – Provide a rough idea of your future retirement income by considering both your current retirement investments and the amount you are saving annually.
- Gate 2: **Assess Your Future Needs** – Determine how much you need on an annual basis in retirement as well as a rough estimate of infrequent expenses such as a new car.
- Gate 3: **Estimating Fixed Income Streams** – Identify resources that do not come from savings such as Social Security, Pensions, and Annuities.
- Gate 4: **Retirement Autopilot** – A detailed analysis using the retirement autopilot to calculate how much you should save on an annual basis.
- Gate 5: **Just before Retirement** – Nailing down your future retirement date.

## Chapter Summary

This chapter is where the rubber hits the road. We are introduced to a number of worksheets used to determine your current retirement situation, how to determine your future needs, and finally how to determine the type of lifestyle to expect in retirement. We also discuss how to evaluate an early retirement offer if your company offers you one. Finally, this chapter discusses options on what you might consider to meet the lifestyle you want in retirement if your current situation doesn't appear to support the lifestyle in retirement you would like.

## References and Resources

- Social Security Administration [Website](#)
  - [Retirement Benefits Estimator](#)
- ArtCentrics
  - [Chapter 5 Spreadsheets](#)
    - Figure 5.1 Quick and Dirty
    - Figure 5.11 Top-Down
    - Figure 5.12 Bottom-Up
  - [What you should know about Social Security](#)

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## Gate 1: Quick and Dirty

To perform this analysis you will need the following information:

- Total of your retirement investments
- Yearly Savings
- Social Security statement

This worksheet can be used to approximate your before-taxes income in retirement.

Ref: [Chapter 5 Spreadsheets](#): 5.1 Quick and Dirty tab

Figure 5.1

### Use Quick and Dirty to Estimate Your Retirement Income (Figure 5.1)

Line	Item	Value	Comments
1	Retirement Investments		
2	Current annual wages		
3	Investments divided by wages		Line 1 divided by Line 2
4	Annual savings		Do not include returns from investments
5	Annual savings as % of annual wages		100 times Line 4 divided by Line 2
6	Years until retire		
7	Aggressive, Moderate or Conservative Investor		
8	Investment Factor		Example: Figure 5.4 for 9 years, Moderate provides 0.52 value
9	Annual Investment Income		Line 2 times Line 8
10	Annual Social Security & COLA pension		
11	Annual fixed pension times current age as %		Example: \$10,000 x 56% = \$5,600
12	Estimated retirement income		Line 9 plus Line 10 plus Line 11

- Line 01: **Retirement Investments** - Enter the current balance of any investments you expect to use for retirement.
- Line 02: **Current annual wages** - Enter yearly gross (before taxes) income from your work paycheck. Also include other sources of income including Alimony, Child Support, Government support, Annuity/pension payments. Do Not include interest, dividends or rent in this calculation.
- Line 03: **Investments divided by wages** – Calculation; Divide Retirement Investments (Line 1) by Current annual wages (Line 2).
- Line 04: **Annual savings** – Your annual additions to investments includes only savings that come from wages and employer matching funds. Do not include any savings that you might be making from interest, dividends or rent payments.
- Line 05: **Annual savings as % of annual wages** – Calculation; Annual savings (Line 4) divided by Current annual wages (Line 2) times 100.
- Line 06: **Years until retire** – This value restricted to the following values 3,6,9,12,15,20,25,30 due to lookup table limitations. If your estimated year is not in this set, Review the lookup values for tables before and after your target years, and make an approximation of what value to use.
- Line 07: **Investor Classification** – Classify what type of investor you are using the following guidelines:



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Henry K. Hebel

- Aggressive – 75% Stocks before retirement, 60% Stocks during retirement
- Moderate – 50% Stocks before retirement, 40% Stocks during retirement
- Conservative – 25% Stocks before retirement, 20% Stocks during retirement
- Line 08: **Investment Factor** – Utilizing Annual savings as % of annual wages (Line 05), Years until retire (Line 06) and your Investor Classification (Line 07) to locate the appropriate lookup table in figures 5.2 – 5.9 to obtain the Investment Factor to enter in this line.
- Line 09: **Annual Investment Income** – Calculation; This represents the annual before tax retirement income from investments and is calculated by multiplying Current annual wages (Line 02) by the Investment Factor (Line 08).
- Line 10: **Annual Social Security & Cola Pension** – You can obtain your estimated Social Security Income from the Social Security Administration website. Also include any Annuities/Pensions that include Cost of Living (COLA) Adjustments. Do NOT include Pensions/annuities that do NOT include COLA adjustments.
- Line 11: **Annual fixed pension times current age as %** - This is where you would include pension/annuities that do not have COLA associated with them. Multiple this value by your age as a percentage.
- Line 12: **Estimated Retirement Income**: Calculation; The sum of all retirement income includes Annual Investment Income (Line 09), Annual Social Security & COLA pension income (Line 10) and Annual fixed pension times current age as % income (Line 11). This is your before taxes estimated annual retirement income and represents a 80% chance of your funds lasting 25 years in retirement of all possible scenarios from 1926 to 2000.

After completing this worksheet if you discover the amount of income is less than what you think you need for retirement you have three options:

- Retire at an older age or take a part time job in retirement
- Try to save more money each year
- Consider how you might make adjustments to your retirement lifestyle to decrease income needed in retirement.

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Figure 5.2 – 5.9

3 Years Until Retirement								
Investment Factors								
Investments Divided by Wages	AGGRESSIVE							
	Annual Savings as % of Wages							
	3%	6%	9%	12%	15%	18%	21%	24%
1	0.06	0.07	0.07	0.08	0.08	0.09	0.09	0.10
2	0.12	0.13	0.13	0.14	0.14	0.15	0.15	0.16
4	0.24	0.25	0.25	0.26	0.26	0.27	0.27	0.28
6	0.36	0.37	0.37	0.38	0.38	0.38	0.39	0.39
8	0.48	0.48	0.49	0.49	0.50	0.50	0.51	0.51
10	0.60	0.60	0.61	0.61	0.62	0.62	0.63	0.63
12	0.72	0.72	0.73	0.73	0.74	0.74	0.75	0.75
16	0.95	0.96	0.96	0.97	0.97	0.98	0.98	0.99
20	1.19	1.20	1.20	1.21	1.21	1.21	1.22	1.22
Investments Divided by Wages	MODERATE							
	Annual Savings as % of Wages							
	3%	6%	9%	12%	15%	18%	21%	24%
1	0.06	0.06	0.07	0.07	0.08	0.08	0.08	0.09
2	0.11	0.12	0.12	0.12	0.13	0.13	0.14	0.14
4	0.22	0.22	0.23	0.23	0.24	0.24	0.24	0.25
6	0.32	0.33	0.33	0.34	0.34	0.35	0.35	0.36
8	0.43	0.44	0.44	0.44	0.45	0.45	0.46	0.46
10	0.54	0.54	0.55	0.55	0.56	0.56	0.57	0.57
12	0.64	0.65	0.65	0.66	0.66	0.67	0.67	0.68
16	0.86	0.86	0.87	0.87	0.88	0.88	0.89	0.89
20	1.07	1.08	1.08	1.09	1.09	1.09	1.10	1.10
Investments Divided by Wages	CONSERVATIVE							
	Annual Savings as % of Wages							
	3%	6%	9%	12%	15%	18%	21%	24%
1	0.05	0.06	0.06	0.07	0.07	0.07	0.08	0.08
2	0.10	0.11	0.11	0.11	0.12	0.12	0.13	0.13
4	0.20	0.20	0.21	0.21	0.21	0.22	0.22	0.23
6	0.29	0.30	0.30	0.31	0.31	0.32	0.32	0.32
8	0.39	0.40	0.40	0.40	0.41	0.41	0.42	0.42
10	0.49	0.49	0.50	0.50	0.51	0.51	0.51	0.52
12	0.59	0.59	0.59	0.60	0.60	0.61	0.61	0.62
16	0.78	0.78	0.79	0.79	0.80	0.80	0.80	0.81
20	0.97	0.98	0.98	0.99	0.99	0.99	1.00	1.00
FIGURE 5.2 Find your investment factor if you are 3 years from retirement.								
6 Years Until Retirement								
Investment Factors								
Investments Divided by Wages	AGGRESSIVE							
	Annual Savings as % of Wages							
	3%	6%	9%	12%	15%	18%	21%	24%
1	0.08	0.09	0.10	0.11	0.12	0.13	0.14	0.15
2	0.15	0.16	0.17	0.18	0.19	0.20	0.21	0.22
4	0.29	0.30	0.31	0.32	0.33	0.34	0.35	0.36
6	0.42	0.43	0.44	0.45	0.46	0.47	0.49	0.50
7	0.49	0.50	0.51	0.52	0.53	0.54	0.55	0.56
8	0.56	0.57	0.58	0.59	0.60	0.61	0.62	0.63
10	0.70	0.71	0.72	0.73	0.74	0.75	0.76	0.77
12	0.83	0.84	0.86	0.87	0.88	0.89	0.90	0.91
14	0.97	0.98	0.99	1.00	1.01	1.02	1.03	1.04
Investments Divided by Wages	MODERATE							
	Annual Savings as % of Wages							
	3%	6%	9%	12%	15%	18%	21%	24%
1	0.07	0.08	0.09	0.10	0.11	0.12	0.13	0.13
2	0.13	0.14	0.15	0.16	0.17	0.17	0.18	0.19
4	0.25	0.25	0.26	0.27	0.28	0.29	0.30	0.31
6	0.36	0.37	0.38	0.39	0.40	0.41	0.42	0.43
8	0.48	0.49	0.50	0.51	0.52	0.53	0.54	0.55
10	0.60	0.61	0.62	0.63	0.64	0.65	0.66	0.67
12	0.72	0.73	0.74	0.75	0.76	0.76	0.77	0.78
15	0.89	0.90	0.91	0.92	0.93	0.94	0.95	0.96
18	1.07	1.08	1.09	1.10	1.11	1.12	1.13	1.14
Investments Divided by Wages	CONSERVATIVE							
	Annual Savings as % of Wages							
	3%	6%	9%	12%	15%	18%	21%	24%
1	0.06	0.07	0.08	0.09	0.09	0.10	0.11	0.12
2	0.11	0.12	0.13	0.14	0.15	0.16	0.16	0.17
4	0.22	0.22	0.23	0.24	0.25	0.26	0.27	0.28
6	0.32	0.33	0.34	0.34	0.35	0.36	0.37	0.38
8	0.42	0.43	0.44	0.45	0.46	0.47	0.47	0.48
10	0.53	0.53	0.54	0.55	0.56	0.57	0.58	0.59
12	0.63	0.64	0.65	0.66	0.66	0.67	0.68	0.69
16	0.84	0.85	0.85	0.86	0.87	0.88	0.89	0.90
20	1.04	1.05	1.06	1.07	1.08	1.09	1.10	1.10
FIGURE 5.3 Find your investment factor if you are 6 years from retirement.								

# Your Winning Retirement Plan

Henry K. Hebeler

## 9 Years Until Retirement

### Investment Factors

		AGGRESSIVE							
		Annual Savings as % of Wages							
Investments	Divided by	3%	6%	9%	12%	15%	18%	21%	24%
Wages									
1		0.10	0.11	0.13	0.15	0.16	0.18	0.20	0.22
2		0.18	0.19	0.21	0.23	0.24	0.26	0.28	0.29
3		0.26	0.27	0.29	0.31	0.32	0.34	0.36	0.37
4		0.33	0.35	0.37	0.39	0.40	0.42	0.44	0.45
5		0.41	0.43	0.45	0.47	0.48	0.50	0.52	0.53
6		0.49	0.51	0.53	0.54	0.56	0.58	0.60	0.61
8		0.65	0.67	0.69	0.70	0.72	0.74	0.75	0.77
10		0.81	0.83	0.85	0.86	0.88	0.90	0.91	0.93
12		0.97	0.99	1.00	1.02	1.04	1.06	1.07	1.09

		MODERATE							
		Annual Savings as % of Wages							
Investments	Divided by	3%	6%	9%	12%	15%	18%	21%	24%
Wages									
1		0.08	0.10	0.11	0.13	0.14	0.15	0.17	0.18
2		0.15	0.16	0.18	0.19	0.21	0.22	0.24	0.25
3		0.21	0.23	0.24	0.26	0.27	0.29	0.30	0.32
5		0.34	0.36	0.37	0.39	0.40	0.42	0.43	0.45
7		0.47	0.49	0.50	0.52	0.53	0.55	0.56	0.58
9		0.60	0.62	0.63	0.65	0.66	0.68	0.69	0.71
11		0.73	0.75	0.76	0.78	0.79	0.81	0.82	0.84
13		0.86	0.88	0.89	0.91	0.92	0.94	0.95	0.97
15		0.99	1.01	1.02	1.04	1.05	1.07	1.08	1.10

		CONSERVATIVE							
		Annual Savings as % of Wages							
Investments	Divided by	3%	6%	9%	12%	15%	18%	21%	24%
Wages									
1		0.07	0.08	0.10	0.11	0.12	0.14	0.15	0.16
3		0.18	0.19	0.21	0.22	0.23	0.25	0.26	0.27
5		0.29	0.30	0.32	0.33	0.34	0.36	0.37	0.38
7		0.40	0.41	0.43	0.44	0.45	0.47	0.48	0.49
9		0.51	0.52	0.54	0.55	0.56	0.58	0.59	0.60
11		0.62	0.63	0.65	0.66	0.67	0.69	0.70	0.71
13		0.73	0.74	0.76	0.77	0.78	0.80	0.81	0.83
15		0.84	0.86	0.87	0.88	0.90	0.91	0.92	0.94
17		0.95	0.97	0.98	0.99	1.01	1.02	1.03	1.05

FIGURE 5.4 Find your investment factor if you are 9 years from retirement.

## 12 Years Until Retirement

### Investment Factors

		AGGRESSIVE							
		Annual Savings as % of Wages							
Investments	Divided by	3%	6%	9%	12%	15%	18%	21%	24%
Wages									
0		0.02	0.05	0.07	0.10	0.12	0.15	0.17	0.20
1		0.12	0.14	0.17	0.19	0.21	0.24	0.26	0.29
2		0.21	0.23	0.26	0.28	0.31	0.33	0.36	0.38
3		0.30	0.32	0.35	0.37	0.40	0.42	0.45	0.47
4		0.39	0.42	0.44	0.47	0.49	0.51	0.54	0.56
5		0.48	0.51	0.53	0.56	0.58	0.61	0.63	0.66
7		0.67	0.69	0.72	0.74	0.77	0.79	0.82	0.84
8		0.76	0.78	0.81	0.83	0.86	0.88	0.91	0.93
9		0.85	0.88	0.90	0.93	0.95	0.97	1.00	1.02

		MODERATE							
		Annual Savings as % of Wages							
Investments	Divided by	3%	6%	9%	12%	15%	18%	21%	24%
Wages									
0		0.02	0.04	0.06	0.08	0.11	0.13	0.15	0.17
1		0.09	0.11	0.14	0.16	0.18	0.20	0.22	0.24
2		0.17	0.19	0.21	0.23	0.25	0.27	0.29	0.31
4		0.31	0.33	0.35	0.37	0.39	0.41	0.44	0.46
6		0.45	0.47	0.50	0.52	0.54	0.56	0.58	0.60
8		0.60	0.62	0.64	0.66	0.68	0.70	0.72	0.74
10		0.74	0.76	0.78	0.80	0.83	0.85	0.87	0.89
12		0.89	0.91	0.93	0.95	0.97	0.99	1.01	1.03
15		1.10	1.12	1.14	1.17	1.19	1.21	1.23	1.25

		CONSERVATIVE							
		Annual Savings as % of Wages							
Investments	Divided by	3%	6%	9%	12%	15%	18%	21%	24%
Wages									
0		0.02	0.04	0.06	0.07	0.09	0.11	0.13	0.15
1		0.08	0.10	0.11	0.13	0.15	0.17	0.19	0.21
2		0.14	0.15	0.17	0.19	0.21	0.23	0.25	0.27
4		0.25	0.27	0.29	0.31	0.33	0.35	0.37	0.38
6		0.37	0.39	0.41	0.43	0.45	0.46	0.48	0.50
8		0.49	0.51	0.53	0.55	0.56	0.58	0.60	0.62
12		0.73	0.74	0.76	0.78	0.80	0.82	0.84	0.86
16		0.96	0.98	1.00	1.02	1.04	1.05	1.07	1.09
20		1.20	1.22	1.23	1.25	1.27	1.29	1.31	1.33

FIGURE 5.5 Find your investment factor if you are 12 years from retirement.

# Your Winning Retirement Plan

Henry K. Hebler

## 15 Years Until Retirement

### Investment Factors

Investments Divided by Wages		AGGRESSIVE Annual Savings as % of Wages							
		3%	6%	9%	12%	15%	18%	21%	24%
0		0.03	0.07	0.10	0.13	0.17	0.20	0.23	0.27
1		0.14	0.17	0.21	0.24	0.27	0.31	0.34	0.37
2		0.25	0.28	0.31	0.35	0.38	0.41	0.45	0.48
3		0.35	0.39	0.42	0.45	0.49	0.52	0.55	0.58
4		0.46	0.49	0.53	0.56	0.59	0.62	0.66	0.69
5		0.57	0.60	0.63	0.67	0.70	0.73	0.76	0.80
6		0.67	0.71	0.74	0.77	0.80	0.84	0.87	0.90
7		0.78	0.81	0.84	0.88	0.91	0.94	0.98	1.01
8		0.89	0.92	0.95	0.98	1.02	1.05	1.08	1.12

Investments Divided by Wages		MODERATE Annual Savings as % of Wages							
		3%	6%	9%	12%	15%	18%	21%	24%
0		0.03	0.06	0.08	0.11	0.14	0.17	0.19	0.22
1		0.11	0.14	0.16	0.19	0.22	0.25	0.27	0.30
2		0.19	0.21	0.24	0.27	0.30	0.33	0.35	0.38
3		0.27	0.29	0.32	0.35	0.38	0.41	0.43	0.46
5		0.43	0.45	0.48	0.51	0.54	0.56	0.59	0.62
7		0.59	0.61	0.64	0.67	0.70	0.72	0.75	0.78
9		0.74	0.77	0.80	0.83	0.86	0.88	0.91	0.94
11		0.90	0.93	0.96	0.99	1.02	1.04	1.07	1.10
13		1.06	1.09	1.12	1.15	1.17	1.20	1.23	1.26

Investments Divided by Wages		CONSERVATIVE Annual Savings as % of Wages							
		3%	6%	9%	12%	15%	18%	21%	24%
0		0.02	0.05	0.07	0.10	0.12	0.14	0.17	0.19
1		0.09	0.11	0.13	0.16	0.18	0.21	0.23	0.25
2		0.15	0.17	0.20	0.22	0.25	0.27	0.29	0.32
4		0.28	0.30	0.32	0.35	0.37	0.40	0.42	0.44
6		0.40	0.43	0.45	0.47	0.50	0.52	0.54	0.57
9		0.59	0.61	0.64	0.66	0.69	0.71	0.73	0.76
12		0.78	0.80	0.83	0.85	0.87	0.90	0.92	0.95
15		0.97	0.99	1.02	1.04	1.06	1.09	1.11	1.14
18		1.16	1.18	1.20	1.23	1.25	1.28	1.30	1.32

FIGURE 5.6 Find your investment factor if you are 15 years from retirement.

## 20 Years Until Retirement

### Investment Factors

Investments Divided by Wages		AGGRESSIVE Annual Savings as % of Wages							
		3%	6%	9%	12%	15%	18%	21%	24%
0		0.05	0.10	0.15	0.20	0.25	0.30	0.36	0.41
0.5		0.12	0.17	0.22	0.27	0.32	0.37	0.42	0.47
1		0.19	0.24	0.29	0.34	0.39	0.44	0.49	0.54
1.5		0.25	0.31	0.36	0.41	0.46	0.51	0.56	0.61
2		0.32	0.37	0.42	0.48	0.53	0.58	0.63	0.68
3		0.46	0.51	0.56	0.61	0.66	0.71	0.76	0.81
4		0.59	0.65	0.70	0.75	0.80	0.85	0.90	0.95
5		0.73	0.78	0.83	0.88	0.93	0.98	1.04	1.09
6		0.87	0.92	0.97	1.02	1.07	1.12	1.17	1.22

Investments Divided by Wages		MODERATE Annual Savings as % of Wages							
		3%	6%	9%	12%	15%	18%	21%	24%
0		0.04	0.08	0.12	0.16	0.20	0.24	0.28	0.32
1		0.13	0.18	0.22	0.26	0.30	0.34	0.38	0.42
2		0.23	0.27	0.31	0.35	0.39	0.43	0.47	0.51
3		0.32	0.36	0.40	0.44	0.49	0.53	0.57	0.61
4		0.42	0.46	0.50	0.54	0.58	0.62	0.66	0.70
5		0.51	0.55	0.59	0.63	0.67	0.71	0.75	0.80
6		0.61	0.65	0.69	0.73	0.77	0.81	0.85	0.89
8		0.79	0.83	0.88	0.92	0.96	1.00	1.04	1.08
10		0.98	1.02	1.06	1.10	1.14	1.19	1.23	1.27

Investments Divided by Wages		CONSERVATIVE Annual Savings as % of Wages							
		3%	6%	9%	12%	15%	18%	21%	24%
0		0.03	0.07	0.10	0.14	0.17	0.20	0.24	0.27
1		0.10	0.14	0.17	0.21	0.24	0.27	0.31	0.34
2		0.17	0.21	0.24	0.28	0.31	0.34	0.38	0.41
3		0.24	0.28	0.31	0.35	0.38	0.41	0.45	0.48
5		0.38	0.42	0.45	0.49	0.52	0.55	0.59	0.62
7		0.52	0.56	0.59	0.63	0.66	0.69	0.73	0.76
9		0.67	0.70	0.73	0.77	0.80	0.83	0.87	0.90
12		0.88	0.91	0.94	0.98	1.01	1.04	1.08	1.11
16		1.16	1.19	1.22	1.26	1.29	1.33	1.36	1.39

FIGURE 5.7 Find your investment factor if you are 20 years from retirement.



# Your Winning Retirement Plan

Henry K. Hebel

## 25 Years Until Retirement

### Investment Factors

Investments Divided by Wages		AGGRESSIVE Annual Savings as % of Wages							
		3%	6%	9%	12%	15%	18%	21%	24%
0		0.07	0.15	0.22	0.29	0.37	0.44	0.51	0.59
0.5		0.16	0.23	0.31	0.38	0.45	0.53	0.60	0.67
1		0.25	0.32	0.39	0.47	0.54	0.61	0.69	0.76
1.5		0.33	0.41	0.48	0.55	0.63	0.70	0.77	0.85
2		0.42	0.49	0.57	0.64	0.71	0.79	0.86	0.93
2.5		0.51	0.58	0.65	0.73	0.80	0.87	0.95	1.02
3		0.59	0.67	0.74	0.81	0.89	0.96	1.03	1.11
3.5		0.68	0.75	0.83	0.90	0.97	1.05	1.12	1.19
4		0.77	0.84	0.91	0.99	1.06	1.13	1.21	1.28

Investments Divided by Wages		MODERATE Annual Savings as % of Wages							
		3%	6%	9%	12%	15%	18%	21%	24%
0		0.06	0.11	0.17	0.22	0.28	0.33	0.39	0.45
1		0.17	0.22	0.28	0.33	0.39	0.45	0.50	0.56
2		0.28	0.33	0.39	0.45	0.50	0.56	0.61	0.67
3		0.39	0.45	0.50	0.56	0.61	0.67	0.72	0.78
4		0.50	0.56	0.61	0.67	0.72	0.78	0.83	0.89
5		0.61	0.67	0.72	0.78	0.83	0.89	0.95	1.00
6		0.72	0.78	0.83	0.89	0.95	1.00	1.06	1.11
8		0.95	1.00	1.06	1.11	1.17	1.22	1.28	1.34
10		1.17	1.22	1.28	1.34	1.39	1.45	1.50	1.56

Investments Divided by Wages		CONSERVATIVE Annual Savings as % of Wages							
		3%	6%	9%	12%	15%	18%	21%	24%
0		0.04	0.09	0.13	0.18	0.22	0.27	0.31	0.36
1		0.12	0.17	0.21	0.26	0.30	0.35	0.39	0.44
2		0.20	0.25	0.29	0.34	0.38	0.43	0.47	0.51
3		0.28	0.32	0.37	0.41	0.46	0.50	0.55	0.59
4		0.36	0.40	0.45	0.49	0.54	0.58	0.63	0.67
6		0.51	0.56	0.60	0.65	0.69	0.74	0.78	0.83
9		0.75	0.79	0.84	0.88	0.93	0.97	1.02	1.06
12		0.98	1.03	1.07	1.12	1.16	1.21	1.25	1.30
15		1.22	1.26	1.31	1.35	1.40	1.44	1.49	1.53

**FIGURE 5.8** Find your investment factor if you are 25 years from retirement.

## 30 Years Until Retirement

### Investment Factors

Investments Divided by Wages		AGGRESSIVE Annual Savings as % of Wages							
		3%	6%	9%	12%	15%	18%	21%	24%
1		0.32	0.43	0.53	0.63	0.73	0.83	0.94	1.04
2		0.54	0.65	0.75	0.85	0.95	1.06	1.16	1.26
3		0.77	0.87	0.97	1.07	1.17	1.28	1.38	1.48
6		1.43	1.53	1.63	1.74	1.84	1.94	2.04	2.14
9		2.09	2.20	2.30	2.40	2.50	2.60	2.71	2.81
12		2.76	2.86	2.96	3.06	3.17	3.27	3.37	3.47
15		3.42	3.52	3.63	3.73	3.83	3.93	4.04	4.14
16		3.64	3.75	3.85	3.95	4.05	4.15	4.26	4.36
3		0.77	0.87	0.97	1.07	1.17	1.28	1.38	1.48

Investments Divided by Wages		MODERATE Annual Savings as % of Wages							
		3%	6%	9%	12%	15%	18%	21%	24%
0		0.07	0.15	0.22	0.29	0.37	0.44	0.51	0.59
1		0.21	0.28	0.35	0.43	0.50	0.57	0.65	0.72
2		0.34	0.41	0.48	0.56	0.63	0.70	0.78	0.85
3		0.47	0.54	0.62	0.69	0.76	0.84	0.91	0.98
4		0.60	0.67	0.75	0.82	0.89	0.97	1.04	1.11
5		0.73	0.81	0.88	0.95	1.03	1.10	1.17	1.25
6		0.86	0.94	1.01	1.08	1.16	1.23	1.30	1.38
7		0.99	1.07	1.14	1.22	1.29	1.36	1.44	1.51
8		1.13	1.20	1.27	1.35	1.42	1.49	1.57	1.64

Investments Divided by Wages		CONSERVATIVE Annual Savings as % of Wages							
		3%	6%	9%	12%	15%	18%	21%	24%
0		0.06	0.11	0.17	0.23	0.29	0.34	0.40	0.46
1		0.14	0.20	0.26	0.32	0.37	0.43	0.49	0.54
2		0.23	0.29	0.35	0.40	0.46	0.52	0.57	0.63
3		0.32	0.38	0.43	0.49	0.55	0.60	0.66	0.72
4		0.41	0.46	0.52	0.58	0.63	0.69	0.75	0.81
6		0.58	0.64	0.69	0.75	0.81	0.87	0.92	0.98
9		0.84	0.90	0.96	1.01	1.07	1.13	1.18	1.24
12		1.10	1.16	1.22	1.27	1.33	1.39	1.45	1.50
15		1.37	1.42	1.48	1.54	1.59	1.65	1.71	1.76

**FIGURE 5.9** Find your investment factor if you are 30 years from retirement.

# Your Winning Retirement Plan

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## Gate 2: Assess Your Future Needs

This section is devoted to determining how much you will need to save for retirement. Your retirement needs are broken down into two categories:

- **Reoccurring Annual Expenses** – Regular expenses that you anticipate reoccur on a regular basis (i.e. Insurance, electricity bills, Gym membership, prescriptions, etc.).
- **Infrequent Expenses** – Non reoccurring expenses such as purchasing a new house or car, roof repair, big vacation etc.

Once these expenses have been identified you are ready to proceed with determining your savings requirements. There are four methods provided in this section ranging from easiest (and least accurate) to most complex (and accurate).

**The 70% Approximation** Many programs and guides suggest that you will need approximately 70% of your income in retirement. This is based on the studies that show that retired persons live on that approximate percent in retirement on average. This is a dangerous assumption since it does not indicate the persons in retirement are living a lifestyle that they desire. It also assumes you will be paying a lower tax rate in retirement. The 70% approximation is a poor tool to use in estimating needs in retirement and should not be used. It is mentioned in this text to warn you not to utilize it.

**The 100% Alternative** While there are a number of expenses that may be eliminated in retirement, other expenses may increase in retirement including higher health care cost, more vacations, etc. Indeed, many retirees find expenses during the initial years after retirement can be higher due to a more active lifestyle and other expenses such as moving to a new home. This is the method to use if you are not interested in doing a detailed analysis, or far from retirement (10+ years?).

# Your Winning Retirement Plan

Henry K. Hebel

**The Top-Down Analysis** In this method the budget is tailored to your real situation. The closer you are to retirement, the more accurate this analysis can be since unplanned expenses are less likely to occur as retirement approaches. This approach is probably best utilized when retirement is 3 to 10 years away. You will need last years tax returns to complete this worksheet.

Ref: [Chapter 5 Spreadsheets](#): 5.11 Top-Down tab

**Figure 5.11**

## A Top-Down Analysis Is a Better Way to Estimate Retirement Needs (Figure 5.11)

Line	Item	Value	Comments
1	Annual take-home pay		Gross wages less all deductions
2	Non Employer Related Savings		Amount from take-home pay that is used for annual savings not in employer's plan
3	Current Annual Expenses		if unknown, Line 01 minus Line 02
4	Temporary Children Expenses		Expenses peculiar to children that won't be needed in retirement
5	Other Temporary Expenses		Other things not needed in retirement
6	Total Temporary Expenses		Line 04 plus Line 05
7	Basic Retirement Expenses		Line 03 minus Line 06
8	Other Retirement Expenses		Other expenses desired during retirement
9	Total Retirement expenses		Step 07 Plus Step 08
10	Last Years Taxes		Last years federal and state income tax from tax return
11	Last Years Taxable Income		Last years taxable income from tax return
12	Estimated Tax Rate		Step 10 divided by Step 11 or your own estimate of tax rate in retirement
13	Retained Funds Factor		1.00 minus Step 12
14	Required Retirement Income		Approximate gross income needed to support retirement expenses Line 9 divided by Line 13

- Line 01: **Take Home Pay** – Amount of money after all taxes, Social Security, Medicare, Employee sponsored savings plan etc. is subtracted from your pay.
- Line 02: **None Employer Related Savings** – Money you save for retirement outside of any plans offered by your employer.
- Line 03: **Current Annual Expenses** – Your annual budget for expenses other than income tax or savings. If you don't have such a budget you can subtract Non Employer Related Savings (Line 02) from Annual Take-Home Pay (Line 01) for an approximation.
- Line 04: **Temporary Children Expenses** - This would include items such as school related expenses, clothing a fraction of your food bill, etc.
- Line 05: **Other Temporary Expenses** – Expenses that you expect will be eliminated or reduced once in retirement. This may include savings in gas used to drive to work, work clothing, etc.

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- Line 06: **Total Temporary Expenses** – Temporary Children Expenses (Line 04) + Temporary Other Expenses (Line 05).
- Line 07: **Basic Retirement Expenses** – Calculation; Current Annual Expenses (Line 03) minus Total Temporary Expenses (Line 06).
- Line 08: **Other Retirement Expenses** – Additional reoccurring expenses you might incur in retirement such as extra hobby expenses, Memberships, etc.
- Line 09: **Total Retirement Expenses** – Basic Retirement Expenses (Line 07) plus other Retirement Expenses (Line 08).
- Line 10: **Last Years Taxes** – Total of amount of State and Federal taxes paid last year.
- Line 11: **Last Years Taxable Income** – Taxable income as stated in your federal taxes
- Line 12: **Estimated Tax Rate** – Calculation; Last years tax rate is calculated by dividing Last Years Taxes (Line 10) by Last Years Taxable Income (Line 11).
- Line 13: **Retained Funds Factor** – Calculation; Factor used in calculating the amount of money available after taxes are paid based on last years taxes, or can be estimated. Using last years taxes you would subtract the Estimated Tax Rate (Line 12) from the number 1.00.
- Line 14: **Required Retirement Income** – Calculation; The approximate amount you will need in retirement. Calculated by dividing Total Retirement Expenses (Line 09) by Retained Funds Factor (Line 13).



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**The Bottom-Up Analysis** This method can be the most accurate of the methods presented. When we perform this analysis, we are trying to capture the annual budget we anticipate for the first 10 years of retirement. It is vital that all expenses are identified and accurate values are provided. This is the method to use when you are close to retirement ie four to one years before retirement. **The first year you utilize this method, you should also perform the Top-Down analysis, and compare the two to make sure they are in the same ball-park. If they don't agree, reexamine both and determine the cause of the discrepancy and make appropriate adjustments. I have added an extra line item, Padding (Line 13), to the figure provided in the book as a catch all for additional minor, unaccounted expenses throughout the year, or this line can be used to provide additional padding for unexpected expenses. I would recommend a value in the range of \$2,000 - \$10,000 or something in the range of 5% – 10% percent of your planned annual budget.**

Ref: [Chapter 5 Spreadsheets](#): 5.2 Bottom-Up tab

**Figure 5.12**

## Bottom-Up Analysis of retirement Needs (Figure 5.12)

Line	Item	Current Expenses	Retirement Expenses	Comments
1	Rent and Dept Payments			
2	Utilities & Maintenance			
3	Total Auto Expenses			
4	Food			
5	Uninsured Medical			
6	Insurance			
7	Real Estate Taxes			
8	Entertainment			
9	Vacation			
10	Gifts & Charities			
11	Clothing			
12	Other			
13	Padding			Extra funds for forgotten regular expenses. (5%-10% of budget recommended)
14	Total Annual Expenses			Sum of expenses above
15	Estimated Tax Rate			Estimated tax rate in retirement or last years income taxes divided by taxable income
16	Retained Funds Factor			1.00 minus Line 15
17	<b>Estimated Required Gross Income</b>			Line 14 divided by Line 16

**Infrequent Expenses** One-time expenses that are funded by regular payments or by a loan should be included in the methods listed above. It should be noted the methods provided so far do not take into account one-time expenses that will be funded by your retirement funds. These expenses will be addressed in the planned methods that follow.