

YOU DON'T KNOW WHICH DECADE YOU'RE IN UNTIL IT'S OVER.

One Life. One Path.

Why retirement should not depend on a single economic outcome.

“The goal is to avoid unnecessary dependence on a single economic outcome.”

That is not an investment slogan. It is a life-planning principle.

This is an educational marketing paper about uncertainty, retirement timing, economic cycles, and why real diversification should mean more than spreading money across market holdings.

EDUCATIONAL USE ONLY - NOT A SALES TOOL

This paper is for educational and illustrative purposes only. It is not investment, tax, legal, financial-planning, or insurance advice and is not intended to recommend or sell any product or strategy.

© 2026 Quantum Wealth Systems LLC. All Rights Reserved.

There is no average retirement. There is only the retirement you actually live.

There are many possible futures in front of you. Markets can rise or fall. Interest rates can be high or low. Inflation can accelerate or disappear. Taxes can change. Products can improve, disappear, or be redesigned. Your health, family, longevity, spending, and housing can all change at the same time.

Math can describe thousands of possible paths. History can show us dozens of paths that already happened. But a person does not receive the average of those paths. A person receives one path.

“You do not get to live all 89 rolling 10-year periods. You get one of them - or a future none of them has ever seen.”

That is the essence of this paper. The problem is not that mathematics is useless. Mathematics is extremely useful. The problem begins when we ask mathematics to answer a life question it cannot answer: Which economic world will I personally be forced to retire into?

THE PLANNING PROBLEM

You can know what happened in the past. You can model what might happen in the future. You cannot know which future will become yours until you have already lived through it.

1928, 1981, 2000, and 2026 are not the same retirement world.

A backtest can take today's investment formula and mathematically place it into an earlier decade. That can be useful for stress testing. But it does not mean an actual household in that decade had the same tools, the same access, the same taxes, the same retirement system, or the same expectations.

ERA	THE RETIREMENT WORLD WAS DIFFERENT
1920s-1930s	At the start of this period, Social Security did not yet exist. Broad household access to diversified market portfolios and modern retirement accounts was nothing like it is today. Family support, property, savings, insurance, employment, and pensions where available played very different roles.
1940s-1960s	Social Security and employer pensions expanded. Savings accounts, bonds, insurance, home equity, and pensions mattered greatly. The modern index-fund / 401(k) retirement system still did not exist.
1970s-1980s	Inflation and interest rates changed the economics of bonds, deposits, insurance, and annuities. IRAs and 401(k)s began reshaping retirement saving. Mutual funds became more accessible, but the modern default portfolio system was still developing.
1990s-2000s	Equity participation and defined-contribution plans expanded dramatically. Mutual funds, index investing, and portfolio-based retirement planning became mainstream. The 2000s then demonstrated how quickly a powerful equity narrative could collide with a lost decade.
2010s-Today	Households encountered ultra-low rates, then sharply higher rates; target-date funds, ETFs, modern indexed annuities, income riders, digital platforms, and increasingly market-centered retirement systems. Today's menu is not yesterday's menu - and tomorrow's menu will not be today's.
WHAT HISTORY CAN AND CANNOT DO	
History can show how a stated mathematical strategy would have behaved under old market returns. It cannot recreate every real-life choice available to a household in that era, and it cannot tell us what products or economic conditions will exist in the future.	

Modern retirement planning often turns one economic engine into the whole plan.

Today, a great deal of retirement planning is built around a portfolio: stocks, bonds, mutual funds, index funds, target-date funds, or some variation of asset allocation. That portfolio may be diversified internally. But the household may still depend on one broad economic mechanism: market values must be sufficient when withdrawals are needed.

That is why portfolio diversification and life diversification are not the same thing. Owning 500 stocks, 5,000 stocks, and a bond fund can reduce security-specific risk. It does not automatically create a second source of contractual income, a death-benefit backstop, a cash reserve, home equity, or another economic engine.

“The portfolio may be diversified. The retirement plan can still be concentrated.”

This is not an argument against markets. Markets are powerful wealth-building tools. It is an argument against making a household's entire future unnecessarily dependent on one economic outcome: the portfolio behaving well enough, at the right time, for long enough.

THE SINGLE-POINT-OF-FAILURE QUESTION

If the portfolio does not reach the value the plan expects, what else in the retirement system can still carry the life?

A 100-year average is not a 10-year retirement horizon.

Long-term market averages can be mathematically accurate and still be emotionally and practically irrelevant to the person who has ten years until retirement. A household does not have 100 years to wait for the average to reassert itself. The household has the years it actually has.

A 25-year-old saving for forty years and a 55-year-old saving for ten years are not experiencing the same compounding opportunity. The older saver may contribute just as much total money, but far more of the ending capital can remain the saver's own contributions because there is much less time for growth to compound.

AGE 25: 40 YEARS

\$10,000/year for 40 years at a flat 8% (end-of-year contributions) = about \$2.59 million. \$400,000 contributed; roughly \$2.19 million is growth.

AGE 55: 10 YEARS

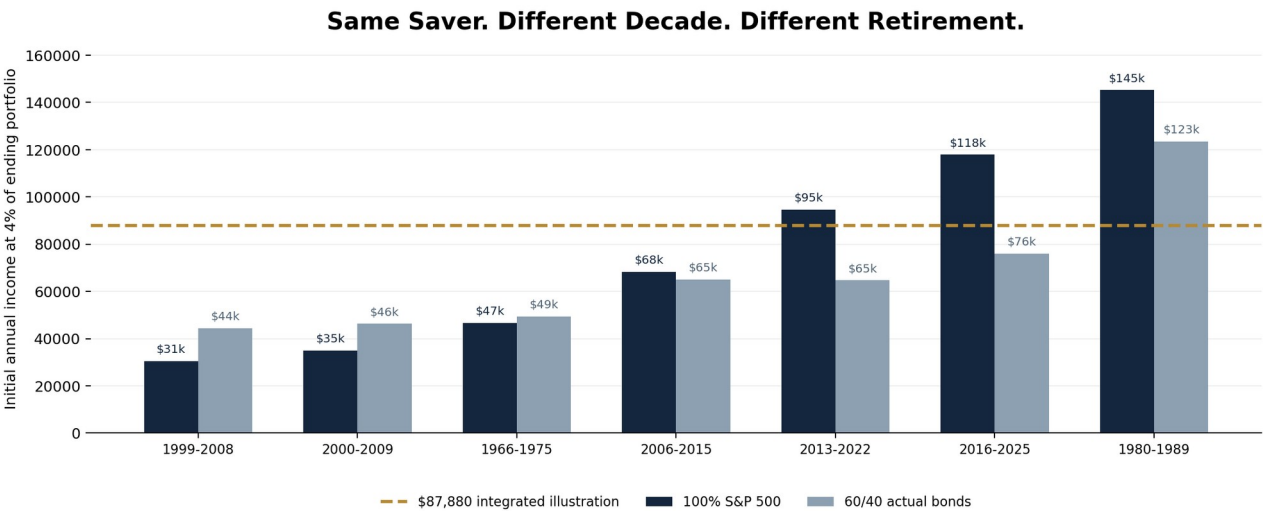
\$40,000/year for 10 years at the same flat 8% = about \$579,000. The same \$400,000 was contributed, but only about \$179,000 came from growth before costs and taxes.

The point is not that compounding disappears. The point is that time changes what compounding can realistically do. Near retirement, sequence risk and contribution dominance become much more important to the life outcome.

The person did not change. The decade did.

Now hold the household behavior constant and change only the economic path. The illustrative saver is age 55, already has \$500,000 invested, and adds \$40,000 at the beginning of each year for ten years. Total personal capital supplied by age 65: \$900,000.

We then ask a very simple retirement-date question: What is 4% of the ending portfolio at age 65? This is not presented as a guarantee that 4% is safe. It is simply a consistent way to translate the retirement-date asset value into a starting-income comparison.



Historical S&P 500 total-return and 60/40 actual-bond illustrations. No investment fees or taxes included.

The range is not academic when the money funds a life.

PERIOD	S&P END	4%	60/40 END	4%	WHAT THAT LIFE LOOKED LIKE
1999-2008	\$762,737	\$30,509	\$1,108,581	\$44,343	A retirement date landing in the financial crisis. The same \$900,000 of supplied capital produced a radically different lifestyle starting point.
2000-2009	\$875,530	\$35,021	\$1,156,250	\$46,250	The classic lost-decade example. The all-equity account ended below the total capital personally supplied before inflation, fees, or taxes.
1966-1975	\$1,165,462	\$46,618	\$1,232,693	\$49,308	A difficult inflationary path. Both portfolios produced starting-income levels far below the stronger decades.
2013-2022	\$2,364,269	\$94,571	\$1,616,475	\$64,659	Strong equity accumulation despite a very difficult final year. The stock outcome was materially stronger than the balanced portfolio.
2016-2025	\$2,945,149	\$117,806	\$1,897,856	\$75,914	A favorable recent equity path. A saver living this decade experiences a very different reality than the saver retiring in 2009.
1980-1989	\$3,628,820	\$145,153	\$3,085,534	\$123,421	A period in which both stocks and bonds created a very strong retirement starting point.

The examples above are intentionally selective for readability. Appendix A contains all 89 rolling 10-year periods used in the study so the full distribution can be reviewed.

There is no contradiction in saying that markets can create extraordinary upside and that relying on them for a fixed retirement date can create serious path risk. Both statements can be true at the same time.

“You cannot give up the upside 50% of the time - because you do not live 100 lives. You live one.”

Reducing equity exposure does not create a second economic system.

A traditional 60/40 portfolio is meaningfully different from 100% stocks. Bonds can reduce volatility and improve some bad equity outcomes. But it is still a market-valued portfolio. The retirement-date balance still depends on the return path of financial assets.

Using actual 10-year Treasury bond total returns in the 89 rolling 10-year study, the 60/40 portfolio produced a median initial 4% income of about \$69,155. It improved the worst outcome relative to all stocks, but it also reduced much of the upside. Against the illustrative \$87,880 integrated benchmark used in this study, 67 of 89 periods - 75.3% - finished below that income level.

\$69,155 60/40 median 4% income	\$42,142 60/40 worst 4% income	\$126,432 60/40 best 4% income
THE POINT Portfolio diversification is valuable. But a diversified portfolio is still not the same thing as having multiple independent ways to fund retirement.		

The alternative is not “insurance instead of markets.” It is to stop asking every dollar to do the same job.

Consider the illustrative structure discussed in this study. The existing \$500,000 retirement asset is moved to a fixed indexed annuity with an 8% compounded income-base roll-up for ten years. At age 65, the hypothetical income base is approximately \$1,079,462. Using the supplied joint-life payout rate of 7.40%, the illustrated lifetime income is approximately \$79,880 per year.

Separately, \$40,000 per year is directed to a whole life policy for ten years. The illustration assumes approximately \$400,000 of age-65 cash value, a \$1 million death benefit, and an assumed \$8,000 annual policy cash-flow amount. Under those assumptions, the combined illustrated income is approximately \$87,880 per year.

COMPONENT	ILLUSTRATIVE ASSUMPTION	AGE-65 RESULT
Fixed indexed annuity	\$500,000; 8% compounded income-base roll-up for 10 years; 7.40% joint payout at 65	\$79,880/yr
Whole life	\$40,000/yr for 10 years; approx. \$400,000 cash value; \$1,000,000 death benefit; assumed 2% cash-flow amount	\$8,000/yr assumed
Combined	Two different economic jobs: contractual lifetime-income calculation plus life-insurance value/protection	\$87,880/yr
IMPORTANT This is a hypothetical, contract-specific illustration - not a historical claim and not a recommendation. An annuity income-base roll-up is not the same as cash-value growth. Whole-life dividends and policy access mechanics must be evaluated from the actual contract. The issuing insurer, liquidity, costs, taxes, and product terms matter.		

The conceptual value of the integrated example is not that it proves a winner. It demonstrates a different design philosophy: income, growth, liquidity, and protection do not all have to depend on the same economic mechanism.

Real diversification is not “own more things.” It is “do not let one thing control everything.”

A household can be diversified across securities and still be economically dependent on markets. A household can also become overly dependent on insurance, real estate, cash, or any other single structure. Every resource carries risk.

The objective is to build access to different sources of financial support whose strengths and weaknesses are not identical.

RESOURCE	POSSIBLE JOB IN RETIREMENT	DEPENDENCY / RISK
Market assets	Long-term growth, liquidity, inflation participation, discretionary spending	Market values, sequence, behavior
Annuities	Contractual lifetime income or principal protection, depending on contract	Insurer, terms, liquidity, inflation
Whole life	Death-benefit protection, policy cash value, access to capital; can help protect retirement assets, not just legacy	Premiums, dividends, loans, contract management
Cash / reserves	Near-term spending, emergencies, optionality	Inflation, opportunity cost
Home equity / property	Housing security and potential liquidity or income	Property values, financing, maintenance, liquidity
Social Security / pension	Foundational lifetime income where available	Program / sponsor terms, inflation, policy changes

“The purpose of diversification is not to own everything. It is to avoid asking one thing to do everything.”

The real danger is dependence.

The problem is not that a strategy can lose money. Every strategy has risk. The deeper problem is building the household so that the strategy has to work in order for the life to work.

If everything depends on the portfolio, then market performance controls retirement income. If everything depends on real estate, property values and liquidity control the plan. If everything depends on an insurer, contract and insurer risk become dominant. If everything depends on whole life and policy loans, policy performance and funding discipline become dominant.

“A retirement plan can survive a bad investment outcome. It is much harder to survive a bad outcome when the entire life was built on that one outcome needing to be good.”

This is especially important for ordinary households. They are not enormous institutions with effectively unlimited capital. Losing half of a \$1 million, \$5 million, or \$10 million pool can materially change the life that pool was supposed to finance. The loss can be compounded by withdrawals, taxes, healthcare needs, inflation, or simply the inability to wait for recovery.

THE GOAL

Avoid unnecessary dependence on a single economic outcome. Not all dependence can be eliminated. Not all risk should be transferred. The point is to avoid creating a single point of failure when multiple tools and income sources are available.

Build a plan that can function in more than one economic world.

The question is not which asset will win the next decade. Nobody knows. The stronger question is whether the household has something that can still work when a particular economic environment is unfavorable.

IF THIS HAPPENS...	THE HOUSEHOLD MAY VALUE...
Equities disappoint for 10 years	Dependable income, reserves, bonds or contractual sources can reduce forced selling; growth assets may be given time to recover.
Interest rates rise sharply	New fixed-income and annuity opportunities may improve, while existing long-duration bonds can fall in market value.
Interest rates collapse	Existing guarantees may become more valuable; new guaranteed-income pricing may become less attractive; growth assets may take on a larger role.
Inflation surges	Fixed nominal income loses purchasing power; equities, real assets, COLA-linked income, and flexible spending become more important.
One spouse dies early	Life insurance, survivor benefits, account titling, and income elections can materially change the surviving spouse's capital position.
Both spouses live a very long time	Lifetime income, growth, healthcare planning, and liquidity become increasingly important.
Tax rules change	The value of taxable, tax-deferred, Roth, insurance, and other account types can shift. Flexibility across tax buckets matters.
THIS IS NOT PREDICTION The purpose of a resilient design is not to guess which row will happen. It is to reduce the chance that one row can destroy the entire plan.	

The plan should be built backward from what cannot be allowed to fail.

1. Define the lifestyle floor

What spending must continue even if markets are poor? Housing, food, healthcare, utilities, transportation, and the retirement experiences the household considers essential.

2. Identify dependable income already in place

Social Security, pensions, contractual income, rents, business income, or other sources. Do not force the portfolio to carry an obligation another resource can already cover.

3. Separate indispensable capital from opportunity capital

Some dollars must fund near-term life. Other dollars can pursue long-term growth. Do not pretend they have the same risk capacity.

4. Preserve liquidity

A plan can be mathematically perfect and still fail if the household cannot access cash when life changes.

5. Protect the household, not only the legacy

Death-benefit protection can preserve assets and choices for a surviving spouse. It can be part of retirement asset protection, not merely inheritance planning.

6. Stress-test the dependencies

Ask what happens if stocks disappoint, rates move, inflation rises, a spouse dies, both live longer, taxes change, or products reprice.

7. Keep the ability to adapt

Tomorrow's tools may be different. Avoid designing a plan so rigid that the household cannot take advantage of a better future opportunity.

You cannot know the winning path. You can decide how dependent your life will be on one path winning.

This is not an argument for a particular product. It is not an argument against markets. It is not an argument that annuities, insurance, bonds, real estate, or cash are inherently safer or better. Each solves certain problems and introduces others.

The argument is simpler: a person has one life. That life unfolds during one economic sequence. Long-term averages, probability distributions, and historical backtests can inform the decision, but they cannot deliver the household an average outcome.

“The goal is to avoid unnecessary dependence on a single economic outcome.”

The household does not need every dollar to maximize return. It needs the entire system to remain workable across a range of futures. Some dollars may need growth. Some may need liquidity. Some may need contractual income. Some may need to protect a spouse or replace capital at death. Some may need to remain flexible for opportunities that do not even exist yet.

That is not diversification for the sake of diversification. It is resilience.

ONE LIFE. ONE PATH.

You do not get the average decade. You do not get every possible future. You get your future. Design the capital so that one unfavorable economic outcome does not unnecessarily determine the quality of the entire life that follows.

APPENDIX A / ALL 89 ROLLING 10-YEAR PERIODS

Every historical path used in the study

The selected decade examples in the main paper are meant to make the one-path problem tangible. This appendix shows every rolling 10-year period used in the analysis so the reader can see the entire historical record rather than only selected examples. The illustrative integrated-income benchmark used throughout the paper is \$87,880 per year.

For each period, the 100% S&P figure is 4% of the ending portfolio under the stated \$500,000 starting balance plus \$40,000 beginning-of-year contributions for ten years. The 60/40 figure uses annual 60% S&P 500 total return and 40% 10-year U.S. Treasury total return with annual rebalancing. These are historical mathematical illustrations, not guaranteed income, and the calculations do not include taxes, advisory fees, fund expenses, transaction costs, or other individual implementation costs unless expressly stated.

10-year period	100% S&P 4% income	60/40 4% income	vs. \$87,880 benchmark
1928-1937	\$38,098	\$44,748	Both below
1929-1938	\$41,971	\$46,484	Both below
1930-1939	\$43,610	\$47,506	Both below
1931-1940	\$45,304	\$48,879	Both below
1932-1941	\$55,941	\$53,074	Both below
1933-1942	\$69,658	\$59,982	Both below
1934-1943	\$63,212	\$60,302	Both below
1935-1944	\$74,483	\$66,215	Both below
1936-1945	\$77,119	\$67,993	Both below
1937-1946	\$58,619	\$61,724	Both below
1938-1947	\$78,607	\$70,972	Both below
1939-1948	\$67,842	\$66,513	Both below
1940-1949	\$78,855	\$72,237	Both below
1941-1950	\$107,766	\$82,313	S&P above
1942-1951	\$140,085	\$97,259	Both above
1943-1952	\$138,681	\$95,875	Both above
1944-1953	\$111,486	\$84,352	S&P above
1945-1954	\$144,112	\$99,987	Both above
1946-1955	\$147,362	\$101,694	Both above
1947-1956	\$159,510	\$106,227	Both above
1948-1957	\$130,766	\$96,370	Both above
1949-1958	\$172,409	\$100,924	Both above
1950-1959	\$161,629	\$95,325	Both above
1951-1960	\$126,190	\$87,033	S&P above
1952-1961	\$131,077	\$88,895	Both above
1953-1962	\$101,440	\$79,851	S&P above
1954-1963	\$120,465	\$85,605	S&P above
1955-1964	\$98,859	\$78,984	S&P above
1956-1965	\$88,928	\$75,568	S&P above
1957-1966	\$74,148	\$69,155	Both below
1958-1967	\$96,353	\$77,828	S&P above
1959-1968	\$80,331	\$72,132	Both below
1960-1969	\$66,095	\$64,978	Both below
1961-1970	\$66,578	\$67,549	Both below
1962-1971	\$63,298	\$66,250	Both below
1963-1972	\$77,964	\$71,769	Both below
1964-1973	\$56,205	\$62,573	Both below
1965-1974	\$36,678	\$48,926	Both below
1966-1975	\$46,618	\$49,308	Both below
1967-1976	\$60,845	\$56,725	Both below
1968-1977	\$48,335	\$51,965	Both below
1969-1978	\$47,773	\$51,448	Both below
1970-1979	\$58,979	\$56,170	Both below

10-year period	100% S&P 4% income	60/40 4% income	vs. \$87,880 benchmark
1971-1980	\$74,775	\$62,105	Both below
1972-1981	\$63,817	\$59,756	Both below
1973-1982	\$68,580	\$70,796	Both below
1974-1983	\$90,345	\$82,239	S&P above
1975-1984	\$114,100	\$95,166	Both above
1976-1985	\$115,571	\$100,752	Both above
1977-1986	\$114,281	\$108,006	Both above
1978-1987	\$121,743	\$110,432	Both above
1979-1988	\$130,127	\$116,802	Both above
1980-1989	\$145,153	\$123,421	Both above
1981-1990	\$110,437	\$106,159	Both above
1982-1991	\$143,458	\$125,245	Both above
1983-1992	\$128,106	\$118,361	Both above
1984-1993	\$116,749	\$115,546	Both above
1985-1994	\$108,584	\$111,144	Both above
1986-1995	\$117,740	\$117,776	Both above
1987-1996	\$123,369	\$118,203	Both above
1988-1997	\$152,285	\$126,432	Both above
1989-1998	\$167,792	\$126,164	Both above
1990-1999	\$160,036	\$112,085	Both above
1991-2000	\$142,277	\$101,222	Both above
1992-2001	\$99,153	\$88,272	Both above
1993-2002	\$70,556	\$74,977	Both below
1994-2003	\$82,062	\$78,682	Both below
1995-2004	\$86,872	\$80,619	Both below
1996-2005	\$69,656	\$73,089	Both below
1997-2006	\$67,785	\$71,225	Both below
1998-2007	\$57,561	\$65,920	Both below
1999-2008	\$30,509	\$44,343	Both below
2000-2009	\$35,021	\$46,250	Both below
2001-2010	\$42,557	\$50,726	Both below
2002-2011	\$46,379	\$54,279	Both below
2003-2012	\$61,956	\$60,616	Both below
2004-2013	\$68,222	\$60,913	Both below
2005-2014	\$71,108	\$62,929	Both below
2006-2015	\$68,327	\$65,061	Both below
2007-2016	\$68,485	\$64,920	Both below
2008-2017	\$79,089	\$68,409	Both below
2009-2018	\$99,080	\$74,294	S&P above
2010-2019	\$106,294	\$78,034	S&P above
2011-2020	\$109,936	\$80,725	S&P above
2012-2021	\$134,048	\$88,672	Both above
2013-2022	\$94,571	\$64,659	S&P above
2014-2023	\$94,674	\$67,034	S&P above
2015-2024	\$104,751	\$69,155	S&P above
2016-2025	\$117,806	\$75,914	S&P above

Read the numbers as illustrations - not promises.

The historical calculations in this paper are mathematical stress tests. They show what stated investment formulas would have produced under historical return sequences. They do not recreate the actual choices, taxes, products, household behavior, market access, retirement systems, or financial conditions experienced by every household in those decades.

The S&P 500 examples assume a person begins with \$500,000 and adds \$40,000 at the beginning of each year for ten years, using annual S&P 500 total returns including dividends. The 60/40 examples use 60% S&P 500 total return and 40% 10-year U.S. Treasury bond total return, rebalanced annually. The 4% figures are simply 4% of the ending account value and are not represented as a guaranteed or universally safe withdrawal rate.

Unless expressly stated otherwise, the calculations do not include taxes, advisory fees, fund expenses, trading or transaction costs, account charges, or other implementation costs. Inflation is not deducted from the nominal ending balances shown in the historical illustrations.

The integrated annuity and whole-life example is hypothetical and based on the assumptions supplied for this study. Actual annuity income bases, payout rates, rider charges, liquidity, surrender terms, guarantees, and insurer strength vary by contract. An income-base roll-up is not necessarily a cash-value return. Whole-life cash value, dividends, loans, withdrawals, death benefits, Modified Endowment Contract status, and taxation depend on the actual policy and how it is managed.

EDUCATIONAL USE ONLY - NOT A SALES TOOL

This publication is solely for general educational and illustrative purposes. It is not a recommendation, offer, solicitation, sales presentation, or individualized financial-planning, investment, tax, legal, or insurance advice. It does not recommend the purchase, sale, replacement, or surrender of any security, annuity, insurance policy, real estate investment, or other financial product.

Selected sources used for the historical framework

S&P 500 total-return history

Slickcharts - S&P 500 Total Returns by Year. <https://www.slickcharts.com/sp500/returns>

Stocks and 10-year Treasury total returns

Aswath Damodaran, NYU Stern - Historical Returns on Stocks, Bonds and Bills.
https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/histretSP.html

Social Security history

U.S. Social Security Administration - Historical Development / Social Security Act of 1935.
<https://www.ssa.gov/policy/docs/progdesc/sspus/histdev.html>

Household market participation context

Federal Reserve Bank of San Francisco - Shifting Household Assets in a Bear Market; household stock and mutual-fund participation changed materially over time.

Annuity education

FINRA - Annuities. <https://www.finra.org/investors/investing/investment-products/annuities>

Life insurance education

NAIC - Life Insurance. <https://content.naic.org/insurance-topics/life-insurance>

Historical product menus and retirement practices cannot be perfectly reconstructed or compared across every era. That limitation is part of the thesis of this publication, not a flaw to be hidden.

“History is useful because it shows what can happen. It is dangerous when we mistake it for a map of what will happen.”

QUANTUM WEALTH SYSTEMS LLC

© 2026 Quantum Wealth Systems LLC. All Rights Reserved.