Long-Term Performance: Asset Classes and AD Growth Models

Asset Dedication, LLC

2025

PPT Summary of Article

- These slides summarize the following article published in the Retirement Management Journal, Vol. 14, Nov. 1, 2025.

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Asset Classes

- Research suggests that two of the primary factors that determine a stock's growth are the company size and its price to book ratio
  - High ratio = Growth (a popular stock)
  - Low ratio = Value (not so popular!)
  - Morningstar divides these factors into three sizes and three "styles" leading to its style box or "US Market Barometer"
  - It tracks changes in each asset class continually during the trading day.

US Market Barometer Markets >

Value	Core	Growth	
+0.12	+0.12	-0.14	Large
-0.24	-0.09	-0.48	Mid
-0.21	-0.16	+0.08	Small

Example: Downloaded midday Sept. 16, 2025

Long-term Performance by Asset Class

- Long-term performance is available from several sources:
  - Dimensional Fund Advisors ("Returns Web")
  - Center for Research in Security Prices (CRSP) – Univ. of Chicago
  - Kenneth French Data Library
  - Global Financial Data (Finaeon)
  - Others
- These sources were used develop the slides that led to the publication of "U.S. Asset Class Returns Based on Time Horizons, Size, and Style"

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Asset Class Returns: 1928-2023

Compound Annual Growth Rates (CAGR)

- V = Value
- C = Core
- G = Growth

TABLE 1 **Average, Worst, and Best Returns for 1-, 5-, 10-, 15-, 20-, and 30-Year Holding Periods, 1928–2023**

Asset Classes: Value (V), Core (C), Growth (G), Large-cap, Mid-cap, Small-cap

1A: AVERAGE RETURNS

	1-YEAR			5-YEAR			10-YEAR			15-YEAR			20-YEAR			30-YEAR		
	V	C	G	V	C	G	V	C	G	V	C	G	V	C	G	V	C	G
LARGE-CAP	10.9%	9.2%	10.5%	11.3%	9.6%	10.3%	11.5%	10.2%	10.3%	11.5%	10.4%	10.3%	11.7%	10.7%	10.4%	12.0%	11.0%	10.6%
MID-CAP	12.7%	12.0%	10.3%	13.3%	12.5%	10.7%	13.9%	12.8%	10.8%	14.4%	12.9%	10.8%	14.8%	13.1%	10.8%	15.2%	13.3%	10.9%
SMALL-CAP	14.3%	12.8%	8.9%	15.3%	13.5%	9.7%	15.7%	13.8%	9.7%	16.0%	14.0%	9.6%	16.4%	14.2%	9.6%	16.6%	14.4%	9.7%

1B: SINGLE WORST RETURNS

	1-YEAR			5-YEAR			10-YEAR			15-YEAR			20-YEAR			30-YEAR		
	V	C	G	V	C	G	V	C	G	V	C	G	V	C	G	V	C	G
LARGE-CAP	−55.0% 1931	−63.8% 1931	−36.0% 1931	−14.7% 1931	−22.5% 1932	−9.4% 1933	−6.2% 2008	−5.6% 1939	−0.1% 2008	−1.0% 2012	−1.7% 1942	1.3% 1943	0.6% 2018	1.2% 1948	2.9% 1948	6.8% 2023	6.5% 1957	7.8% 1958
MID-CAP	−52.8% 1931	−50.3% 1931	−39.6% 1931	−20.8% 1932	−20.0% 1932	−18.0% 1932	−7.9% 1939	0.4% 1937	−1.8% 1974	−2.1% 1942	3.1% 1942	1.0% 1943	3.5% 1948	6.4% 1948	3.1% 1948	8.4% 1957	10.2% 1957	7.5% 1975
SMALL-CAP	−52.5% 1931	−49.2% 1937	−49.4% 1937	−23.9% 1932	−20.7% 1932	−24.6% 1932	−2.1% 1938	0.3% 1937	−2.5% 1937	1.5% 1941	3.2% 1942	0.3% 1974	7.5% 1948	6.1% 1948	3.7% 1948	11.0% 1957	9.8% 1957	6.0% 2010

1C: SINGLE BEST RETURNS

	1-YEAR			5-YEAR			10-YEAR			15-YEAR			20-YEAR			30-YEAR		
	V	C	G	V	C	G	V	C	G	V	C	G	V	C	G	V	C	G
LARGE-CAP	118.8% 1933	79.1% 1933	49.2% 1928	43.0% 1936	22.8% 1954	30.8% 1999	23.5% 1951	18.4% 1958	20.9% 1998	22.3% 1956	18.7% 1989	20.0% 1999	20.0% 1998	17.7% 1998	17.8% 1999	18.2% 1961	15.7% 2004	13.3% 2004
MID-CAP	125.7% 1933	121.0% 1933	96.2% 1933	40.5% 1945	40.7% 1936	31.3% 1936	27.2% 1951	21.9% 1984	18.5% 1984	24.2% 1955	20.4% 1989	18.3% 1989	21.2% 1961	19.3% 1961	16.5% 1994	20.1% 2004	17.7% 1961	15.0% 2004
SMALL-CAP	131.9% 1933	114.7% 1933	142.7% 1933	50.9% 1936	41.6% 1936	41.3% 1936	32.9% 1984	29.1% 1984	23.0% 1984	27.3% 1989	24.8% 1989	18.8% 1947	23.5% 1994	21.6% 1994	17.5% 1952	22.7% 2004	20.3% 2004	15.8% 1961

<-20%		-10% to 0%	0%	0% to 10%		>+20%	Top

As published in Retirement Management Journal, Vol. 14, No. 1, 2025

Asset Classes: Growth of $10,000 1928-2023

TABLE 2 Growth of $10,000 (in Thousands of Dollars)

	1-YEAR			5-YEAR			10-YEAR			15-YEAR			20-YEAR			30-YEAR		
	V	C	G	V	C	G	V	C	G	V	C	G	V	C	G	V	C	G
1A: Average																		
LARGE-CAP	$11.1	$10.9	$11.0	$17.1	$15.8	$16.3	$29.7	$26.4	$26.7	$51.3	$44.2	$43.3	$91.8	$76.5	$72.1	$303.4	$231.0	$206.6
MID-CAP	$11.3	$11.2	$11.0	$18.7	$18.0	$16.6	$36.8	$33.4	$27.9	$75.2	$61.8	$46.3	$158.9	$117.7	$78.0	$692.1	$423.0	$222.6
SMALL-CAP	$11.4	$11.3	$10.9	$20.4	$18.8	$15.9	$43.0	$36.4	$25.2	$92.7	$70.9	$39.5	$206.8	$141.6	$62.7	$1,009.6	$561.1	$160.0
1B: Single Worst																		
LARGE-CAP	$4.5 1931	$3.6 1931	$6.4 1931	$4.5 1931	$2.8 1932	$6.1 1933	$5.3 2008	$5.6 1939	$9.9 2008	$8.5 2012	$7.8 1942	$12.2 1943	$11.4 2017	$12.8 1948	$17.9 1948	$71.6 2015	$66.1 1957	$95.7 1958
MID-CAP	$4.7 1931	$5.0 1931	$6.0 1931	$3.1 1932	$3.3 1932	$3.7 1932	$4.4 1939	$10.4 1937	$8.3 1974	$7.3 1942	$15.9 1942	$11.5 1943	$19.8 1948	$34.8 1948	$18.5 1948	$112.0 1957	$183.0 1957	$86.5 1975
SMALL-CAP	$4.8 1931	$5.1 1937	$5.1 1937	$2.6 1932	$3.1 1932	$2.4 1932	$8.1 1938	$10.3 1937	$7.8 1937	$12.5 1941	$15.9 1942	$10.4 1974	$42.3 1948	$33.0 1948	$20.8 1948	$227.4 1957	$166.5 1957	$57.7 2010
1C: Single Best																		
LARGE-CAP	$21.9 1933	$17.9 1933	$14.9 1928	$59.9 1936	$28.0 1954	$38.3 1999	$82.5 1951	$54.3 1958	$66.9 1998	$205.8 1956	$130.7 1989	$154.7 1999	$386.0 1998	$260.2 1998	$264.8 1999	$1,501.2 1961	$784.7 2004	$423.6 2004
MID-CAP	$22.6 1933	$22.1 1933	$19.6 1933	$54.7 1945	$55.1 1936	$39.0 1936	$111.0 1951	$72.6 1984	$54.7 1984	$259.4 1955	$162.3 1989	$124.0 1989	$464.8 1961	$339.9 1961	$213.0 1994	$2,447.4 2004	$1,311.9 1961	$670.6 2004
SMALL-CAP	$23.2 1933	$21.5 1933	$24.3 1933	$78.3 1936	$57.0 1936	$56.3 1936	$171.8 1984	$129.0 1984	$79.2 1984	$373.5 1989	$278.6 1989	$132.1 1947	$686.4 1994	$501.9 1994	$250.1 1952	$4,625.1 2004	$2,528.8 2004	$824.2 1961

<-20%		-10% to 0%	0%	0% to 10%		>+20%	Top

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The "Horseshoe" Effect: Small-Cap Value Dominates

Note that small-cap value provides the highest **average** returns for all time spans, the highest **minimum** for 20- and 30 years spans, and the highest **maximum** for all time spans except 1-year.

TABLE 3 Dominance of Small-Cap Value Stocks

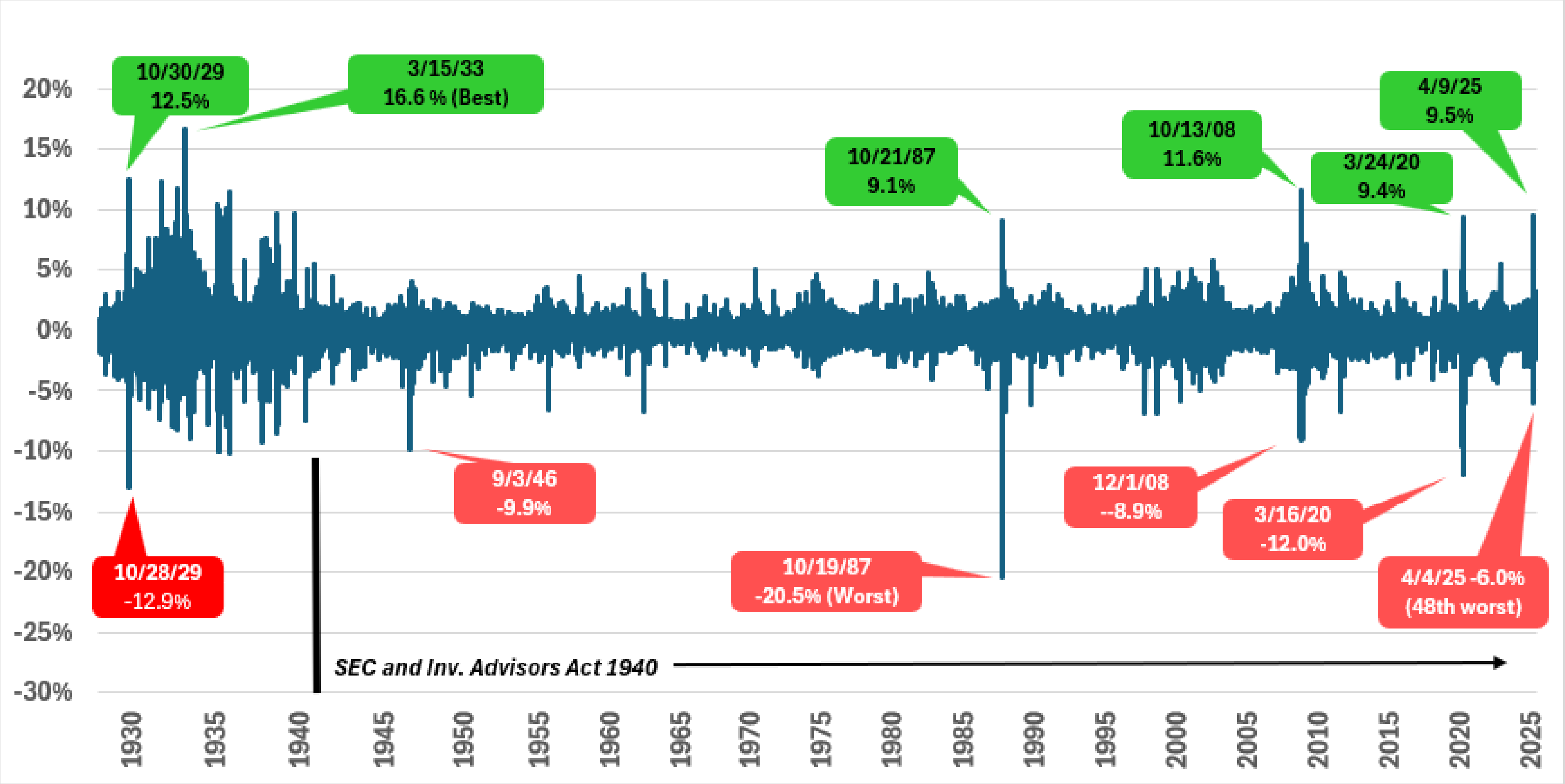
	1-YEAR	5-YEAR	10-YEAR	15-YEAR	20-YEAR	30-YEAR
Average	Small Value 14.3% Average	Small Value 15.3% Average	Small Value 15.7% Average	Small Value 16.0% Average	Small Value 16.4% Average	Small Value 16.6% Average
Minimum	Large Growth −36.0% 1931	Large Growth -9.4% 1933	Mid Core 0.4% 1937	Small Core 3.2% 1942	Small Value 7.5% 1948	Small Value 11.0% 1957
Maximum	Small Growth 142.7% 1933	Small Value 50.9% 1936	Small Value 32.9% 1984	Small Value 27.3% 1989	Small Value 23.5% 1994	Small Value 22.7% 2004

S&P 500: Daily Price Changes – 1928-6/30/25

- Asset Dedication builds its models using data back to 1928 specifically to include the Great Depression and WW 2 – the two most catastrophic events of the 20th century
- Historically, the problems that became obvious during the Great Depression led to federal legislation during the 1930s culminated with the Investment Advisors Act of 1940
- The legislation had a significant impact on the market, reducing its volatility significantly as can be seen on the next slide
- Will another Great Depression happen again? Unlikely, but nobody know for sure.

One-Day Fluctuations 1/3/28-6/30/25

25,577 Days – Avg/Max/Min = 0.03%/16.6%/-20.5%



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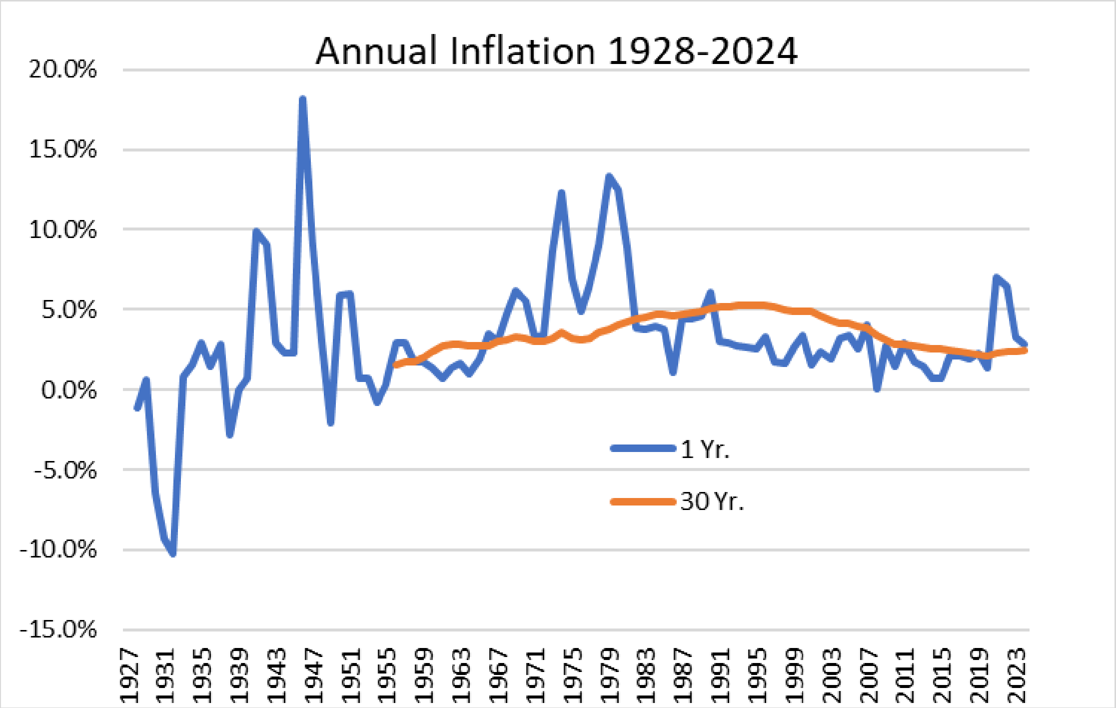
Inflation Over Rolling Time Spans: 1928-2024

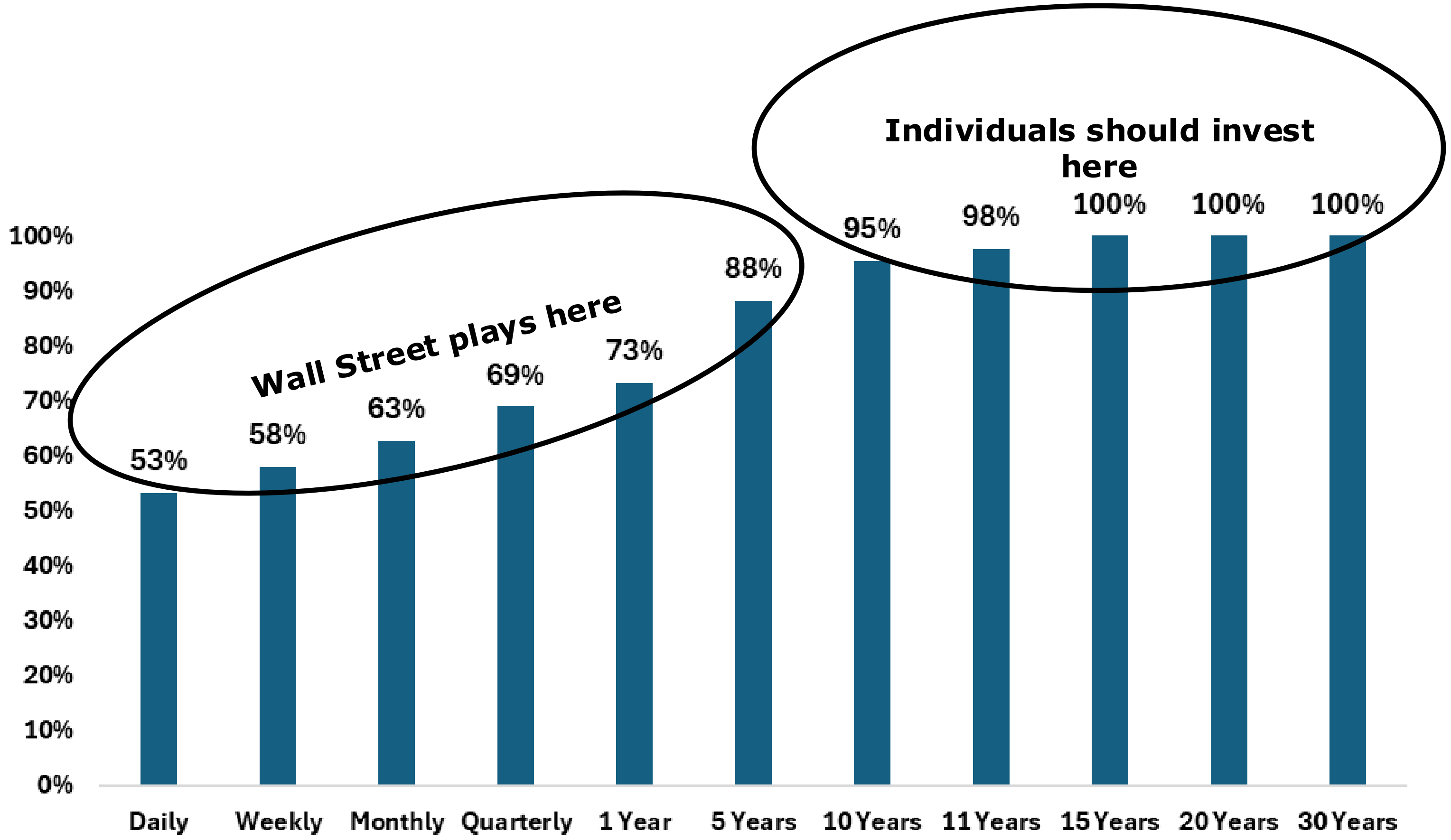
Statistic	1 Yr.	5 Yr.	10 Yr	15 Yr.	20 Yr.	25 Yr.	30 Yr.
Average	3.1%	3.2%	3.4%	3.2%	3.4%	3.5%	3.5%
Max	18.1%	10.1%	8.7%	7.0%	6.2%	5.8%	5.3%
Min	-10.3%	-5.4%	-2.0%	-0.7%	1.1%	1.7%	1.6%



Asset Dedication Long Term Returns

- All Asset Dedication equity Growth Portfolios are built from one time span, the longest term: 1928-2024, 97 years.
- Shorter time spans would exclude the Great Depression (1929-41) and WW 2 (1942-45)
  - 39 out of 58 (67%) 40-year time spans exclude both events
  - 49 out of 68 (72%) 30-year time spans exclude both, 76% of 20-year spans, etc.
- The bottom line: Asset Dedication uses 1928 to be conservative

How Often Are Annual Returns Positive? 1928-2024



Averages, Minimums, and Maximums for Various Time Spans:

- Years covered: 1928-2024
- Yellow denotes best for that time span
- 97-year time span

    -58 Rolling 40-year time spans

        -19 Include Great Depression and WW2

        -39 Exclude Great Depression and WW

    -68 Rolling 30-year time spans

        -19 Include Great Depression and WW2

        -49 Exclude Great Depression and WW2

    -78 Rolling 20-year time spans

        -19 Include Great Depression and WW2

        -59 Exclude Great Depression and WW2

    Etc.

		Time Span in Years, 1928-2024							
	Growth Portfolio	1	5	10	15	20	30	40	97
Average	15+ Year	14.0%	12.6%	12.8%	13.1%	13.3%	13.7%	13.9%	**12.8%**
	7-15 Year	**14.0%**	**12.8%**	**13.0%**	**13.3%**	**13.5%**	**13.9%**	**14.2%**	12.6%
	15+ Year Beta	13.3%	12.2%	12.4%	12.7%	12.9%	13.3%	13.5%	11.8%
	7-15 Year Beta	13.0%	11.9%	12.1%	12.4%	12.6%	13.0%	13.2%	11.5%
	4-6 Year	11.5%	10.6%	10.8%	11.0%	11.2%	11.5%	11.7%	10.4%
	4-6 Year Beta	12.2%	11.2%	11.4%	11.6%	11.7%	12.1%	12.2%	10.4%
	1-3 Year	10.0%	9.3%	9.5%	9.7%	9.8%	10.1%	10.2%	9.2%
	S&P 500	**12.0%**	**10.6%**	**10.7%**	**10.8%**	**10.9%**	**11.1%**	**11.0%**	**10.2%**

		Time Span in Years, 1928-2024							
	Growth Portfolio	1	5	10	15	20	30	40	97
Minimum	15+ Year	**-43.7%**	-17.6%	1.7%	3.8%	5.6%	8.1%	10.1%	-41.3%
	7-15 Year	-46.4%	-17.5%	**2.0%**	**4.3%**	**5.9%**	8.3%	**10.3%**	-42.1%
	15+ Year Beta	-43.2%	-16.0%	1.3%	3.4%	5.1%	7.9%	9.7%	-40.5%
	7-15 Year Beta	-42.6%	-15.4%	1.3%	3.4%	4.9%	7.8%	9.5%	-41.3%
	4-6 Year	-41.8%	-13.4%	0.6%	2.9%	3.9%	7.1%	8.3%	-40.6%
	4-6 Year Beta	-41.6%	-13.2%	1.2%	3.3%	4.3%	7.8%	8.9%	**-37.8%**
	1-3 Year	**-39.0%**	-13.2%	-0.1%	2.5%	3.6%	6.2%	7.0%	-39.5%
	S&P 500	**-43.3%**	**-12.5%**	**-1.4%**	**0.6%**	**3.1%**	**8.5%**	**8.9%**	**-43.3%**

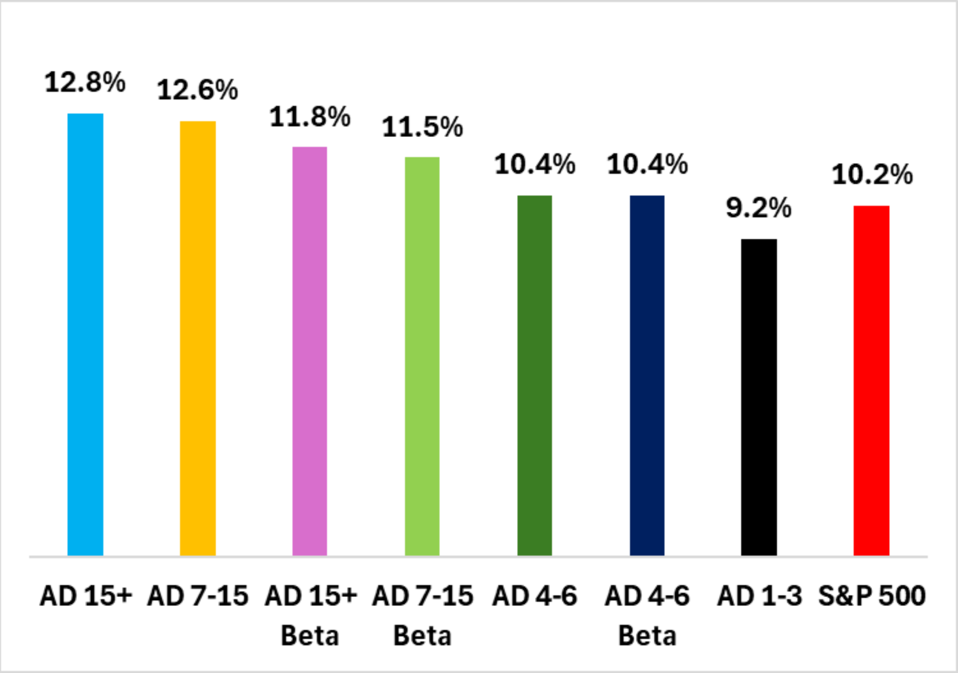
		Time Span in Years, 1928-2024							
	Growth Portfolio	1	5	10	15	20	30	40	97
Maximum	15+ Year	116.6%	34.3%	23.0%	23.8%	21.1%	18.5%	16.3%	108.7%
	7-15 Year	**121.0%**	**34.7%**	**23.4%**	**25.0%**	**21.5%**	**18.8%**	**16.8%**	99.6%
	15+ Year Beta	99.0%	31.1%	21.4%	22.8%	20.2%	18.1%	15.8%	**108.8%**
	7-15 Year Beta	93.8%	30.0%	20.5%	22.2%	19.7%	17.5%	15.3%	94.3%
	4-6 Year	72.3%	26.9%	19.4%	19.4%	17.0%	15.0%	13.7%	71.5%
	4-6 Year Beta	76.0%	26.4%	19.5%	19.9%	17.7%	15.7%	14.1%	68.1%
	1-3 Year	63.3%	22.2%	15.9%	16.4%	14.8%	13.1%	11.7%	64.8%
	S&P 500	**54.0%**	**28.6%**	**20.1%**	**18.9%**	**17.9%**	**13.7%**	**12.5%**	**54.0%**

Specific Time Spans

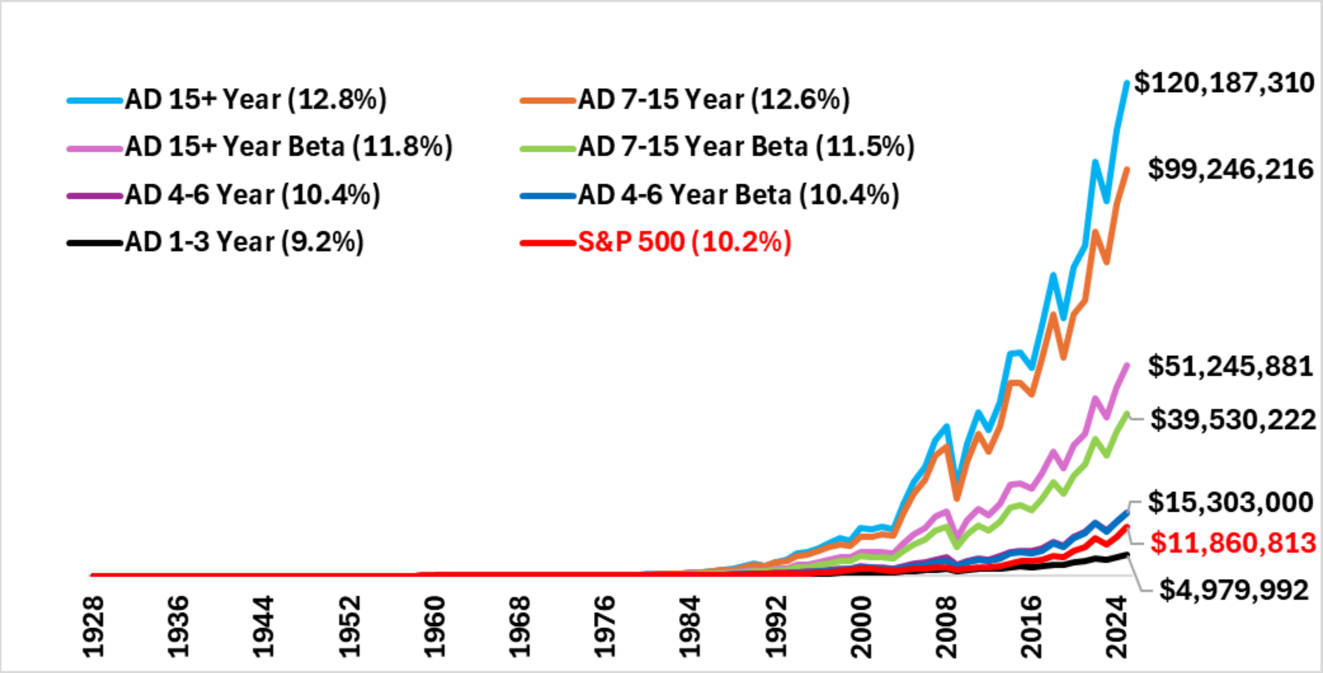
- It is sometimes easier to review results for a specific time span rather than averages for many time spans
- The next slides illustrate AD Growth Portfolio performances for 1928 to 2024, then all the decades beginning with 1940, 1950, etc.
- One slide covers the 2000-2009 when the S&P 500 had a very bad decade – it lost 0.9% per year.
  - It made up for that in 2010-2024, growing 13.9% per year
  - Its overall average for 2000-2024 is 7.7% and 1990-2024 is 10.6%, slightly better than its long-term average of 10.2% since 1928.

AD Growth Portfolios: 1928-2024

Annual Returns. 1928-2024

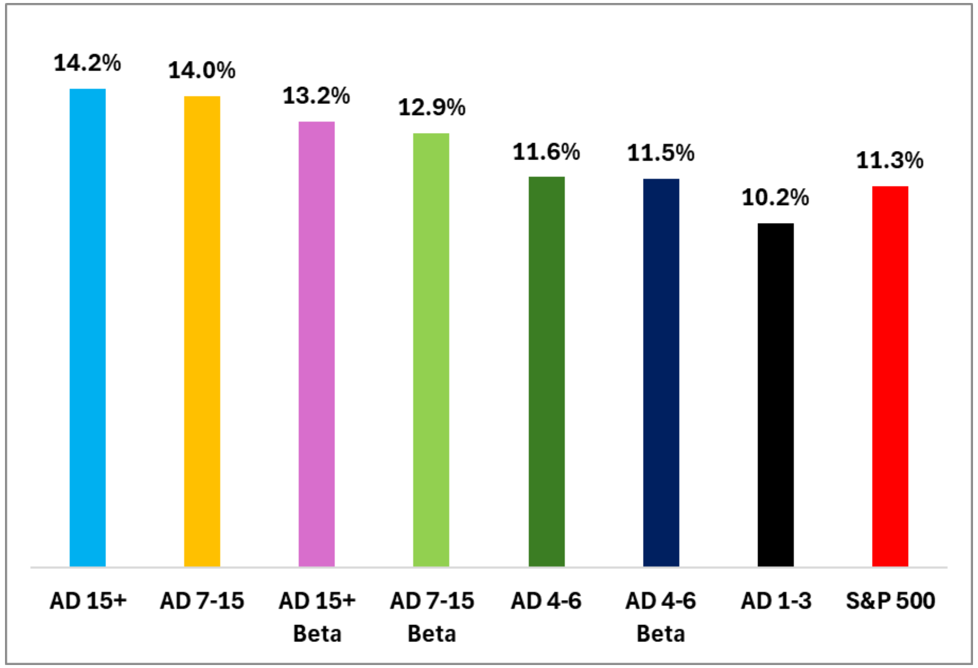


Growth of $1,000 1928-2024

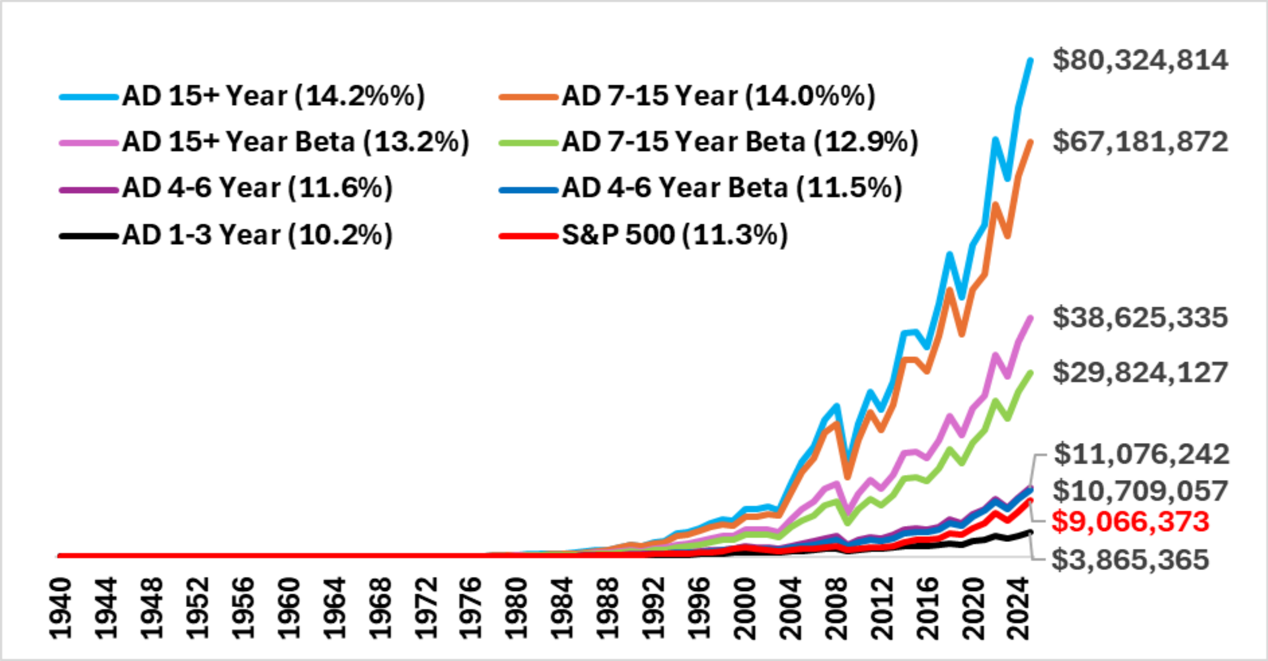


AD Growth Portfolios: 1940-2024

Annual Returns. 1940-2024

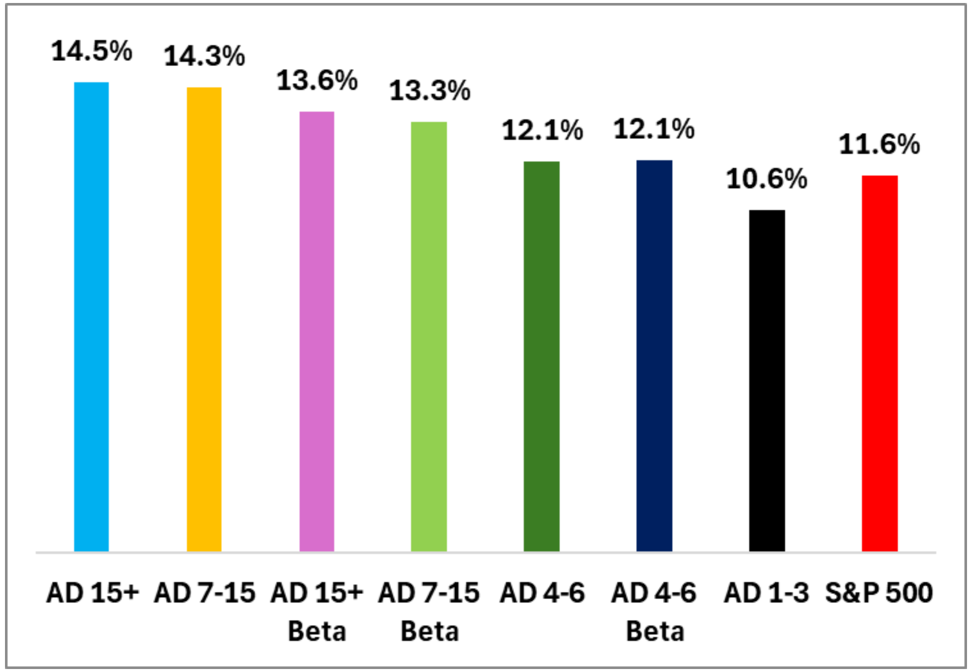


Growth of $1,000 1940-2024

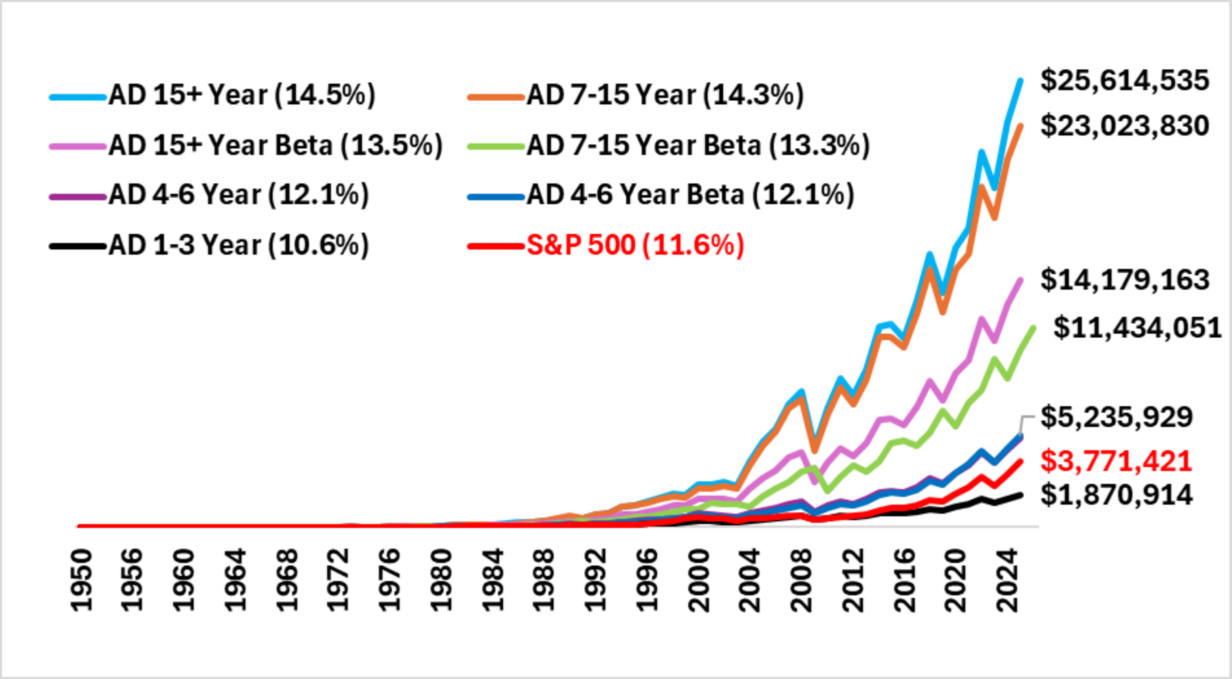


AD Growth Portfolios: 1950-2024

Annual Returns. 1950-2024

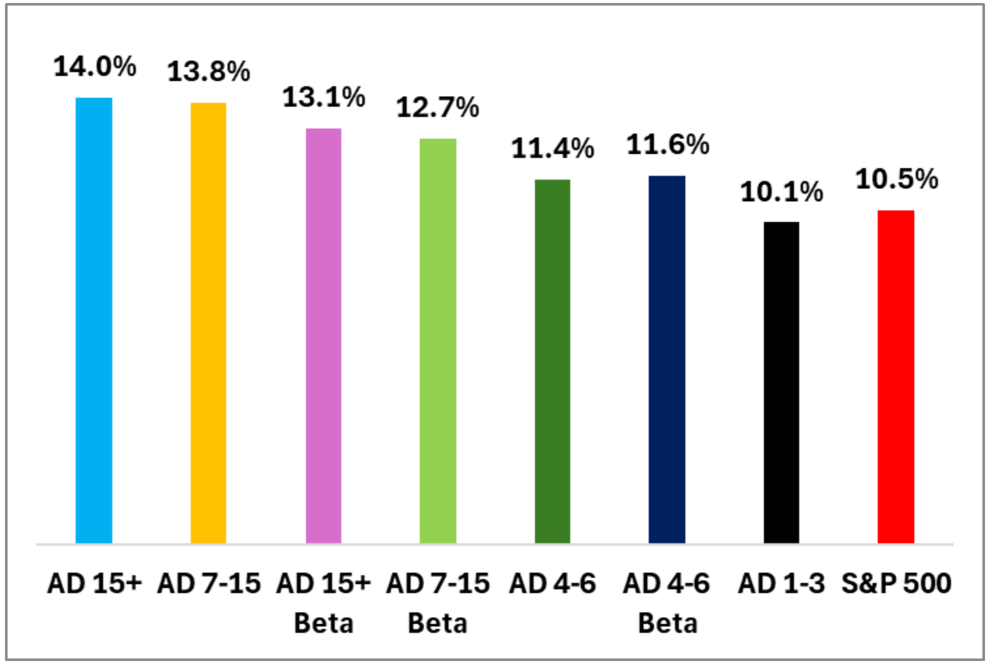


Growth of $1,000 1950-2024

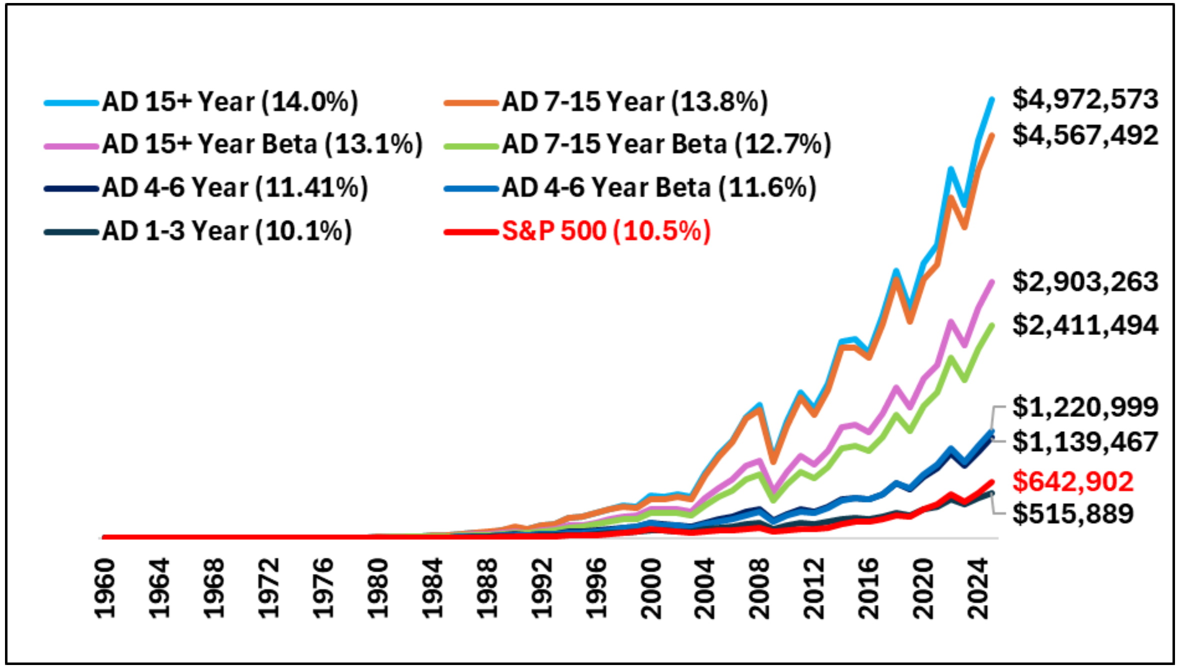


AD Growth Portfolios: 1960-2024

Annual Returns. 1960-2024



Growth of $1,000 1960-2024



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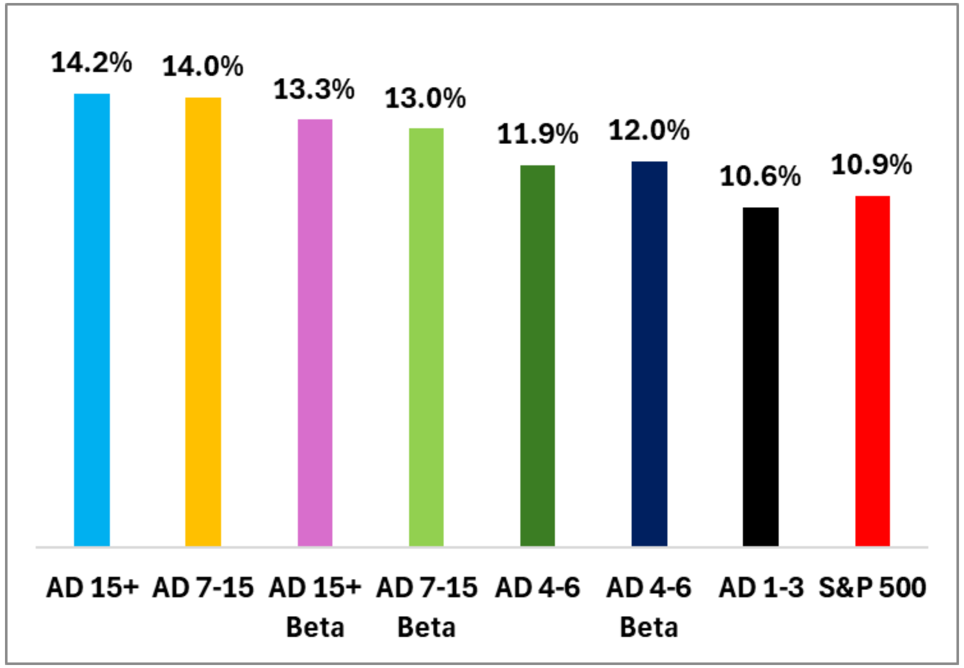
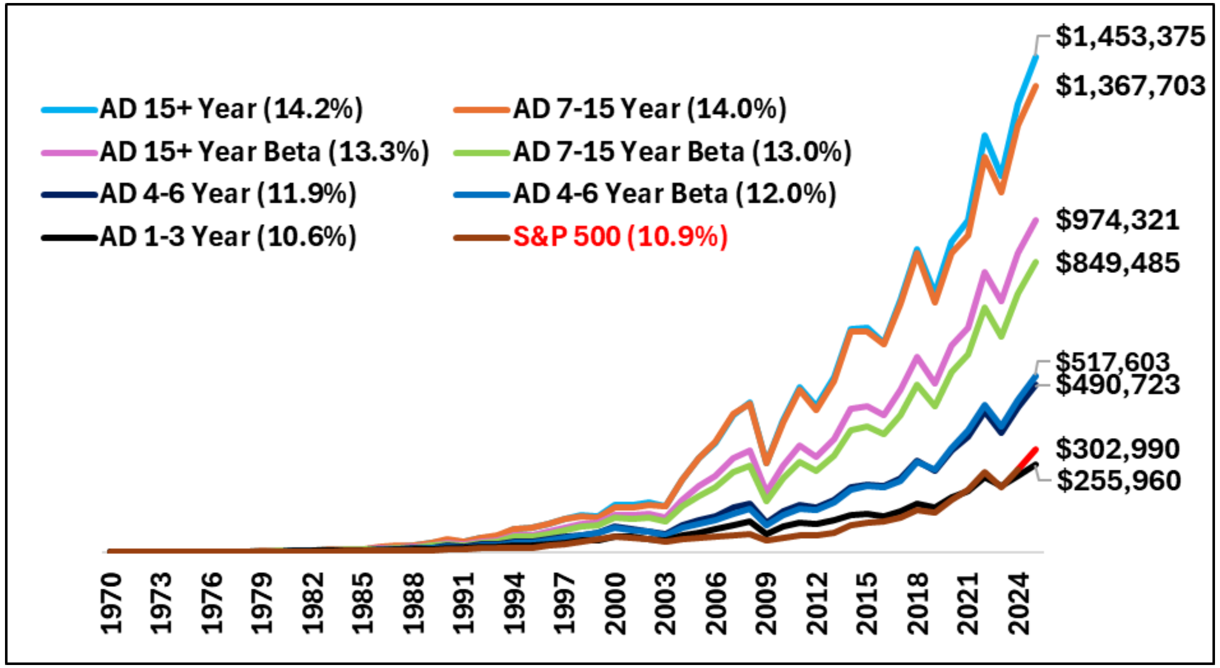
AD Growth Portfolios: 1970-2024

Annual Returns. 1970-2024



Growth of $1,000 1970-2024



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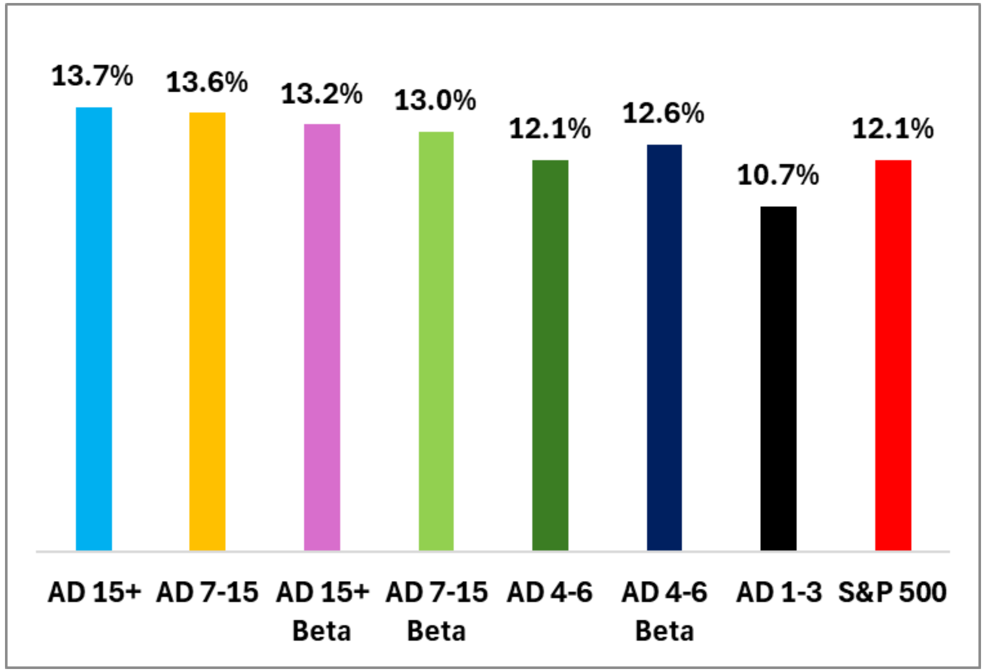
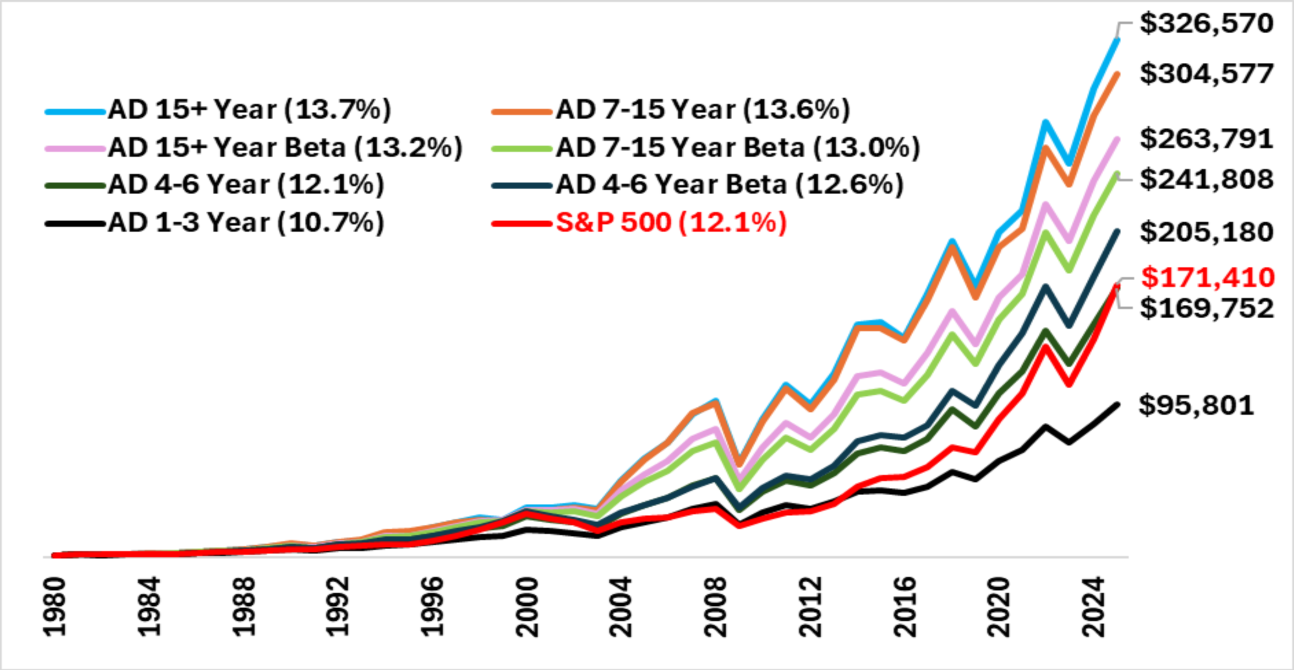
AD Growth Portfolios: 1980-2024

Annual Returns. 1980-2024



Growth of $1,000 1980-2024



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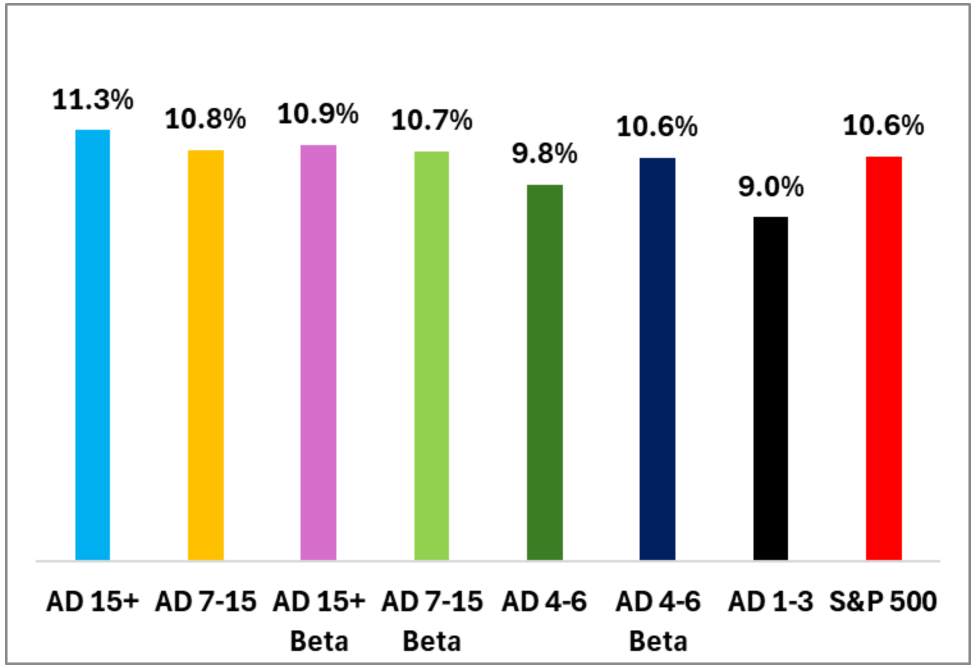
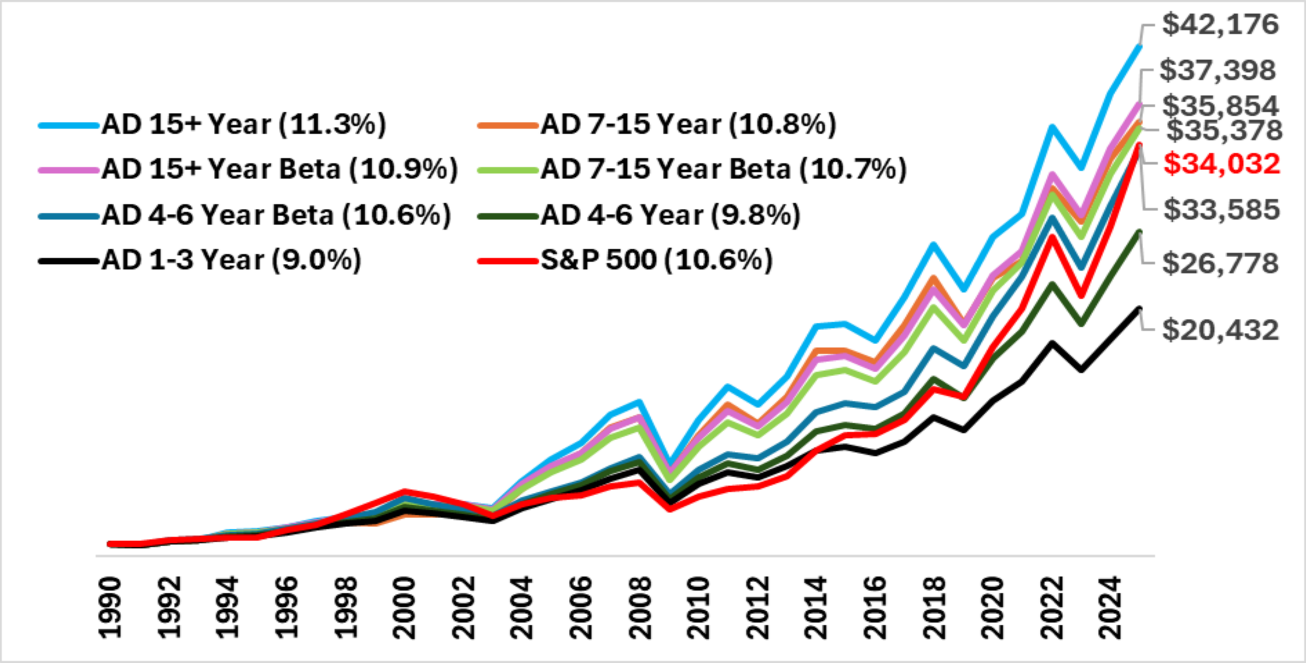
AD Growth Portfolios: 1990-2024

Annual Returns. 1990-2024

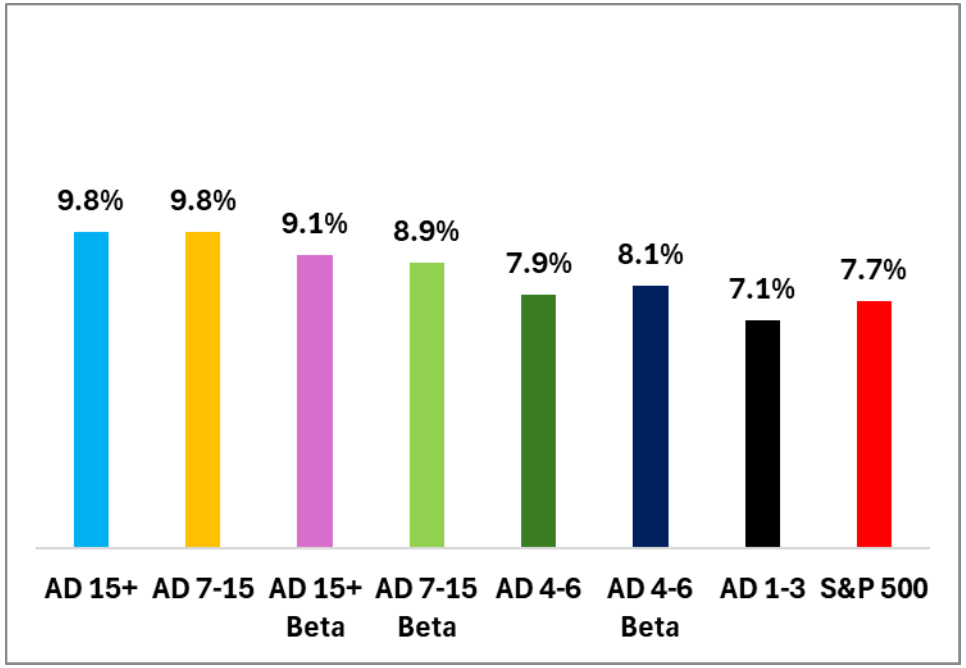


Growth of $1,000 1990-2024

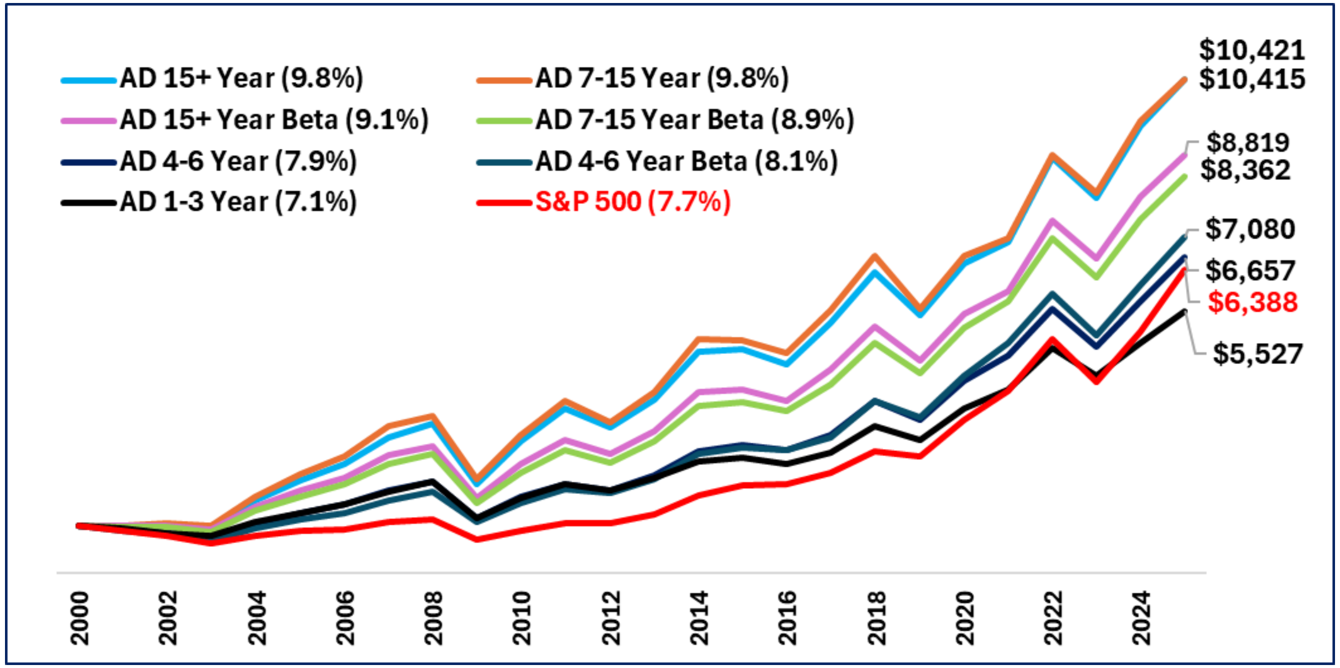


AD Growth Portfolios: 2000-2024

Annual Returns. 2000-2024



Growth of $1,000 2000-2024



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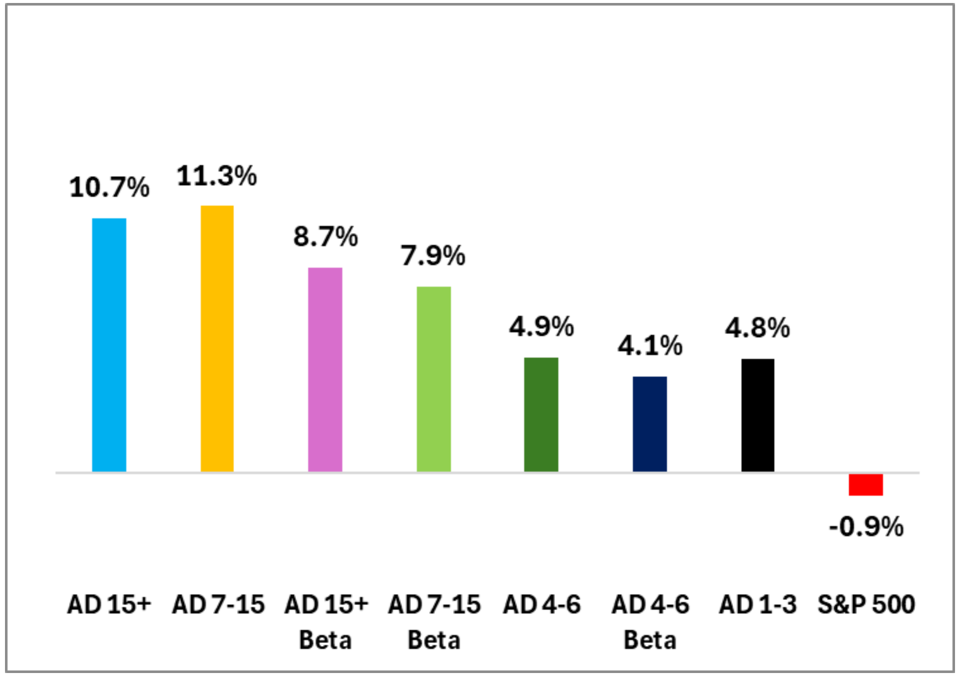
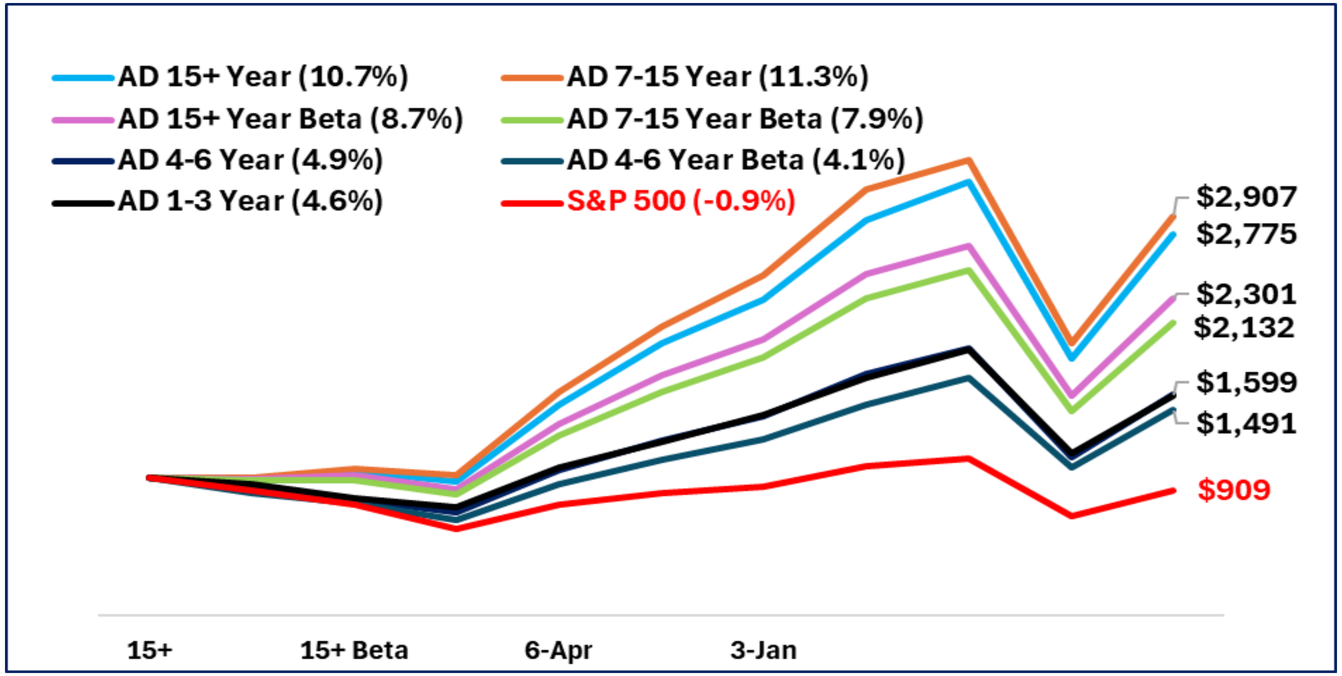
AD Growth Portfolios: 2000-2009 (The "Lost Decade")

Annual Returns. 2000-2009

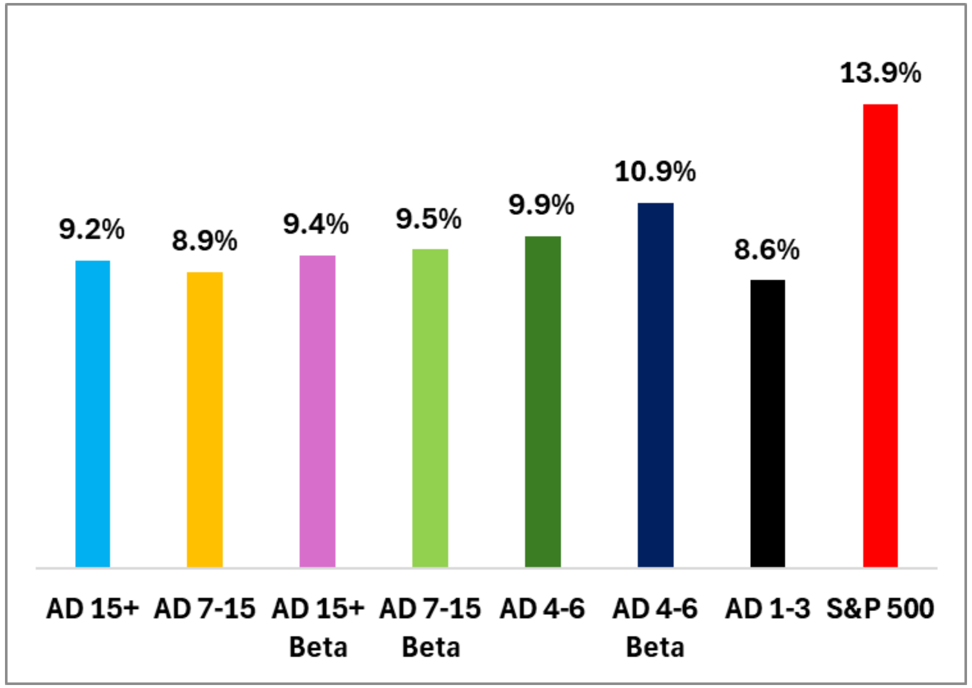


Growth of $1,000 2000-2009

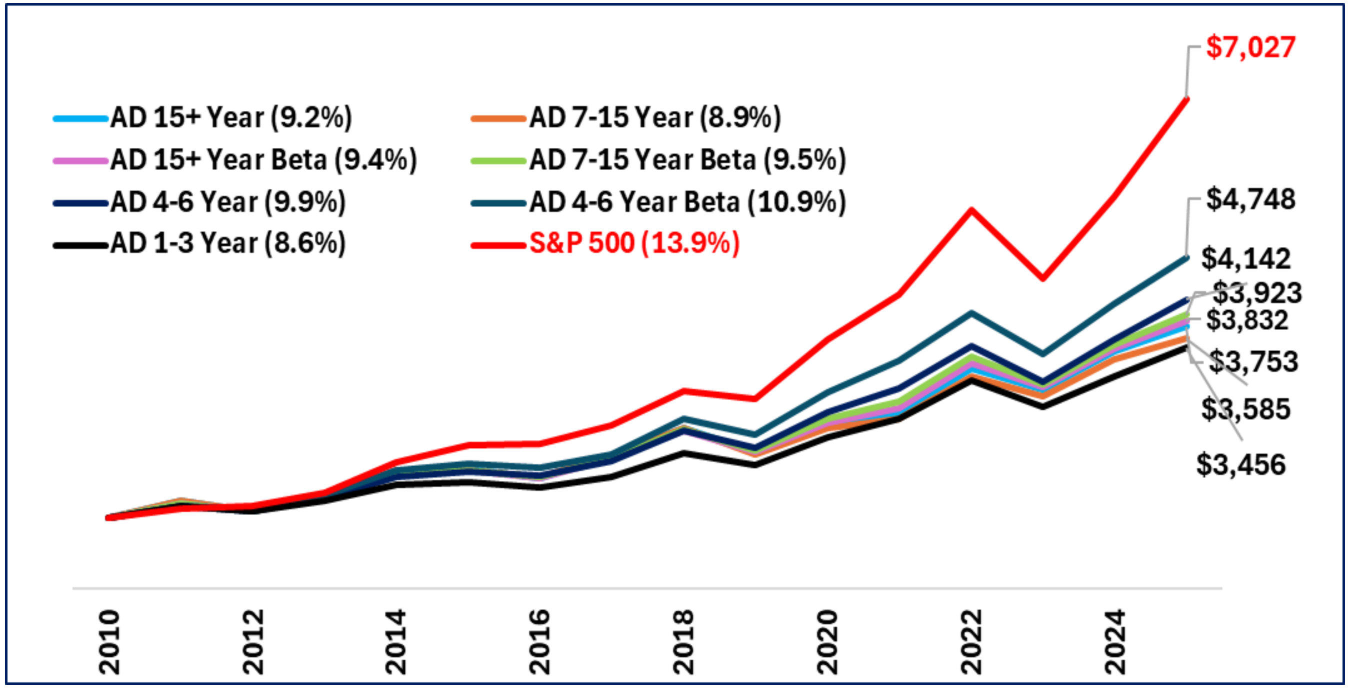


AD Growth Portfolios: 2010-2024

Annual Returns. 2010-2024



Growth of $1,000 2010-2024



Disclosures

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