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Asset class returns are episodic *!!*

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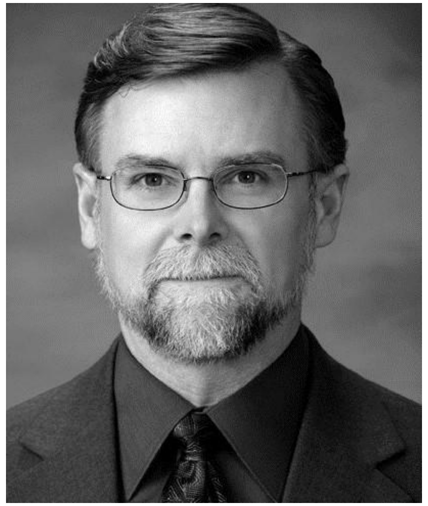

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Episodic . . . What does it mean?

- **Traditional view**
  - Harks back to Harry Markowitz . . . . Early 1950s
  - Basis for mean variance portfolio construction
  - Basis for ***"MPT"*** . . . Modern Portfolio Theory
  - Basis for all financial planning portfolio construction software . . . . All of them
    - Riskalyze
    - MoneyGuidePro
    - FinancialEngines

- **Traditional view . . . . Makes an incredibly bold assumption**
  - All asset class returns follow
    - A lognormal return distribution . . . Or similar probability distribution
    - Distribution is <u>fully</u> described by . . . . . A simple **mean**, **standard deviation**, and **correlation matrix**

- **Critical distinction . . . . Critical flaw**
  - Returns have <u>NO</u> time series properties . . . . i.e., past returns don't and can't affect future returns
  - As a consequence . . . bull and bear markets don't and can't exist
  - One can't have extreme events . . . . Such as an asset category returning a negative return for 30 years

Episodic . . . What does this mean?

- If asset class returns are episodic . . . How does this change things?

- Traditional view
  - The asset class . . . always experiences an <u>average</u> return "of +7%"

- Episodic understanding
  - The asset class switches between eras . . . Between <u>long-lasting</u> episodic eras
  - During the "favorable era" . . . . It's average return "is +15%"
  - But . . . During the "unfavorable era" . . . . It's average return "is -1%"

- Episodic understanding
  - It's not just that there are bull and bear markets
  - It's far worse than that
  - It's that . . . . . Asset categories proceed through long-lasting eras . . . . When their returns
    - Suck big time
    - Or are exceptionally attractive

Do the most informed experts . . . agree?

- Recent 2023 CFA Institute Research Monograph . . . Page 51
  - Rob Arnott . . . *"Just a quick observation: Empirically, mean reversion in returns is weak"*
  - Arnott is saying that "mean reversion" doesn't really even exist, not at all
  - Thomas Philips . . . *"It probably doesn't exist at all. It's really a reflection of moving from one expected return regime to another. The transition induces a realized return that is different from the return that you expected. It's not that returns are mean reverting; it's that expected returns are unstable and move around a lot."*
  - Philips is saying that returns are incredibly episodic . . . Always have been . . . Always will be

- Also reference . . . . *Philips, Thomas K. 1999. "Why Do Valuation Ratios Forecast Long-Run Equity Returns?" Journal of Portfolio Management 25 (3): 39–44*

If true . . .

If asset class returns are truly episodic . . . . What are the implications?

If true . . . If returns are actually episodic

- Then “98%” of all retail portfolio construction . . . is a crock
- Because it assumes behaviors that are false, misleading, and harmful

- Buy&Hold can’t work
- Mean variance optimization can’t work
- The advisor’s portfolio construction software can’t work

Pushback

"But it worked"

Pushback . . . . But it did work

- Pushback . . . . But it did work

- It worked over the last 1-, 5-, and 7-years . . . . Therefore it's good

- It worked over the last 14 ½ years (since Mar 2009) . . . Therefore it's good

- If one tightly restricts oneself to only U.S. returns during the post-industrial era (mid-1949 to the present) . . . It worked . . . Therefore it's good

- Pushback . . . . But it did work
- It worked o
- It worked o
- If one tight
era (mid-19

This line of reasoning is offensive . . .

It expresses the worst kind (and the most harmful forms) of ex-post cherry picking

After the fact, it selects the best performing:

- Country . . . from out of 100
- Time period . . . from out of all

and then has the guts to claim that these past cherry-picked returns are representative of the future

Or what the experts say . . . .

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- Same 2023 CFA Institute Research Monograph

- Dimson . . . *"Exhibit 12 shows how markets performed over the 20th century, the 21st century through 2020, the period since the Global Financial Crisis, and last year (2020). The United States "won" the last century. It won this competition against other major groupings such as Japan, Great Britain, Europe, the world ex–United States, and the world. The United States looks great. It looks great in the post-financial crisis period and great over the long term, so the United States has truly been exceptional. If we teach using the assumption that the United States represents the world as a whole, we are NOT teaching accurately."*

- Dimson is saying that . . . the post-industrial U.S. experience is brutally non-representative and non-repeatable

Show me the data

What does the data say . . . Are returns actually episodic??

Asset Categories Experience Long/Extended Periods of Loss

Asset category	Number of years real return was negative	Start of losing period	End of losing period	Cumulative loss (in %)
	131.1	Jan 1875	Feb 2006	-0.3
Gold bullion	12.4	May 2010	Oct 2022	-1.7
	1.5	Feb 2008	Aug 2009	-4.2
	90.2	Dec 1894	Feb 1985	-0.1
International treasury bonds (GDP-weighted)	17.8	Dec 2004	Oct 2022	-1.2
	3.8	Jun 1879	Apr 1883	-0.3
	86.7	Dec 1894	Sep 1981	-0.2
10-year U.S. Treasury bonds	19.4	May 2003	Oct 2022	-0.7
	4.7	Feb 1889	Oct 1893	-0.2
	45.8	Jan 1936	Oct 1981	-0.6
U.S. corporate bonds (investment grade)	28.5	Jan 1892	Jul 1920	-0.6
	11.0	Feb 2012	Feb 2023	-0.1
	39.7	Aug 1980	Apr 2020	-1.4
Diversified commodities	32.1	May 1917	Jun 1949	-3.0
	21.6	Dec 1950	Jul 1972	-5.4
	21.2	May 1961	Jul 1982	-1.3
U.S. stocks	19.8	Aug 1929	Jun 1949	-5.5
	16.4	Mar 1905	Aug 1921	-2.6
	18.7	Aug 1914	Apr 1933	-0.2
International stocks	16.9	Jan 1936	Dec 1952	-0.5
	15.3	May 2007	Sep 2022	-2.1
	25.7	Apr 1895	Dec 1920	-0.1
60/40 portfolio	15.4	Dec 1936	May 1952	-0.1
	10.5	Jan 1972	Jul 1982	-1.5

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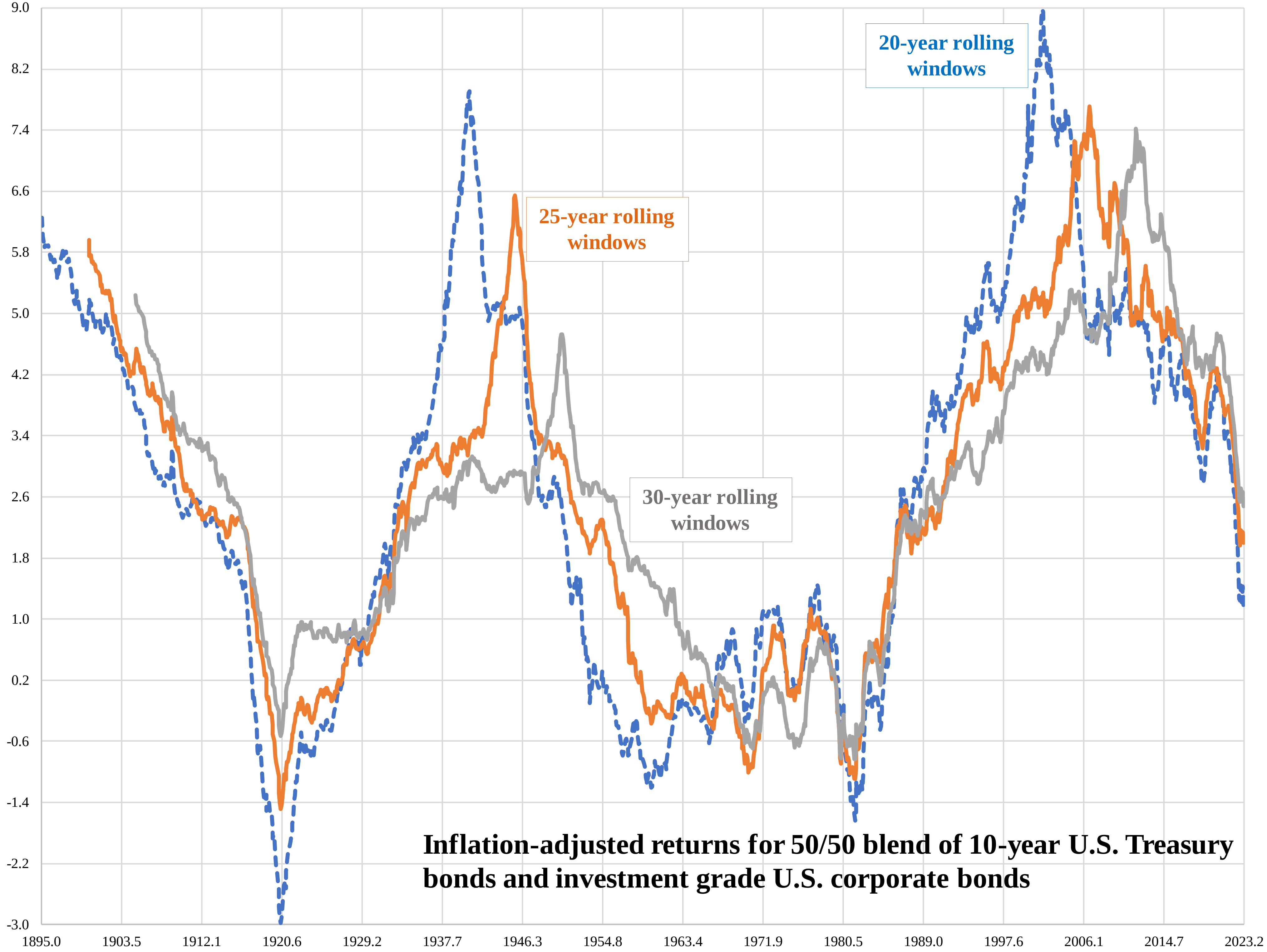
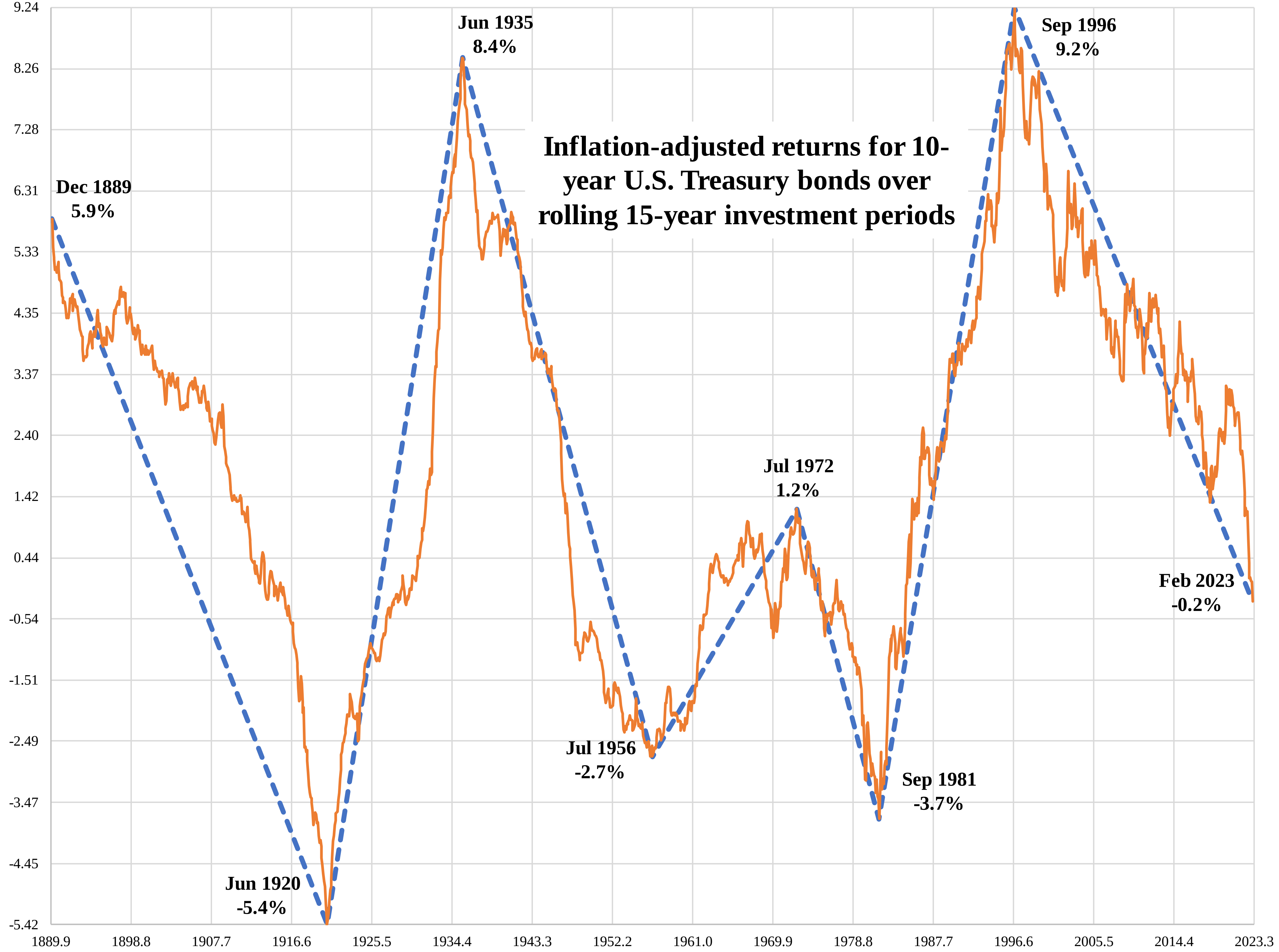
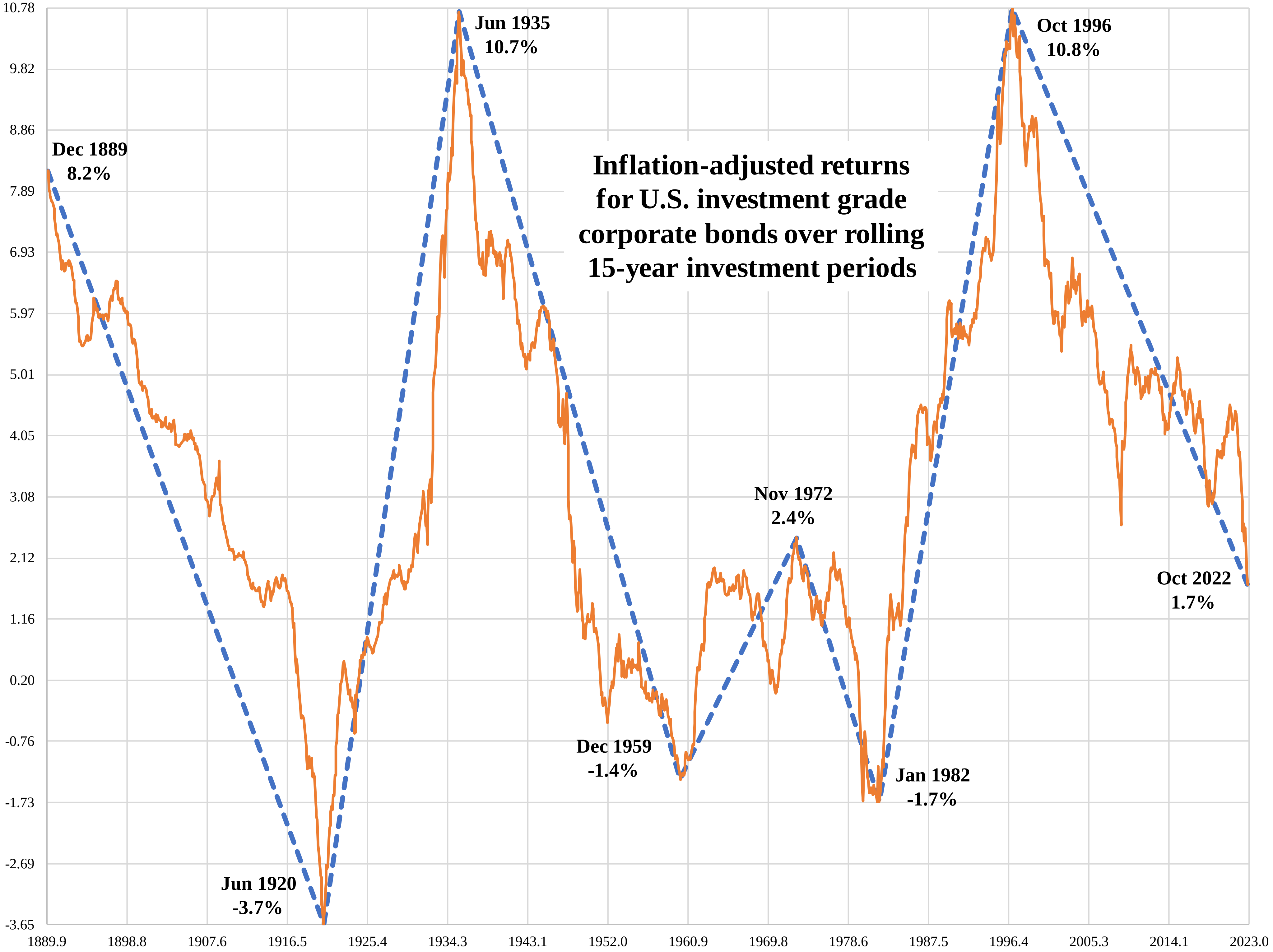
Asset Class Returns are Inherently Unstable



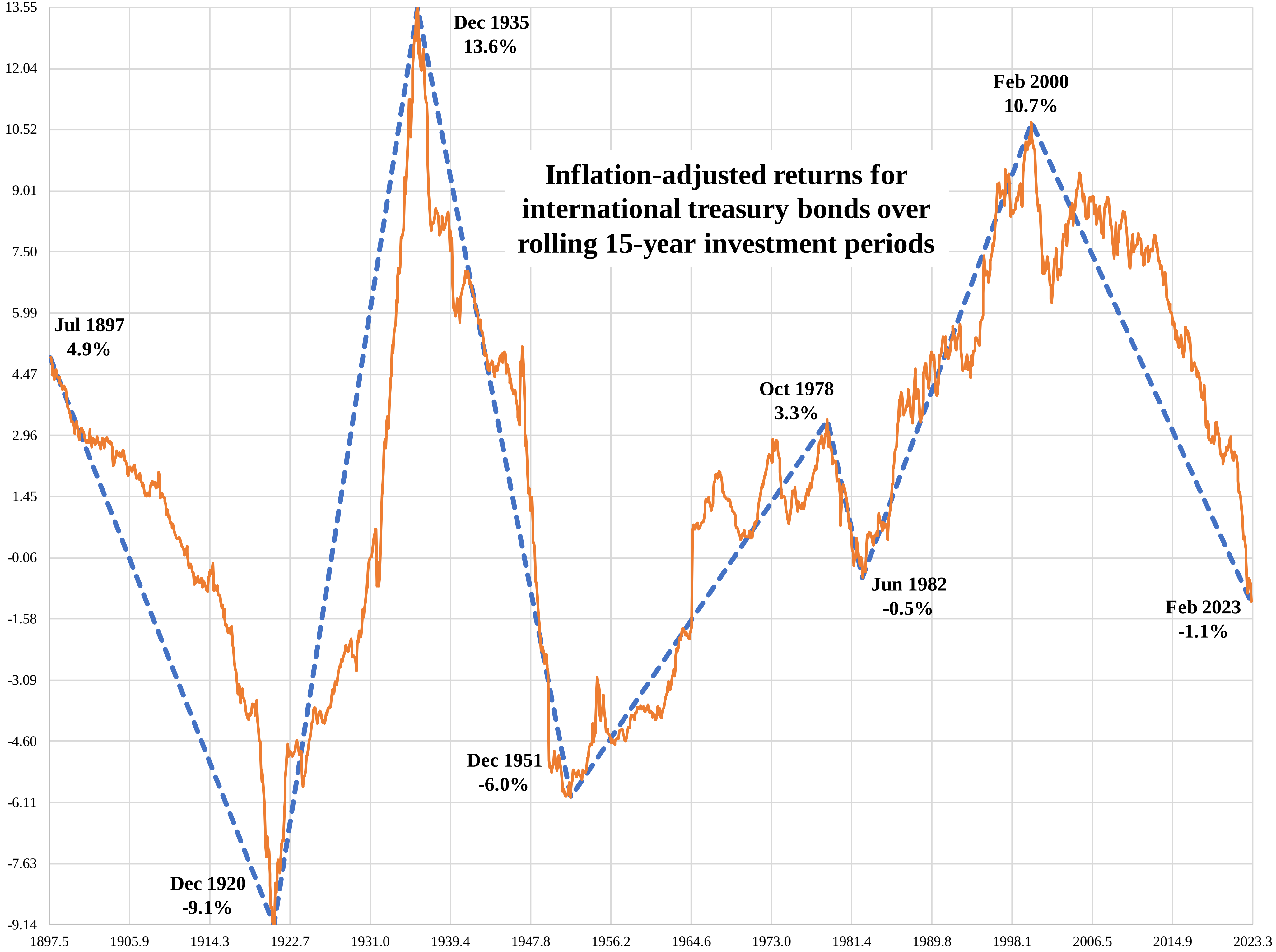
Returns are Strongly Episodic for 10-year U.S. Treasury Bonds



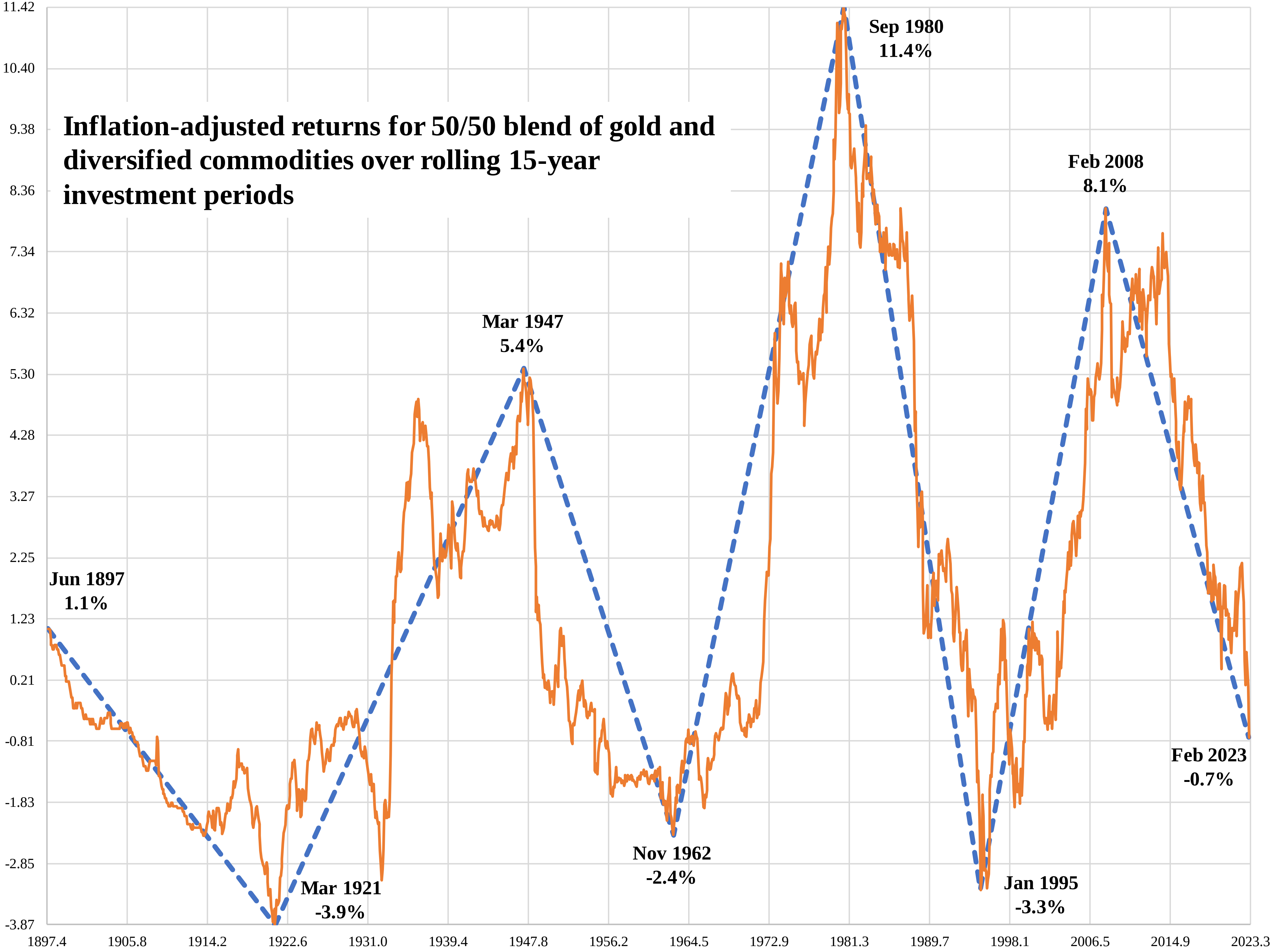
Returns are Strongly Episodic for U.S. Investment Grade Corporate Bonds



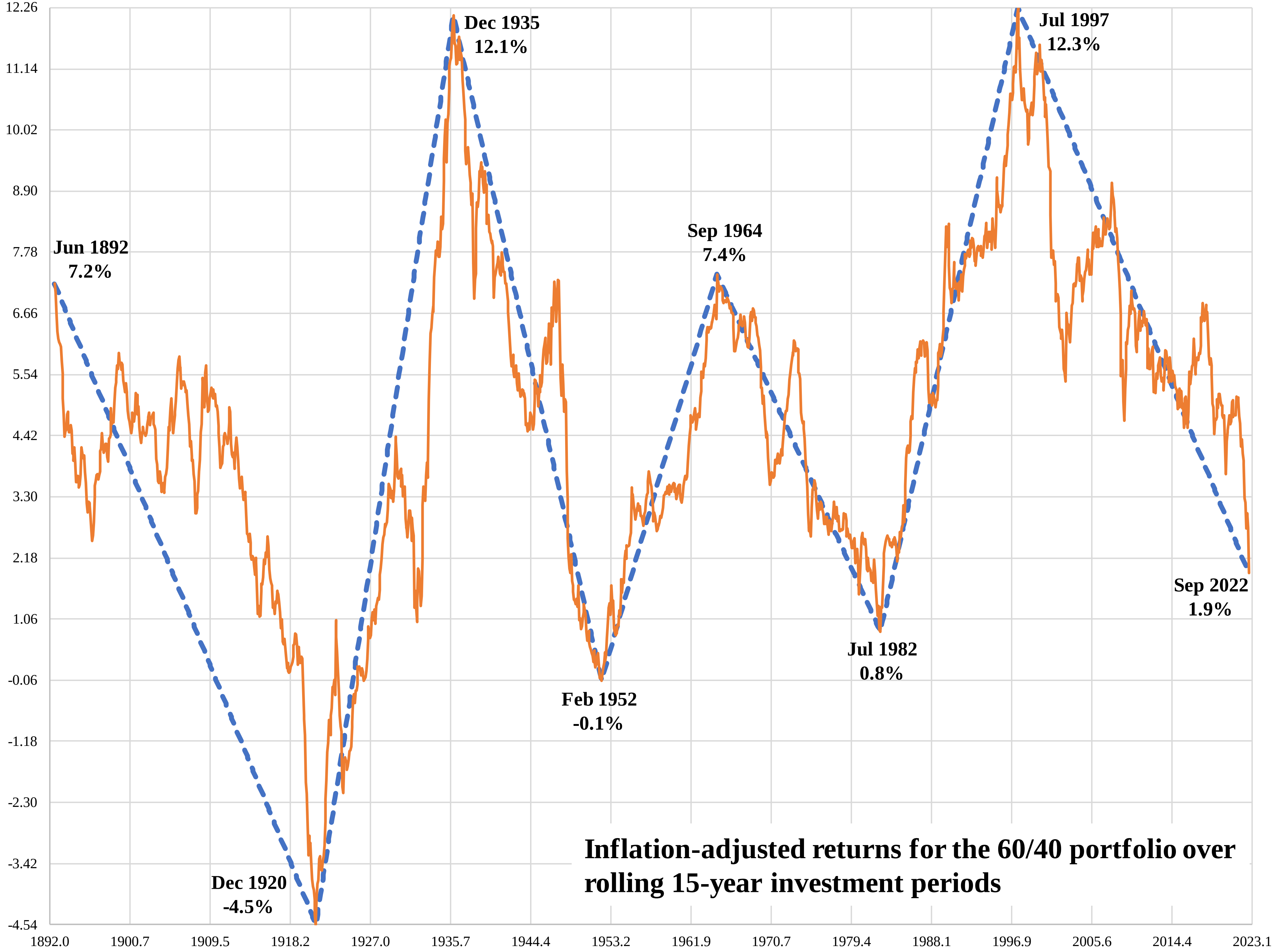
Returns are Strongly Episodic for International Treasury Bonds



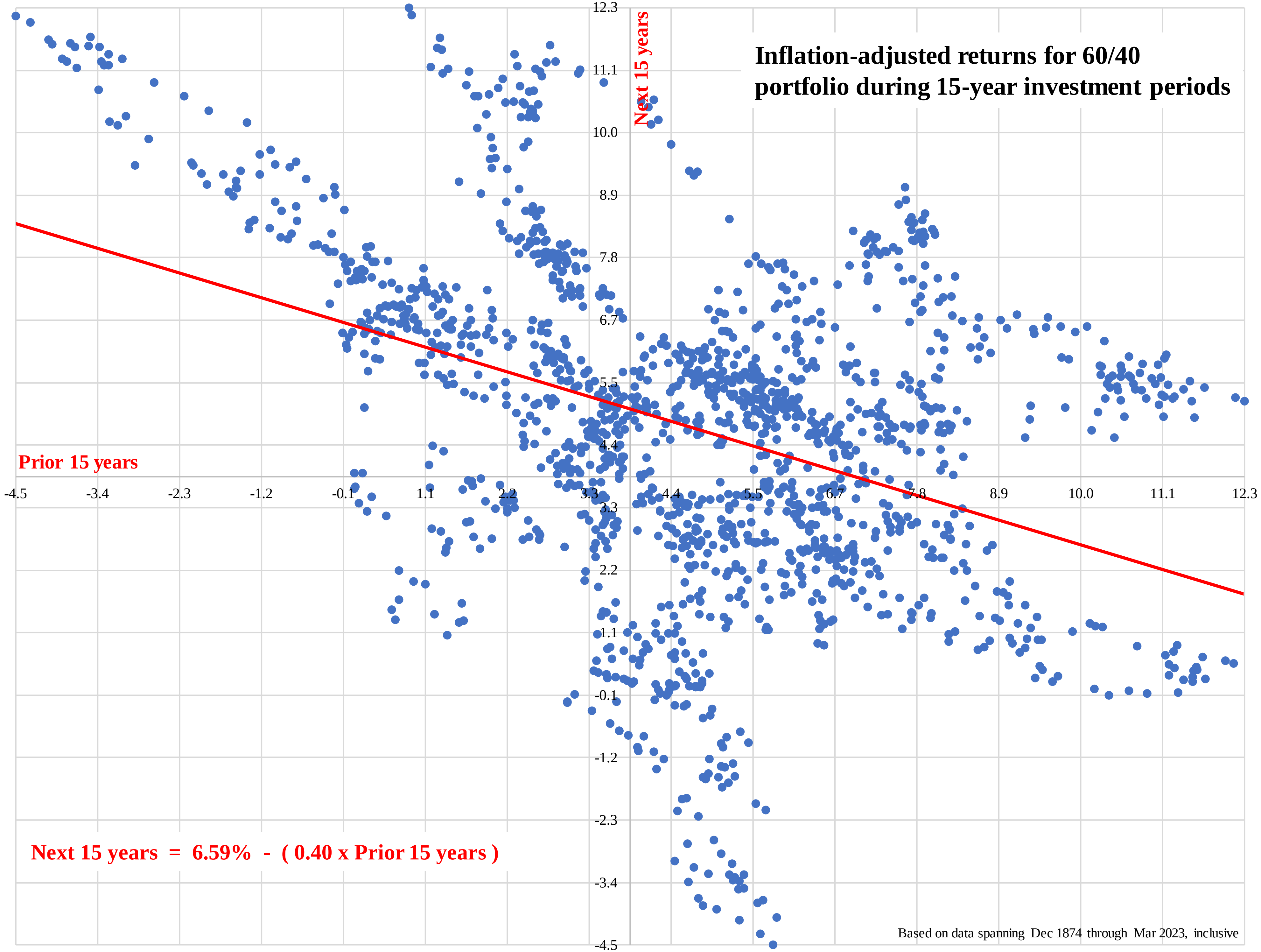
Returns are Strongly Episodic for 50/50 Blend Gold and Diversified Commodities



Returns are Strongly Episodic for the Ultra-Diversified 60/40 Portfolio



Future Returns are Negatively Related to Past Returns (15-year Holding Periods)



Solutions

Solutions

- Financial planning that takes into account episodic eras

- Portfolio construction that takes into account episodic eras

- Use investment strategies . . . That have as their unambiguous goal . . . To mitigate episodic eras
- i.e. . . . . . Tactical asset allocation . . . . That properly accesses (when appropriate)
  - U.S., developed country international, and emerging markets
  - Stocks, bonds, and cash
  - And those commodities . . . . That are most effective at mitigating inflation

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Setting your return assumptions for financial planning (for future needs)

Friday

September 22nd

11:00 a.m. EASTERN

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