INFLATION SURGE: HOW TO INVEST
+ 3 PITFALLS TO AVOID

AAII Los Angeles

Taylor R. Schulte, CFP®
Founder & CEO, Define Financial

DEFINE FINANCIAL

AGENDA

1) About Us
2) Let's Have a Little Fun ☺
3) Inflation Review
4) Gold & Inflation
5) How to Invest
6) Pitfalls to Avoid
7) Q&A

DEFINE FINANCIAL
ABOUT US

Taylor R. Schulte, CFP®
FOUNDER, FINANCIAL PLANNER

Tyler J. Aubrey, CFP®
PARTNER, FINANCIAL PLANNER

Nick A. Schnieders, CFP®
ASSOCIATE FINANCIAL PLANNER

Karen H. Jackson
CLIENT SERVICE MANAGER

DEFINE FINANCIAL
ABOUT US

- Retirement + tax planning for investors over age 50
- $150MM, 85 families
- **Philosophy:**
  - Focus on the things you can control
  - Retirement Plan → Diagnosis
  - Investments → Prescription

TOP 50
APPLE
Investing Podcast

TOP 10
FORBES
Finance Podcast

www.youstaywealthy.com/listen

LET’S HAVE A LITTLE FUN ☺

LET'S HAVE A LITTLE FUN ☺

<u>From 1965 – 1995 (30 yrs):</u>

If you invested at the peak of the market in each year…your annual return was <u>+10.6%.</u>

If you timed the market perfectly…invested at the <u>low point</u> of each year…your return was <u>+11.7%</u>.

The difference between great timing and lousy timing was only 1.1%. <u>Time in</u> the market, is often more important than <u>timING</u> the market.

LET'S HAVE A LITTLE FUN ☺

For the last 100 years, the stock market has declined at least 10% on average every 11 months.

In other words, if an "expert" **predicts an upcoming 10% decline**, they should really just say:

"Everything is normal and this upcoming correction happens, on average, every 11 months."

LET'S HAVE A LITTLE FUN ☺

If you retired in the year 2000:

- With $1 Million
- Invested it in the ***Vanguard Total Stock Market*** index fund
- Withdrew $50k per year (adjusted for inflation)

...you would have been out of money by 2018!

LET'S HAVE A LITTLE FUN ☺

If you retired in the year 2000:

- With $1 Million
- Invested it in an academically sound global portfolio
  - *(i.e., Value, Small Cap, Profitability)*
- Withdrew $50k per year (adjusted for inflation)

…you would have had $2.5 Million in 2018 instead.

Your asset allocation is very important + market-cap weighted funds (even good ones like Vanguard!) can present little-known risks to investors.

INFLATION REVIEW

INFLATION
WHY?

- Inflation is one of the biggest threats to retirement:
  - Nominal vs Real Returns
  - $1MM in 2000 = ~$1.8MM Today
  - ¼ of Americans delaying retirement due to rising costs
- Lack of inflation adjustments by IRS:
  - Mortgage interest deduction (capped $750k)
  - Real estate capital gains exclusion in 1997 ($500k → Today Hypothetical = $900k)
  - Social Security taxation limits set in 1994 ($44,000/$34,000 → Today Hypothetical $80,000/$62,000)
- Lack of pension inflation adjustments (private)
  - 68% of retirees over age 65 collect pensions

Sources: BLS.gov, BMO

INFLATION
WHY?

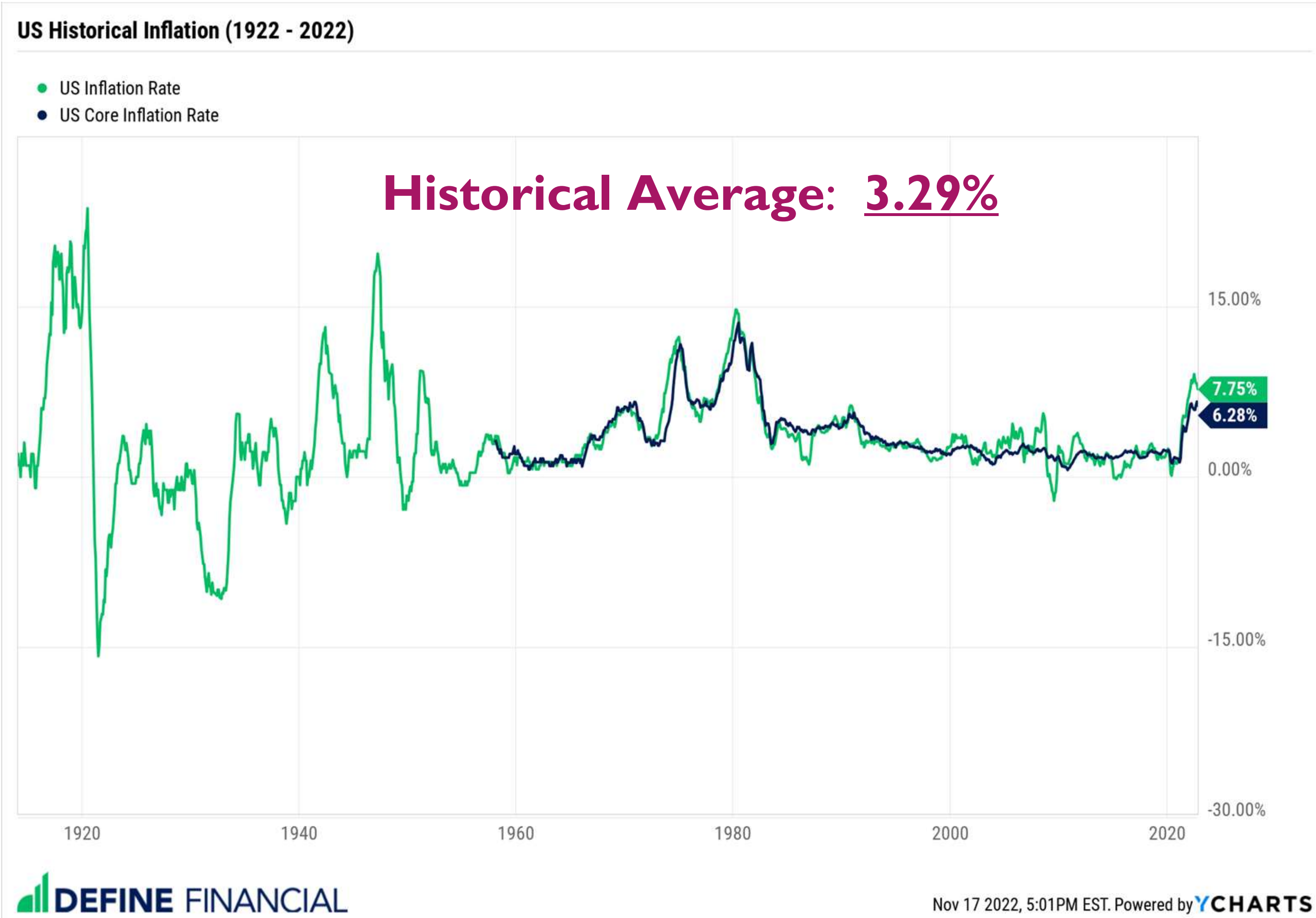
Performance

Monthly: 1/1/1970 - 12/31/1979

Rates of Return (%)

Name	Annualized Return	Cumulative Return
S&P 500 Index	5.86	76.76
US Consumer Price Index	7.36	103.45

Source: DFA Returns



US Historical Inflation (1922 - 2022)
US Inflation Rate
US Core Inflation Rate
Historical Average: 3.29%
15.00%
7.75%
6.28%
0.00%
-15.00%
-30.00%
1920
1940
1960
1980
2000
2020
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Nov 17 2022, 5:01PM EST. Powered by YCHARTS

INFLATION
FED PROJECTION (SEP 2022)

Percent

Variable	Median[1]					Central Tendency[2]					Range[3]				
	2022	2023	2024	2025	Longer run	2022	2023	2024	2025	Longer run	2022	2023	2024	2025	Longer run
Change in real GDP	0.2	1.2	1.7	1.8	1.8	0.1–0.3	0.5–1.5	1.4–2.0	1.6–2.0	1.7–2.0	0.0–0.5	-0.3–1.9	1.0–2.6	1.4–2.4	1.6–2.2
June projection	1.7	1.7	1.9		1.8	1.5–1.9	1.3–2.0	1.5–2.0		1.8–2.0	1.0–2.0	0.8–2.5	1.0–2.2		1.6–2.2
Unemployment rate	3.8	4.4	4.4	4.3	4.0	3.8–3.9	4.1–4.5	4.0–4.6	4.0–4.5	3.8–4.3	3.7–4.0	3.7–5.0	3.7–4.7	3.7–4.6	3.5–4.5
June projection	3.7	3.9	4.1		4.0	3.6–3.8	3.8–4.1	3.9–4.1		3.5–4.2	3.2–4.0	3.2–4.5	3.2–4.3		3.5–4.3
PCE inflation	5.4	2.8	2.3	2.0	2.0	5.3–5.7	2.6–3.5	2.1–2.6	2.0–2.2	2.0	5.0–6.2	2.4–4.1	2.0–3.0	2.0–2.5	2.0
June projection	5.2	2.6	2.2		2.0	5.0–5.3	2.4–3.0	2.0–2.5		2.0	4.8–6.2	2.3–4.0	2.0–3.0		2.0
Core PCE inflation[4]	4.5	3.1	2.3	2.1		4.4–4.6	3.0–3.4	2.2–2.5	2.0–2.2		4.3–4.8	2.8–3.5	2.0–2.8	2.0–2.5	
June projection	4.3	2.7	2.3			4.2–4.5	2.5–3.2	2.1–2.5			4.1–5.0	2.5–3.5	2.0–2.8		
Memo: Projected appropriate policy path															
Federal funds rate	4.4	4.6	3.9	2.9	2.5	4.1–4.4	4.4–4.9	3.4–4.4	2.4–3.4	2.3–2.5	3.9–4.6	3.9–4.9	2.6–4.6	2.4–4.6	2.3–3.0
June projection	3.4	3.8	3.4		2.5	3.1–3.6	3.6–4.1	2.9–3.6		2.3–2.5	3.1–3.9	2.9–4.4	2.1–4.1		2.0–3.0

INFLATION
COMMON MISCONCEPTIONS

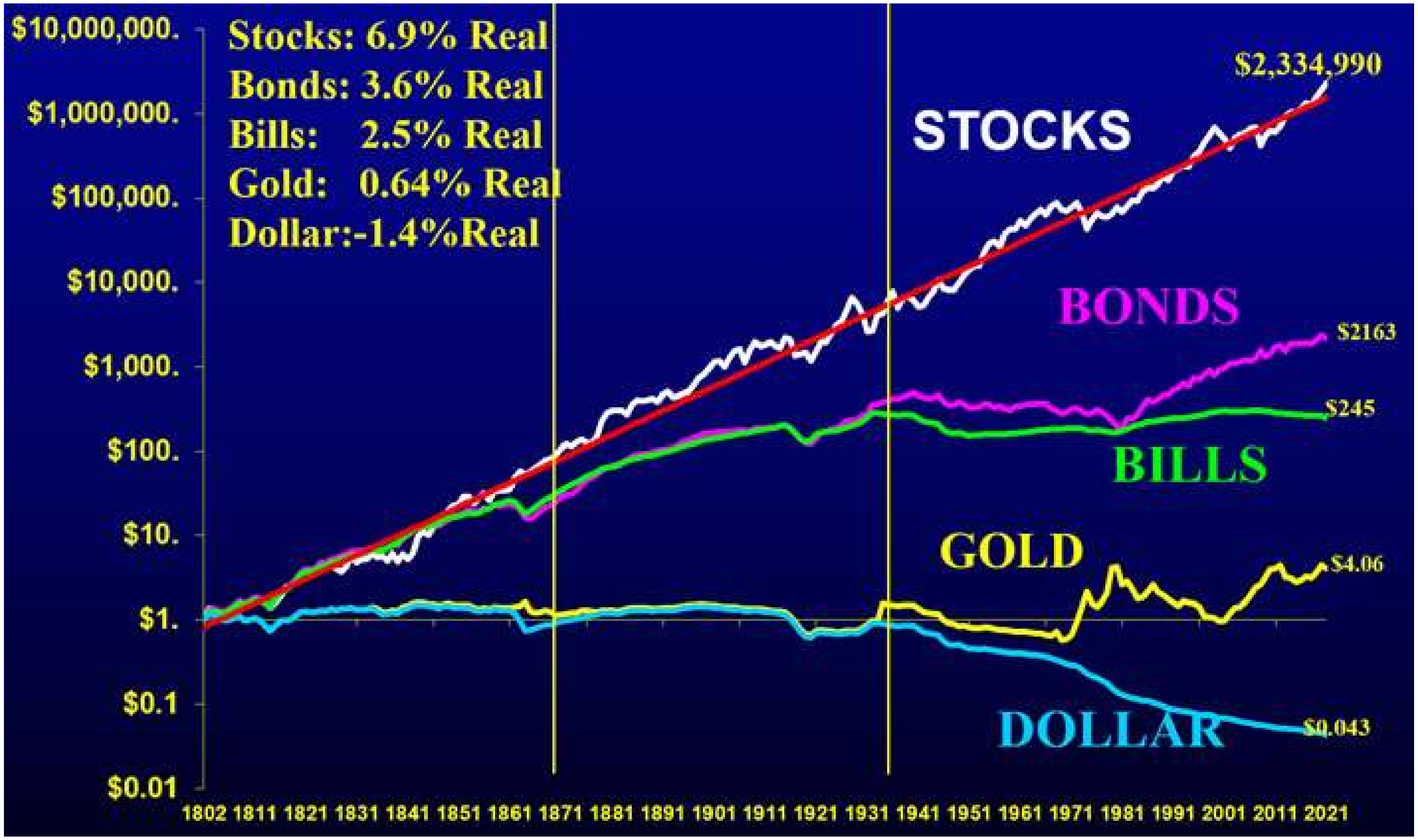
1. **Inflation is Predictable**
   - "Markets provide little useful forward-looking information about inflation. Reports mostly reflect current and past inflation movements…do not contain a lot of useful forward-looking information." (SF Fed)
   - Avg forecasting error was 1.5%
   - Wide margin of error when Fed's target inflation rate is 2-3%

2. **Current Inflation = Future Inflation**
   - Monthly reports are backwards looking
   - October CPI measures October 2021 – October 2022
   - Annual vs Monthly
     - 0.4% in October 2022 vs 0.9% October 2021

INFLATION
COMMON MISCONCEPTIONS

3. **Inflation is Bad!**
   - Inflation increases during economic growth
   - Reduces cost of borrowing (paying lender back with $$$ that is worth less than $$$ loaned to you)
   - Often leads to higher wages
   - Corporations pass higher costs to consumers:
     - When inflation is between 5% and 10%, the real return for stocks= +4.8%
4. **High Inflation = Hyperinflation**
   - Slow process, doesn't happen overnight
   - Continuous 50% increase year over year
   - Occurs around major geopolitical events like losing a war
   - Revolutionary War 1779 (Inflation 47%) and the Civil War 1864 (Inflation 40%)

GOLD & INFLATION



Source: Jeremy Siegel, Stocks for the Long Run

GOLD & INFLATION

Why Not:

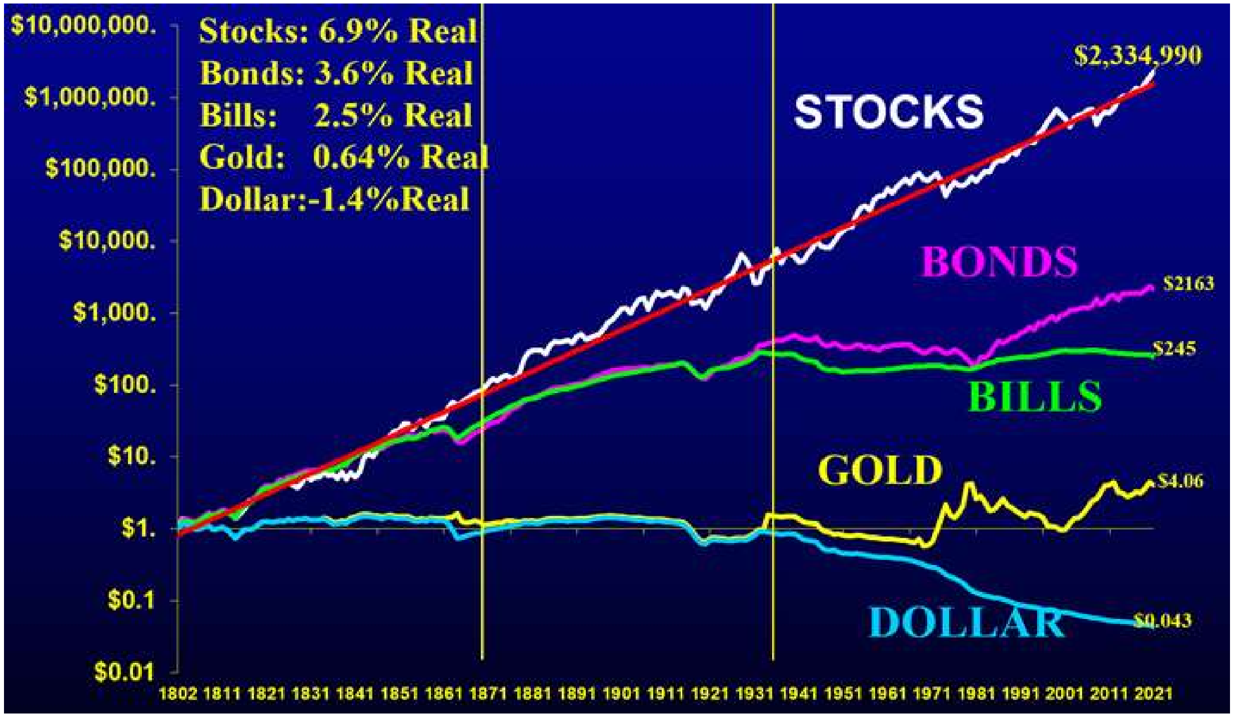
- Expensive
- Lacks cash flow/dividends
- High volatility + lower risk-adjusted returns
- Rises in anticipation of inflation, not with inflation (low correlation, market timing)

Why:

- Buy/sell and *potentially* profit over short periods of time (speculative trading asset class)
- **1970 – 2022**
  - Inflation: +4%
  - Gold: +7.5% *(SD = 19%)*
  - S&P 500 +10% (SD =15%)
- Future ≠ Past

INFLATION:
HOW TO INVEST

INFLATION: HOW TO INVEST
1) STOCKS



Source: Jeremy Siegel, Stocks for the Long Run

INFLATION: HOW TO INVEST
1) STOCKS

Source: Ben Carlson, awww.wealthofcommonsense.com

Inflation	S&P 500	Year
14.4%	5.2%	1947
13.6%	31.7%	1980
11.3%	18.5%	1979
11.1%	-25.9%	1974
10.9%	19.2%	1942
10.3%	-4.7%	1981
9.1%	37.0%	1975
8.5%	-8.4%	1946
7.9%	23.7%	1951
7.7%	5.7%	1948
7.6%	6.5%	1978
6.5%	-7.0%	1977
6.2%	-14.3%	1973
6.1%	20.4%	1982
6.0%	25.1%	1943
5.8%	3.6%	1970
5.7%	23.8%	1976

Highest Calendar Year Inflation Rates vs S&P 500 (Since 1928):

- Avg annual return = +9.4%
- ~50% of time periods had double-digit returns
- Returns were 20%+ during 1/3 of the years

Performance

Monthly: 1/1/1926 - 9/30/2022

Rates of Return (%)

Name	Annualized Return
S&P 500 Index	10.07
US Consumer Price Index	2.95

Source: DFA Returns

- Corporations pass higher costs to consumers
- U.S. dividends and earnings have grown ~5%/year

Performance

Monthly: 7/1/1926 - 9/30/2022

Rates of Return (%)

Name	Annualized Return
Fama/French US Small Value Research Index	14.25
Fama/French US Small Growth Research Index	8.73
US Consumer Price Index	2.97

Source: DFA Returns

HOW TO INVEST
2.) BONDS

Performance

Monthly: 1/1/1926 - 9/30/2022

Rates of Return (%)	
Name	Annualized Return
US Consumer Price Index	2.95
Five-Year US Treasury Notes	4.87

Source: DFA Returns

- Higher inflation → higher interest rates
- Reinvest maturing bonds at higher yields
- Best predictor of bond return is starting yield

HOW TO INVEST
2.) BONDS

Why Bonds Outperform Inflation:

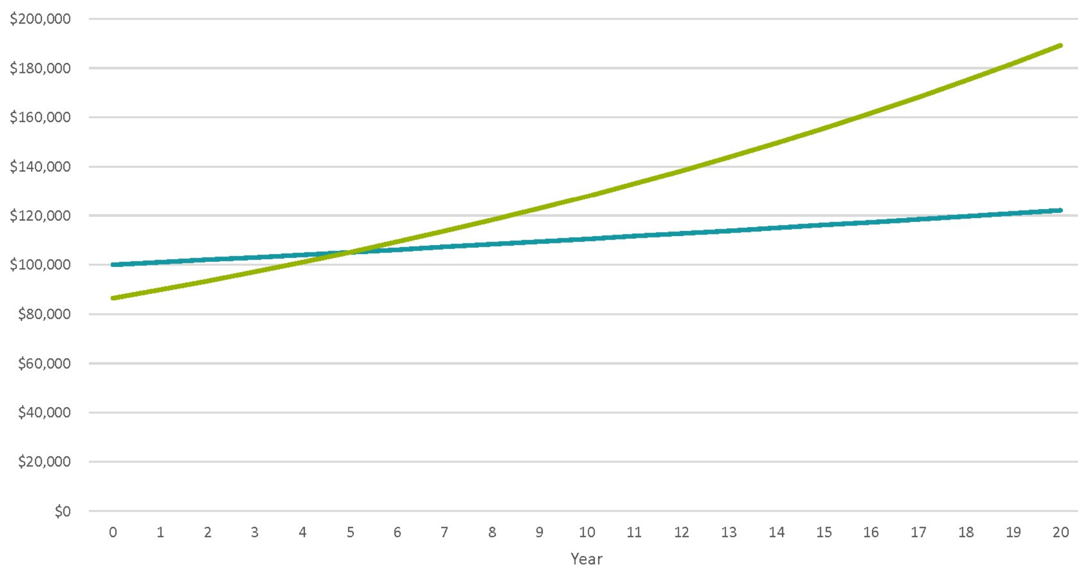
- Higher inflation = higher interest rates
- Reinvest maturing bonds at higher yields
- Best predictor of bond return is starting yield

Case Study: Growth of Wealth

Bond Duration is Less Than Investment Horizon

SCENARIO 1
Starting rates remain at 1% throughout the entire period

SCENARIO 2
Interest rates immediately increase to 4% and remain at 4% throughout the period



Year	SCENARIO 1	SCENARIO 2
0	$100,000	$86,385
1	$101,000	$89,841
2	$102,010	$93,434
3	$103,030	$97,172
4	$104,060	$101,059
5	$105,101	$105,101
6	$106,152	$109,305
7	$107,214	$113,677
8	$108,286	$118,224
9	$109,369	$122,953
10	$110,462	$127,871
11	$111,567	$132,986
12	$112,683	$138,306
13	$113,809	$143,838
14	$114,947	$149,592
15	$116,097	$155,575
16	$117,258	$161,798
17	$118,430	$168,270
18	$119,615	$175,001
19	$120,811	$182,001
20	$122,019	$189,281

Bond Duration – 5 years
Investment Horizon – 20 years
Starting Interest Rate[1] – 1%
Starting Wealth – $100,000

The analysis, projection, concept, and/or illustration on this page must be reviewed in conjunction with the limitations and conditions disclosed on the Disclaimer page at the end of this report.

1. Assumes flat yield curve.

For illustrative purposes only. Case study is provided for informational purposes only. Data presented in the Growth of Wealth chart are hypothetical and based on mathematical principles, are not representative of indices, actual investments or actual strategies managed by Dimensional, and do not reflect costs and fees associated with an actual investment. Fixed income securities are subject to increased loss of principal during periods of rising interest rates. Fixed income investments are subject to various other risks, including changes in credit quality, liquidity, prepayments, call risk, and other factors.

HOW TO INVEST
3) TREASURY INFLATION PROTECTED SECURITIES (TIPS)

Performance

Monthly: 3/1/1997 - 9/30/2022

Rates of Return (%)

Name	Annualized Return
US Consumer Price Index	2.45
Bloomberg U.S. TIPS Index	4.69
Bloomberg U.S. Treasury Bond Index	3.90

Source: DFA Returns

HOW TO INVEST
3) TIPS

- US Govt Bonds designed to deliver after-inflation returns over long-term
- In the short-term, TIPS are volatile:
  1. Contain interest rate risk
  2. Inflation-adjustment paid at maturity (5, 10, or 30 years)
- Outperform when inflation is ABOVE market expectations
  - **2021**: TIPS outperformed nominal bonds by ~5.5% *(TIP vs GOVT)*
  - **2022:** High inflation already priced in
- Current inflation already baked into prices/yields
- Swensen philosophy:
  - TIPS and Nominal Bonds Split 50/50
  - Active market timing decision to overweight TIPS

HOW TO INVEST SUMMARY

Primary goal of investing is to combat inflation:

1. Diagnosis (retirement/financial plan) drives asset allocation (prescription)
2. Diversify between stocks, bonds (nominal and TIPS), and cash
3. Minimize costs
4. Focus on the things you can control
5. Stay the course

3 PITFALLS TO AVOID

INFLATION
5 PITFALLS TO AVOID

1. Timing inflation and the market
2. Taking action
   - "Don't do something, stand there." ~Jack Bogle
3. Chasing fads and/or complex products
   - Hedge funds/Managed futures
   - Gold/commodities
4. **BONUS** - Failing to factor inflation into your retirement plan
   - Favor higher than average rates in future projections (4-6% vs 2-3%)
5. **BONUS** - Letting the tax tail wag the investment dog

FINAL THOUGHTS

1. Get curious
2. Study history
3. Diagnose before prescribing

"The best use of imagination is creativity. The worst use of imagination is anxiety." ~Deepak Chopra

Q&A

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