Why More Investors Should Be Using Tactical Allocation as Their Core Investment Strategy

Silicon Valley Computerized Investing Group
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Peter Lingane

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Peter has benefited from the ideas, criticisms and stimulation of the Silicon Valley Computerized Investing Group since 2013.

Peter invests in the SIMPLERM and N100 strategies. He receives no compensation in any form from Julex Capital Management LLC.

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It's Worth Repeating …

- Examples are not recommendations.
- "Trust, but verify!"
  A written version of this seminar will be posted at www.lingane.com/qi.
- Backtesting provides no guarantees; one can't invest in the past.

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"Winners Repeat, Losers Repeat" Rob Brown, *J. Investing*, August 2022.

- "Proof-of-concept" momentum strategy. 27 sectors; everything with good, 102 year histories.
- 11-month return, top8, equal weight.
- Six static portfolios based on the same sectors.
- Is the tactical portfolio or one of the static portfolios more likely to meet the client's goal?

  CAGR ≥ 4.25% (net of inflation) over 12.5 years.

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Setting the financial goal. Minimum CAGR over 12.5 years

- Saving for a wedding in 10-15 years.
- The budget is $35,000 in current dollars. You have $20,000.
- Required CAGR, net of inflation, is
  35,000/20,000^(1/12.5) – 1 = 4.6%

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Probability of achieving CAGR ≥ 4.25% over 12.5 years. Brown, Exhibit 6.

Probability	Tactical	Static Portfolio 1	Static Portfolio 6
99%	2.4	-1.0	0.8
97%	4.6 (~ goal)	-0.4	1.6
95%	5.5	0.0	2.0
90%	7.7	1.0	2.7
80%	8.9	3.3	3.8
70%	9.5	4.3 (~ goal)	4.6 (~ goal)

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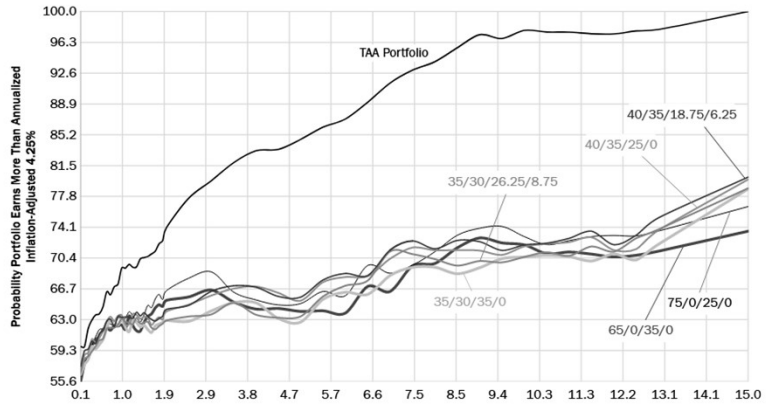
Time is Required for Tactical's Outperformance to Develop

Brown Exhibit 9.



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"If you are not using a tactical strategy, why not?"

This presentation will confirm Brown's observations using 50-year tactical strategies applied to investible portfolios of large cap US stocks, foreign stocks, real estate, bonds and Tbills.

We then answer Brown's question.

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- Equity returns were adjusted monthly by CPI-U; this affects CAGR, mSD and maxDD.

  Adjustment does not affect Sharpe or UPI.

- Performance statistics were developed from monthly equity curves. See "Definition of Timing and Allocation Algorithms," www.lingane.com/qi.

  Bigger is better for CAGR, Sharpe Ratio and UPI.

  Smaller is better for mSD, maxDD and the risk of penury.

- For how the data histories were constructed, see "Curated Data" at www.lingane.com/qi.

- Statistics are generally before management fees and income tax.

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Using a Static Allocation to Bonds to Enhance the Core Portfolio.

CAGR, mSD and maxDD adjusted for inflation.

1973 - Sep 2022 (~ 50 years)	CAGR	mSD	Sharpe	maxDD	UPI
LrgCapUS	5.9	4.5	0.4	54	0.4
IGBond	2.1	1.5	0.4	32*	0.8
Static 60 LrgCapUS, 40 IGBond	4.7	2.8	0.5	38	0.7
Static 40 LrgCapUS, 60 IGBond	3.9	2.1	0.5	30	1.0

Adding bonds reduces volatility (mSD) and maxDD but adding bonds also reduces the return.

*Bonds lost one third of their inflation-adjusted value 1973 - 1981. In nominal terms, maxDD was 13% in September 2022.

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Using Timing to Enhance the Core Portfolio. The choice is LrgCapUS or IGBond.

1973 - Sep 2022 (~ 50 years)	CAGR	mSD	Sharpe	maxDD	UPI
LrgCapUS	5.9	4.5	0.4	54	0.4
Static 60 LrgCapUS, 40 IGBond	4.7	2.8	0.5	38	0.7
Timing (LrgCapUS or IGBond)					
Absolute Momentum	7.2	3.6	0.6	32	1.0
Composite Timing	7.5	3.3	0.7	34	1.2

Timing reduces volatility and maxDD while increasing return.

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Using Momentum to Enhance the Core Portfolio

FundX is average return over prior 1, 3, 6 and 12 months.

1973 - Sep 2022 (~ 50 years)	CAGR	mSD	Sharpe	maxDD	UPI
LrgCapUS	5.9	4.5	0.4	54	0.4
Static 60 LrgCapUS, 40 IGBond	4.7	2.8	0.5	38	0.7
Composite Timing	7.5	3.3	0.7	34	1.2
FundX Momentum					
Active 60:40, LrgCapUS or IGBond	6.5	3.3	0.6	29	1.0
Top2 of 5 (US, xUS, RE, 2 IGBond)	8.5	3.1	0.8	30	1.5
Top2 of 7 (2 IGBond & 2 Tbills)	8.5	3.0	0.8	21	1.5

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Using Momentum and Timing to Enhance the Core Portfolio

- Antonacci's Dual Momentum strategy uses the total return over 12 months to choose between US and foreign stocks and Absolute Momentum timing to choose between stocks and bonds.
- The SIMPLE strategy evolved from the Dual Momentum strategy. It uses FundX to choose the top2 from among US stocks, foreign stocks and USREITs and Composite timing to choose between stocks and bonds.

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Using Momentum plus Timing to Enhance the Core Portfolio

Sharpe ratio and UPI are calculated from nominal returns. CAGR, mSD and maxDD are inflation-adjusted.

1973 - Sep 2022 (~ 50 years)	CAGR	mSD	Sharpe	maxDD	UPI
LrgCapUS	5.9	4.5	0.4	54	0.4
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Top2 of 7 (US, xUS, RE, 2 IGBond & 2 Tbills)	8.5	3.0	0.8	21	1.5
Momentum and Timing					
Dual Momentum (Top1 US, xUS)	9.9	3.7	0.8	22	1.5
SIMPLE (Top2 US, xUS, RE)	8.4	3.1	0.8	36	1.2

Tactical Strategies nearly double the return and reduce maxDD.

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Brown Model Allocates to Commodities in Bear Markets

www.julexcapital.com/wp-content/uploads/2022/09/20220902-TAA-During-Rising-Inflation.pdf

Removing palladium and the World Bank Agricultural Index from the mix reduces inflation-adjusted CAGR and worsens maximum drawdown. FundX/Top8.

Feb 1920 – Oct 2021	CAGR	mSD	maxDD
w/ Commodities	11.3	3.4	38
w/o Commodities	11.0	3.4	40

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Commodities, especially gold, are not helpful with the FundX/Top2 of 7 strategy, worsening CAGR and maxDD.

Sharpe ratio and UPI are calculated from nominal returns. CAGR, mSD and maxDD are inflation-adjusted.

2000 - Aug 2022 (~ 23 years)	CAGR	mSD	Sharpe	maxDD	UPI
PCRIX (Bloomberg Commodity Index, history since 2003). With and without FSAGX [79]	6.0 6.9	4.4 3.2	0.5 0.8	27 18	0.7 1.1
World Bank Agricultural Index (history since 1960, not investable). With and without FSAGX [80]	6.5 8.0	4.1 3.0	0.6 0.9	23 19	0.9 1.4
w/o Commodities	7.7	3.0	0.9	17	1.5

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Goal Focused Criteria

1. Chance of achieving minimum of 4.25% return.

1973 - Aug 2022	3 yrs	6 yrs	9 yrs	12 yrs	15 yrs
Static 60:40	0.65	0.62	0.70	0.80	0.75
Static 40:60	0.57	0.59	0.62	0.65	0.63
Active 60:40	0.73	0.82	0.96	~1.00	~1.00
Composite Timing	0.76	0.90	0.97	0.98	~1.00
Top2 of 5	0.79	0.91	0.98	~1.00	~1.00
Top2 of 7 (Tbills)	0.76	0.83	0.96	~1.00	~1.00
Dual Momentum	0.73	0.90	0.95	0.98	0.99
SIMPLE	0.80	0.89	0.97	~1.00	~1.00

If you are not using tactical allocation, why not?

Goal Focused Criteria

2. Future value (median) on saving $1 monthly; random normal returns.

1973 - Aug 2022	return	stddev	20 yrs	30 yrs	40 yrs
Static 60:40	0.00436	0.0277	397	787	1459
Static 40:60	0.00355	0.0204	366	692	1189
Active 60:40	0.00586	0.0328	503	1149	2362
Composite Timing	0.00668	0.0330	543	1344	3035
Top2 of 5	0.00740	0.0314	628	1609	3858
Top2 of 7	0.00728	0.0299	619	1610	3763
Dual Momentum	0.00861	0.0365	727	2110	5632
SIMPLE	0.00729	0.0309	607	1547	3733

If you are not using tactical allocation, why not?

Goal Focused Criteria

3. Minimizing Risk of Penury; inflation-adjusted withdrawal for **30** years; random normal returns.

1973 - Aug 2022	return	stddev	4%	5%	6%	7%
Static 60:40	0.00436	0.0277	5%	20%	44%	67%
Active 60:40	0.00586	0.0328	2%	8%	23%	40%
Composite Timing	0.00668	0.0330	0.7%	4%	12%	27%
Top2 of 5	0.00740	0.0314	0.1%	1%	6%	16%
Top2 of 7 (Tbills)	0.00728	0.299	0.1%	2%	6%	17%
Dual Momentum	0.00861	0.0365	0.1%	0.5%	4%	11%
SIMPLE	0.00729	0.0309	0.2%	2%	7%	20%

With TA, the 4% rule becomes the 6% rule.

If you are not using tactical allocation, why not?

Volatility is Unsettling, But It is Not Risk

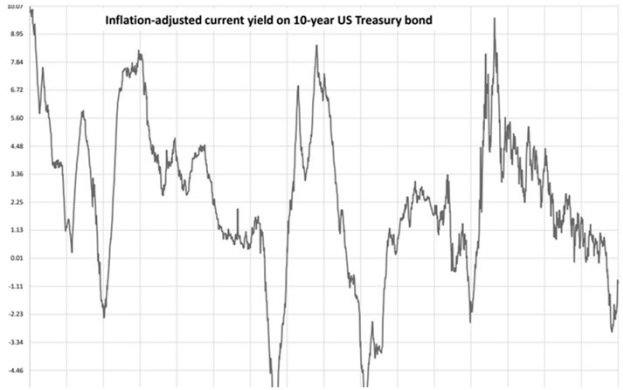
The tactical 2 of 7 strategy is the most likely to meet investment goals, but it is the most volatile.

1973 - Aug 2022	Static 60:40	Static 40:60	Tactical Top2 of 7
mSD (volatility)	2.8%	2.0%	3.0%
maxDD	38%	30%	21%
Minimum 4.25% CAGR at 9 years	70%	62%	96%
Retirement Savings at 30 years	787	692	1610
Risk of Penury at 30 years for a 4% initial withdrawal rate	5%	4%	0.1%

The 40:60 portfolio has the lowest volatility, but a lower probability of meeting the investment goals.

Interest rates exhibit decade long cycles. We may be in for a decade of rising rates.

julexcapital.com/wp-content/uploads/2022/08/20220826-TAA-During-Rising-Rates.pdf. Rob Brown. Chart covers 1842-2021.



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Brown's tactical model produced positive inflation-adjusted returns in months when interest rates were rising; both stocks and bonds produced negative returns. Rob Brown, julexcapital.com/wp-content/uploads/2022/08/20220826-TAA-During-Rising-Rates.pdf. Results are strategy specific.

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New Criterion: Positive Return When Interest Rates are Rising

Average return in the months when the inflation-adjusted 10-year Treasury yield is most rapidly.

1973 - Aug 2022	Return, top tenth	Return, top fifth	Return, top third
Static 60:40	- 2.0%	- 1.4%	- 1.0%
Active 60:40	- 0.9%	- 0.5%	- 0.3%
Top1 of 3	- 3.6%	- 2.3%	- 1.4%
Composite Timing	- 2.6%	- 1.6%	- 1.1%
Top2 of 5	- 3.4%	- 2.3%	- 1.4%
Top2 of 7 (Tbills)	0.2%	0.3%	0.3%
Dual Momentum	- 2.8%	- 1.4%	- 0.8%
SIMPLE	- 3.1%	- 2.0%	- 1.3%

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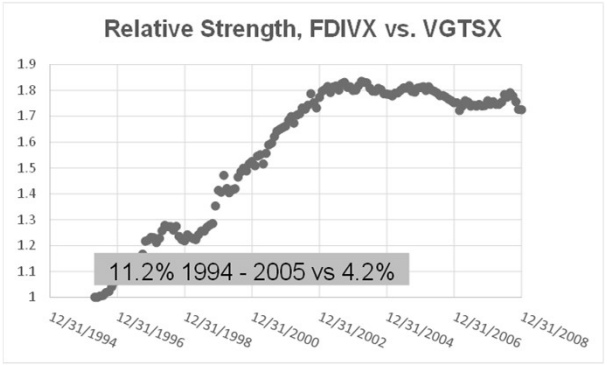
Fidelity Diversified International vs. Vanguard Total International



Relative Strength shows that outperformance stopped 2 years before Fidelity was forced to close the fund in 2005.

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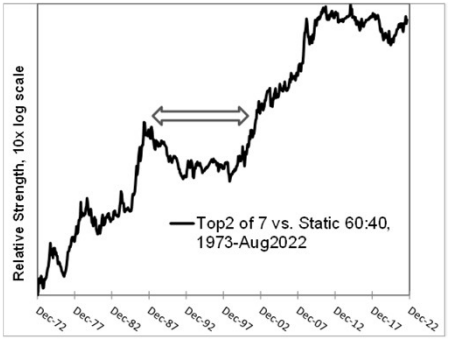
Relative Strength shows variable outperformance, which is probably why tactical strategies need time



The under performance that began about 1988, took 14 years to resolve. The last decade is down trending.

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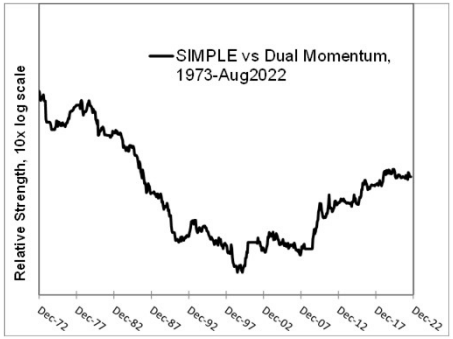
Don't Bet the Farm on Short Intervals!



SIMPLE has outperformed Dual Momentum for two decades, but Dual Momentum outperformed for the prior three decades. Neither outperformed consistently.

Next stage of innovation. Dynamic composite strategies?

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Application to Other Portfolios

- TA improves on intermediate bonds.
- TA improves on Vanguard's LifeStrategy, but tactical results are no better than with Top2 of 7.
- TA reduces the volatility of QQQ, but results are inferior to Top2 of 7.

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Sectors and Styles

Inspired by the Julex Dynamic Sector Strategy.
See the video "Dynamic Sector Review Q2 2022" at www.julexcapital.com/products/tactical-etf-strategies/.
Returns are inflation-adjusted.

2000 – Sep 2022 (~ 23 years)	CAGR	mSD	Sharpe	maxDD	UPI
Static 60:40 [37]	2.8	2.6	0.5	31	0.5
Top2 of 7	7.7	3.0	0.9	17	1.5
Top2 of 9	8.9	3.1	1.0	20	1.6
9 SPDRs plus USREIT, Top4	7.1	3.0	0.8	13	2.0
9 SPDRs, USREIT, 6 Styles					
Composite Timing, Top8	8.1	3.0	0.9	17	2.0
Top8 of 24	6.1	3.0	0.7	18	1.2

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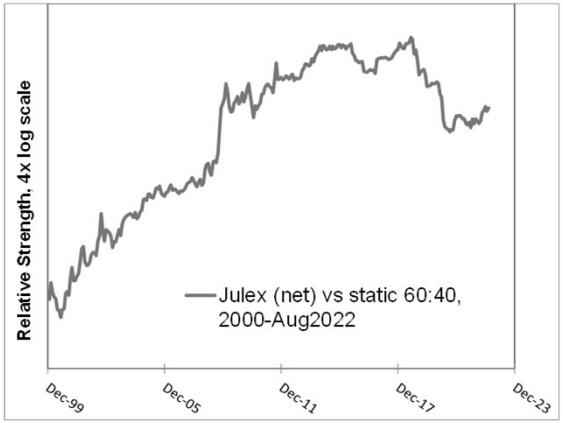
The relative strength of the Julex Dynamic Sector Strategy versus the static 60: 40 portfolio shows that this is a viable option for those without the time or inclination to implement a tactical strategy.



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Nominal Statistics

Sharpe ratio and UPI are calculated from nominal returns. CAGR, mSD and maxDD are inflation-adjusted.

1973 - Sep 2022 (~ 50 years)	CAGR	mSD	Sharpe	maxDD	UPI
LrgCapUS	10.2	4.5	0.4	51	0.4
Static 60 LrgCapUS, 40 IGBond	8.9	2.8	0.5	30	0.7
Composite Timing	11.8	3.3	0.7	25	1.2
FundX Momentum					
Active 60:40, LrgCapUS or IGBond	10.7	3.3	0.6	24	1.0
Top2 of 7 (US, xUS, RE, 2 IGBond & 2 Tbills)	12.8	3.0	0.8	19	1.5
Momentum and Timing					
Dual Momentum (Top1 US, xUS)	14.3	3.7	0.8	20	1.5
SIMPLE (Top2 US, xUS, RE)	12.7	3.1	0.8	24	1.2

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Qualitative Impact of Income Tax

$220,000 - 350,000 marginal taxable income, MFJ

- No Tax in Roth Account
- 37% tax on distributions from qualified accounts after thirty years
- 14 - 28% tax on B&H strategy
- 37% tax on tactical strategies

Nominal CAGR, after tax	60:40 Portfolio	Top2 of 7
Roth Account	8.9%	12.8%
Qualified Account after 30 yr	7.2%	11.1%
NonQualified Account	6.4 – 7.6%	8.2%

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"If you are not using a tactical allocation strategy, why not?"

- Your IRA or qualified plan is small.
- You are saving for something less than a decade into the future.
- Your current strategy is adequate for your needs.
- You are reluctant to undertake a strategy which is so much at odds with traditional investment advice.

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Conclusions

- Tactical strategies are easy to implement in EXCEL or Portfolio Visualizer.
- Professional management is available for those without the time or inclination to manage on their own.
- Tactical strategies are most profitable in an IRA or qualified account.
- Tactical strategies do not outperform consistently; TA requires time.

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Conclusions

- Histories of only two decades tend to understate the risk of future surprises.
- Commodities are not always beneficial.
- Top2 of 7 and Top2 of 9 have performed well and do not require timing.
- New criterion: how do strategies perform when interest rates are rising?

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