StoneX Intelligent Quant

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The Five-Body Problem

1 – Stocks, yields, the dollar, and gold have soared together in the past two months: which will give first?
2 – The answer depends on US growth, the Fed's stance, China's stimulus, the November election, and oil prices
3 – I expect US growth to surprise to the upside, the Chinese stimulus to succeed, and Republicans to triumph
4 – These beliefs suggest a little upside for stocks and the US dollar, a 4.6% 10-year yield, and no gains for gold

Alice laughed: "There's no use trying," she said; "one can't believe impossible things."
"I daresay you haven't had much practice," said the Queen. "When I was younger, I always did it for half an hour a day. Why, sometimes I've believed as many as six impossible things before breakfast." Alice in Wonderland, L. Carroll, 1865

The three-body problem describes Newton's laws of motion inability to predict the movement of three masses orbiting each other, even if their initial positions and velocities are known. It has been the inspiration for a brilliant but confusing novel by Liu Cixin and a disappointing Netflix adaptation.

If supercomputers cannot calculate the movement of three objects obeying the laws of gravity, how can strategists predict macro trends, which are the chaotic outcome of eight billion biological organisms, driven by complex belief systems, subconscious desires, and (possibly) free will? Yet, this report will present **a probabilistic model of the five big macro questions' impact on US stocks, Treasury yields, gold, and international equities**.

The first part will present the impossible pentad: **US stocks, Treasury yields, gold, the dollar index, and Chinese stocks have soared together in the past two months**, defying conventional wisdom. Economic gravity will eventually prevail and the investors who can predict which of these paradoxes will break first will win big.

The answer depends on these five macro questions:

- *Will the US maintain its high level of nominal growth?*
- *Will the Fed maintain its current dovish bias?*
- *Will China's stimulus turn things around?*
- *Will there be a red sweep at the November election?*
- *Will there be an oil shock?*

A five-binary variable problem has 32 possible outcomes. Some of them, such as the bearish outcome for stocks (falling US growth, a hawkish Fed, a failed Chinese stimulus, a weak US government, and an oil crash), do not make much sense.

Incorporating my belief in **strong US nominal growth, a Trump wave in November, and the success of the Chinese stimulus suggests modest upside for stocks and the US Dollar index, and a rise of 10-year yield to 4.6%.**

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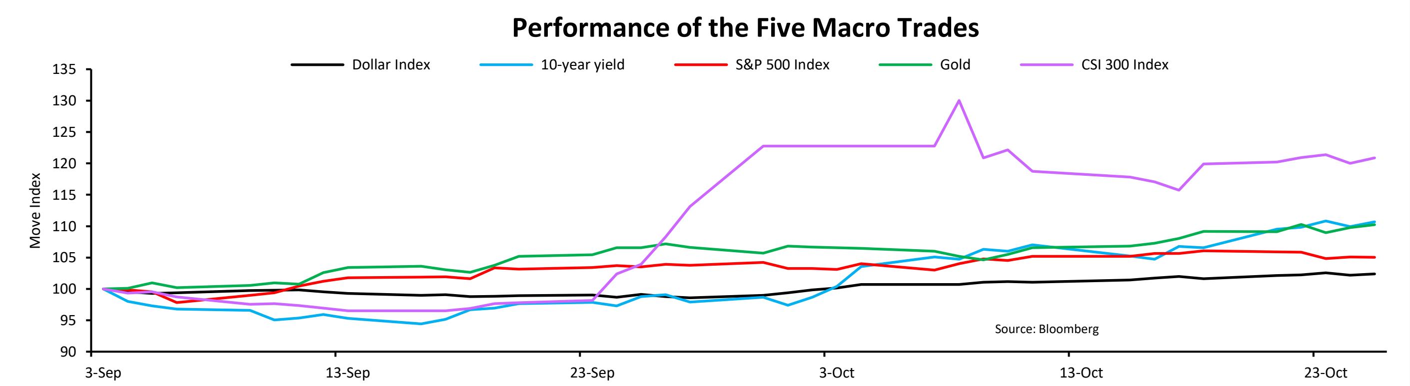
The Impossible Pentad

It is a truism that markets ridicule forecasters and that economists' rules are made to be broken: the Bloomberg economists who assigned a 100% probability to a 2023 recession or those who swore by the perfect track record of the inverted yield curve and the Sham rule have learned this lesson the hard way. Macro trends have displayed even more anomalies from common wisdom in the past two months.

US stocks, Treasury yields, gold, the dollar index, and Chinese stocks have all soared since the start of September. Mathematics says that a higher discount should reduce their price of financial assets. History shows that gold and the dollar index should also be negatively correlated. Chinese stocks usually fare poorly when the US Dollar is strong, and higher rates are theoretically the gold's *nemesis*.



This paradoxical rally is the result of the interaction of four macro forces: **stronger-than-expected nominal growth** in has boosted yields, the US Dollar index, and stocks. The Fed's **unnecessary 50-basis point cut** has accelerated long Treasuries' selloff, gold's breakout, and stocks' rally. Finally, the Chinese stimulus kickstarted a bull market in the Shenzhen-Shanghai 300 index.

This strange alignment of the macro stars will eventually dissipate, and the investors who correctly anticipate which of these five trends will break first will win big. For that they will need to answer the following five questions.

- **Will the US maintain its high level of nominal growth?** I have consistently argued against recessionists' chimeras and remain in the high-growth camp, but soft landing has become the consensus view, which raises the bar for growth. Avoiding a recession is no longer enough: growth should stay at its current level of 3-3.5%.
- **Will the Fed maintain its current dovish bias**, or will a second wave of inflation force a hawkish pivot after the election? As I explained in "reverse Trichet", the economy does not need cuts but we should not underestimate the effect of *hubris*, forward guidance, and political pressures on the Federal Reserve's decisions.
- **Will China's stimulus turn things around, or will it peter out like its predecessors**? I believe it is different this time, but the recent retracement of Chinese rally and materials' stocks inability to hold on to their gains suggest that most investors do not share my optimism.
- **Will the US election tilt US policy towards growth and inflation**? A red sweep would be the most disruptive outcome as President Trump would be free to implement his promised tariffs and deficit-increasing tax cuts. The consensus is that the Presidential race is a toss-up, the Republicans will flip the Senate, and Democrats will win the House. However, I have long believed in the red sweep scenario, and Republicans have gained momentum in recent polls and betting odds.
- **Will there be an oil shock?** Oil prices have been strangely muted despite the steady escalation in the middle east, but an Israeli strike against Iranian export facilities could send oil prices above $80 a barrel.

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The Global Macro Rubik's Cube

Macro strategists and geopolitical experts' answer to these five questions would resemble fifty shades of grey (minus the steamy romance), but we can reduce this complexity by comparing reality to what the market expects. In each of these five cases, the outcome can be more hawkish than the market expects, or more dovish. I coded each variable with a binary dummy:

- For US nominal growth, one means higher than the market expects, minus one otherwise
- For the Fed, one means hawkish than the market expects
- For China, one means a successful stimulus
- For oil, one means higher prices
- For the US election, one means a red sweep, which would increase growth and inflation

According to combinatorics, there are 32 (two to the fifth power) ways to combine five variables with binary outcomes. ChatGPT was kind enough to spell them out for me. They are shown in the appendix on page six.

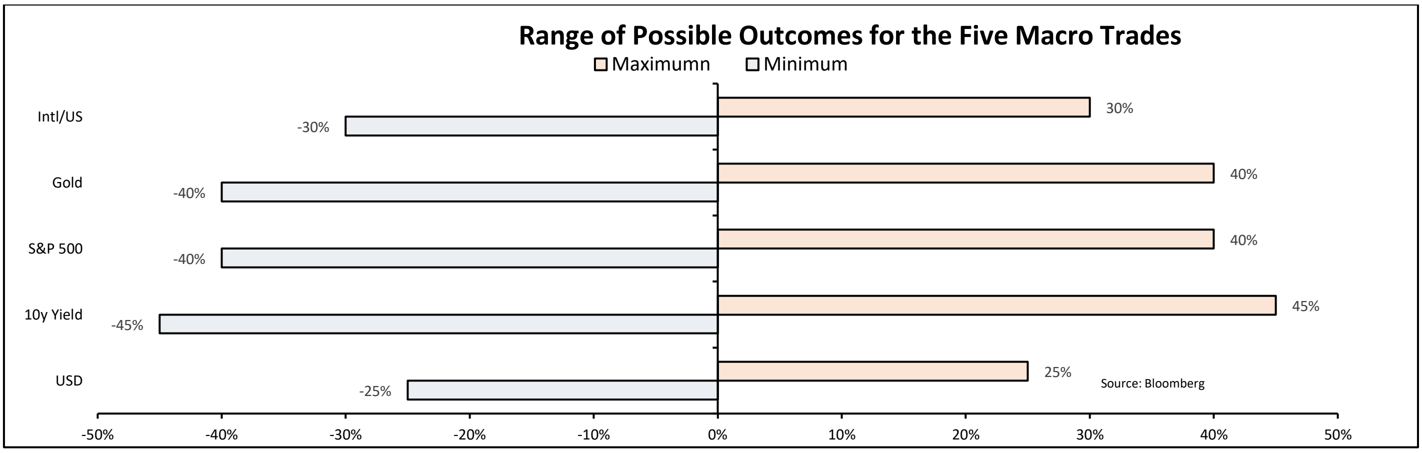
Then, we need to estimate the impact of these outcomes on the five main macro assets: US stocks, 10-year Treasury yields, gold, the dollar index, and the relative performance of international stocks. This is the most difficult part of the analysis because we must use a single estimate, when each outcome is really a probability function related to the magnitude of the change in the input variable.

Effect on	Strong US Nominal Growth	Hawkish Fed	China Stimulus	Oil Shock	Red Sweep
Dollar index	5%	5%	-5%	-5%	5%
10Y yield	10%	10%	10%	5%	10%
S&P 500 index	10%	-10%	5%	-5%	10%
Gold	-5%	-10%	10%	5%	-5%
Relative performance of intl stocks	-5%	-5%	10%	5%	-5%

Source: Stonex

Despite these uncertainties, I believe that **my estimates are directionally correct**. The magnitude of the predictions is also consistent with history, as shown by the maximum and minimum ranges for each of the five macro trades.

For example, **the S&P 500 index would rise by 40% in the best-case scenario** of high nominal growth, a dovish Fed, a successful Chinese stimulus, a fall in oil prices, and a red sweep at the election. That seems about right given the level of the Vix index and the historical experience of bulls and bear markets.



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It would be too long and repetitive to discuss all 32 outcomes and their impact on the five macro trades, but dedicated readers can find these tables in the appendix.

The extreme outcomes highlight the most interesting insights. We have already spoken of the best outcome for stocks: high nominal growth, a dovish Fed, a successful Chinese stimulus, a fall in oil prices, and a red sweep at the election. I already expect three of these outcomes: high nominal growth in the US, the success of the Chinese stimulus, and Republican victory in November. The Fed has dismissed strong economic data to maintain consistency with its forward guidance and may keep doing so if falling oil prices relieve inflationary pressures.

Thus, I would give an above-average chance to the perfect scenario for stocks. On the contrary, the worst-case scenario for stocks seems very implausible: the Fed would not be hawkish if US nominal growth falls, and oil prices would surely collapse if the Chinese stimulus petered out. **From a macro standpoint**, **the high valuations of US stocks seem justified**.

Stocks' Best and Worst Scenarios

	Strong US Nominal Growth	Hawkish Fed	China Stimulus	Oil Shock	Red Sweep
Best	1	-1	1	-1	1
Worst	-1	1	-1	1	-1

Source: StoneX

For Treasuries, the two extreme scenarios are internally consistent. In the worst-case scenario, US growth accelerates, the Fed turns hawkish Fed, and the Chinese stimulus succeeds, oil prices rise, and the Republicans sweep the presidency, House, and Senate. While it is not my expectation, the best-case scenario is also consistent: the new administration would be weak, the Fed would be dovish, Chinese and US growth would peter out , and oil prices would crash.

This suggests that **yields should keep rising, but not soar** as many investors will likely cling, or at least attempt to hedge, the non-zero possibility of the deflationary scenario.

Treasuries’ Best and Worst Scenarios

	Strong US Nominal Growth	Hawkish Fed	China Stimulus	Oil Shock	Red Sweep
Best	-1	-1	-1	-1	-1
Worst	1	1	1	1	1

Source: StoneX

Gold and the relative performance of international stocks benefit and suffer from the same macro set-ups. Gold and international stocks would thrive if US growth disappoints, the Fed is dovish, China accelerates, oil prices rise, and the US administration is weak. The worst-case is the opposite.

Gold and Intl Stocks’ Best and Worst Scenarios

	Strong US Nominal Growth	Hawkish Fed	China Stimulus	Oil Shock	Red Sweep
Best	-1	-1	1	1	-1
Worst	1	1	-1	-1	1

Source: StoneX

Logically, the best- and worst-case scenarios for gold and international assets are flipped when it comes to the US Dollar.

Dollar's Best and Worst Scenarios

	Strong US Nominal Growth	Hawkish Fed	China Stimulus	Oil Shock	Red Sweep
Best	1	1	-1	-1	1
Worst	-1	-1	1	1	-1

Source: StoneX

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My Probability-Weighted Forecasts

The first part presented the global macro Rubik's cube. The second part analyzed all the various combinations it could take and weighed them equally, assuming that markets are perfectly efficient at discounting macro information.

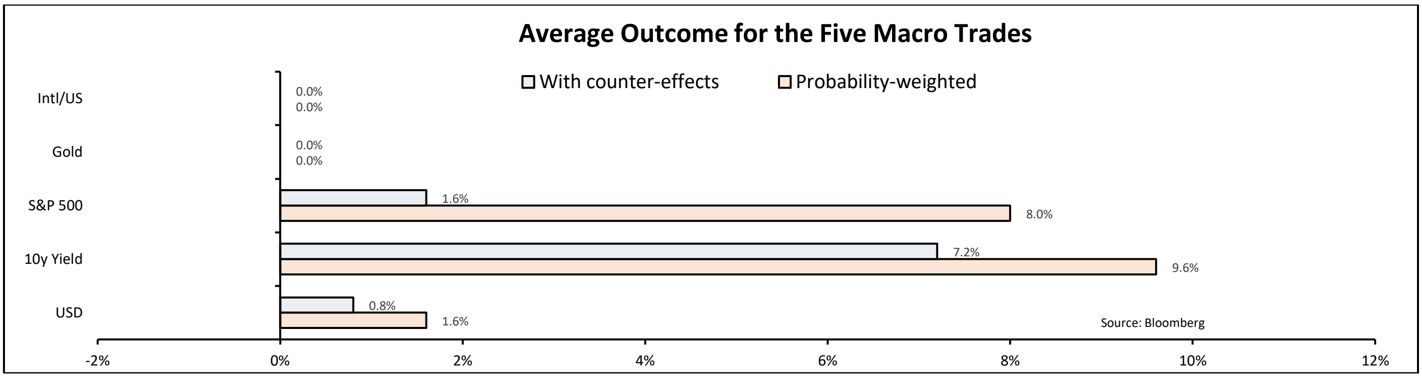
The existence of my profession relies on the faith that they are not and that connecting the macro dots can help beat markets over time. My reports have differed from the consensus in three ways: I believe in **strong US nominal growth, a Trump wave in November, and the success of the Chinese stimulus.**

In the original design, each scenario had a 1/32 probability. I added one percentage point to the scenarios where US growth was stronger, another one to the red sweep scenario, and a last one to those where the Chinese stimulus succeeds. I removed one percentage points to the opposite scenarios to so that my probabilities added to 100%. The most likely scenario now has a probability of 6.1%, and the least likely a probability of 0.1%, conveniently avoiding negative probabilities, which exist in theoretical math but make no sense in investing.

The expected returns of the five macro trades are shown by the orange bars below: **yields up, stocks up, and USD up.**

Markets and economies are interconnected: changing one assumption will have an effect on the others as prices and policymakers adjust to the information they missed. In our case, **higher nominal growth in the US, a red sweep, and a successful Chinese stimulus will likely lead to higher oil prices and a hawkish pivot by the Fed**.

Hence, I created a second scenario which includes these second-round effects. Its effects on the five macro trades are shown as the blue bars in the chart below.



I draw three important lessons from the exercise.

First, **the overall effects are not that extreme**, suggesting that the market discounts macro trends fairly well. The gap would have been larger two months ago when investors obsessed about a 50-basis point deviation of the 3-month average of the unemployment rate from its 12-month low, but the market has warmed to my views. Good.

Second, 10-year yields are the most sensitive to changes in macro assumptions because Treasuries' price is set by the interaction of policy and investors' economic expectations. At the risk of infuriating bond investors, I presented percent change in yields to stay consistent with the other variables. **The 10-year yield would rise to 4.7% in the probabilistic model and 4.6% in the model which includes second-round effects**. Our Treasury Liquidity Index agrees.

Third, my results are **slightly bullish for the US dollar, and neutral on gold and on international assets**, which does not support my case for a new golden era for international investing. This is a good reminder to check my subconscious prejudices: I am a Frenchman who came of age when the BRICS emerged, I travel a lot to Europe and Latin America, and I teach CFA students that value triumphs over time. **Clients should adjust my forecasts for excessive bullishness on international assets, a value bias, and an anti-USD prejudice**.

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Appendix

The 32 macro scenarios, their impact, and probabilities

Macro Scenario					Impact on the Five Macro Trades					Probability	
Strong US Nominal Growth	Hawkish Fed	China Stimulus	Oil Shock	Red Sweep	USD	10y Yield	S&P 500	Gold	Intl/US	Initial	With counter-efffect
1	1	1	1	1	5%	45%	10%	0%	0%	6.1%	5.6%
1	1	1	1	-1	-5%	25%	-10%	10%	10%	4.1%	4.6%
1	1	1	-1	1	15%	35%	20%	-20%	-10%	6.1%	4.6%
1	1	1	-1	-1	5%	15%	0%	-10%	0%	4.1%	3.6%
1	1	-1	1	1	15%	25%	0%	-20%	-20%	4.1%	4.6%
1	1	-1	1	-1	5%	5%	-20%	-10%	-10%	2.1%	3.6%
1	1	-1	-1	1	25%	15%	10%	-40%	-30%	4.1%	3.6%
1	1	-1	-1	-1	15%	-5%	-10%	-30%	-20%	2.1%	2.6%
1	-1	1	1	1	-5%	25%	30%	20%	10%	6.1%	4.6%
1	-1	1	1	-1	-15%	5%	10%	30%	20%	4.1%	3.6%
1	-1	1	-1	1	5%	15%	40%	0%	0%	6.1%	3.6%
1	-1	1	-1	-1	-5%	-5%	20%	10%	10%	4.1%	2.6%
1	-1	-1	1	1	5%	5%	20%	0%	-10%	4.1%	3.6%
1	-1	-1	1	-1	-5%	-15%	0%	10%	0%	2.1%	2.6%
1	-1	-1	-1	1	15%	-5%	30%	-20%	-20%	4.1%	2.6%
1	-1	-1	-1	-1	5%	-25%	10%	-10%	-10%	2.1%	1.6%
-1	1	1	1	1	-5%	25%	-10%	10%	10%	4.1%	4.6%
-1	1	1	1	-1	-15%	5%	-30%	20%	20%	2.1%	3.6%
-1	1	1	-1	1	5%	15%	0%	-10%	0%	4.1%	3.6%
-1	1	1	-1	-1	-5%	-5%	-20%	0%	10%	2.1%	2.6%
-1	1	-1	1	1	5%	5%	-20%	-10%	-10%	2.1%	3.6%
-1	1	-1	1	-1	-5%	-15%	-40%	0%	0%	0.1%	2.6%
-1	1	-1	-1	1	15%	-5%	-10%	-30%	-20%	2.1%	2.6%
-1	1	-1	-1	-1	5%	-25%	-30%	-20%	-10%	0.1%	1.6%
-1	-1	1	1	1	-15%	5%	10%	30%	20%	4.1%	3.6%
-1	-1	1	1	-1	-25%	-15%	-10%	40%	30%	2.1%	2.6%
-1	-1	1	-1	1	-5%	-5%	20%	10%	10%	4.1%	2.6%
-1	-1	1	-1	-1	-15%	-25%	0%	20%	20%	2.1%	1.6%
-1	-1	-1	1	1	-5%	-15%	0%	10%	0%	2.1%	2.6%
-1	-1	-1	1	-1	-15%	-35%	-20%	20%	10%	0.1%	1.6%
-1	-1	-1	-1	1	5%	-25%	10%	-10%	-10%	2.1%	1.6%
-1	-1	-1	-1	-1	-5%	-45%	-10%	0%	0%	0.1%	0.6%

Source: StoneX

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The U.S. Dollar Index (DXY) is a measure of the value of the U.S. dollar relative to a basket of six foreign currencies: the euro, Japanese yen, British pound sterling, Canadian dollar, Swedish krona, and Swiss franc. It is a key indicator of the strength of the U.S. dollar and is widely followed by investors and traders.

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The Shenzhen-Shanghai 300 Index, also known as the CSI 300, is a stock market index that tracks the performance of the top 300 large-cap A-shares listed on the Shanghai Stock Exchange and the Shenzhen Stock Exchange. It is considered a key benchmark for the Chinese stock market.

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