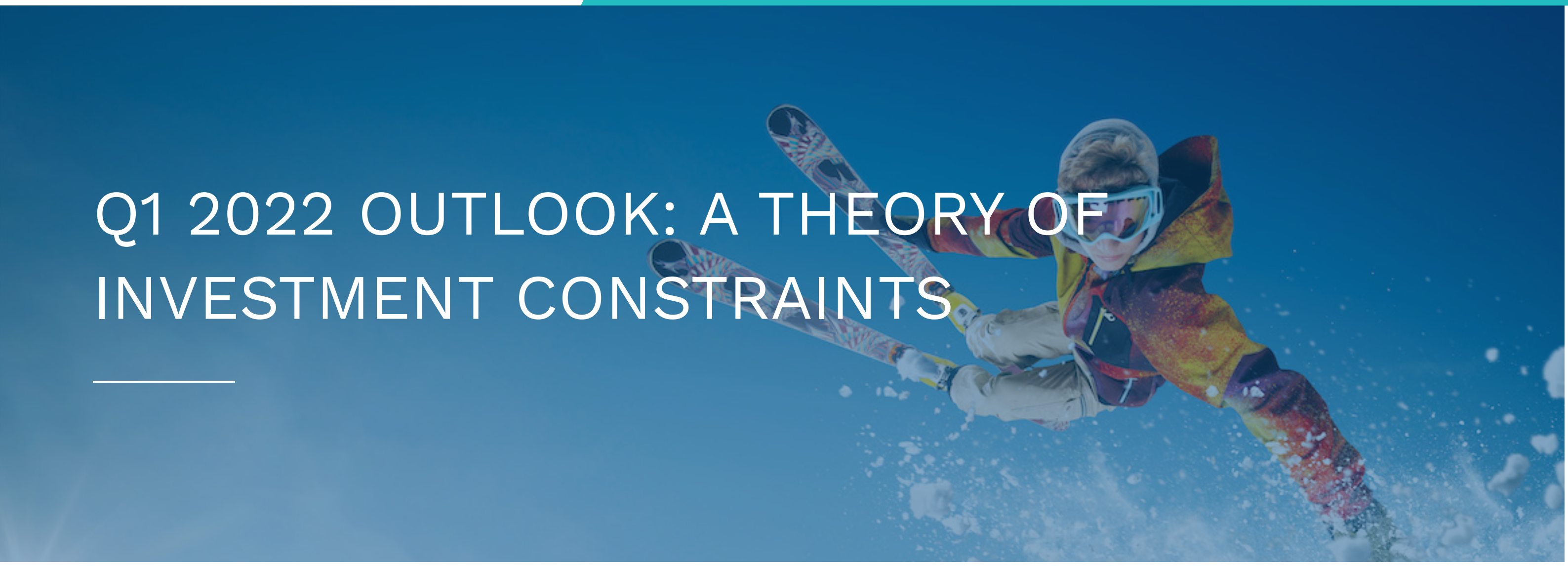


Q1 2022 OUTLOOK: A THEORY OF INVESTMENT CONSTRAINTS

$15 an hour just isn't enough, according to the lifties at Stevens Pass, a ski area 75 miles due east of Seattle. They won't show up for that little. The mountain has plenty of snow but, due to labor shortages, just 60% of the trails are open. Even worse, away from the "atrocious" lines at the lift are even more lines, as two of the three lodges and the restaurants inside each are closed. The labor shortage is acute. And not just at ski resorts.

Labor-related bottlenecks are everywhere. In Manhattan, straphangers recently saw the B, M, and Z subway lines canceled—there were not enough conductors to run the trains. Not enough employees was the excuse airlines gave for the 21,000 flight cancelations since Christmas Eve. Restaurants nationwide can't find servers or cooks, making them turn customers away and close off seating. Businesses are paralyzed by labor constraints.

Turning away customers as expensive capital equipment sits idle seems to confound the Theory of Constraints, a management paradigm popularized by the management book *The Goal*. The Theory of Constraints (TOC) methodology provides a systematic way to improve processes consisting of a series of linked activities–like investing.

Investors may be forced to become more familiar with the Theory of Constraints. It explains why cash levels are at records highs, and why yields remain at records lows even as inflation surges. We discuss the TOC, investment bottlenecks, and what investors can do about it after a review of 2021's market activity.

2021 ECONOMIC SUMMARY AND MARKET PERFORMANCE

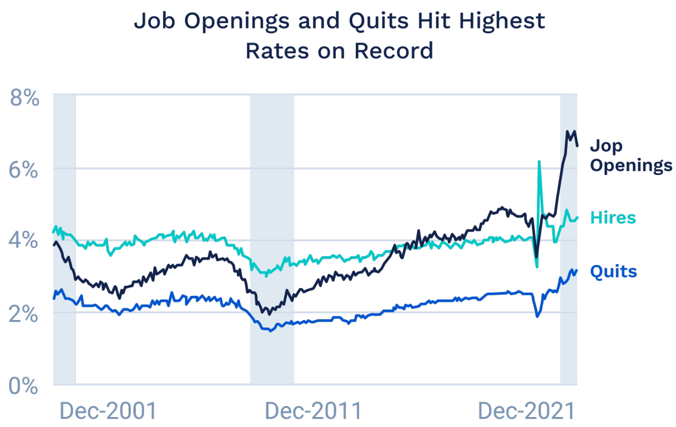
2021 was a year of stellar asset returns. GDP growth rose as unemployment fell. However, labor shortages persist. The Fed turned hawkish. Equities climbed worldwide. IG bonds languished, as leverage finance (HY and leverage loans) instruments posted solid returns.

Economic Performance: Inflation Surges, GDP Increases, Unemployment Remains Low

Inflation is real and growing. High consumer demand is having an impact on prices, as consumers make up for reduced pandemic spending. Consumer growth spending jumped 8% in 2021 after a 3.8% decline in 2020.

The Conference Board increased its FY GDP growth estimate to 6.5% on strong October and November data. This is up from last quarter's 5.9% FY growth estimate.

The unemployment rate continues to decline, hitting 4.2% in November, the latest month for which data is available.



Source: Data from Bureau of Labor Statistics as of 1/6/2022. Total non-farm job openings, hires, and voluntary quits show n a seasonally adjusted basis.

The number of unemployed individuals declined by 540k to 6.9 million, slowly trending toward pre-pandemic levels (which were 3.5% and 5.7 million, respectively, back in February 2020).

Monetary Policy Overview: Fed Tees up Normalization, Inflation No Longer Transitory

The Fed is catching a whiff of stagflation as inflation climbs. In Q4, Chairman Powell capitulated to what everyone else already knew and retired the label "transitory" when discussing inflation. The Fed turned hawkish with planned rate hikes and reductions in bond purchases, but not until March 2022. Throughout Q4 the Fed's balance sheet kept expanding, increasing by $300 billion to hit nearly $8.8 trillion. By contrast, immediately following the 2008 crisis, the Fed's balance sheet was just $2 trillion.

US and Global Equity Market Summary: Equity Markets Crush 2021

2021 was a stellar year for equity investors, with nearly every index and sector having double digit gains. The S&P 500 finished the year up 28%, setting a record high on December 27th. The S&P beat the tech-heavy NASDAQ for the first time since 2016 as big tech took body blows and investors took profits. Even so, the index hit a record high in November and finished the year up 21%.

Global equity markets ended the year generally up. Leading the FY return table is Canada (+24%) and Mexico (+17%).

Credit Markets: IG Bonds are Down, HY and Leveraged Loans are Up, Defaults Remain Low, Insurance Remains High

Investment Grade[1] bonds (IG) were flat during the quarter and remain down slightly for the year, at -1.0% YTD. High Yield[2] was up for the year (+5.3%) after a +7% return in 2020. The Leveraged Loan[3] market returned 5.2% for the year. Low rates and high inflation have turned real yields negative for IG investments. Defaults remain low for now, a trend Fitch expects to continue through 2022—it estimates HY default rates at 1% and LL at 1.5%. Leverage finance deal volumes, meaning leveraged loans and high yield, continue at a record pace, exceeding $1 trillion in 2021 issuance.

Now back to the Theory of Constraints and what it means for investors. Bottlenecks are a universal business problem. Although the context of 'The Goal' was manufacturing, the Theory of Constraints introduced a formal way to optimize any organization around a goal. The theory provides a framework to identify and improve system constraints. Below we apply the framework to investing.

FINDING THE INVESTMENT BOTTLENECK

The core tenet of the Theory of Constraints is that every process has a single bottleneck, a constraint that limits overall throughput. Improving this bottleneck should be a company's sole focus. Any improvement that doesn't impact the bottleneck, the theory argues, is a waste of time.

The first step, then, is to find the bottleneck or constraint. Bottlenecks are typically identified by seeing where things pile up. So what's piling up for investors? It's cash.

CASH IS PILING UP AS INFLATION SURGES

A mid-December report from Goldman Sachs noted that investors are hoarding hundreds of billions in cash. High cash allocations are unusual in the face of skyrocketing inflation and negative-to-low real interest rates. Investors allocated 14% more to cash in December as compared with November, as assets in cash equivalents hit $4.7 trillion, near-record levels.

Wealthy investors are skittish about valuations. "The market is high and people are nervous," states Lew Altfest, CEO of Altfest Personal Wealth Management in a recent CNBC article about wealthy investors. A survey by CNBC showed that wealthy investors want to own a little less of everything in 2022. The survey of millionaires concluded that they can't find the right investments. And so cash piles up.

PRIVATE EQUITY FIRMS HAVE A TON OF DRY POWDER

The bottleneck is impacting the pros too. Private Equity funds had a stellar fund-raising year, bringing in over $500 billion through Q3. With recent fund raising, their dry powder sits at over $2 trillion. Even as M&A transactions are at record highs, exceeding $5 trillion for the first time ever in 2021, there were not enough opportunities to deploy cash. VC funds are similarly awash in capital after record fundraising.

UNALLOCATED CAPITAL IS A SIGNIFICANT CHALLENGE

Private Equity firms see too much dry powder as one of their most significant challenges, according to the 2022 Global Private Equity Outlook report. Unspent capital has turned deal competition ferocious and increased purchase multiples. Median enterprise value multiples have increased from 2.5x to 4.4x from 2018 through 2021, according to Berkery, Noyes, a middle-market focused investment bank. Further, since 2008, EBITDA multiples in PE LBOs have increased from 8x to 13x, according to Refinitiv, a financial data provider.

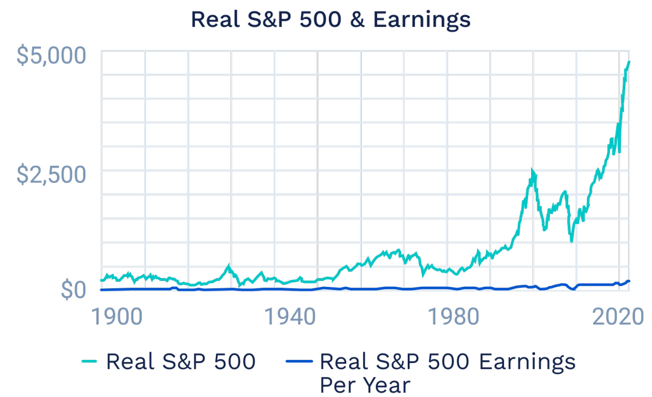
CASH IS A DRAG

It doesn't earn anything. It rots with inflation. You can't fill a giant vault with it, then dive in headfirst and backstroke through it. It just piles up waiting for allocation. The investment bottleneck is a lack of risk-adjusted transactions to absorb capital.

LACK OF PUBLIC MARKET OPPORTUNITY HAS INCREASED STOCK PRICES

One reason for the bottleneck is that investors have maxed out public markets. The number of US public companies is in decline, dropping from 5,500 in 2000 to 4,000 today. There is more capital than ever and it is flowing to a decreasing number of public companies.

Equity markets keep rising, but there hasn't been a concomitant rise in profits. As a result, public company valuations are stretched to near all-time highs. The current S&P 500 10-year P/E Ratio is approximately 39.2, 96% over the long-term average and over 2.4 standard deviations from the 1950 – 2021 average of 19.6. Other valuation metrics show similar level of inflation. Higher prices can absorb some cash, but valuations are at untenable levels. So what can investors do?



Source: Using P/E Ratio to Determine Current US Stock Market Valuation, currentmarketvaluation.com

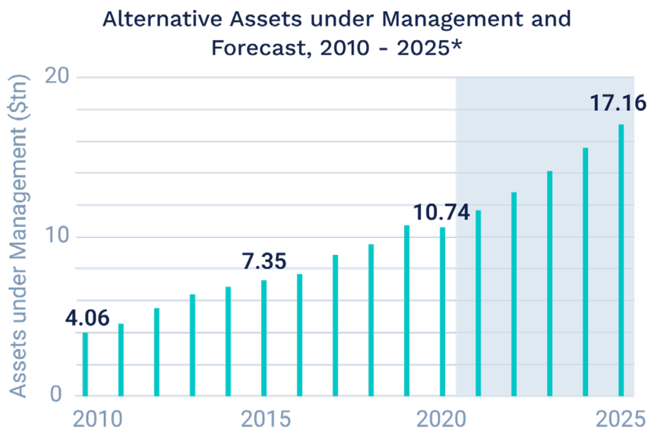
HOW INVESTORS CAN BREAK THE BOTTLENECK

The investment bottleneck has been building for over a decade. Inflation has turned cash in the bank to a sign of allocation failure. Investors can use the framework of the TOC to get a new perspective on the problem of allocation, and where they can find favorable risk-reward tradeoffs. And it starts with a focus on the bottleneck.

The Theory of Constraints, says that once identified, a constraint should be "exploited" until it is no longer the bottleneck. The theory says to focus on increased throughput, which has no natural ceiling, rather than cutting expenses, which can't go below zero. Investors won't find opportunities in public markets or cash equivalents. They must look elsewhere.

To place capital (without inflating existing assets), analyst Byrne Hobart thinks that investors must either (1) find new investment opportunities, e.g., capital intensive renewables, web3, NFTs, etc., or (2) transform existing assets and make them investable, e.g., art, wine, single-family homes, direct lending to private companies, legal finance, etc.

THE ALTERNATIVE TO PUBLIC MARKETS



Source: Preqin. *2025 figure is annualized based on data to October. 2021-2025 are Preqin's forecasted figures

Alternative investments, the general term for any non-conventional investments, are where most investors will find alternate or less traditional places to put cash. Typically less liquid, 'alts' have been sought out by institutional investors to provide yield and hit hurdle rates. Declines in public company opportunities has accelerated the shift to private investments. Investors are now able to own shares of artwork. NFTs are now mainstream enough to be a Saturday Night Live punchline. Direct Lending funds have a vast, untapped middle-market to find opportunities. Investors willing to give up the liquidity of conventional stocks and bonds may be able to find considerable risk-adjusted return opportunities in unconventional places.

[1] As represented by the Barclays Capital US Investment Grade Bond Index.
[2] As represented by the Bloomberg Barclays US Corporate High Yield Total Return Index Value Unhedged USD
[3] As represented by S&P/LSTA Leveraged Loan Total Return Index