Q4 2022 OUTLOOK:
LABOR SHORTAGES EVERYWHERE ALL AT ONCE

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A nationwide labor shortage is wreaking havoc. School districts are cutting classes. Trucks sit idle for want of drivers. Restaurants are closing early, and some are closing permanently. Companies are desperate to hire.

At the same time GDP is sputtering. This is unusual. An economy on the cusp of recession generally has high unemployment. So what is going on?

Imagine the U.S. workforce as water in a GDP sized bathtub. It's continually filled by a tap flowing at the rate of natural population growth and immigration. And it's continually drained by a hole the size of retirement, discouragement, family obligations, disability, etc. Right now, the water level is too low.

There are currently 11 million job openings and only 6 million unemployed. In multiple sectors, the unemployment rate is literally 0.0%.

The labor market is *tight*.

Expect it to remain tight as two long-term trends continue. The first is slowing growth in the overall labor force, and the second is a declining participation rate. The bathtub is growing; but the tap is slowing while the drain is getting larger. Hence those tears.

After a review of Q3 market activity, we examine why there are no workers in every sector everywhere all at once. We then discuss what that means for your portfolio and the future of employment, automation and AI.

2022 Q3 Economic Summary and Market Performance

In a word: Pain! Investors mourned the demise of the Fed Put. Energy prices remain a bright spot for investors and a sore one for consumers. Inflation persisted and interest rates keep rising. Currencies are back in the news as the U.S. dollar strengthens against every other currency.

Economic Performance

- Inflation = 🙁 | GDP[1]= 🙁 | Consumer Sentiment = 🙁
- The unemployment rate was 3.7% in August and then declined to 3.5% in September, matching pre-pandemic levels.

Inflation Rate

8.3%

vs.
4.7% in 2021
1.2% in 2020

GDP (Annualized)

1.4%

vs.
0.3% FY 2023 EST
5.7% FY 2021

Consumer Sentiment

59.5

Up from 50 last quarter, which was the lowest on record dating back to 1952.

Monetary Policy Overview

> *"We have got to get inflation behind us. I wish there were a painless way to do that. There isn't."*
>
> *– Fed Chair Jerome Powell*

- The Fed will not rescue equity markets! Powell's message is that regardless of what happens to asset prices, rates will go up until inflation improves. The Fed Put is now retired, and investors are on their own … at least until inflation is whipped.

Fed Raised

+75 bps

The third such increase in a row.

Current Fed Funds Rate

3.00% - 3.25%

Still far under the current inflation rate.

Estimated Year-End Rate

4.00% - 4.50%

And more raises expected in 2023

Credit Markets

- Surging yields have left Investment Grade and High Yield Bonds with double-digit YTD declines; Leveraged Loans recovered slightly during the quarter but are still down YTD.
- Higher rates attract investors but could strain borrowers with increased interest payments.
- Defaults surged off historic lows. In August, there was more total volume of loan defaults than in the prior 17 months.

YTD[2]

Investment Grade	High Yield	Leveraged Loans
-18.72%	-14.74%	-3.25%

U.S. and Global Equity Market Summary

- Equities are down worldwide. The Energy sector up big YTD:

Markets*

	As of 9.30.2022	Q3 Return	YTD Return
S&P 500	3,585.62 pts	-5.3%	-24.8%
NASDAQ	10,575.62 pts	-4.1%	-32.4%
The Dow	28,725.51 pts	-6.7%	-20.9%
Global Equities		-7.1%	-23.7%
Emerging Markets		-13.0%	-28.6%
Energy		0.7%	+29.8%
Gas	$4.37/gal	-18.4%	+21.1%
Gold	$1,660.61/oz	-8.1%	-9.2%
VIX	31.62 pts	+10.1%	+83.6%
10-Yr Treasury	3.963%	+98.9 bps	+245.1 bps

*Source: Bloomberg. *See endnotes.*

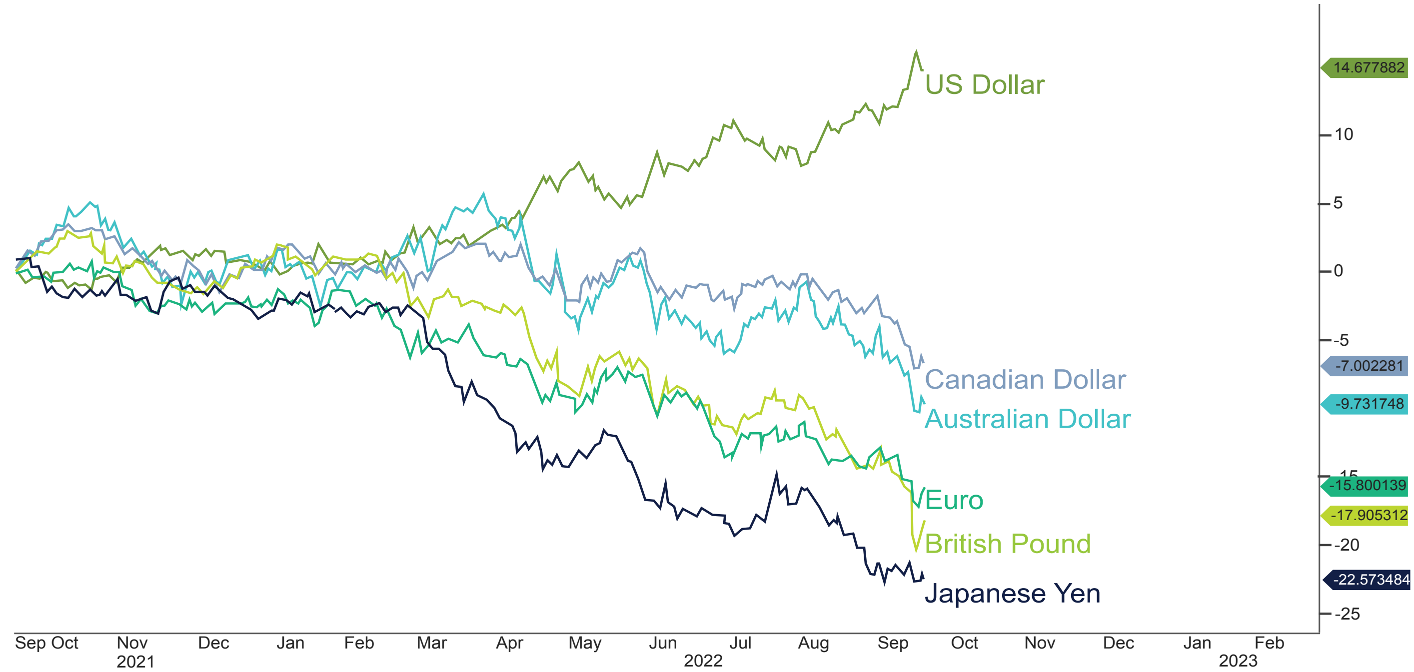
Energy[3]

Natural Gas
+87%

Oil
+23%

Commodities
+15%

- The UK markets are having "Truss" issues as late quarter turmoil has forced the Bank of England into buying billions of long-dated bonds to stabilize the market. The Pound hit an all-time low against the U.S. dollar.
- Currency chaos is everywhere. The U.S. Dollar hit 20-year highs against the Euro and Yen.



Source: Bloomberg

Alts, Odds and Ends

- Private Equity saw slowing LBOs, exits, and capital raises through Q3. Uncertainty around interest rates, geopolitical tensions, and inflation is slowing deal velocity.
- Direct Lending continues to hold up. Post-Citrix,[4] with syndication risk becoming an issue, direct lenders provide a compelling alternative to leverage loan and bond markets.
- Crypto struggles. The overall crypto market cap is still below $1 trillion from a peak of $3 trillion in November 2021. Bitcoin now trades below $20k, down nearly 60% YTD.
- Rumors that a major investment bank is in trouble has traders keeping a close eye on CDS rates.

Alternatives*

	As of 9.30.2022	Q3 Return	YTD Return
Direct Lending		-8.3%	-19.43%
CLOs		-1.7%	-7.4%
Private Equity		-13.8%	-45.3%
Hedge Funds		0.6%	-4.5%
Equity REITs		-12.4%	-30.7%
Residential REITs		-9.1%	-28.8%
Industrial REITs		-12.7%	-37.9%
Wine		-4.7%	-12.8%
Rolex Watches	$29,879	-$2,501	-$1,850
Bitcoin	$19,425.13	3.7%	-58.1%

*Source: Bloomberg. *See endnotes.*

Why are employees so hard to find? A short answer is that when COVID struck, it caused a temporary reduction in GDP but permanent reduction in workers. GDP came back quickly but the employees didn't come back at all. Due to the lack of workers, a strong job market could continue even if GDP lags.

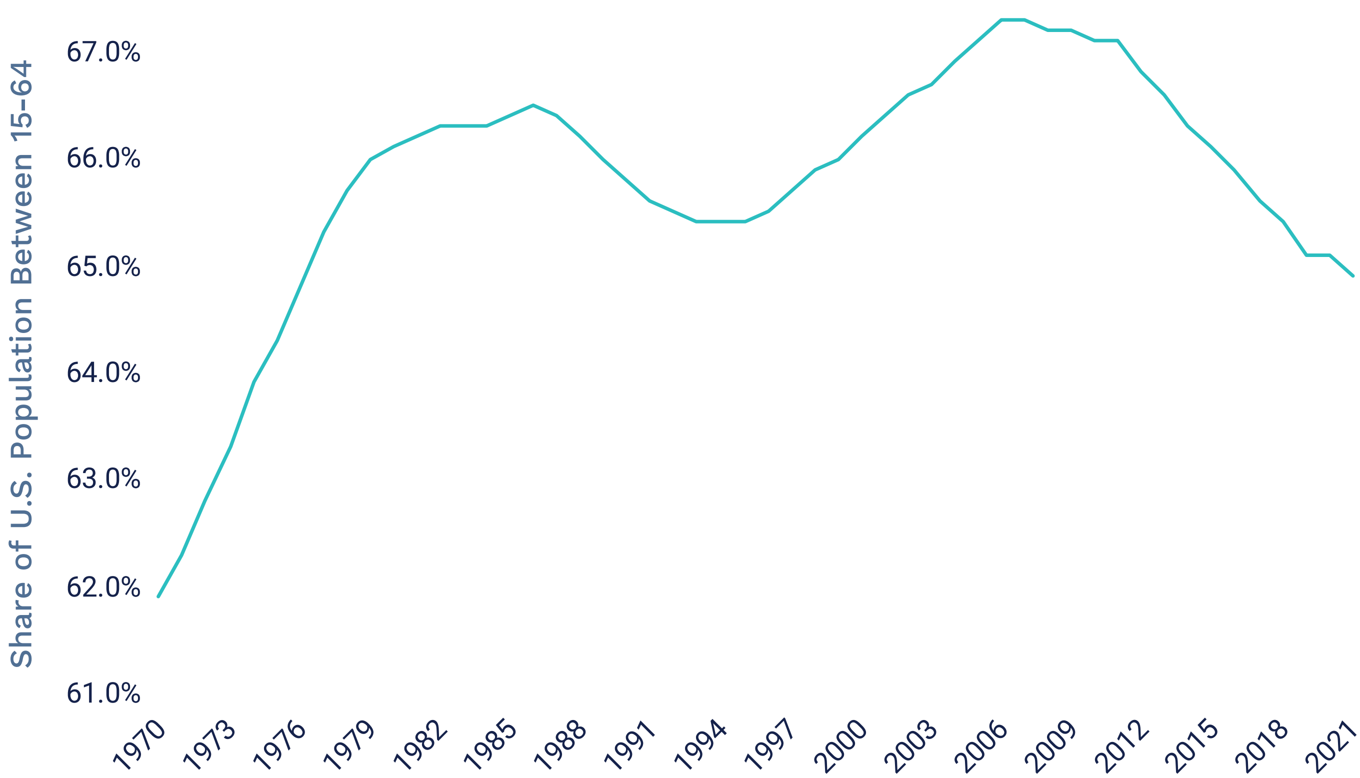
Despite a looming recession, the job market is robust. The Total Nonfarm payroll employment is now higher than pre-COVID levels. A job seeker can have a new gig in 9 weeks vs 14 weeks one year ago. With tight labor conditions, workers are only as loyal as their options.

Slowing Workforce Growth is a Long-Term Problem

In the U.S., our long-term employment problem is primarily demographic – the population is aging. As in every developed nation, U.S. citizens keep getting richer, living longer, and having fewer children. If demographics are truly destiny, then our eventual destiny is to get old and shrink.

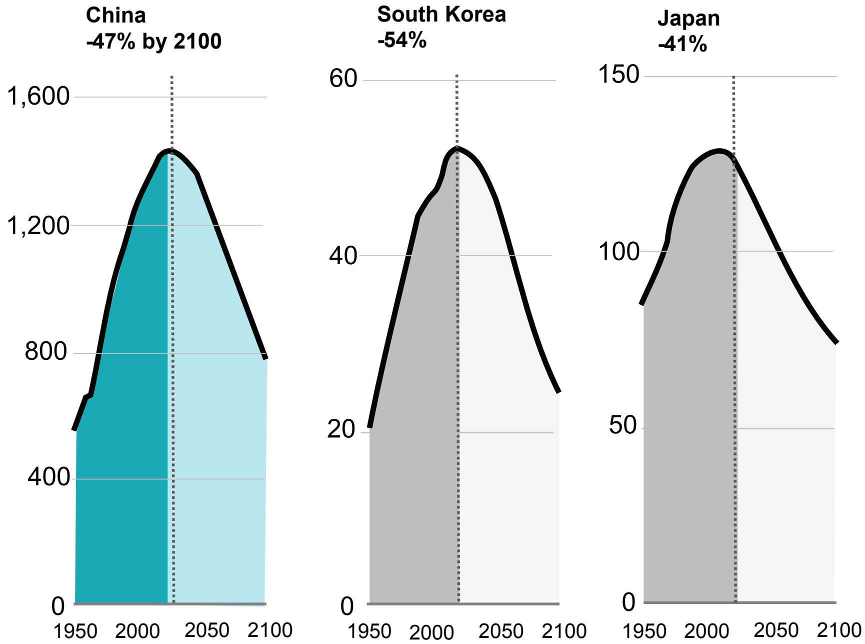
For now, the U.S. population continues to grow, albeit at a slowing rate. But the trend is stark. In the 1970s, the workforce grew on average 2.7% a year as Boomers entered the workforce. In the 1980s that rate slowed to 1.8%. By the 2010s, declining births caused workforce growth to shrink further, to 0.6% per year.

Percent of Total U.S. Population That's Working Age (15-64); 1970-2021



Source: OECD

A preview of the future U.S. is now happening in several developed nations. Shrinking is starting:

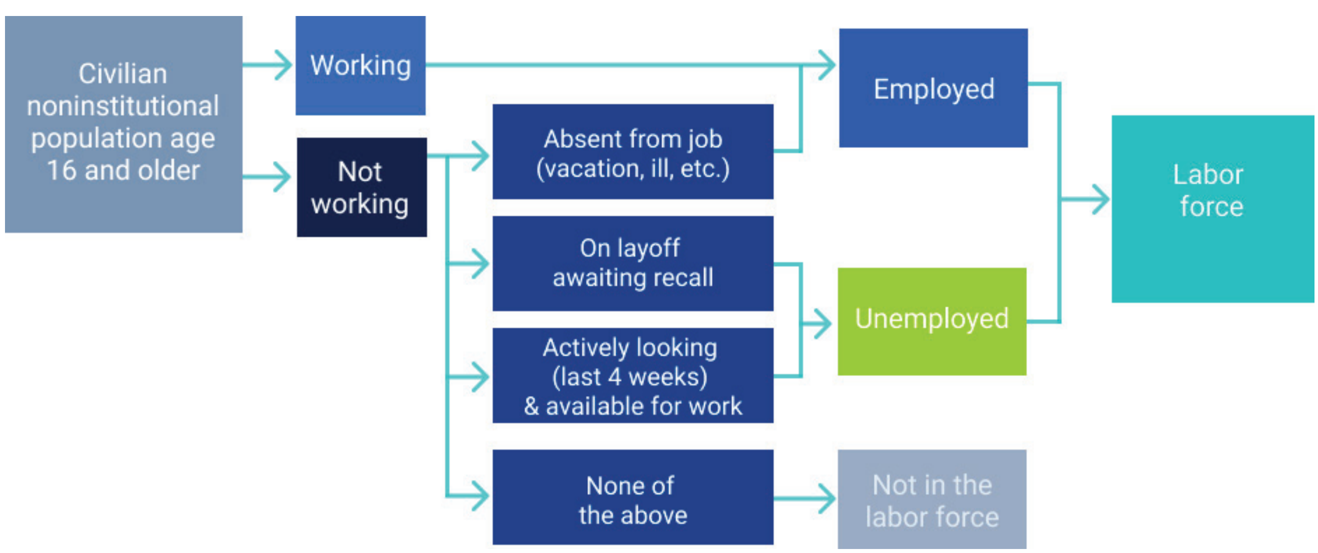


Source: United Nations

The Labor Participation Rate Took a Hit During COVID

The current unemployment rate is now 3.5%, the same rate as it was pre-COVID. (3.5% in February 2020). However, the unemployment rate deliberately ignores people who are not in the labor force. This makes sense in some circumstances, e.g., the retired don't work, but they aren't generally considered unemployed.

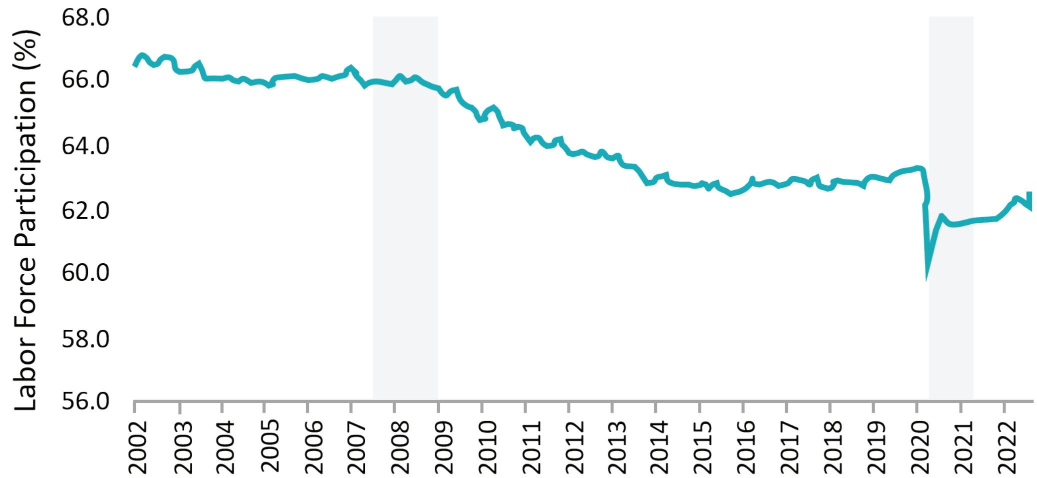
Consider instead the labor force participation rate. The participation rate is equal to the Labor Force divided by the Civilian Noninstitutional Population.



Source: Bureau of Labor Statistics

The participation rate has been declining for 20 years, and COVID caused it to freefall. The labor force participation rate has improved, now 62.4%, but still sits below pre-COVID levels. At current population levels, a 1% shift represents ~2.5 million workers.

Total Labor Force Participation Rate



Source: Federal Reserve Bank of St. Louis

COVID's impact on the participation rate came in three parts.

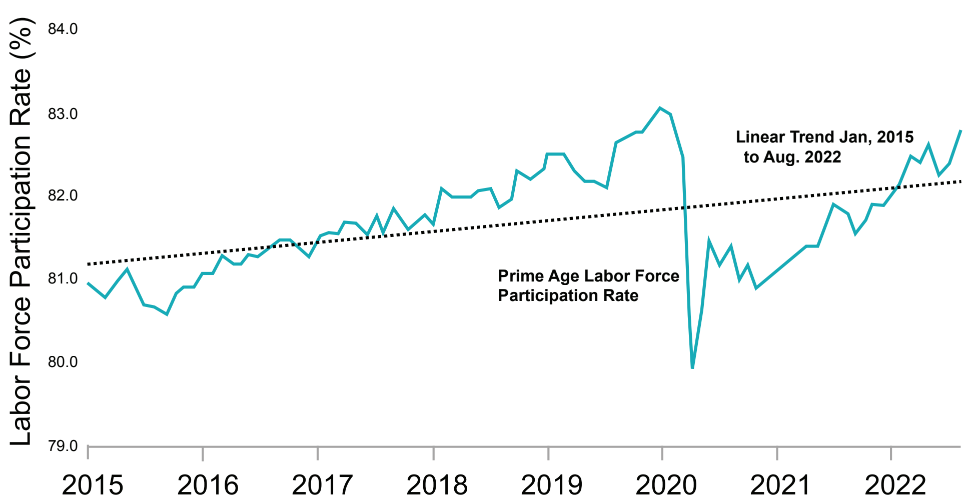
1. **Those dropping out of the workforce directly due to COVID itself.**

   COVID reduced the workforce by 500,000, claims a recent working paper from the National Bureau of Economic Research (NBER).[5] The impact of COVID-19 illnesses results in a 0.2% reduction in the labor force participation rate, a significant impact on labor supply.

2. **Those dropping out due to the secondary effects of COVID, e.g., isolation and despair from the lockdowns.**

   Nearly 400,000 additional people dropped out of the workforce due to substance abuse issues related to COVID-19, according to a separate NBER working paper.[6] The prime age (25-54) participation rate has yet to recover from COVID.

Labor Force Participation Rate, Ages 25-54, January 2015-August 2022



Source: Federal Reserve Bank of St. Louis

3. **An uptick in retirements due to COVID fears (and soaring financial markets).**

   Workers usually delay retirement during a recession. Financial uncertainty causes older employees to stay in the workforce longer, just in case.

   But retirement delays didn't happen during the COVID recession – retirements actually spiked. Due to large asset price increases and health concerns, the number of retirees 55 and older has grown by more than 3.5 million since 2020. This is about 1.5 million more than would have otherwise retired based on pre-COVID trends.[7]

The participation rate is even worse than the top line number suggests. To maintain employment levels in a constantly growing economy, the absolute number of workers must increase as well. That is, unless companies can use fewer workers to get the same output. We are already seeing that start to happen. As the cost of labor rises, so does the relative attractiveness of automation.

The Rise of the Machines

A Jack in the Box in California recently hired the perfect fry station employee. He never uses his cell phone, never calls in sick, and doesn't use health insurance. Flippy the Robot is part of Q3's record high robot sales, outpacing Q1 by 6% according to the Association for Advancing Automation.

Automation is entering new industries as labor costs rise. Robot deployment into the non-automotive space now accounts for >50% of sales for the first time. The food and consumer goods industry saw 13% annual increases.

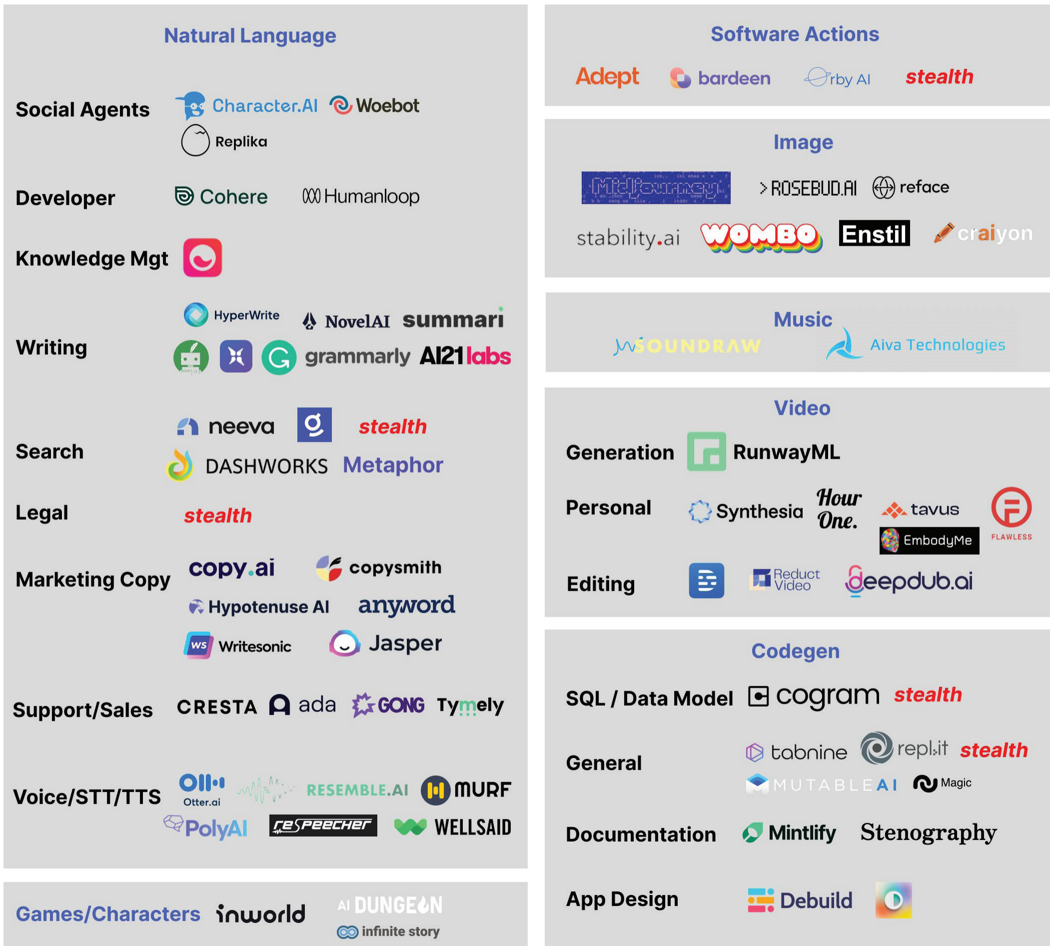
Creative jobs are also not immune to technological advance. Artificial Intelligence (AI) is coming for white collar work too.

> *"Remember when we thought that truck drivers would lose their jobs before artists?"*
>
> – Eliezer Yudkowsky, AI theorist

Progress in the Artificial Intelligence space has been stunning. Midjourney, an AI art creation program, recently won a fine arts contest in Colorado. The fry cook robot image above was generated in seconds in DreamStudio.[8] Artificial intelligence prompt drafting could soon be a required skill for entry level creative jobs. The chart on the following page from VC Sarah Guo, hints at how many industries will be impacted by AI.

VC Chris Dixon once noted that the next big thing starts out looking like a toy. AI is moving inexorably past human limitations of intelligence and will change every field it touches.

Large Model Applications By Modality



COVID contracted the workforce and caused a lower participation rate but the market is self-correcting. Hence the rapid adoption of automation and AI in the face of inflation and the tight employment market.

The economy is hovering in liminal space. It sits on the cusp of recession, suffering inflation, but with strong employment data. Uncertainty will last until inflation is tamed. In the meantime, businesses will adapt. Investors with a long horizon, an optimistic attitude, and steady nerves can survive and thrive regardless of short-term turbulence.

Footnotes

1. The Conference Board Economic Forecast for the US Economy, September 2022, forecast of US Real GDP growth quarter-over-quarter, annualized rate.
2. “Investment Grade” represented by the Bloomberg US Corporate Bond Index. “High Yield” represented by the Bloomberg Barclays US Corporate High Yield Total Return Index Value Unhedged. “Leveraged Loans” represented by the S&P/LSTA Leveraged Loan Total Return Index.
3. “Nat Gas” represented by the US Natural Gas Fund, LP. “Oil” represented by the US Oil Fund, LP. “Commodities” represented by the Invesco DB Commodity Index Tracking Fund.
4. The Citrix transaction cost investment banks over $500 million after the LBO debt had to be sold at a large discount to par. Some observers see the Citrix transaction as evidence of a sea change, an indication that large broadly syndicated transactions will be difficult to sell to investors in the near term. On the heels of Citrix, a planned buyout of Lumen, a telecom and broadband company, by Brightspeed was canceled due to adverse market conditions as banks struggled to place the associated debt.
5. The Impacts of COVID-19 Illnesses on Workers, NBER Working Paper 30435, September 2022
6. Substance Abuse During the Pandemic: Implications for Labor-Force Participation, NBER working paper 29932, April 2022
7. Amid the pandemic, a rising share of older U.S. adults are now retired, Pew Research Center, November 2021
8. “Flippy the robot who makes french fries by Pixar, oil painting”

Endnotes

“Direct Lending” represented by the DLX Direct Lending Index. “CLOs” represented by the Palmer Square CLO Debt Index. “Private Equity” represented by the Invesco Global Listed Private Equity ETF. “Hedge Funds” represented by the HFRXGL Global Hedge Fund Index. “Equity REITs” represented by the MSCI World Equity REIT Index. “Residential REITs” represented by the MSCI US Residential REIT Index. “Industrial REITs” represented by the MSCI US Industrial REIT Index. “Wine & Cheese” represented by the Bloomberg Wine & Cheese Index, tracking global producers of wine and cheese. “Rolex Watches” represented by the WatchCharts.com Rolex Market Index. “Global Equities” represented by the iShares Global 100 ETF. “Emerging Markets” represented by the iShares MSCI Emerging markets ETF. “Energy” represented by the Energy Select Sector SPDR Fund. “Gas” represented by the Bloomberg estimated US Average Gasoline price per gallon. “Gold” represented by the gold spot price in US Dollars per ounce. “VIX” represented by the Chicago Board Options Exchange's CBOE Volatility Index.