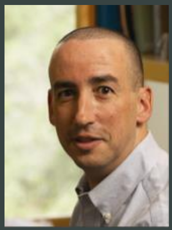

MARKET UPDATE

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January 2, 2023 – Market Update

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I. Stocks

A. Last Week

1. For the week: DJIA -.2%; **S&P 500 -.1%**; Nasdaq -.3%
2. Investors have started to worry that tight monetary policy will smother **growth**. This is a **shift from** worrying about **inflation**. But high inflation is still a problem and it could stop the Fed from pivoting for a while. (Bloomberg)
3. **Q3 GDP** was revised up to **3.2%**. The strong economy and strong labor market mean that the Fed won't lower rates any time soon. In addition, consumer strength (due to accumulated savings and a strong labor market) mean that the Fed will need to do more. There is increased risk of a policy error. (Bloomberg) (Bloomberg)
4. The markets are **looking at everything as bad news**:
    a. If economic indicators are strong, they're interpreted as meaning that the Fed will have no choice but to tighten until a recession occurs
    b. If indicators are weak, a recession might be coming sooner (Barron's)
5. **Bulls** need inflation to come down faster than the Fed expects and the economy to slow without declining. (Barron's)
6. **What will the first week of the year predict?** Since 1929, the index has risen 75% of the time, with an average gain of 11.9%, for the year when it finished the first five days in positive territory. (Barron's)
7. **Short interest** in QQQ is 6.2% of outstanding shares – a level last seen in 2012 (Bloomberg)

B. The VIX

1. The VIX has traded **above its historic average** on 94% of trading days this year. This is higher than all but three years since 1990.
2. The VIX and S&P have **moved in tandem 26% of the time this year**, the most since 2006. Normally, we think of the VIX and the S&P moving inversely.
3. The **possible explanations** for the VIX and S&P moving together:
    a. Investors are positioned defensively
        i. BAC says fund managers have 6.1% cash – highest since 9/11
        ii. Also means that fund managers have to buy options when stocks rally – so VIX increases when market is rallying
    b. Hedging has shifted to shorting index futures
4. The **VIX topped out at 36**, lower than every bear market since 1990. (Bloomberg)

C. The Year in Review

1. For the year: DJIA -8.8%; **S&P 500 -19.4%**; Nasdaq -33.1%. All three were worst since 2008.
    a. This was the S&P's **worst year since 2008** (-38.5%) and fourth worst year since the index started (1957). (Barron's)
    b. This is the S&P's first double-digit percentage loss since 2008 (-36.6%). (MarketWatch)
    c. The 20% drop hasn't been huge, but there have been three 10%-drops and this has lasted a long time. It's hard to think that you should buy the dip. FOMO is gone. (Bloomberg) (Bloomberg)
    d. The S&P saw 46 daily moves of 2% or more in either direction; most since 2008 – 2009. (Barron's)
    e. Value has crushed growth. The Russell 1000 growth dropped ~30% and Russell 1000 Value is down ~10%. The S&P 500 dropped twice as much as the DJIA. Value tends to outperform in inflationary times. (MarketWatch) (Bloomberg)
2. What happened?
    a. **Key events** for 2022:
        i. Putin invaded Ukraine
        ii. China's economy was hit by Covid
        iii. Inflation proved intractable
        iv. Low rates had left many securities overpriced (Bloomberg)
    b. 2022 was dominated by **high inflation, higher interest rates and recession fears.**
        i. Nasdaq is more interest rate sensitive (explaining 33% drop). (Bloomberg)
        ii. Borrowing costs are at their highest level since 2007. We could see more trouble in capital intensive businesses. (MarketWatch) (Bloomberg)
    c. The market was driven by **macro factors**. The **Fed** mattered.
        i. All of the S&P's five biggest weekly declines took place immediately before or around a Fed meeting. (Bloomberg)
        ii. For 83 sessions in 2022, at least 400 stocks in the S&P 500 moved in the same direction. (Bloomberg)
        iii. Stocks moved in tandem with Treasuries (both dropped) and the dollar rose (with higher rates). This also means that diversification didn't help you. (Bloomberg)

D. Predicting the Future is Hard!

1. Strategists were wrong. The average estimate for the S&P was 4,940. They got earnings right, but not stock prices. This is because they got the **multiple wrong**. They didn't realize that inflation would be so persistent that it would lead the Fed to be so aggressive. The earnings multiple dropped from nearly 23 to 17.5. (Bloomberg) (Bloomberg)
2. Realize that the **forecasts are usually wrong**. Only seven times in 23 years of data has the actual index value landed within 5% of the consensus projection (Bloomberg)
3. There are 865 actively managed US **stock funds** in US with at least $1B in assets. The **average loss was 19%.** There were 200 similar size bond funds and the average loss was 12% (Bloomberg)

E. Reasons to be Optimistic

1. Since 1928, the S&P 500 has only fallen for **two straight years** on four occasions: the Great Depression, WWII, the 1970s oil crisis and the bursting of the dot-com bubble.
    a. When they have happened, the second year has always been worse than the first – with an average decline of 24%.
    b. In three of those four occurrences, the market dropped a third year. (Bloomberg)
2. Since 1950, S&P has posted a total return of 13% over 12 months following **major inflation peak.**
    a. In the 10 instances where it rose (out of 13), the average was 22%. (Bloomberg)
3. BAC fund manager survey shows that **cash holdings** of 6.1% are the highest level since after the 2001 terrorist attack. (Bloomberg)
4. Wall Street **strategists are bearish** for first time in 20 years. (Contrarian indicator?)
    a. Average call is for a decline in stocks in 2023. (Bloomberg)
5. What could bring an end to bear market?
    a. A trough in corporate earnings estimates
    b. A steeper yield curve
    c. Cheap valuations (Bloomberg)

F. Reasons to be Pessimistic

1. The S&P has a much better win rate (79% vs. 55%) and average performance (17.5% vs. 6.4%) in the 12 months **following a down calendar year** of less than 10% than one that does worse than that. (MarketWatch)
2. The market is trading at ~16.77X next year's earnings. That's below the five-year average of 18.76X and 10-year average of 17.37X. The average going back to Dec. 31, 1999 is 16.33X. The cheapest the market has been at a bear market low since 1999 is 8.81X.
    a. P/Es have fallen for two consecutive years and it's very unusual for this to happen three straight years. It did happen 1992 – 1994.
    b. On average, **earnings fall 24.4% during recessions**. The stock market leads the economy, but earnings trail. (Barron's)
3. MS strategist Michael Wilson says that the looming **earnings recession** could be similar to 2008/2009 and that could result in a stock market low much worse than most investors are expecting. (Bloomberg)
    a. MS is now leaning toward its bear case forecast for EPS of $180 in 2023 vs. analysts' expectations of $231. This could bring the S&P down to 3,000.
4. A strengthening yen could encourage Japanese **investors to bring their money home** (Bloomberg)
5. **Five scenarios that threaten markets** (Bloomberg)
    a. Entrenched inflation – wage growth and supply-side issues; Fed can't pivot
    b. China stumbles – health system overwhelmed
    c. Russia's invasion worsens – NATO has more direct involvement
    d. Emerging markets slump – if dollar strengthens again or commodity prices increase
    e. Covid returns

G. What are Investors Watching?

1. Central banks
    a. Will the Fed pivot or will inflation stay high?
    b. Even if the economy slows, will the Fed pivot?
2. Big tech troubles
    a. Nasdaq is down 35% -- higher interest rates + other problems
3. Earnings recession
    a. Concern about margins and consumer demand
    b. Analysts expect $231 for the S&P 500; Mike Wilson expects $180
4. China
    a. Surge in Covid
    b. Limit on Chinese travelers
5. Options boom
    a. Explosive growth in short-term options
    b. Could add fuel to the rebound (Bloomberg)

H. Other Evidence of Risk Tolerance and Trading

1. The **market cap of crypto** peaked in late 2021 at nearly $3T. It plunged to less than $800B. Bitcoin shed 75%. (Barron's)
2. In 2022, **214 companies priced IPOs and raised a combined $21.8B**, not including secondary shares sold by investors in those listings. That compares with $335B in primary shares sold in 1,091 IPOs on US exchanges last year. Most of the IPOs happened in Q1.
    a. The average size of IPOs was $309MM.
    b. Follow-on offerings declined from $143B to $48B, the lowest mark since $35B in 1995. The average size dropped from $156MM to $106MM. (Bloomberg)
    c. The average US IPO is down ~19% (Bloomberg)
    d. Just $207B has been raised in the global IPO market this year – down 68% YoY
        i. Need stability: inflation and visibility on interest rate path (Bloomberg)
3. The number of **traded US option contracts surpassed the 10-billion mark** in 2022 for the first time ever. This was the third straight yearly record and options doubled from three years ago.
    a. Trading in puts increased by more than 30% YoY while calls declined 12%.
    b. S&P 500 options expiring within one day comprised more than 40% of total volume over Q3, almost doubling from six months earlier. (Bloomberg)
4. The way that some investors clamor for the Fed to pivot is just another piece of evidence that they **believe that the "Fed put" is still alive.**
    a. Market is still pricing in that the Fed will pivot within five months of last rate hike – yet it's normally double that. (Bloomberg)

II. Bonds, the Dollar and Oil

A. A Bad Year for Bonds

1. **3-month** increased from .06% to 4.42% (+436 bps)
2. **2-year** increased from .73% to 4.41% (+368 bps)
3. **10-year** increased from 1.52% to 3.88% (+236 bps)
4. The Bloomberg **US Treasury Index** lost 12.5%, its second straight annual loss and the **biggest** in the index's four-decade history. (Bloomberg)
5. Jumbo interest rate hikes by the Fed more than **doubled the 10-year UST yield** – the rate underpinning global capital costs. We saw the largest ever loss in market value of global stocks and bonds (20% of a larger amount). (Bloomberg)
    a. Bonds failed to provide a buffer. People are questioning the 60/40 portfolio. (Bloomberg) (Barron's)

B. Optimism for Bonds

1. As recession clouds gather amid signs inflation may have peaked, safe yields approaching 4% on government securities and 5% for blue-chip corporate debt strike many managers as **decent value**. An earnings recession would help bonds.
2. We've had the worst inflation in 40 year and the FOMC has already hiked rates 425 bps since March. Inflation seems to have peaked.
3. The 10-year yield has dropped ~40 bps from its high. (Bloomberg)

C. Pessimism for Bonds

1. If the FOMC is going to take rates above 5%, the 10-year yield will either have to go higher or the yield curve inversion will be even greater.
2. Even better inflation news hasn't changed central bank policy.

D. Leveraged Loans – Winners and Losers

1. About **5%** of leveraged loans are **trading under 80 cents** on the dollar – more than double the rate since June (2.4% to 5.2%)
    a. And **more than half are trading above 96 cents** – a rate that has also doubled
        i. 23% in June; 55% now
2. CLOs are the biggest buyers and they have constraints on owning CCC-rated debt (usually can't have more than 7.5% of portfolio in them) – if they go over that, they will have to cut down or cut off payments to owners of equity tranche
    a. So you have big winners and big losers
    b. About 30% of CLO portfolios are made up of B- loans
    c. A slower economy means more downgrades
3. The average price for leveraged loans has hovered around **92 cents** for a while (Bloomberg)
4. Banks **regret loaning money to Elon**: (Bloomberg)
    a. The $13.5B of debt backing Musk's purchase of Twitter added to the $40B+ of similar loans and bonds that banks already had on their balance sheets
    b. Leveraged finance relies on banks being able to distribute loans quickly – and freeing up space on the balance sheet to make more loans
5. When the price of leveraged loans starts to increase, dealmaking will resume

E. Junk Bond Reckoning

1. The wall of **expiring junk bond debt** will become more daunting in 2024.
    a. Companies will have to start refinancing in anticipation of that and interest rates will be much higher for flimsy businesses.
2. With the odds of recession at 70%, it may be difficult to borrow.
3. **Credit spreads** typically head toward 800 bps (currently 452) – so not pricing in recession (Bloomberg)

F. The Dollar Weakened in Q4

1. The **dollar rose ~8% this year**, its biggest calendar-year gain since 2015.
    a. For much of the year, a strong dollar hurt stocks: eating into export revenues and foreign profits that were translated back into dollars.
    b. The dollar was helped by aggressive Fed policy and also the fact that it's seen as a safe haven.
2. The dollar was up much more through Q3, but **dropped significantly in Q4**.
    a. As the ECB and BOJ became more aggressive, the dollar weakened.
        i. The euro rose 8.8% vs. the dollar in Q4, the largest gain since 2010.
    b. The shift has come with inflation cooling. This makes the Fed less aggressive. At the same time, the ECB will raise rates for longer.
3. Fed policy relative to other central banks will drive the dollar. This, in turn, will depend on inflation. (MarketWatch) (Bloomberg)

G. Oil

1. **WTIC was up less than 7% for the year**. That's a somewhat shockingly small number, considering the fact that WTIC went above $130 during the year.
2. Right now, a big part of the **oil debate** is the reopening of China vs. the possibility of a global recession. Aggressive Fed tightening (as well as other central banks) hurt oil by increasing fear of recession. While China's reopening helped, it also led to concerns about a surge in infections. (MarketWatch)

III. The Fed

A. Powell's Concerns

1. Powell is concerned with inflation for **core services excluding housing** and he believes that **wages** are crucial to this rate.
    a. Has the increase in wages been a one-time bump as companies adjust to scarce labor and a realization that labor was undercompensated or is this a feedback loop in which prices and wages drive each other up?
2. The **labor force** has been impacted by early retirements, long-Covid, the scarcity of child and elder care, and lower immigration. (Bloomberg)
3. Despite promising inflation numbers (.1% MoM increase in core PCE) wages and salaries increased **.5%** and that's too high. (Bloomberg)

B. Brace for the Recession

1. **Services inflation** will likely keep overall inflation high.
2. **Average hourly earnings** are key for two reasons:
    a. The longer incomes remain healthy, the longer households keep spending
    b. But continued growth in wages will keep inflation high
3. As the Fed tries to chill the labor market in order to rein in inflation, **consumer spending** will slow.
    a. Companies are likely to devote more resources to automation, boosting productivity.
4. The FOMC is **unlikely to lower rates** in a recession if inflation is still high. (Barron's)

C. Recession Chances Increase, But Feel Will Need to Stay Aggressive

1. Economists now say there is a **7-in-10 chance** that the US economy will sink into **recession** next year (up from 65% chance in November and more than double what it was six months ago).
2. High rates, high inflation, the end of fiscal stimulus, weak export markets are problems.
    a. Businesses have turned cautious about adding to inventories and hiring.
3. The resiliency of the **job market** will keep Fed policy restrictive. (Bloomberg)
4. We learned that we could increase rates **more than 25 bps at a time**. (Project Syndicate)

D. Dudley Says to Trust That the Fed Will Remain Aggressive

1. Investors need to start believing the Fed that **rates will stay higher for longer**:
    a. The Fed has ample power to make their predictions come true
    b. The more that the market rallies, the more that the Fed becomes restrictive
2. **Why are markets skeptical?**
    a. Doubt about the Fed's resolve – they think that the Fed will capitulate once unemployment moves higher
        i. Market is wrong – Fed knows risks of expectations becoming unanchored
    b. Maybe market participants expect growth to be slower and inflation to moderate more quickly (Bloomberg)

IV. The Economy

A. Savings rate

1. The collapse in the personal **US savings rate** to near a record low has fueled a narrative that consumers are strapped.
2. But **checkable deposits for households** and nonprofit (our best proxy for cash on hand) rose to **$5.12T** at the end of the year (from $4.28T at the end of 2021).
    a. It was only **$1.2T** headed into the pandemic after peaking at $1.43T in 2018.
3. At the beginning of the year, **excess savings** were estimated to be $2.2T and checkable deposits were ~$2.4T above the expected level.
    a. They diverged sharply over the last two quarters:
        i. Excess savings have fallen by ~$500B
        ii. Checkable deposits have expanded by more than $800B
4. What are the **explanations**?
    a. The savings data could be misleading.
        i. It's estimated as part of GDP – which showed negative growth for two quarters despite a strong labor market – so maybe savings is skewed.
    b. Maybe checkable deposits rose b/c households were cashing out of stocks and bonds.
        i. The same Fed report on household wealth indicated that total holdings of equities and mutual funds fell by $11T over the first three quarters this year.
            1. This could be the result of getting out of the market or just a decline in values.
        ii. We saw Treasury holdings grow by $1T (despite lower prices). (Bloomberg)

B. Child care industry

1. Much of the $24B that the American Rescue Plan gave to the child-care industry was used to **increase wages** or give bonuses to teachers to discourage them from leaving.
    a. It was actually $39B went to support the child-care industry:
        i. The $24B that went to programs was given directly to individual states
        ii. The remaining $15B was used in part to boost an existing program that helps low-income families defray tuition costs.
2. Now, **tuition** is going to have to **increase**. The end of the pandemic grants will force 43% of child-care centers to raise tuition
3. The US **child-care workforce is down 8%** from pre-pandemic levels, with 84,400 employees still missing from the industry since Feb. 2020. It's crucial to get people back to work in this industry if we want to bring people back to work in other industries. (Bloomberg)

C. Immigrants and Innovation

1. An academic study found that **~36% of the innovative output** of the past 30 years can be attributed to immigrants – who make up 16% of the country's inventors. Foreign-born inventors are directly behind almost a quarter of all patents, and their work indirectly contributes to additional findings by US-born scientists.
2. The researchers looked at the number of patents, patent citations and the economic value of patents since 1990.
3. They have a significant share of innovative output in the technology, medical and chemical industries.
4. There are **~1.7MM fewer working-age immigrants** living in the US than there would have been if immigration had continued at its pre-2020 pace. About 600K of those would have been college-educated. (Bloomberg)

D. America's Shrinking Population

1. To maintain a country's population (without immigration), there needs to be a total of **2.1 children born per woman** (total fertility rate). The US is currently around **1.66**. In 2007, it was 2.12.
2. If we don't have significant immigration, the working-age population will decrease. (FT)

E. Reservation Wage

1. The lowest annual pay that the average worker would be willing to accept for a new job rose to almost **$73,700** in November, the highest since the NY Fed started tracking this data in 2014. This is referred to as the reservation wage.
2. Among employed people, those without a college degree saw the most dramatic increases, with the reservation wage rising by 27%. (Bloomberg)

F. Paying Taxes

1. This year, some 72.5MM US tax-filers (40%) will pay **no federal income tax**, down from the pandemic high of 100MM tax-filers (60%) two year ago.
2. People who earn less than the standard deduction ($12,950 for individuals and $25,900 for married couples filing jointly) do not owe taxes. Of course, they still pay payroll taxes. (Barron's)

G. China and Covid

1. Nearly **37MM people** in China may have been infected with Covid on a single day last week.
2. As many as 248MM, or nearly **18% of the population**, likely contracted the virus in the first 20 days of December.
3. This info comes from minutes from an internal meeting of China's National Health Commission. (Bloomberg)