Doom and gloom overdone: indicators still support stocks

Current 3-6 Month Equity Market Outlook:
Banking-related worries are abating while inflation eases and the Fed nears the end of its tightening cycle. Our indicators continue to support our overweight allocation to stocks (+15% vs benchmark), underweight in bonds (-15% vs benchmark), and benchmark (10%) cash position.

Stock/Bond Relative Valuation -- Market Implied Long-Run Growth:
The Implied Growth Model remains at low levels, currently 0.7%, still well below our expected fair value range (1.5-2.0%). These readings continue to favor stocks over bonds on a relative valuation basis.

Small-Cap/Large-Cap Allocation:
Our Small-cap/Large-cap model was neutral once again, keeping our Size allocation stance at neutral. Small-caps have felt the impact of banking worries more than large-caps, and relative estimate revisions show a widening differential in favor of large-caps recently.

Topical Macro and Policy: Much of the macro focus has been on bank lending and Fed policy along with the muddy inflation picture. The growth rate of bank lending is slowing, but from very high levels and may help the inflation fight. Fed policy is already very tight and having an impact, keeping bond volatility high while stock and currency markets are getting calmer. Reported inflation is distorted by shelter costs and lagged data, adjusting for those effects shows inflation already near target.
Crisis worries have eased and markets have recovered -- staying overweight stocks

Following aggressive steps by regulators, worries about a broader banking crisis have eased, allowing equity and credit markets to recover.

While there remain concerns about a potentially sharp pullback in bank lending (p. 6), the impact may be mixed: bad for credit-sensitive smaller companies, but possibly helpful for bringing inflation down.

Our Global Equity Risk Model dipped during the bank-driven market turbulence, but has already rebounded and remains above the 60% threshold that marks its most bullish zone. Thus we maintain our heavy overweight in equities and underweight in bonds.

Of the model's eight component indicators, all but one are currently above the 50% level (though some just barely), suggesting that the model's support is fairly broad-based.

Sentiment data and client comments suggest that investors remain relatively cautious, and that stocks are seemingly climbing the proverbial "wall of worry" thus far.

The model's main messages on a 1-3 month horizon are favorable for risk assets:

- The Fed is likely at or near the peak of its tightening cycle, and markets expect rate cuts before too long
- Equity market volatility, despite the headlines, is in fact moderate and on the lower end of its recent range (p. 3)
- Global real bond yields (nominal minus realized inflation) remain relatively low
- Credit markets had a brief scare but are normalizing, and credit spreads are within normal ranges (p. 3).
- The recent bank worries provoked a jump in short-term pessimism, a favorable contrarian sign
- Stock price momentum is improving, and higher risk stocks are holding up

The model's remaining worry:
- Industrial metals prices have been lagging precious metals, an indication of global growth concerns.

Exhibit 1: Global Equity Risk Model dipped but is recovering, remains in most bullish zone

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Current</th>
<th>1-month Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Equity Volatility</td>
<td>84%</td>
<td>4%</td>
</tr>
<tr>
<td>Global Risk Appetite</td>
<td>54%</td>
<td>-3%</td>
</tr>
<tr>
<td>Global Momentum</td>
<td>51%</td>
<td>10%</td>
</tr>
<tr>
<td>Global VIX Divergence</td>
<td>52%</td>
<td>3%</td>
</tr>
<tr>
<td>Global Credit Risk</td>
<td>77%</td>
<td>2%</td>
</tr>
<tr>
<td>Fed Expectations</td>
<td>89%</td>
<td>1%</td>
</tr>
<tr>
<td>Global Real Yield</td>
<td>71%</td>
<td>-5%</td>
</tr>
<tr>
<td>Global Metals</td>
<td>37%</td>
<td>-19%</td>
</tr>
</tbody>
</table>

Global Equity Risk Model 64% -1%

Source: Mill Street Research, Factset, Bloomberg

See pages 9-10 in the Appendix for background information on the Global Equity Risk Model and charts for all eight component indicators.
Credit worries are abating while equity volatility falls

Here we briefly comment on the current messages from some of the components of the Equity Risk Model. All the charts for the individual indicators are always on pages 9-10.

Among the model’s indicators, the ones that are most notable are the Credit Risk Indicator and the Equity Volatility Indicator.

The Credit Risk indicator stands out mostly because it has been responsible for much of the model’s movement recently. It had been solidly bullish until early March when news of the failures of Silicon Valley Bank and Signature Bank hit, followed by Credit Suisse, and brought broader concerns about banks and credit in general. Credit spreads on corporate debt globally widened sharply, which caused our indicator to weaken rapidly.

But the bank-related panic has thankfully been short-lived. Actions by regulators and governments helped mitigate systemic concerns, and credit spreads have more recently narrowed again. This has allowed the Credit Risk indicator to reverse much of its earlier decline, leaving it net bullish once again.

The Equity Volatility indicator is notable not so much for its dramatic movements but for its readings in light of the headlines and general pessimism among investors. Those only watching the headlines might assume that stocks have been extremely volatile amid worries of imminent recession or a banking crisis. But the actual realized volatility of the global MSCI ACWI index has been declining steadily for several months now, and the recent bank-related worries have done little to alter the trend.

Equity volatility is still somewhat higher than much of the pre-COVID bull market normal range, but it is the trend (level versus its own recent range) that is important for our indicator. That trend in volatility has been clearly improving, which has historically been a favorable sign for near-term (1-3 month) future risk and return for equities.

Exhibit 2: Credit spreads are narrowing after their recent jump on bank-related worries. Realized volatility in equities has been trending lower and remains a bullish support in our model, despite what the headlines might say.

Source: Mill Street Research, Factset, Bloomberg
The Implied Growth Model continues to hold steady at low levels despite the volatility in stocks and bonds. The 0.7% expected long-run real growth rate in EPS is still well below our fair value range of 1.5-2.0%.

Once again, stock prices and bond yields have moved around since last month, but the net effect on the model reading is small due to their offsetting impacts.

Stock prices rose significantly since our last report, up 7% on the S&P 500. But bond prices rose too, pushing long-term corporate (Baa-rated) bond yields down 20bps to 5.61%.

With trailing inflation (core PCE, 12-month average) around 5%, real corporate bond yields remain historically low (though forward-looking market expectations are for lower inflation).

The final piece of the model is the equity risk premium, which is based on the stage of the economic cycle as proxied by the US Leading Economic Indicators. It can move between 2% and 4% (required return over corporate bonds), and right now is near the upper end of the range at 3.73%. This captures the sharp drop in the LEIs in recent months and the general worries about an imminent recession. Such cyclical worries tend to cause investors to require a higher risk premium for equities, and this is reflected in our model.

But even with a high risk premium and using cyclically-adjusted earnings (10-year average of S&P 500 EPS inflated to current dollars) of just $151.49 per share, stocks still look more attractive than bonds.

Put another way, the "hurdle rate" of long-run future real growth of earnings needed to make stocks more attractive than bonds on a long-term valuation basis is still quite low at 0.7%. Since we expect long-term real earnings growth to likely be higher than 0.7%, we continue to view the model as favoring stocks over bonds. And this relative valuation view currently is corroborated by the more tactical view from the Global Equity Risk Model (p. 2) in favoring stocks right now.

See page 13 in the Appendix for background information on the Implied Growth Model and a long-term chart of the component inputs.
Model stays neutral as small-caps feel the impact of bank-related concerns

Our Small-cap/Large-cap allocation model (right) is neutral once again, a rare multi-month stretch of neutral readings that reflects the unusual cyclical conditions facing investors. We remain neutral for now.

The cyclical indicators in our size allocation model remain evenly split between those favoring small-caps and those favoring large-caps.

Small-caps have potential tailwinds from "early cycle" conditions of easing equity market volatility, the overall equity market trend improving from earlier weakness, and surprisingly low consumer confidence (i.e., room for improvement).

Large-caps are favored by the "late cycle" backdrop of rising short-term interest rates, earnings growth that is slowing from earlier high levels, and a stock/bond yield spread that remains wider than its trailing two-year average (i.e., elevated nominal earnings growth expectations).

Relative returns for small- versus large-caps have been driven by the impact of Financials, and Banks in particular on the indices. Smaller-cap banks have a higher weight in the Russell 2000 than the Russell 1000, and have been more impacted than the bigger banks on average.

More broadly, however, our aggregated earnings estimate revisions data (not part of the cyclical model) show a dramatic widening of the gap between large-caps and small-caps recently (bottom chart, right).

Whereas all size categories were nearly equally negative for much of Q4 and early Q1, we now see revisions improving significantly for large-caps (the top 20% of our broad 2000+ stock US MAER universe) but deteriorating and back to earlier lows for small-caps (bottom 50% of the universe by market cap), with mid-caps in between.

This suggests a broader fundamental trend that favors large-caps right now, which makes some sense given that tighter financial and lending conditions tend to impact smaller companies more than large ones.

See pages 11-12 in the Appendix for background information on the Small-cap/Large-Cap Model and charts for all six component indicators.

Source: Mill Street Research, Factset, Bloomberg
Worries about bank lending muddy the Fed debate: policy is tight but markets are calmer

The banking-related news that hit around mid-March provoked some sharp reactions in markets, but those have already begun to calm.

The bigger concern for many investors and for policymakers is not "will many more banks fail?" but "will banks get much tighter about lending and push the economy into recession?"

As shown in the top chart at right, there are already signs of slowing loan growth at US banks in aggregate.

But there are a few things to keep in mind:

- Loan growth had been extremely high (10%+) for months and was almost certain to slow anyway.
- Loan growth thus far has slowed but only to levels more consistent with pre-COVID norms -- we are still far from recessionary readings at this point.
- Sharply higher interest rates will naturally tend to reduce loan demand at the margin, and narrowing lending spreads for banks (due to the need to raise rates paid to depositors) make aggressive new lending less appealing.
- Reduced credit growth is normally one of the conditions needed to restrain inflation pressures.

Along similar lines, current Fed policy is by some measures about the tightest its been in almost 20 years. The fed funds rate relative to market expectations for inflation over the next five years is extremely high (middle chart), arguing that policy does not need to be tightened further, and that the impact on bank lending is already being felt.

Looking at market action, we see more divergences in cross-asset volatility measures. Whereas last year all asset classes were seeing high and rising volatility (as proxied by their respective option-implied volatility measures like VIX, MOVE, and CVIX), we now see a different picture. Equity volatility has been moderating and is getting much closer to pre-COVID norms. Currency volatility has also been declining steadily and is likewise nearing pre-COVID levels. Only bonds (US Treasuries) are still at very elevated volatility levels, though they have recovered from the spike in March. Markets thus look less worried overall, with Fed/banking concerns mostly visible in fixed income now.

Source: Mill Street Research, Factset, Bloomberg
Inflation pressures continue to ease outside of CPI shelter

While many commentators and Fed officials maintain the view that "inflation is still far too high" and "more needs to be done to contain it", a closer look at the data suggest that inflation is actually much closer to target levels than it seems.

Much of the inflation debate remains centered around the traditional year-over-year change in the headline CPI (5.0%) and core CPI readings (5.6%), along with the Fed's preferred PCE inflation data (5.0% and 4.6%). But there are two big issues with those widely-cited figures:

- They all include the CPI shelter price input, which carries a large weight but is known to be significantly lagged relative to current market prices.
- The 12-month changes still include readings from early 2022 when conditions were very different: the Fed had barely started raising rates, Russia had just invaded Ukraine, China faced COVID lockdowns, and supply chains generally were still stretched.

If we account for those two known issues, we see a very different picture.

The CPI ex Shelter data has shown a rapid decline, with the year-on-year change for all items except shelter now at 3.4%. The figure for core CPI ex shelter (i.e., ex food, energy, and shelter) is a similar 3.8%.

The more relevant six-month annualized change in CPI ex Shelter is now just 1.1% (and so is the three-month annualized change), and thus below the Fed's target.

What about shelter costs? The CPI still shows them rising at an ~8% annual rate over all recent periods (middle chart, top). But more timely Zillow home rental data show rents up 6% from a year ago, and flat (0%) over the last six months (bottom section, middle chart).

The PPI data, which does not include housing and often leads CPI, shows a similar pattern. The latest PPI readings show the 12-month change down to just 2.8%, the six-month annualized rate at just 1%, and the three-month rate at zero. Thus wholesale inflation is already at or below target, and consumer prices in general are at or near target once the skewed housing/shelter figures are accounted for.

Exhibit 6: Inflation outside of skewed shelter readings is falling rapidly, and already near target by some measures.
Hypothetical Performance Tracking

The charts and tables below show indicative hypothetical tracking results for the allocation recommendations published in this report. See important disclosures below.

GLOBAL ASSET ALLOCATION (STOCKS/BONDS/CASH)

<table>
<thead>
<tr>
<th>Global Asset Allocation Recommendation Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan-19</td>
</tr>
<tr>
<td>Recommended Portfolio</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Global Asset Allocation Summary Statistics</th>
<th>01 January 2019 - 14 April 2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended Portfolio</td>
<td>Benchmark Portfolio</td>
</tr>
<tr>
<td>Ann. Return (%)</td>
<td>6.11</td>
</tr>
<tr>
<td>Ann. Volatility (%)</td>
<td>11.94</td>
</tr>
<tr>
<td>Sharpe Ratio</td>
<td>0.41</td>
</tr>
</tbody>
</table>

Results assume allocation to the ACWI index (ETF ticker ACWI), US long-term Treasury bonds (ETF ticker TLT) and US cash-like holdings (ETF ticker SHV) relative to a benchmark of 60% stocks, 30% bonds, 10% cash, as published for the date range indicated. Always use caution in interpreting results for short time periods.

US SMALL-CAP/LARGE-CAP ALLOCATION

<table>
<thead>
<tr>
<th>US Small vs Large-Cap Allocation Recommendation Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apr-16</td>
</tr>
<tr>
<td>Recommended Portfolio</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>US Small vs Large-Cap Allocation Summary Statistics</th>
<th>13 April 2016 - 14 April 2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended Portfolio</td>
<td>Benchmark Portfolio</td>
</tr>
<tr>
<td>Ann. Return (%)</td>
<td>13.05</td>
</tr>
<tr>
<td>Ann. Volatility (%)</td>
<td>19.93</td>
</tr>
<tr>
<td>Sharpe Ratio</td>
<td>0.60</td>
</tr>
</tbody>
</table>

Results assume 100% investment in large-caps (Russell 1000, ETF ticker IWB) or small-caps (Russell 2000, ETF ticker IWM) or the 50/50 large/small benchmark as published for the date range indicated.

Note: Results shown here do not reflect any actual trading and are for informational purposes only. They do not include important considerations such as transactions costs, taxes, fees or other expenses. Past performance is no guarantee of future results.

Source: Mill Street Research, Factset, Bloomberg
The Global Equity Risk Model is a composite of eight individual indicators designed to forecast returns and risk for high-risk versus low-risk assets over the next one to six months. We focus on stocks versus bonds but other high vs. low-risk asset pairs typically follow similar patterns.

Each of the eight indicators generates a percentile (0-100%) reading, with 100% being the most favorable for high-risk assets. The final model reading is an equally-weighted average of the eight percentile scores. High indicator readings tend to forecast both higher returns and lower volatility for risky assets. The eight indicators are comprised of four equity market-derived indicators and four cross-asset indicators from fixed income and commodity markets. The charts below show the most recent three years of data, but the model’s history extends back to 1992. Additional information is available on request.
GLOBAL EQUITY RISK MODEL (CONTINUED)

Indicator Appendix

Source: Mill Street Research, Factset, Bloomberg
The Small-cap/Large-cap Model is a six-indicator composite using market and economic inputs designed to help identify the stage of the US market/economic cycle. It is based on the idea that small-caps have tended to outperform most reliably in the early stages of a new cycle (coming out of a trough) while large-caps tend to outperform later in a cycle, especially on a risk-adjusted basis. Each of the six indicators has either one or two threshold levels which identify periods favorable for small-caps, large-caps, or neutral readings. The final model reading is the net proportion of signals favoring small-caps.

As a cyclical model, it forecasts relative returns of small-caps versus large-caps on a six- to 12-month horizon, which some signals lasting significantly longer. The charts below show the most recent five years of data, but the model’s history extends back to 1986. Additional information is available on request.

Source: Mill Street Research, Factset, Bloomberg
**Indicator Appendix**

**SMALL-CAP/LARGE-CAP MODEL (CONTINUED)**

---

**Equity Market Oscillator**
- **Russell 2000 / Russell 1000 Relative Return**
- **Russell 1000 smoothed 12-month % change (inverted scale)**

```
<table>
<thead>
<tr>
<th>Mar-18</th>
<th>Mar-20</th>
<th>Mar-22</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td>80</td>
<td>70</td>
</tr>
</tbody>
</table>
```

- **Favor small-caps if % change < 5%**
- **Favor large-caps if % change > 15%**
- **Mar 31 2023 = -12%**

---

**VIX Indicator**
- **Russell 2000 / Russell 1000 Relative Return**
- **VIX Volatility Index (inverted scale)**
- **VIX % from 6-month average (inverted scale)**

```
<table>
<thead>
<tr>
<th>Mar-18</th>
<th>Mar-20</th>
<th>Mar-22</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td>80</td>
<td>70</td>
</tr>
</tbody>
</table>
```

- **Favor small-caps if VIX % change < -5%**
- **Favor large-caps if VIX % change > 5%**
- **Mar 31 2023 = -11.6%

---

*Source: Mill Street Research, Factset, Bloomberg*
The Implied Growth Model uses market data and valuation theory to estimate the equity market's current implied long-term real earnings growth expectations. We compare expected returns for equities with those of corporate bonds to derive this estimate, which we can then compare to our economic outlook to gauge whether equities are priced for future earnings growth that is consistent with our economic expectations or not.

A very high implied growth rate could mean one of two things: economic and corporate profit growth will in fact be very strong in subsequent years, or investors are overly optimistic and equity prices are too high relative to corporate bond yields. A very low implied growth rate could have the reverse interpretations: either growth will in fact be very low, or equities are undervalued relative to corporate bonds. Thus the implied earnings growth rate can be used as a way to analyze the valuation of equities relative to bonds.

The chart at right plots the full history of the Implied Growth Model and its primary components.

The top section plots the real (inflation-adjusted) Bloomberg Barclays Baa-rated long-term corporate bond yield (blue line), adjusted using the smoothed yearly change in the core Personal Consumption Expenditures (PCE) Price Index, and the cyclically adjusted S&P 500 earnings yield (red line), which is based on trailing 10-year average operating EPS adjusted to current dollars.

The second section plots the difference between the real bond yield and the earnings yield. The third section plots the estimated equity risk premium over corporate bonds, which is based on the growth rate of the US Leading Economic Indicators. Weaker expected economic growth corresponds to a higher equity risk premium.

The bottom section plots the result of the model's calculations, which is an estimate at each point in time of the market’s implicit forecast of long-run (20+ year) future average annual real earnings growth. In the long run, real earnings growth should approximate the growth in real GDP, with allowances for global influences, structural policy changes, etc.

Source: Mill Street Research, Factset, Bloomberg

Additional information available on request.
The research provided in this report is based on strategic analysis provided by Mill Street Research LLC ("Mill Street"), an investment adviser registered with the Massachusetts Securities Division. Strategic analysis is based on fundamental, macroeconomic and quantitative data to provide investment analysis with respect to the securities markets. The report is not intended to provide personal investment advice. This report does not constitute an offer or solicitation to buy or sell any securities discussed herein in any jurisdiction where such offer or solicitation would be prohibited. The securities mentioned in this report may not be suitable for all types of investors. This report does not take into account the investment objectives, financial situation or specific needs of any particular client of Mill Street. Recipients should consider this report as only a single factor in making an investment decision and should not rely solely on investment recommendations contained herein, if any, as a substitution for the exercise of independent judgment of the merits and risks of investments. Mill Street has no actual, implied or apparent authority to act on behalf of any issuer mentioned in the report. Employees of Mill Street may have positions in securities mentioned in this report, disclosures are available on request. Before making an investment decision with respect to any security recommended in this report, the recipient should consider whether such recommendation is appropriate given the recipient's particular investment needs, objectives and financial circumstances. We recommend that investors independently evaluate particular investments and strategies, and encourage investors to seek the advice of a financial advisor. Mill Street will not treat non-client recipients as its clients solely by virtue of their receiving this report. Past performance is not a guarantee of future results, and no representation or warranty, express or implied, is made regarding future performance of any security mentioned in this report. The price of the securities mentioned in this report and the income they produce may fluctuate and/or be adversely affected by exchange rates, and investors may realize losses on investments in such securities, including the loss of investment principal. Mill Street accepts no liability for any loss arising from the use of information contained in this report. All information, opinions and statistical data contained in this report were obtained or derived from public sources believed to be reliable, but Mill Street does not represent that any such information, opinion or statistical data is accurate or complete (with the exception of information contained in the Important Disclosures and Certifications section of this report), and they should not be relied upon as such. All estimates, opinions and recommendations expressed herein constitute judgments as of the date of this report and are subject to change without notice. Nothing in this report constitutes legal, accounting or tax advice. Since the levels and bases of taxation can change, any reference in this report to the impact of taxation should not be construed as offering tax advice on the tax consequences of investments. As with any investment having potential tax implications, clients should consult with their own independent tax adviser. This report may provide addresses of, or contain hyperlinks to, Internet web sites. Mill Street has not reviewed the linked Internet web site of any third party and takes no responsibility for the contents thereof. Each such address or hyperlink is provided solely for the recipient's convenience and information, and the content of linked third party web sites is not in any way incorporated into this document. Recipients who choose to access such third-party web sites or follow such hyperlinks do so at their own risk. The market indices mentioned in this report are unmanaged, hypothetical portfolios of securities that are often used as a benchmark in evaluating the relative performance of a particular investment, as constructed by the index providers. Index return figures do not reflect any fees, expenses or taxes. An index should only be compared with a mandate that has a similar investment objective. An index is not available for direct investment, and does not reflect any of the costs associated with buying and selling individual securities or management fees. This report or any portion hereof may not be reprinted, sold, or redistributed without the prior written consent of Mill Street.

Copyright © Mill Street Research LLC  2023