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# Sinai's Economic and Market Perspectives

March 24, 2021

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## Macro Policy to the Forefront—How Much is Enough?

Allen Sinai

### Monetary-Fiscal Policy Mix: "Ultra-Easy" Money—"Hugely Loose" Fiscal

Macroeconomic policies, monetary and fiscal, are front-and-center after the signing into law of the $1.9 trillion American Rescue Plan and last week's two-day FOMC Meeting.

*Combined, the Ultra-Easy Monetary Policy of the Federal Reserve*—reaffirmed in the Statement and Q. and A. of Chair Powell last Wednesday, again this week, *and the huge fiscal stimulus of the past year*, $5.9 trillion, cumulatively over 26% of current Nominal GDP—*constitute the largest macro policy stimuli ever* in the history of the United States.

A big question is whether the stimulus is *Too Much* or *About Right*. No one is suggesting *Too Little* since it is so large and also widely expected is more fiscal stimulus later this year.

### Some Historical Perspective

Potential parallels are the 1960s and 1980s. There was the Kennedy-Johnson tax cuts of 1962ff and increases of federal government spending, Great Society outlays, then the Vietnam War surprise increased defense spending in 1965-67. In the 1980s, there were the Reaganomics tax cuts for individuals and businesses, massive increases of Federal defense spending, deficit and debt-financed, and easing, easier and easy monetary policy under Chair Volcker beginning in 1982: 3.

With lags, those policies brought strong Expansions, eventually Booms, lower and low unemployment, higher inflation, tighter monetary policy, rising interest rates, financial excesses, financial distress, then Credit Crunches and Recessions—a standard sequence in numerous business cycle upswings.[1]

### Current Situation

Current monetary and fiscal policies in combination—call this the "Policy Mix"—in absolute terms and related to a now much larger U.S. economy than in the 1960s and 1980s are hugely stimulative on any historical comparisons.

Thanks, in part, to 1) an ongoing Ultra-Easy Monetary Policy and the Fiscal Stimuli of 2020-21; 2) a new round of business Reopenings on an easing Pandemic; 3) stepped-up Vaccinations in this "Year of the Vaccines;" 4) unleashed consumer Pentup Demands; 5) recovering

[1] See Otto Eckstein and Allen Sinai, "The Mechanisms of the Business Cycle in the Postwar Era," in R.J. Gordon, ed., *The American Business Cycle: Continuity and Change*, University of Chicago Press, 1986, pp. 39-120.

economies abroad, especially China; 6) a better mood with improving consumer and business sentiment; 7) and firm guidance and direction from a new more businesslike Washington Administration, *the U.S. economy has snapped back from last year's External Coronavirus Shock-induced Depression faster and stronger-than-expected.*

*The distribution of Macro Risks has shifted quickly to the upside from the downside*.

*DE Odds on a Double-Dip Recession now are down to essentially zero from 15%; on a previously DE optimistic Basic Prospect up to 75% from 65%, and now a Boom possibility later in the Expansion, Odds 10% to 15%, up from zero.*

*A much stronger, rather than weaker, outcome for the U.S. economy, near- and intermediate-term, now is looking more probable.*

*This is quite a turnabout* from the dismal prospect a year ago when the Coronavirus External Shock came out of nowhere to crater the U.S. and Global Economies and in order to save lives the responses of public health and governments around-the-world were to shut down economies everywhere—*this a set of events never before seen* that led to Recessions and Depressions in numerous countries.

The story of why the quicker, better-than-expected snapback is an important one for business cycles that are External Shock-induced.

*But the question now, with so many underlying fundamentals moving in a stimulative and positive direction, is whether the macroeconomic policies that have been implemented—Ultra-Easy Monetary Policy in the U.S. and the biggest Fiscal Stimulus in the shortest time ever—might be too much of a good thing*.

On the Coronavirus Pandemic Shock of 2020, the "Year of the Pandemic," and its devastation to public health and the economies of the world, it is understandable that as an offset central banks around-the-world, particularly the Federal Reserve, would do everything possible to cushion the effects of the Shock and its Aftermath and to return the U.S. economy to the near Full Employment and Prosperity that existed in February 2020.

For the near-term, as the full sweep of the American Rescue Plan is read and understood and the Federal Reserve follows its previous guidelines, *a major question does arise as to whether in "The Year of the Vaccines" the Policies and Policy Mix are overdone on stimulus or about right.*

*Then, there is this time a societal dimension*, not just growth and inflation, unemployment, deficits and debt, to be considered, e.g., Inequality, now egregiously out-of-line in the U.S. and other societal issues as well. *This is now a dimension of policy attention that will stay.*

Given how fast science produced workable and efficacious vaccines and in the U.S. a shift in politics and leadership to an Administration that is properly dealing with the Pandemic as a first priority, *almost as surprising as the original Shock itself is the speed at which the U.S. economy has recovered and what in prospect is a snappy and apparently very sharp upturn.*

Table 1 shows the latest DE Track for some key parameters of the economy based on the data to-date, policy assumptions, and the structural nature of the U.S. economy.

**Table 1**
**DE "Basic Prospect" Key Forecast Dimensions—**
**Growth, Inflation, Unemployment, Profits**

| | Quarterly | | | | | Annual | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Q1 21F** | **Q2 21F** | **Q3 21F** | **Q4 21F** | **Q1 22F** | **2019A** | **2020F** | **2021F** | **2022F** | **2023F** |
| **Real GDP Growth** | | | | | | | | | | |
| **(Pct. Chg., Qtrly. at Ann. Rate)** | 6.7 | 5.8 | 5.5 | 6.3 | 5.0 | 2.3 | -2.4 | 6.1 | 5.0 | 3.5 |
| **Inflation—Consumption** | | | | | | | | | | |
| **Price Deflator (Pct. Chg. Ann.; YoY)** | 1.6 | 2.5 | 1.9 | 2.0 | 2.3 | 1.5 | 1.2 | 2.0 | 2.2 | 2.4 |
| **Unemployment Rate (Pct.)** | 6.3 | 6.2 | 5.8 | 5.5 | 5.3 | 3.6 | 6.8 | 5.5 | 4.9 | 4.1 |
| **(Ann., Q4 Avg.)** | | | | | | | | | | |
| **S&P500 Op. EPS** | | | | | | | | | | |
| **(Level, $s)** | 43.80 | 44.89 | 47.15 | 48.80 | 47.40 | 166.32 | 144.49 | 184.64 | 205.45 | 221.97 |
| **(Pct. Chg., YoY)** | 30.5 | 58.5 | 19.4 | 13.1 | 8.2 | 1.0 | -13.1 | 27.8 | 11.3 | 8.0 |

*A-Actual; F-Forecast; Real GDP Annual, Q4-over-Q4; Inflation Annual, Q4-over-Q4; Unemployment Annual, Q4 Average*
*Source: Decision Economics, Inc. (DE) Basic Prospect March 18, 2021.*

*The economy now is expected to rebound sharply*, to 6.1% Q4-over-Q4 this year and to maintain strong above-trend growth of 5% in 2022, continuing in 2023 at 3.5%.

Price inflation is expected to rise above 2%, accelerating somewhat over the forecast horizon, permitted by the Federal Reserve in order to achieve a longer-term *Average* Price Inflation of 2% and inflation expectations about the same. *This represents a huge change in the Federal Reserve approach* for the economy whose per annum real growth over two decades, 2011-20 and 2001-10, has languished in the upper 1's.

Chair Powell indicated as most important the full employment objective of the Federal Reserve, but once reached to be more widespread and dispersed than back in February 2020, allowing higher price inflation to be well in-evidence *before* moving to a less easy stance. And, well in-advance of doing so, the central bank would provide indications of any coming tightening. There were none last week and none this week in his testimonies with Treasury Secretary Yellen.

With Nominal GDP expected to be over 8% in 2021 and more than 7% in 2022, *growth figures* matching the early 60's Kennedy-Johnson "Get-the-Economy Moving Again" and 1980s Reaganomics *appear in sight*.

Earnings growth, measured by the S&P500 Op. EPS, is forecast to leap almost 28% this year and to rise another 11% in 2022. *These estimates take account of the American Rescue Plan and other fiscal stimulus to-date, but do not assume additional fiscal programs, neither the spending increases nor tax increases being contemplated by the Administration.*

The earnings growth is cyclically higher than most upcycles for profits relative to Nominal GDP and trend, reflecting companies' continuing lagging in hiring, the substitution of capital for labor, and a seismic shift in the economy's structure to technology and digitally-intensive rather than labor-intensive.

The projected unemployment rate, in the 4%+ range by 2023:Q4, is higher than the 3.5% expected by the Federal Reserve.

But, because of a rising inflation, longer-duration interest rates, U.S. Treasury yields 7 years-and-up, are expected to rise, on average, *at times sharply*. By the Summer, *the 10-year U.S. Treasury yield is forecast at 2-1/8%-to-2-3/8% and near yearend 2-3/4%-to-3%.*

With inflation at 2%+, maybe to touch 3%-or-so, and *Average* Price Inflation over a number of years headed toward 2%, *a nominal long-term interest rate of 3%-or-more would seem to be a reasonable expectation, given history.*

**FOMC Meeting—March 16-17: Message Radically Different Than for Decades, 1990-2020**

The Federal Reserve forecasts from last week's FOMC Meeting are shown in Table 2. Chair Powell provided a view that the economy was improving in the near-term and inflation firming up; otherwise, the Statement and Q. and A. was much the same as had been.

*Notable was the upgrading in the forecasts of the FOMC*, particularly near-term real economic growth and significantly higher inflation this year, viewed as largely transitory, but with both Overall Price Inflation and the "Core" expected to be 2%-or-above through 2023, a *new and higher Federal Reserve inflation forecast than previously*.

*At the same time, however, no increase in the Federal funds rate was seen* despite the higher inflation, underscoring *the Forward Guidance of a Federal Reserve that will wait until well after price inflation exceeds 2% before raising short-term interest rates*. The $120 billion per month purchases of U.S. Treasury and mortgage-backed securities was unchanged with no indication of when or under exactly what conditions the pace of additions to the Federal Reserve's balance sheet might be changed.

**Table 2**
**Federal Reserve Median Forecast—March 17, 2021**

| | 2021 | 2022 | 2023 | Long-run |
|---|---|---|---|---|
| **Change in Real GDP (Pct.)** | 6.5 | 3.3 | 2.2 | 1.8 |
| **December projection** | 4.2 | 3.2 | 2.4 | 1.8 |
| **Unemployment Rate (Pct.)** | 4.5 | 3.9 | 3.5 | 4.0 |
| **December projection** | 5.0 | 4.2 | 3.7 | 4.1 |
| **PCE Inflation (Pct.)** | 2.4 | 2.0 | 2.1 | 2.0 |
| **December projection** | 1.8 | 1.9 | 2.0 | 2.0 |
| **Core PCE Inflation (Pct.)** | 2.2 | 2.0 | 2.1 | -- |
| **December projection** | 1.8 | 1.9 | 2.0 | -- |
| **Federal Funds Rate (Pct.)** | 0.1 | 0.1 | 0.1 | 2.5 |
| **December projection** | 0.1 | 0.1 | 0.1 | 2.5 |

*Real GDP and Inflation, Q4-over-Q4; Unemployment, Q4 Average*
*Source: Federal Reserve Board, March 17, 2021.*

*Here, the burst up in growth in 2021 is viewed as largely Transitory, 6.5% YoY*, fading to a still solid 3.3% in 2022 and then only 2.2% in 2023. Still, these three years show growth stronger than trend, estimated at 1.8%. The decline in the unemployment rate is consistent with growth above trend, which, if it occurs, would reduce the "Gap" between potential and actual Real GDP, given the assumed 1.8% trend growth for potential output.

The decline in the unemployment rate to essentially Full Employment or a little below, 3.5% by yearend 2023, also is consistent with a diminishing "Gap."

There is *no Phillips Curve* in the Federal Reserve projections; i.e., accelerating price inflation as the unemployment rate approaches Full Employment. This reflects the many years of the acceleration hypothesis not being supported by actual data and a rejection of the Phillips Curve and a Pre-emptive "Ahead of the Curve" inflation stance by the current Federal Reserve.

The DE projections of above-trend growth greater than the Federal Reserve's Median reflect a higher estimated potential long-run rate of growth and the effect of technology on potential, perhaps half-a-percentage point higher, estimated at 2.3% per year.

That higher productivity growth is consistent with a slower decline for the unemployment rate and higher level of unemployment in 2023 than expected in the Median Federal Reserve forecast.

Inflation in the DE projections is about the same as the Federal Reserve's but does show some acceleration as the "Gap" between potential and actual output declines and the economy approaches full capacity.

Both the Federal Reserve and DE projections are within range of one another given the margins of error surrounding the projections.

Some notables—

1) For the Federal Reserve, the 2021 rebound essentially is Transitory, not Permanent.
2) Price inflation bounces up in 2021 because of base period comparisons then subsides, is Transitory not Permanent; no acceleration is indicated.
3) The unemployment rate declines, but slowly in approaching Full Employment.
4) The federal funds rate is held at zero; no change for three years.
5) Most important, the Federal Reserve will let price inflation run over 2% rather than pre-empt it, the latter the policy approach from 1980 to 2006. *The lagging behind the curve of price inflation until expected inflation is 2% and well over 2% actual price inflation represents a huge change in monetary policy,* leaving the 10-year U.S. Treasury yield to be set by the markets.

Differences, however, in the two forecasts are significant, particularly the *stronger growth for longer of the DE projections, a more sticky and intractable return to Full Employment, and somewhat higher price Inflation*.

With strong real economic growth and rising inflation, company nominal revenues should be strong, in-line with far above-trend increases in Nominal GDP and reflected in strong earnings for the S&P500.

The current prospects for Federal Reserve policy and fiscal policy through the American Rescue Plan underlie these projections. *No assumptions are made about future fiscal policy changes* which could involve higher corporate tax rates and reduce the earnings shown.

**American Rescue Plan—Some Early Perspectives**

The American Rescue Plan legislated and signed by President Biden last Wednesday adds to the fiscal stimuli of 2020—the combination of all totaling about $5.9 trillion.

Cumulatively, this represents over 26% of current Nominal GDP. The American Rescue Plan does have some provisions that go out a number of years so that the fiscal stimulus is not 26% of GDP over the short-run; it is less. Nevertheless, *over the next one-to-three years, the totality of the stimulus is the greatest relative-to-GDP of any in U.S. history*.

The composition of the program is mostly Transfers and Credits as opposed to outright Federal Government Purchases. Transfers multipliers can be very different from Federal Government Purchases multipliers in size and timing.[2]

[2] See Allen Sinai, "Macroeconomic Policy Challenges and Choices in a Time of Crises," *Challenge*, Part II: "Fiscal Policy and Policies for 'Recovery'," July-August 2009, pp. 53-93, for a full range of large-scale macroeconometric model simulations of various changes in tax and spending policies, Transitory and

The increased federal government outlays that are Transfers, once implemented, do not impact so quickly as Federal Government purchases of Goods and Services, operating through the private sector, consumers and businesses, into spending and saving with private sector spending itself lagging.

*If Temporary, the effects of Transfers are small and fleeting—if Permanent, the effects last much longer relative to a trendline* but in a full system induce responses that ultimately take the Transfers multiplier to zero.

Without a full markup of the timing and summary description of this very long American Rescue Plan (about 250 pages in small print), it is hard to provide precise estimates of its impacts and timing.

But, several perspectives can be offered—

1. *Magnitude*—\$1.9 trillion is ex-ante about 8% of Nominal GDP—extremely large.
2. *Duration*—the stimulus is concentrated in 2021 and 2022 with a tail of credits thereafter. Its duration must be judged as Transitory as opposed to Permanent, suggesting stronger effects early but then significant fading by 2023.
3. *Distribution*—there can be no doubt that the American Rescue Plan favors lower income, lower wealth individuals and families than the high end of the income distribution.
4. *Growth and inflation*—if Transient, the largest impacts will occur over the next year-or-two but then fade. The \$350 billion State and Local component, given lags in implementation, can stretch longer in its impacts. *With so large a "Gap," potential inflationary effects, near-to-intermediate-term, are minimal*.
5. *Deficits and debts*—without a doubt, ex-ante, likely to drive deficit-to-GDP ratios far, far higher and initially debt-to-GDP similarly so, 15%-to-20% for the former and perhaps 130%-to-150% for the latter. The effects, ex-post, would be less so as additional tax revenues induced on higher growth offset some of the deficits and accumulated debt.

However, the legacy of cumulative fiscal stimulus near \$6 trillion will be out-of-history deficit and debt-to-GDP ratios, inviting much later a deficit and debt problem perhaps like the 1980s particularly if, and as, and when the Federal Reserve begins tightening monetary policy, interest rates rise higher.

Because of the ahistorical nature of the stimulus in Magnitude and Duration, the effects are hard to precisely pin down.

Combined with a fully accommodative monetary policy, however, the \$1.9 trillion fiscal stimulus, deficit-and-debt-financed, should have significant maximal impacts on the economy, whatever they may be.

*If the Transfers are spread over time, as opposed to one-time, i.e., more Permanent rather than Transitory, then multipliers and the effects would be greater and extend longer*, supporting higher economic growth and increased spending and saving out of the additional funds. This is *an assumption made by DE and in the projections of Table 1*.

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Permanent, simulated over 2009-2018. To be noted particularly are the differences between Transfers and Purchases multipliers; between Transitory and Permanent changes in fiscal policies; and certain Tax and Purchases multipliers. Because of supply-side effects of changes in lowering taxes as against raising purchases, the tax multipliers are permanently higher, a striking result.

## Financial Markets—Still A Bull Equity Market But Now A Bear Fixed Income Market—Big Change in the Backdrop

This all suggests continuing Equity Bull Markets, a Bear Fixed Income Market and, for a time, a stronger U.S. dollar, qualitatively similar to the early 1960s and 1982-87.

On DE's yet another new and stronger macroeconomic set of forecasts, shown in Table 1, company earnings' level and growth are lifted. Because of higher interest rates, P/E Ratios are reduced somewhat.

With the upgraded macroeconomic forecast, inflation projections, and last two quarters of well-above expectations for the S&P500 Op. EPS, the earnings path shown in Table 1 is higher in levels but the P/E Ratio against Forward Earnings is lower on the rise in long-term interest rates.

With one quarter of 2021 now over, taking one quarter of next year's earnings into the DE estimate of Forward Earnings gives about $190. With a P/E Ratio now of 20.5 instead of 21, point Fair Value for the S&P500 is 3895 with Upside 4100+ and Downside on a Correction around 3500.

As time goes by more of next year's earnings, now forecasted at $206, will be pulled into Forward Earnings and the DE estimate of point Fair Value will rise.

At midyear, on a $195 Forward Earnings estimate for the S&P500, point Fair Value would be 3997 with Upside 4200 and Downside 3600.

This is the short-to-intermediate-term directional view of DE for the S&P500.

The rising U.S. Treasury 10-year bond yield shown in the DE interest rate forecasts attached to this piece are roughly accounted for in these Fair Value estimates.

No account is being taken for whatever new fiscal policies might occur beyond the American Rescue Plan.

The current DE interest rate forecasts are shown in the Tables at the end of this article.

## Concluding Observation

The verdict of the 1960s and 1980s, to the extent history might be similar to this episode, is a rising stock market and rising interest rates. Not until the Federal Reserve begins a much tighter policy of tapering asset purchases and raising the Federal funds rate would there be a major Bear Equity Market risk.

**Table 3**
**Key Worldwide Economic Indicators and Events at a Glance**
**March 22 – April 2, 2021**

| | Release | Time (EST) | Last | DE / Consensus | Comment/Event/Venue |
|---|---|---|---|---|---|
| | | **Mar 22-Mar 26** | | | |
| **U.S.** | Dur. Gds. (Feb) | We 8:30 am | 3.4% | 1% / 1% | Durable Goods Orders grow for tenth straight month. |
| | Pers. Income (Feb) | Fr 8:30 am | 10% | -6.2% / -7% | Income to dip after massive Direct Payments in January. |
| | Consumption (Feb) | Fr 8:30 am | 2.4% | -0.7% / -0.6% | Consumption falls after burst in January, but $1,400 checks will add support ahead. |
| | | **Mar 29-Apr 2** | | | |
| | CB Cons. Conf. (Mar) | Tu 10:00 am | 91.3 | 94.5 | Consumer Confidence continues to improve with vaccinations and fiscal support. |
| | ISM Mftg. (Mar) | Th 10:00 am | 60.8 | 61 | Mftg. Sector will continue to show solid growth. |
| | Nonfarm Pay. (Mar) | Fr 8:30 am | 379K | 289K / 625K | Nonfarm Payrolls rise but Labor Market Recovery has long way to go. |
| | Unemp. Rate (Mar) | Fr 8:30 am | 6.2% | 6.1% / 6.1% | Unemployment Rate stays steady. |
| | | **Mar 22-Mar 26** | | | |
| **EUR** | Markit PMI (Mar) | We 5:00 am | 48.8 | 48.5 / 48 | Composite PMI remains in contraction zone due to Services. |
| | Cons. Conf. (Mar) | We 11:00 am | -14.8 | -15.3 / -16 | Consumer Confidence still weak with slow vaccine distribution. |
| | | **Mar 29-Apr 2** | | | |
| | Econ. Conf. (Mar) | Tu 5:00 am | 93.4 | 94.5 | Economic Sentiment to rise yet remains low. |
| | CPI (Mar) | We 6:00 am | 0.2% | 0.2% | Consumer Prices increase near prior pace. |
| | | **Mar 22-Mar 26** | | | |
| **CHN** | 1-Yr Loan Pr. Rate | Su 9:30 pm | 3.85% | Hold / Hold | People's Bank of China (PBOC) to hold on rates with Recovery on track. |
| | 5-Yr Loan Pr. Rate | Su 9:30 pm | 4.65% | Hold / Hold | |
| | | **Mar 29-Apr 2** | | | |
| | NBS Mftg. PMI (Mar) | Tu 9:00 pm | 50.6 | 51 | PMIs to improve as restrictions are relaxed and businesses are getting back to normal. |
| | NBS N.M. PMI (Mar) | Tu 9:00 pm | 51.4 | 52 | |
| | Caixin Mftg. PMI (Mar) | We 9:45 pm | 50.9 | 51.6 | |
| | | **Mar 22-Mar 26** | | | |
| **JPN** | Tokyo CPI (Mar) | Th 7:30 pm | -0.3% | -0.3%/ -0.3% YoY | Tokyo CPI likely to stay deflated amid extended emergency in the area. |
| | | **Mar 29-Apr 2** | | | |
| | Unemp. Rate (Feb) | Mo 7:30 pm | 2.9% | 2.9% | Unemployment Rate stabilizes. |
| | Retail Sales (Feb) | Mo 7:50 pm | -1.7% | -0.6% | Consumption to continue to fall on declining demand amid the emergency. |
| | Indus. Prod. (Feb P) | Tu 7:50 pm | 4.3% | 4% | Indus. Prod. to gain steam on rising demand of semiconductor. |
| | | **Mar 22-Mar 26** | | | |
| **U.K.** | Unemp. Rate (Jan) | Tu 3:00 am | 5.1% | 5.2% / 5.2% | Three-month Unemployment Rate to tick up. |
| | CPI (Feb) | We 3:00 am | -0.2% | 0.2% | Consumer Prices rise following contractions in two of three prior months. |
| | Retail Sales (Feb) | Fr 3:00 am | -8.2% | 2.4% / 2.2% | Sales rebound after large contraction. |
| | | **Mar 29-Apr 2** | | | |
| | Mortgage Aprv. (Feb) | Mo 4:30 am | 99K | 95K | Mortgage Approvals ease but still elevated. |
| | | **Mar 22-Mar 26** | | | |
| **MEX** | Banxico Decision | Th 3:00 pm | 4.25% | Hold / Hold | Banxico to hold on rate as policymakers have stated limited room for further cuts. |

**Table 4**
**U.S. Treasury Yield* (Qtly. Avg.) (%)**

| Treas. | 20Q4A | 21Q1F | 21Q2F | 21Q3F | 21Q4F |
|---|---|---|---|---|---|
| 3mo | 0.09 | **0.02** | **0.05** | **0.06** | **0.08** |
| 12mo | 0.09 | **0.11** | **0.18** | **0.26** | **0.34** |
| 2yr | 0.15 | **0.17** | **0.28** | **0.41** | **0.53** |
| 5yr | 0.38 | **0.83** | **1.09** | **1.34** | **1.59** |
| 10yr | 0.89 | **1.61** | **1.97** | **2.31** | **2.65** |
| 30yr | 1.62 | **2.48** | **2.83** | **3.14** | **3.45** |

**Table 5**
**Treasury Yield Curve Spreads* (%)**

| Spread | 20Q4A | 21Q1F | 21Q2F | 21Q3F | 21Q4F |
|---|---|---|---|---|---|
| 3mo-2yr | 0.06 | **0.14** | **0.24** | **0.34** | **0.46** |
| 3mo-10yr | 0.80 | **1.59** | **1.92** | **2.24** | **2.57** |
| 3mo-30yr | 1.53 | **2.45** | **2.78** | **3.07** | **3.37** |
| 2yr-10yr | 0.74 | **1.44** | **1.69** | **1.90** | **2.11** |
| 2yr-30yr | 1.47 | **2.31** | **2.54** | **2.73** | **2.92** |
| 10yr-30yr | 0.73 | **0.87** | **0.86** | **0.83** | **0.80** |

**Chart 1**
**Fed Funds Rate (DE and Alts.) (%)**

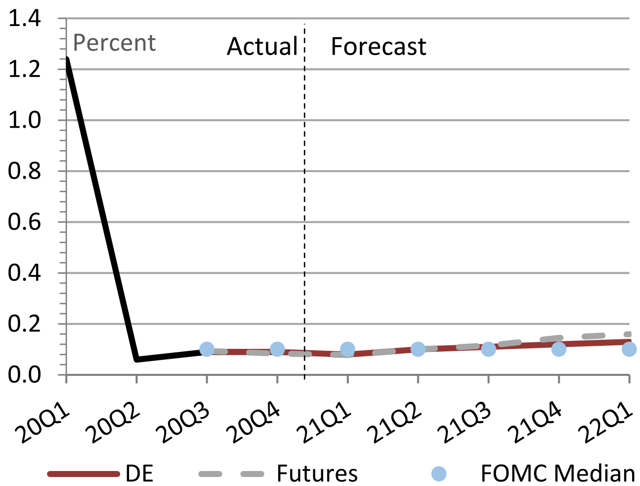


**Chart 2**
**U.S. Treasury Bill Rates (%)**

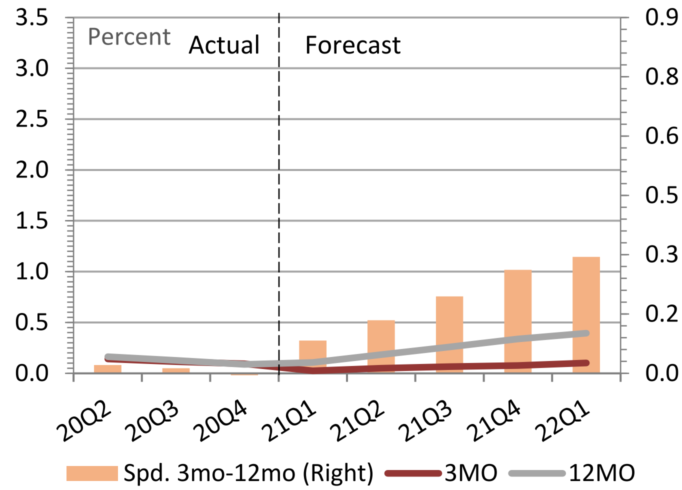


**Chart 3**
**U.S. Treasury Note Rates (%)**

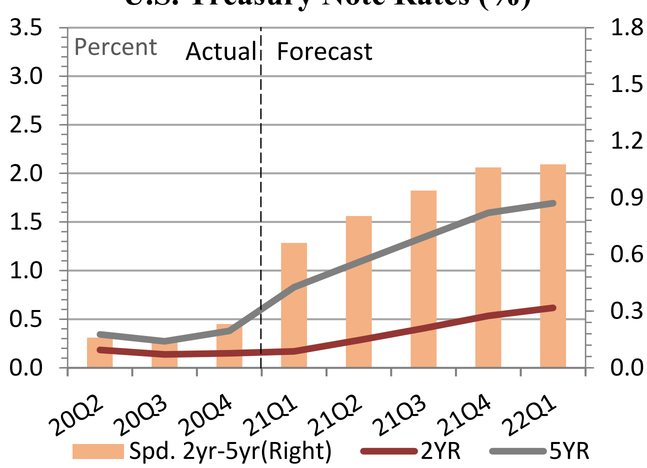


**Chart 4**
**U.S. Treasury Note Rates (%)**

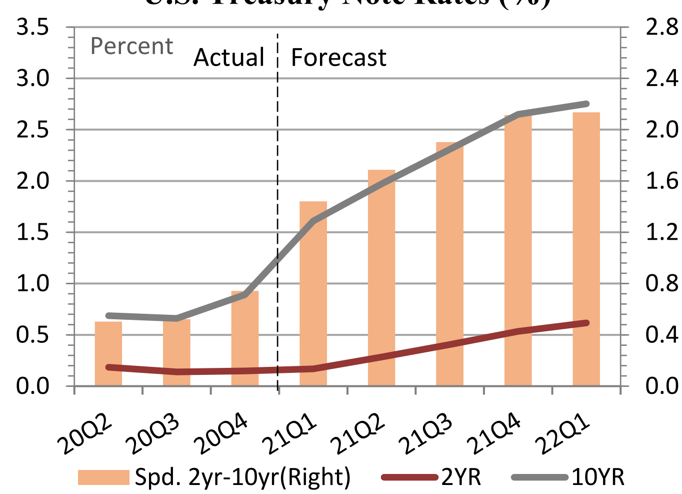

**Chart 5**
**U.S. Treasury Note/Bond Rates (%)**

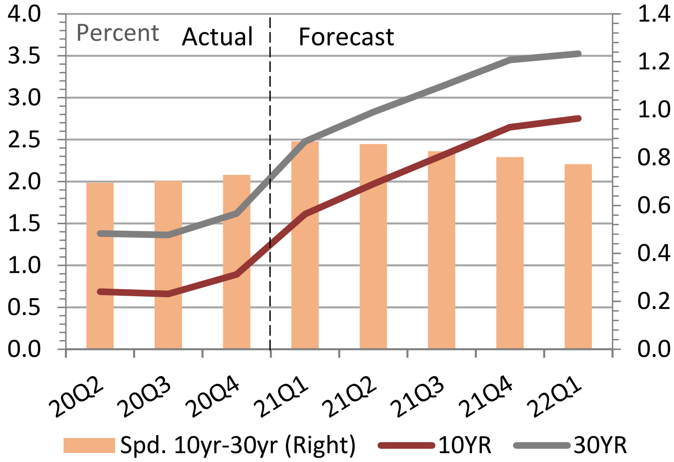


**Chart 6**
**U.S. Treasury Yield Curve (%)**