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Volume, 11 No. 7 Last Commentary: March 28, 2000

COMMENTARY

Market Opinions And Topics Of Interest
April 13, 2000

Our Take on the Bond Market in 2000
Part 3: How is Reduced Supply Affecting the Bond Market?

Ever since the Treasury officially announced its buyback program in late January, the bond market's focus has turned to the budget surplus. In this commentary, we will explore how the budget surplus affects our favorite valuation indicator – nominal GDP.

The Best Interest Rate Valuation Model

Chart 1 shows what we believe is the best valuation yardstick for the bond market. The bars in the top panel show the year-over-year change in nominal GDP (real GDP **plus** inflation). The line in the top panel shows the yield of the 5-year Treasury note. (We chose the 5-year Treasury note because it is the middle of the yield curve. Any other point on the yield curve, or even corporate bond yields, could have been used and would show similar results.) The bottom panel shows the difference between the yield of the 5-year Treasury note and the year-over-year change in nominal GDP.

Think of this measure as an asset valuation model with the asset being the entire economy. If the asset, as measured by nominal GDP, returns a rate higher than the prevailing interest rate (the 5-year Treasury note), then it makes sense for a business to borrow and expand. One can make money in such an environment because the asset has a higher return than the cost of borrowing. This will cause an increase in the demand for credit thus putting upward pressure on the price of credit -- interest rates. This will last as long as yields are below the year-over-year change in nominal GDP (or at least the perception that interest rates are below nominal GDP).

On the flip side, if interest rates (5-year Treasury note) are higher than the returns provided by the economy (nominal GDP), then borrowing to "buy" is a money-losing proposition. In this case the demand for money will fall because the profit incentive is not present. This will drive the price of credit (interest rates) down so long as yields are above the growth rate, or perceived growth rate, of nominal GDP.

This concept is only a slight variation of the "real rate" concept that many use. The "real rate" concept suggests that the "fair value" of interest rates is inflation plus a fixed number -- 3%; the nominal GDP concept suggests the fair value of interest rates is inflation plus a variable -- real GDP. Inflation plus real GDP equals nominal GDP.

By using a variable instead of a fixed number, the nominal GDP concept makes more sense than the real rate concept. Where else in finance is a market based relationship fixed over time and in all cycles? Using real GDP as a proxy for the level of real rates means that the faster the economy grows without igniting inflation, the higher real interest rates should be. This makes sense.

The Surplus Situation

The top panel of Chart 2 shows federal debt as a percentage of nominal GDP (our federal debt statistic is from the Federal Reserve's H6 report and is U.S. government debt, not including government-sponsored enterprises or federally related mortgage pools). The bottom panel of Chart 2 shows the year-over-year change in federal debt as a percentage of nominal GDP. This measure is the growth rate of federal debt to nominal GDP.

Notice that as the budget deficit peaked in the early 1990's so did debt as a percentage of nominal GDP (top panel). Now that the Federal Government is running a surplus, the growth rate of debt is negative (bottom panel).

When assessing the deficit/surplus situation of the federal government, we believe this is the most relevant chart. Federal debt as percentage of nominal GDP and its growth rate (the year-over-year

change in federal debt as a percentage of nominal GDP) are the key measures to examine.

Tying Them Together

Chart 3 shows all the panels of Chart 1 and Chart 2 together. Our intention is to show how the federal deficit/surplus affects interest rates. It is our belief that the surplus affects interest rates **relative to** nominal GDP. **The surplus does not render this valuation model useless.**

Chart 3 has two vertical dotted lines. The first one is March 1980 when debt to GDP was at a multi-year low and on the verge of exploding higher. The second is September 1993 when debt to GDP was at a multi-decade high (it was higher in the aftermath of WW2) and about to turn lower.

Between 1968 and 1980 (the left-most third of the chart), interest rates were often **below** nominal GDP -- by an average of 2.82%. In this environment of low debt to GDP ratios with negative debt growth rates (-0.36%), nominal GDP was still an effective valuation tool. However, one had to bias their view of "fair value" to a level below nominal GDP given the **positive** (very little) supply situation.

Between 1980 and 1993 (the middle third of the chart), interest rates were often **above** nominal GDP – by an average of 2.39%. In this environment of high debt levels with high debt growth rates, nominal GDP was still an effective valuation tool. However, one had to bias their view of "fair value" to a level above nominal GDP given the **negative** (too much) supply situation.

Since 1993 (the right-most third of the chart), interest rates have moved in tandem with nominal GDP – averaging a difference of only 0.13%. In this environment of high debt levels **and** negative growth rates, the bias for the "fair value" of interest rates has moved from well above nominal GDP to equal to nominal GDP. Should the debt growth rates continue to fall into deeper negative territory, the level of debt to nominal GDP should also fall. When this happens, we expect the bias of interest rates relative to nominal GDP to revert to that seen in the left-most third of this chart – that being well **below** nominal GDP.

Conclusion - Understanding the Relationship between Supply and Nominal GDP

The change in the supply of Treasury debt has an impact on the level of interest rates. No one doubts this. However, our contention is that its effect has been vastly overstated. All supply does is bias one's view of where interest rates should be **relative to** the fair value measure – nominal GDP.

Notice that between 1968 and 1980 we graded the supply situation as **positive**. By our logic, the marketplace agreed as interest rates were consistently **below** nominal GDP.

However, in spite of the positive supply situation, this period was a terrible time to own bonds. Why? Because the main driver of valuation, nominal GDP, was soaring due to rapidly rising inflation (remember that inflation is one of the two components that make up nominal GDP). So, the positive effect of low debt to GDP levels and a negative debt growth rate was more than completely offset by rising nominal GDP.

Conversely, between 1980 and 1993, the supply situation was very **negative** for the bond market. The marketplace agreed with our logic as interest rates were consistently **above** nominal GDP.

However, this was the best period ever to own bonds. The negative effects of too much supply was more than offset by the positive effects of falling nominal GDP due to declining inflation.

For all the talk of Treasury buybacks and budget surpluses, nominal GDP is much more important in setting the "fair value" of interest rates than the supply situation.

These concepts make it possible for interest rates to rise even as the government pays down a substantial part of its outstanding debt. It hinges on acceptance of the concept of the "wealth effect." We would argue that the "wealth effect" is responsible for the budget surplus due to a windfall of revenues from the soaring stock market. Furthermore, the "wealth effect" is also pushing the economy much faster than **all** economists believed possible (did **anyone** predict that Q4 1999 real GDP would top 7%?).

Nominal GDP should continue to rise thanks to the wealth effect. The supply situation should also improve thanks to increased revenues generated from the robust stock market. Since supply only affects the bias between interest rates and their "fair value" (nominal GDP), the potential of further gains in the economy (nominal GDP) via the wealth effect are much more important than the reduction in supply.

The fair value of interest rates still comes down to predicting the next move in nominal GDP. In this regard, we still believe that the economy will surprise to the upside.

Chart 1

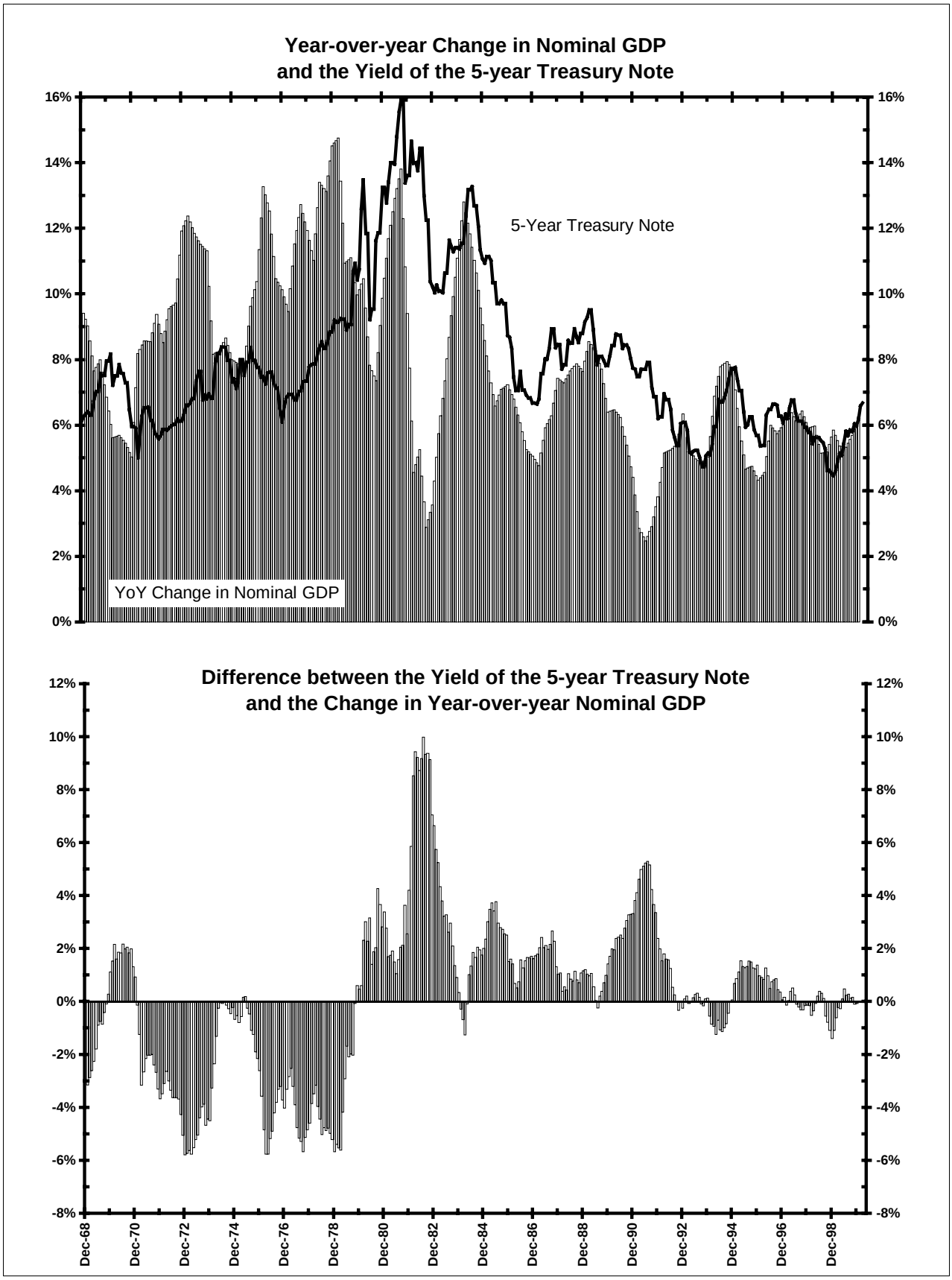
Year-over-year Change in Nominal GDP
and the Yield of the 5-year Treasury Note
5-Year Treasury Note
YoY Change in Nominal GDP
16%
14%
12%
10%
8%
6%
4%
2%
0%
Difference between the Yield of the 5-year Treasury Note
and the Change in Year-over-year Nominal GDP
12%
10%
8%
6%
4%
2%
0%
-2%
-4%
-6%
-8%
Dec-68
Dec-70
Dec-72
Dec-74
Dec-76
Dec-78
Dec-80
Dec-82
Dec-84
Dec-86
Dec-88
Dec-90
Dec-92
Dec-94
Dec-96
Dec-98

Chart 2

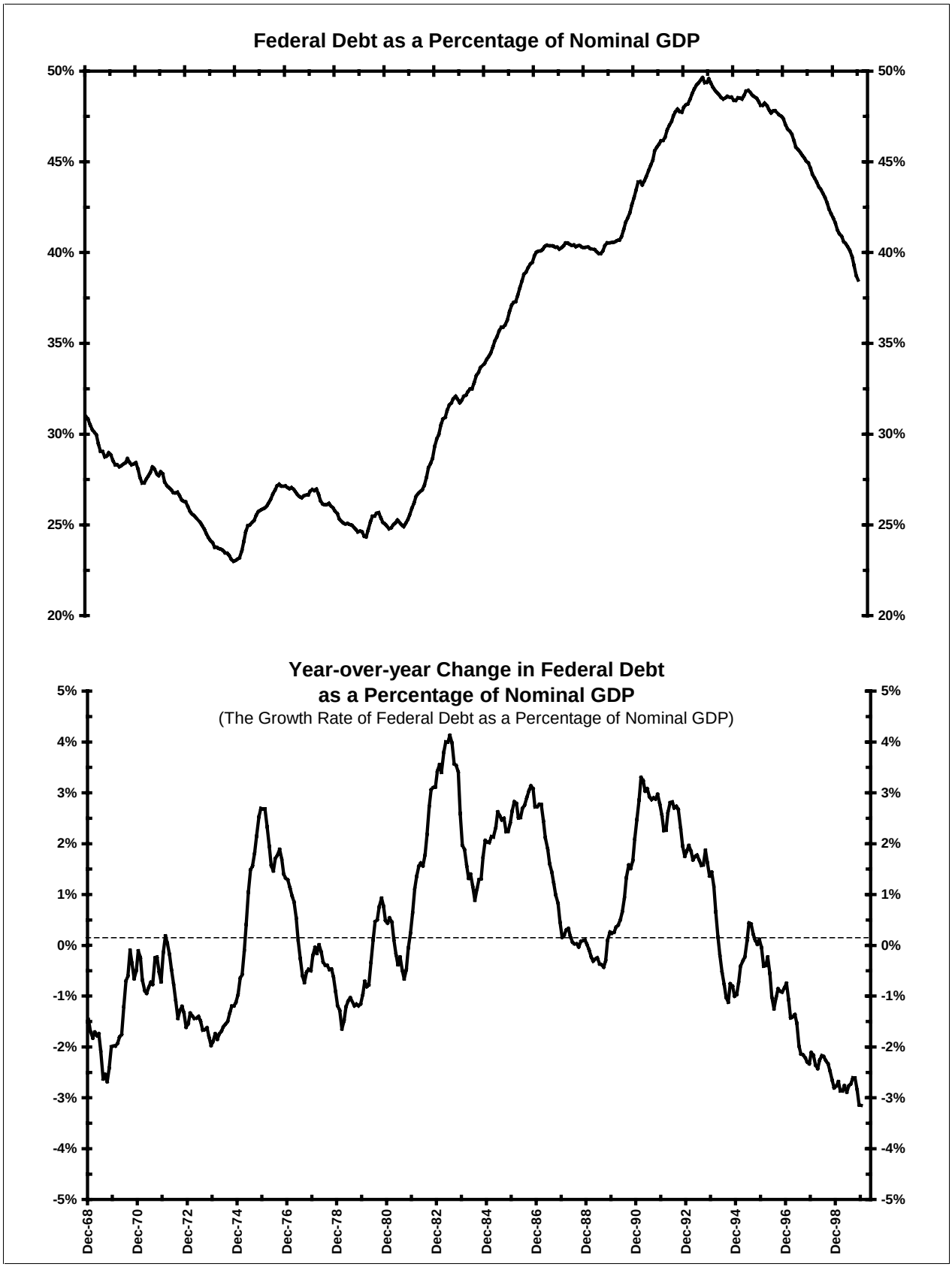
Federal Debt as a Percentage of Nominal GDP
50%
45%
40%
35%
30%
25%
20%
Year-over-year Change in Federal Debt
as a Percentage of Nominal GDP
(The Growth Rate of Federal Debt as a Percentage of Nominal GDP)
5%
4%
3%
2%
1%
0%
-1%
-2%
-3%
-4%
-5%
Dec-68
Dec-70
Dec-72
Dec-74
Dec-76
Dec-78
Dec-80
Dec-82
Dec-84
Dec-86
Dec-88
Dec-90
Dec-92
Dec-94
Dec-96
Dec-98

Chart 3