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About Those "Riskless" Treasuries

Many investors apparently regard U.S. Treasury notes and bonds as riskless liquid havens for cash until more favorable returns are available from alternative investments. In actuality, however, the Government's notes and bonds are subject to the same interest-rate risk factors that affect the prices of most other debt securities unless they are held to maturity, which virtually guarantees some loss in the real value of their face amount.

For many years we have reported from time to time on what we believe to be the fundamental financial hazard associated with holding long-term fixed-dollar or other paper currency investments for extended periods, including U.S. Treasury securities. Namely, in a fiat currency environment of perpetual monetary inflating, the purchasing power of both the principal and interest on such bonds will inevitably decrease as the currencies in which they are denominated depreciate. Historically, the related real losses to bondholders have been of such magnitudes that, in the view of the celebrated monetary economist Dr. Franz Pick, long-term Government bonds merit the sobriquet "Certificates of Guaranteed Confiscation." Inasmuch as fiat currencies everywhere continue to depreciate despite an apparent widespread belief in the United States that "inflation is dead," there would seem little warrant for changing that view.[1]

This is not to say, however, that over relatively shorter periods other factors — notably interest rates — may not have overriding effects on both current market prices and rates of return prior to maturity on such bonds. An investor who bought a $10,000 30-year U.S. Treasury bond in, say, September 1981, when long-term interest rates peaked at 14.5 percent, and then sold out five years later when interest rates had dropped some 675 basis points, realized a handsome gain and might presume reason to gloat. But if he still holds the bond and continues to do so to maturity, he will fare less well.

In terms of purchasing power, a 14.5 percent return on a $10,000 bond purchased with 1981 dollars is roughly equivalent to an 8.3 percent return on $10,000 in today's currency. And in terms of the dollars used to buy the bond, even at its current price premium of 155-156 ($15,500-15,600), it is worth only about $9,500 in 1981 dollars — a real loss of five percent. So long as price inflation persists, the real interest paid on the bond will continue to plummet and real losses on its principal continue to accumulate (perhaps very sharply if interest rates go up again). No one can say how low its real coupon rate might go or how great its real principal losses might become over the course of the 14 years before the bond matures. It does seem apparent, however, that even the most hospitable circumstances for U.S. Treasury long bonds in recent memory may or may not result in positive real rates of return to maturity.

This experience may provide some perspective on the recent onslaught of bond fund advertising and reported renewed interest in U.S. Treasury notes and bonds among investors who understandably may be chary of new commitments to "high priced" equities or who are seeking a safe haven for realized gains. Many

[1] For an extended discussion of such price inflation- and tax-related losses on long-term bonds see "Long-Term Government Bonds: Certificates of Guaranteed Confiscation," *Research Reports*, February 4, 1991, pp. 14-16.

PRESENT VALUE OF A 6.0 PERCENT $10,000 COUPON BOND AT SELECTED INTEREST RATES AND MATURITIES*

Basis Point Change From Coupon Rate	*Years to Maturity*					
	1 Year	*3 Years*	*5 Years*	*10 Years*	*20 Years*	*25 Years*
-200	$10,190	$10,560	$10,900	$11,640	$12,740	$13,140
-150	10,150	10,420	10,670	11,200	11,960	12,240
-100	10,100	10,280	10,440	10,780	11,260	11,420
-50	10,050	10,140	10,220	10,380	10,600	10,670
0	10,000	10,000	10,000	10,000	10,000	10,000
+50	9,950	9,870	9,790	9,640	9,440	9,390
+100	9,910	9,730	9,580	9,290	8,930	8,830
+150	9,860	9,600	9,380	8,960	8,460	8,320
+200	9,810	9,480	9,190	8,640	8,020	7,850

* Present values are to nearest $10.

investors may believe that relatively short-term holdings of U.S. Treasury notes or bonds are virtually riskless — and therefore a safe place to park funds until the financial markets provide more favorable opportunities elsewhere.

Even though they may have been unexceptionable in relation to the investment alternatives, the returns on long bonds that have accompanied moderating rates of price inflation and a downward trend in long-term interest rates over the past 15 years or so have been extraordinarily favorable compared with prior experience. Recent past performance, however, "does not guarantee future results."

As noted above, *no* fiat currency has maintained its purchasing power over long periods. We have observed elsewhere that confidence in such currency might be sustained only if (among other factors) *real interest rates remain positive* — as they have on dollar-denominated debt for the past 15 years. Simple reason suggests that the "downside" risks to the nominal prices of long bonds decrease as real interest rates turn more sharply positive and increase as they approach zero, or turn negative.

Moreover, it is statistically inescapable that bond price volatility increases as general interest-rate levels decrease. A 100 basis point (or one percentage point) change in interest rates has much greater effect on bond prices when interest rate levels are at 5 percent than when they hover around 10 percent. That is, a 100 basis point shift represents a 20 percent change in interest rates at the 5 percent level but only a 10 percent change when interest rates are at 10 percent.

The point is that bonds with long maturities — even if held for only a relatively short period — are subject to relatively greater price swings today than they were ten years ago, when long-term interest rates were markedly higher.

The table at the bottom of the previous page shows the effect of various interest-rate shifts, expressed as the change in basis points, on the present value of a 6 percent $10,000 coupon bond at selected maturities. The present values shown (to the nearest $10) are purely statistical measures and are only rough proxies for market prices, which reflect a variety of additional technical and market factors. Nevertheless, they may suggest the extent to which such assets are or are not "riskless" in today's relatively low (for a fiat currency regime) interest rate environment. ❑

BUSINESS-CYCLE CONDITIONS

The near-term outlook for the economy remains favorable. Our leading indicators continue to point to further expansion in the months ahead. However, developments in the lagging indicators raise some concerns and warrant close monitoring.

According to the latest batch of economic statistics, five of our 12 primary leading indicators reached new highs in our latest appraisal of business-cycle conditions. They are: *M2 money supply*, a broad measurement of money; *new orders for consumer goods and materials,* which reached its new high despite a drop in the base data; *contracts and orders for plant and equipment*; *initial claims for state unemployment insurance* (inverted); and the *index of common stock prices* (this series and other dollar-based series are adjusted for price inflation). Our stock prices series, the constant-dollar S&P 500 index, reached a new high in October despite the significant one-day drop in the index late last month. The 45-point drop on October 27 was averaged in with the rest of the daily closes for that month, and as a result the *monthly average* of the S&P in October was 14 points higher than it was in September. Even after adjusting for inflation, the stock series reached a new high. This experience underlines the importance of ascertaining overall trends despite daily fluctuations in a series as a guide to future business conditions. All five of these series are appraised as clearly expanding.

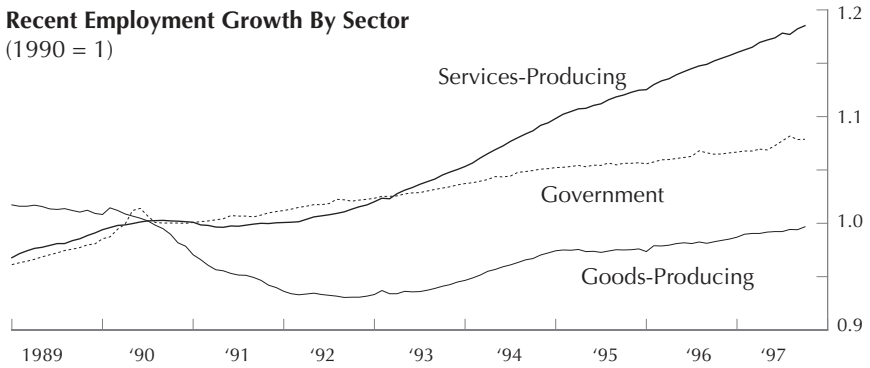
Both the base data and the moving average for *vendor performance* fell this month. This is the second consecutive decrease in the base data. Despite this, the overall trend is still positive, and the series remains appraised as clearly expanding.

The *ratio of manufacturing and trade sales to inventories* increased this month despite a drop in the base data. This series is intended to measure excesses in manufacturing inventories that could dampen future production. Despite rapid increases in inventories, there are no indications yet from this ratio series that the growth in inventories is excessive relative to the rate of sales. The series remains appraised as probably expanding.

The *average workweek in manufacturing* increased this month to 41.9 hours. The latest base data show that the workweek increased to 42 hours in October. However, this lengthening of the workweek was not enough to change the series' cyclical status. It remains appraised as probably expanding.

The 3-month percent change in sensitive materials prices remains subdued. For some time the prices of these materials, which include such commodities as scrap metal, lumber, and raw cotton, have been changing at a rate of less than 1 percent a month, on average. As a result, this usually volatile series has been uncharacteristically stable. Because of the lack of any identifiable trend in the series, its cyclical status remains indeterminate. The same can be said of *new housing permits*. After slowing in late 1994 and early 1995, housing permits recovered through 1995 and went on to hit a new high for this business cycle in 1996. Since reaching that new high, however, housing permits have leveled off and there no longer appears to be a discernable trend. Until an identifiable trend emerges, the cyclical status of this series also will remain indeterminate.

Two series are clearly contracting. They are *M1 money supply* and the *3-month percent change in consumer debt*. As reported in an earlier *Research Reports*, we are searching for a suitable replacement for M1. Currently we have two series that are potential alternatives (see the accompanying box for an update on



Source: BLS

their recent movements).

Although the trend in consumer debt is clearly negative, the series did increase slightly this month. This increase was due to a 2 percent increase in the base data for the series in September. Most of the gain in the base data reflected a 4.5 percent increase in credit card debt.

The cyclical statuses of all the leaders are thus unchanged from last month. Overall, 80 percent (8 out of 10) of the primary leading indicators with apparent cyclical trends are expanding. At this level, the percentage of leaders expanding clearly points to further business expansion in the months ahead. AIER's cyclical score, a purely mathematical assessment of the leading indictors, tends to confirm this indication. At 72, down from a revised 73 last month, it indicates that continued expansion is likely for the next 3 to 6 months.

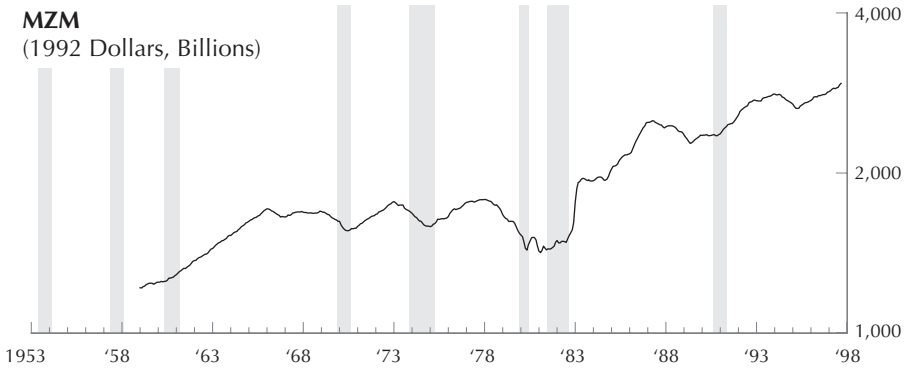
Although very slight, there is some indication of a possible slowdown in the primary roughly coincident indicators. The *ratio of civilian employment to population* has declined steadily for several months. This downturn was judged sufficient to downgrade our appraisal of the series from clearly expanding to probably expanding. This downgrade did not change the percentage of coincident indicators appraised as expanding, but it is the first time since July 1996 that all six of the coinciders are not clearly expanding.

The other five coincident indicators all reached new highs, and all are appraised as clearly expanding. *Nonagricultural employment* increased by 284,000 new jobs in October - a much larger increase than the 239,000 average monthly job growth since December 1996. One surprising statistic in the latest employment report is the number of new jobs in the manufacturing sector, where 54,000 new jobs were added in October, the biggest gain in months. Job growth remains strong in the services- producing sector, where 213,000 new jobs were added. As the chart on page 126 shows, throughout the current expansion the lion's share of job creation has occurred in the services-producing sector. In contrast, after more than six years of business expansion, there are fewer manufacturing jobs now than in July 1990, the peak of the previous expansion.

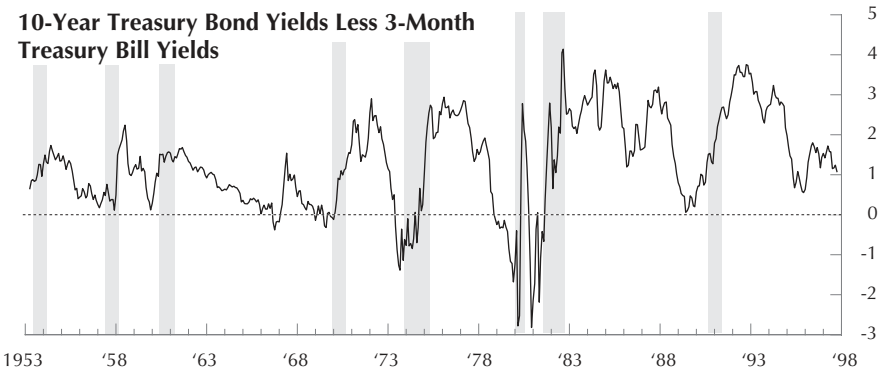
The *index of industrial production* increased 0.5 percent in October to 122.7. This series is based at 1992=100, thus since 1992, industrial production has increased 22.7 percent. Much of the

The Search for Fresh Entrails: An Update

As part of our ongoing effort to improve the usefulness of our leading indicators and to find a suitable alternative for M1 money supply, we will periodically report on the indicators we are monitoring as potential replacements. To date we have identified two such indicators: MZM (Money of Zero Maturity) and the interest rate spread. For more information on how we narrowed our current search to these two series see the October 13, 1997 *Research Reports*. As our search unfolds, other series may be added to this list of possible replacements for M1.



As the chart above indicates, MZM (in constant dollars) is at an all-time high and is clearly expanding. MZM seems to track the economy quite well, but if MZM were to replace M1, it is not yet clear if it would be useful to include both MZM and M2 in our list of leading indicators. Both are broad measures of the money supply and are similar in their definition. MZM is simply M2 minus small time deposits plus institutional money funds (thus, all the components of MZM have zero maturities). It is possible that MZM could replace both M1 and M2 as our principal measure of money supply.



The chart above shows the second series we are currently monitoring: the difference between the yield on the 10-year Treasury bond and the 90-day Treasury bill. This series drops below zero when short-term rates are higher than long-term rates. This "inversion" of the yield curve is a classic warning signal of recession. The Conference Board recently added a similar series to its list of leading indicators (the Conference Board uses the federal funds rate instead of the 90-day Treasury bill). There is one problem with adding the yield spread to our list of leading indicators. Our method of appraising a series' cyclical status is based upon the magnitude and duration of changes from the peaks and troughs of the series. With the yield spread, however, the sign (*i.e.* whether the series is in positive or negative territory) may be a more pertinent forecasting tool than the series' overall trend. The yield spread may not find its way onto our list of primary leading indicators, but we will continue to use it as a supplemental indicator of business-cycle conditions. Based upon the sign of the series it, too, indicates further expansion in the months ahead.

increase in industrial production is due to solid gains in the output of consumer goods, business equipment, and durable goods.

Personal income in manufacturing, *manufacturing and trade sales*, and *gross domestic product* all increased as well. Overall, despite the downgrade of the appraisal for the employment-to-population ratio, the percentage of coinciders with apparent cyclical trends remains 100 percent (6 out of 6).

There are some signs of weakness in the primary lagging indicators this month. The appraisals for two of our six lagging indicators were downgraded. The *average duration of unemployment* (inverted) fell enough to warrant downgrading its cyclical status from probably expanding and its cyclical status now is indeterminate. Also, there is now enough evidence to warrant downgrading the appraisal of *the ratio of consumer debt to personal income* to clearly contracting from probably contracting. The appraisals for the remaining four lagging indicators are unchanged from last month.

Two lagging indicators reached new highs: *manufacturing and trade inventories* and *commercial and industrial loans*. The strong growth in commercial and industrial loans, which are short-term loans that typically are used to finance inventories, warrants close watching for signs of overextension on the part of businesses. One classic signal that a business expansion is near its end is when business borrowing picks up as growth in consumer borrowing begins to slow. This is what occurred prior to the 1990-91 recession. However, even though commercial loans recently have surged, fears of overextension appear unwarranted at this time. Interest rates are much lower than they were prior to the 1990-91, so the current debt is less costly to service. Moreover, the banking sector generally is sounder than it was in the early 1990s, so that loan defaults may be relatively less consequential. Still, these latest developments warrant close scrutiny.

The *percent change from a year earlier in labor cost per unit of manufacturing output* declined again. This series remains in negative territory, indicating that manufacturers' unit labor cost continues to decrease despite the seemingly tight labor market. There was a slight uptick in the base data, but it does not yet suggest that wage pressures are developing.

The *composite of short-term interest rates* increased slightly to 5.54 percent in October from 5.52 percent in September. This increase, however, was not enough to indicate a trend in the series, and its cyclical status remains indeterminate.

Overall, half (2 out of 4) of the lagging indicators with apparent cyclical trends are expanding, a 10 percentage point drop from the 60 percent expanding last month. Often, the early signals of recession can be found in the lagging indicators, even before they appear in the leading indicators. There is some suggestion in the laggers that such conditions may be developing, but it is too early to warrant an assertion that the expansion may be nearing its peak. We will continue to pay close attention to the laggers for signals of imbalances and bottlenecks in the months ahead, but for now the outlook is for continued expansion into 1998. ❑

Statistical Indicators of Business-Cycle Changes

Change in Base Data					*Cyclical Status*		
Jul.	*Aug.*	*Sep.*	*Oct.*	***Primary Leading Indicators***	*Sep.*	*Oct.*	*Nov.*
-	+	-		M1 money supply	-	-	-
+	+	+		M2 money supply	+	+	+
+	+	-		Change in sensitive materials prices	?	?	?
+	+	-		New orders for consumer goods	+	+	+
+	-	+		Contracts and orders for plant and equipment	+?	+	+
+	-	+		Index of new housing permits	?	?	?
+	-			Ratio of manufacturing and trade sales to inventories	+?	+?	+?
+	+	-	-	Vendor performance	+	+	+
+	+	+	+	Index of common stock prices (constant purchasing power)	+	+	+
nc	nc[r]	nc	+	Average workweek in manufacturing	+?	+?	+?
+	-	+		Initial claims for unemployment insurance (inverted)	+?	+	+
-	+	+		Change in consumer debt	-?	-	-
				Percentage expanding cyclically	80	80	80
				Primary Roughly Coincident Indicators			
+	+	+	+	Nonagricultural employment	+	+	+
+	+	+	+	Index of industrial production	+	+	+
-	+	+		Personal income in manufacturing	+	+	+
+	-			Manufacturing and trade sales	+	+	+
+	-	-	+	Civilian employment to population ratio	+	+	+?
+	+	+		Gross domestic product (quarterly)	+	+	+
				Percentage expanding cyclically	100	100	100
				Primary Lagging Indicators			
-	+	-	-	Average duration of unemployment (inverted)	+?	+?	?
+	+			Manufacturing and trade inventories	+	+	+
+	+	+		Commercial and industrial loans	+	+	+
+	-	-		Ratio of consumer debt to personal income	-?	-?	-
-[r]	-	+		Change in labor cost per unit of output, manufacturing	?	-?	-?
-	-	-	+	Composite of short-term interest rates	+?	?	?
nc No change.		[r] Revised.		*Percentage expanding cyclically*	80	60	50

Under "Change in Base Data," plus and minus signs indicate increases and decreases from the previous month or quarter and blank spaces indicate data not yet available. Under "Cyclical Status," plus and minus signs indicate expansions or contractions of each series as currently appraised; question marks indicate doubtful status when shown with another sign and indeterminate status when standing alone.

PRICE OF GOLD

	1995	*1996*	*—— 1997 ——*	
	Nov. 23	*Nov. 21*	*Nov. 13*	*Nov. 20*
Final fixing in London	$382.80	$377.00	$308.15	$302.90

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