

# Developing Trends

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## FED too Tight – Curve to Steepen

The previous issue of *Developing Trends*, entitled **Danger and Opportunity**, and dated Aug. 24, 1998, analyzed the world economy, and world stock markets. It forecast that the world economy was likely to emerge from its bottom soon, and that Asian equity markets, were, at worst, a steal. Some clients have asked for a “similar” analysis of the forecast pattern of world interest rates. This issue (along with the next which also deals with interest rates in emerging economies) deals with the expected pattern of interest rates in the G4 – US, UK, Germany and Japan.

The US FED meets tomorrow (Nov. 17) to decide on the future course of short-term interest rates. A large proportion of market economists are expecting the FED to ease by a further 25 basis points; some expect the FED to move towards neutrality along with an announcement that it is “done” for now. Oxus agrees with the consensus, though it does feel that short interest rates have further to decline, than just an additional 25 basis points.

In this issue, various approaches to the determination of short-term (overnight money) and long-term (10 year bond yields) interest rates are examined. The conclusion is unambiguous – short-term money is tight in all the four economies, and tightest in the US. Long-term yields, however, in all four countries, are on the “low” side, with UK gilts showing the largest probability of relative decline. A “strong” trade recommendation emerging from the analysis is that of curve steepeners in all the four economies.

**FED follows:** Models of interest rate determination suggest that the FED, in the nineties, has been more often (if not always) a *follower* of credit markets. This year of extreme market tension has been marked by the fact that the real FED funds rate in the US has been the highest for the entire decade of the nineties. This result is not based on any model. It is obtained simply by taking the nominal yield of overnight money and subtracting from it the year-on-year CPI inflation rate. So let me reiterate the result. World markets have been collapsing and the FED has been fighting non-existent present, or future, inflation. Worse than waiting for Godot, it has been waiting for the FED. To do what? To get on with reality and reduce real rates to levels consistent with history. The analysis also suggests an explanation for the unusually tight (and wrong) monetary policy this year. It is likely that the FED has a third mandate in mind in addition to growth and price stability – “orderly” stock markets, where “fair” value is defined by the FED! The fact that markets have shown the FED to be “irrationally depressed” has more likely contributed to the FED machismo of holding on to the tight(est) monetary policy in the nineties. (In this issue, monetary policy refers to interest rate targeting, and policy, rather than money supply targeting, or policy).

**Next issue:** The next issue of *Developing Trends* is on the related topic of growth, inflation, and interest rates in the emerging economies. A preview – recovery of emerging economies is well on track, and the “new” conventional wisdom of capital controls and IMF-bashing is in for severe disappointment.

# Whither Real Interest Rates ?

The FOMC meets tomorrow (Nov. 17) and the big question on most traders mind is: will they, or won't they? A Reuters poll indicates they will – out of 25 economists surveyed, 22 said they will and only three demurred, saying that the firepower will be held for now.

What does Oxus forecast? As has by now been well established, sitting on the fence is not even an occasional pastime at Oxus. Yet the forecast for tomorrow is clouded with uncertainty. The earlier cuts were a no-brainer, as indeed most market participants had anticipated that the FED had little choice but to cut. This one is more uncertain; nevertheless, no getting spiked by sitting on the fence. The FED is likely to cut – if not on November 17, then at the next meeting.

Several “models” are used to arrive at the above conclusion – in addition to the related conclusion that the yield curve is likely to steepen. Data for the four major countries – US, Germany, Britain and Japan – are analyzed. Some of the variables considered: inflation, growth, exchange rates, and stock prices. (Note that money supply data are *not* used.) Time-period of analysis: from January 1990 to November 1998. Frequency of analysis: monthly and/or quarterly data. *Key element of analysis:* real interest rates are what really matter. *Further key element:* while structural changes do occur, one should generally assume that they are not occurring; otherwise, one is forced to arrive at conclusions which are tautologies in disguise.

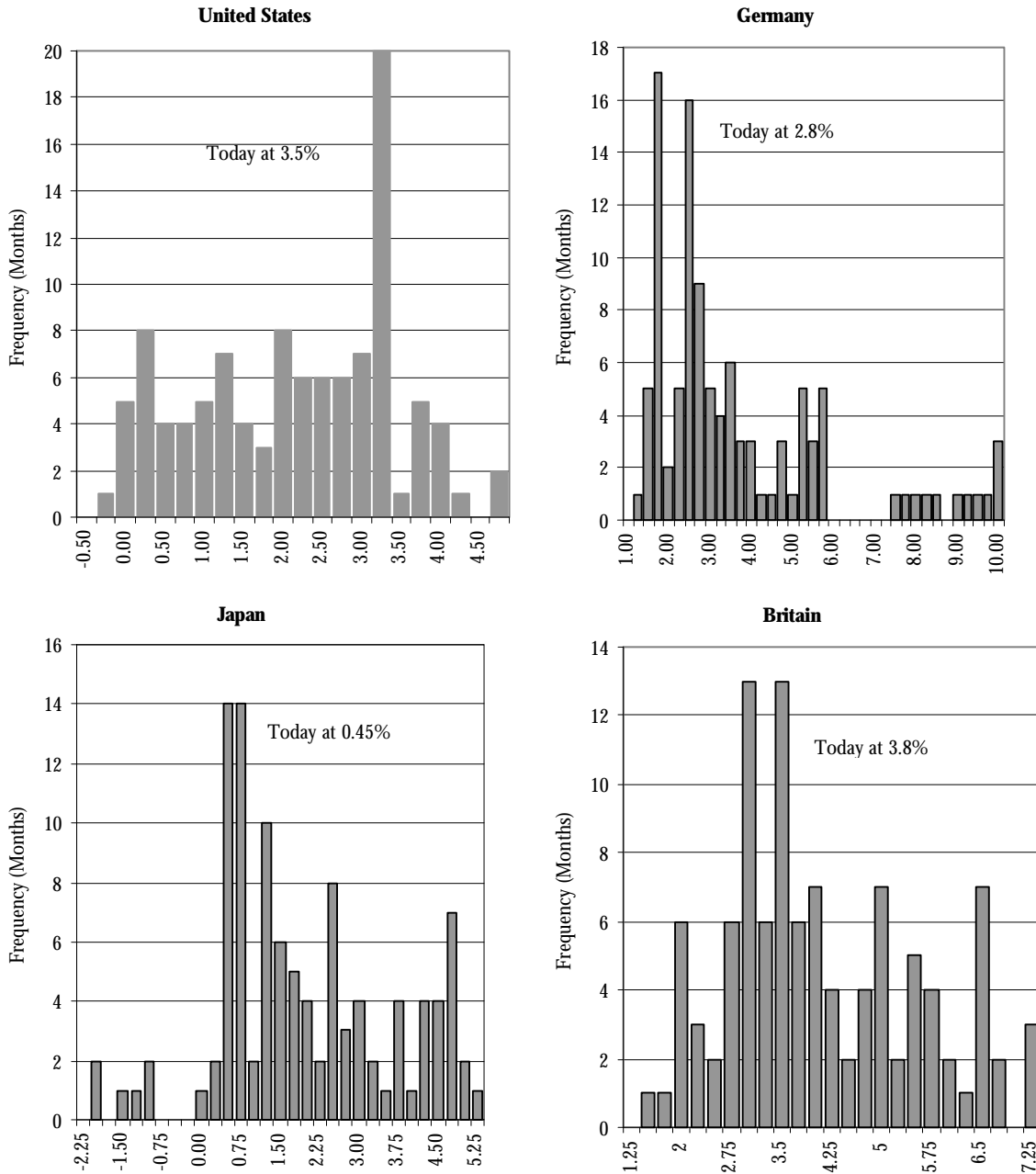
**Pattern of real rates:** The basic premise behind the analysis is that real interest rates matter, that such rates have a tendency to stay in a range unless structural changes occur. Tables 1 and 2 show the distribution of real rates for the G4 economies – USA, Germany, Britain and Japan. Data are presented for both overnight money and 10 year bond yields. Excepting Japan, overnight rates are high. The

real levels: 3.6 percent (US), 2.7 % (Germany) and 3.8 % (Britain). These real rates have converged over the years. More revealing are the data on the distribution of these rates (Chart 1). The historical (nineties) pattern of these rates suggest that only about 15 to 20 percent of the time have such rates been *higher* than these levels. For example, the 90 percentile for the US (Table 1) suggests that for only 11 months (since 1990 there are 107 months, so 10 % means 11 months) has the yield of real overnight money been higher – and most of these “extreme” high yield months were in 1998!

The FED has been following a very restrictive short-term interest rate policy, which seems even more excessive given the prevailing international environment this year. In contrast, for that *other* major economy, Germany, only the last couple of months suggest a historically tight policy. Higher real rates in Germany have been spread out over different time-periods during the nineties suggesting that interest rate policies pursued by the Bundesbank have been of a more “even” nature.

The mandate for the FED is to respond to price stability and economic growth. International forces have blessed all economies with a declining price trend, and the Mexican and Asian crises only reinforced these tendencies. There was precious little that was done by US monetary policy of the nineties to bring about the death of inflation. Indeed, PPI inflation has been “dead” in the US since 1982! From 1982 to 1987, the average PPI inflation in the US was a low 1.8 percent. The average, excluding the below zero inflation years of 1997 and 1998, from 1982 to 1998 was 1.8 percent. The year end inflation data for the four economies (Chart 2) documents the worldwide (at least G4!) trend.

**Chart 1: Real Overnight Interest Rates: G4 Countries, 1990-1998**



Source: O[x]us Fund Management Database

Notes:

1. Real rates are derived by subtracting year on year CPI inflation from nominal levels.
2. Monthly data used; **frequency refers to number of months**. Total number of months since January, 1990 is 107. For November, data for Nov. 11 are used.

**Why is the FED behind?** Why has the US FED been behind the curve almost consistently in the nineties, and especially in the last four years? (Recall that the FED raised rates on Feb. 1, 1995 just 45 days after the Mexican crisis of end 1994, only to lower rates again just six months later!) Part of the explanation might lie in Greenspan's obsession with what the "fair" level of the stock market should be. By constantly following what the US stock market is or is not doing, appropriate monetary policy has apparently taken a back seat.

**Future of FED policy – model estimation:**

In addition to observing the pattern of real rates, models of interest rate determination were estimated for overnight money and 10 year yields for each of the G4 economies. Out of the eight models estimated, the "worst" performing model was the one for the US FED funds rate. And "bad" by a large amount – while other models had an explanatory power of above 70 percent (some close to 90 %), the US Fed funds model had an R-squared of only 0.33. These models were estimated for the nineties, a period of large capital flows and integration of markets. In other words, a period when an economic model *should* have worked. And for other countries, it does work. And it does perform well in forecasting 10 year yields in the US (R-squared of 0.68). Then why such a relatively bad performance for fed funds ?

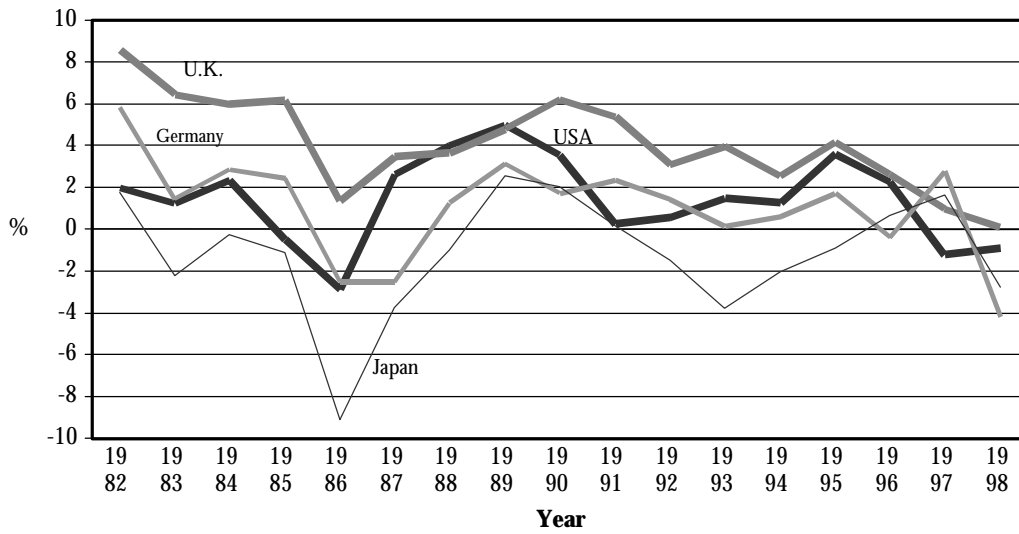
Two explanations come readily to mind. First, Oxus should find itself a new model. Yes, but why does the same model work so well with Britain, Germany and Japan? Second, the US being the "lead" economy is a "special" case. US monetary policy has to accommodate world crises to a much larger extent than say Japan or Britain; hence, US policy is guided by considerations beyond conventional considerations of inflation and growth. This is more likely the correct solution. Chart 3 shows the performance of the forecasting models. As is obvious from Chart 3, the FED has been behind the curve for at least a year! The "free market" model of 10 year

bond yields performs considerably better (R-squared of 0.68), and for this variable, the model does not "lead" as much. The two charts taken together suggests that the "market" has more often than not led the FED, especially in the nineties.

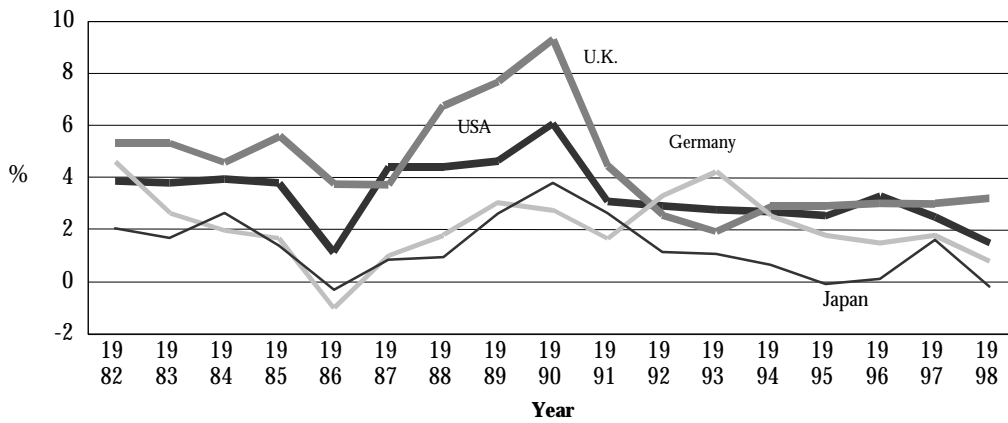
**Future of Inflation – Same as the Past.** It is unlikely that inflation will emerge in the G4 economies, or the world generally, in the foreseeable future. Maybe this conclusion is a bit hasty. If capital controls do emerge, as some leading economists have been recommending, then inflation will also increase. There are also some claims that there are no tangible benefits of "free" capital flows. This will be addressed in the next issue of *Developing Trends*. Borrowing from that issue, the conclusion is that for **both inflation and economic growth**, large benefits have accrued to developed economies and emerging economies. The inflation record documented above owes more to global integration than the exogenous monetary policies of the US or Germany. It is the case, however, that monetary policy has responded endogenously to the changing world environment. And as shown above, US FED policy has been the **slowest** to react.

**Outlook for world growth:** Most forecasts of world economic growth have next year's growth at approximately this year's level of 2 percent. As outlined in *Developing Trends*, vol. 7&8, Aug. 24, 1998, Oxus's forecast is for the world economy to bottom out in the fourth quarter of 1998. Further, that the *increase* in world economic growth will be closer to 1 percent i.e. world economic growth next year to be closer to 3 percent (2.75 to 3 range) than the conventional wisdom estimate of 2 percent.

**Chart 2a: Producer Price Inflation - 1982-98**



**Chart 2b: Consumer Price Inflation - 1982-98**



Source: O[x]us Fund Management Database.

Notes:

1. Annual y-o-y data used for the month of December. 1998 data is for end Oct., 1998

**Outlook for world inflation:** Little chance of world inflation zooming, though commodity prices are expected to firm up. What this means is that negative inflation in producer prices will increase to zero percent or so; certainly not the increase in inflation that suggests that monetary policy should be tight. Consumer price inflation in the US can be

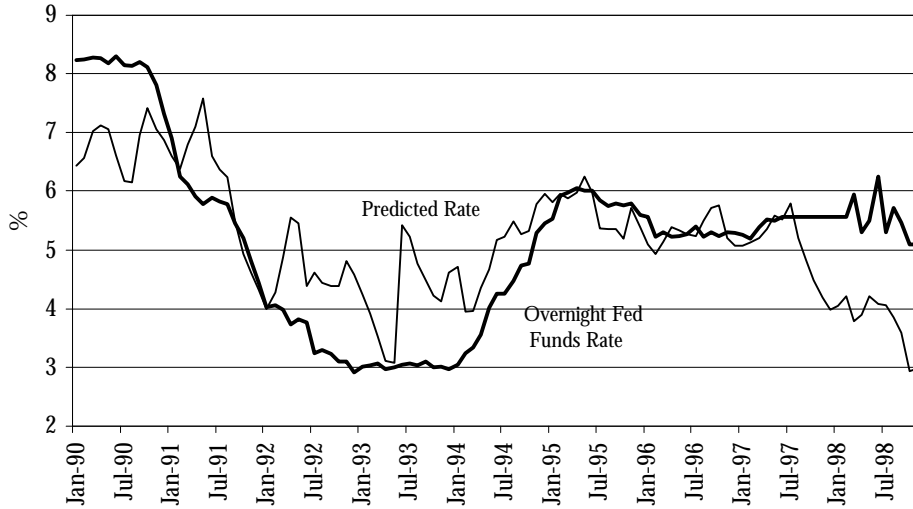
**Outlook for long rates?:** History is unequivocal on the future pattern of the yield curve – it is going to steepen. For all the G4 countries, real rates are below the norm. At 3.3 percent, US 10 year yields are at the 40<sup>th</sup> percentile. For Britain, the percentile is at 15 percent i.e. real rates in Britain are close to their **lowest** levels during the nineties. What the data show (Table 2) is that UK yields are as low, in “own” historical terms, as yields in Japan! All in all, 10 year *real* yields in G4 countries are very likely going to increase, with yields in UK expected to *relatively* increase the most.

expected to increase by about 0.25 to 0.5 percent i.e. next year may be witness to CPI inflation close to 1.8 percent – a whopping 20 percent increase in inflation rates as some hawks at the FED might argue, but really, not much to worry about.

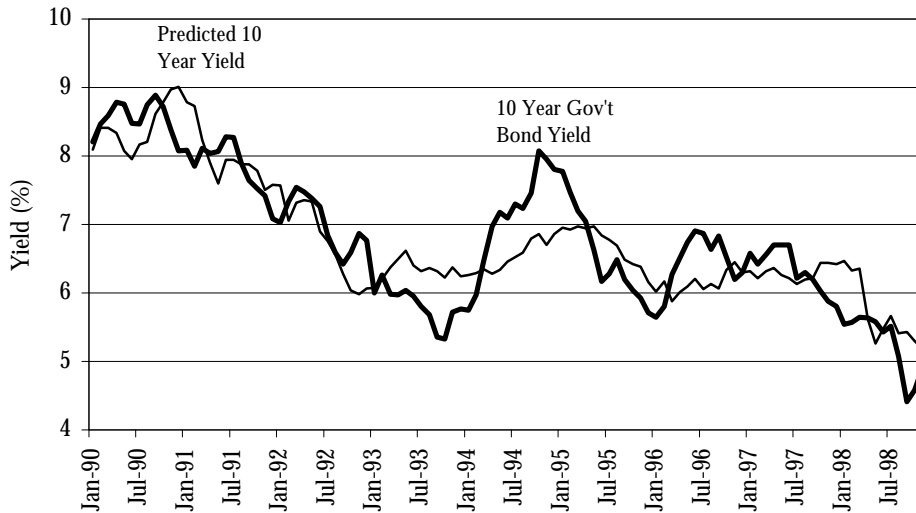
**What about the future:** The FED action on 17<sup>th</sup> Nov. notwithstanding, the market will continue to price securities as it sees fit. For interest rate instruments, considerations of inflation and economic growth are most important, and in that order. So equity markets will likely boom – they should be allowed to do so without monetary policy being dictated to. As far as real rates are concerned, if CPI inflation does edge up to 1.8 percent, and FED funds remain at 5 percent, that would suggest a real rate of 3.2 percent – and that would still be among the top 20 percent. (Table 1). Clearly, little to be gained, and much (world recovery) to be lost by stubbornly staying on course with an unduly restrictive policy.

So sooner or later, the FED is going to ease further. – a total of at least another 50 basis points in the next few months. And the curve is going to steepen.

**Chart 3a: US Overnight Money (FED Funds), 1990-98**



**Chart 3b: US 10-Year Bond Yields, 1990-98**



Source: O[x]us Fund Management Database

Notes:

1. The model incorporates information on economic fundamentals. For the FED Funds model R-Squared is 0.33; for the 10-Year model, R-Squared is 0.68.

**Table 1: Distribution of Real Interest Rates, 1990-98**

	<b>United States</b>		<b>Germany</b>	
	<b>Overnight Money (Fed Funds)</b>	<b>10-Year Gov't. Bond Yield</b>	<b>Overnight Money</b>	<b>10-Year Gov't. Bond Yield</b>
<b>Minimum</b>	-0.26	1.98	1.17	1.56
<b>1%</b>	-0.23	2.12	1.28	1.56
<b>5%</b>	-0.02	2.58	1.49	1.73
<b>10%</b>	0.15	2.82	1.57	1.82
<b>25%</b>	0.94	3.12	2.09	3.29
<b>Median</b>	2.21	3.58	2.72	3.74
<b>Mean</b>	2.03	3.63	3.59	4.10
<b>75%</b>	3.06	4.18	4.75	4.54
<b>90%</b>	3.59	4.52	7.59	7.67
<b>95%</b>	3.82	4.61	9.21	9.46
<b>99%</b>	4.54	5.29	9.90	9.83
<b>Maximum</b>	4.55	5.47	9.92	9.83
<b>Today</b>	<b>3.6</b>	<b>3.3</b>	<b>2.7</b>	<b>3.4</b>

Source: O[x]us Fund Management Database

**Table 2a: Whither Short-Term (Overnight) Interest Rates?**

	Real Rates					Nominal Rates		%ile of	
	Today	%ile	Median	10%	90%	Actual	Forecast	Error	Error
<b>USA</b>	3.6	90	2.6	0.2	3.6	5.0	<b>3.0</b>	-2.0	99
<b>Germany</b>	2.7	50	2.3	1.5	3.3	3.4	<b>2.4</b>	-1.0	5
<b>Britain</b>	3.8	60	3.2	1.9	4.1	7.0	<b>6.0</b>	-1.0	10
<b>Japan</b>	0.45	15	0.7	-0.03	2.1	0.21	<b>1.1</b>	0.89	95
<b>Average</b>	2.64	54	2.2	0.89	3.28	3.9	<b>3.13</b>	-0.78	52

**Table 2b: Whither Long-Term (10 Year) Interest Rates?**

	Real Rates					Nominal Rates		%ile of	
	Today	%ile	Median	10%	90%	Actual	Forecast	Error	Error
<b>USA</b>	3.3	40	3.6	2.9	4.6	4.9	<b>5.2</b>	0.3	60
<b>Germany</b>	3.4	40	2.3	1.5	3.3	4.1	<b>5.6</b>	1.5	95
<b>Britain</b>	1.7	15	3.3	2.1	5.0	4.9	<b>5.1</b>	0.2	60
<b>Japan</b>	1.15	15	2.4	1.0	3.0	0.9	<b>2.0</b>	1.1	99
<b>Average</b>	2.4	28	2.9	1.88	3.98	3.7	<b>4.48</b>	0.78	79

Source: O[x]us Fund Management Database

Notes:

1. All distributions are with respect to monthly data on overnight money, and 10 year government yields from January, 1991 to November, 1998. For November, the data used is that for November 11, 1998.
2. The “real” rate is obtained by subtracting year-on-year inflation (CPI) from the nominal interest rate.
3. %ile refers to the underlying distribution. For example, the real fed funds rate for the US is today at 3.5%; the 85<sup>th</sup> percentile suggests that for only 15% of the time, was the monthly real funds rate higher than this level.
4. The “forecast” rates are obtained from O[x]us’ proprietary “fundamental” model of interest rates.

# Developing Trends

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**Developing Trends** is a monthly newsletter published by Oxus Research and Investments (ORI). Fund managers and investment banks, both in India and around the world, are its clients.

- Since July, 1998, **Developing Trends** is being managed by Oxus Fund Management (OFM), a sister concern of ORI. Oxus Fund Management is a New-Delhi based one-stop financial services firm; it provides research, consultancy, fund management and institutional brokerage for the Indian stock market.
- **Track Record:** Trades mentioned in **Developing Trends**. The previous issue (vol. 2, Nos. 7 & 8) documented the accuracy of Oxus's currency forecasts. Other markets: *Indian Stock Market*: Nine recommendations were made over the last 20 months, out of which seven were profitable, for an average total unleveraged profit of 79.6%. *\$/Rupee*: Seven trades, six profitable for a total unleveraged return of 21%.
- **Track Record:** *Mulberry Fund*: From February, 1997 to end-Aug. 1998, one of the directors (Surjit S. Bhalla) operated a private fund of Rs.40 lacs (approximately \$ 100,000) with investments in the Indian stock market. The fund returns were greater than 40 %, and it yielded an excess return of 37% (over the "benchmark" Sensex). This broad-based fund had no more than 20 securities in its portfolio at any one time ( the average was less than ten securities) and had an aggregate turnover of less than 200%, i.e., no more than an annual average of 2 round-trip trades. The reasoning behind stock selection was stated in **Developing Trends**, Vol. 1, No.3, May 26, 1997, page 8: "...considerations of catch-up and differential productivity levels dictate that service industries – e.g., advertising, software, banking, will do relatively well in India." The fund has now moved to OFM and new portfolio management investments are planned after receipt of license from the Securities and Exchange Board of India..

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