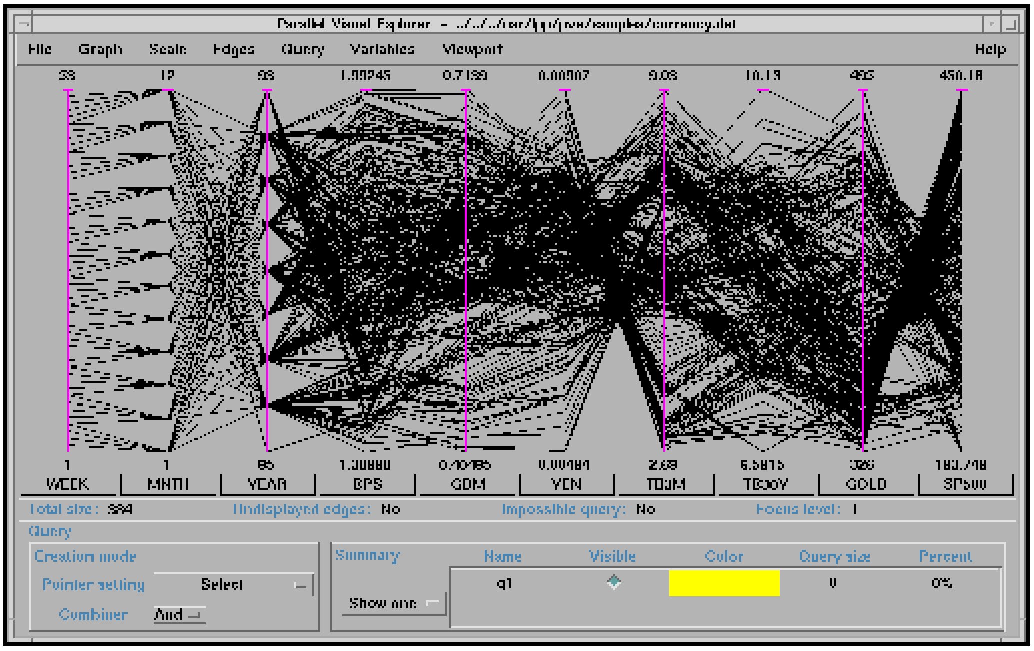
Parallel Visual Explorer at work in the money markets

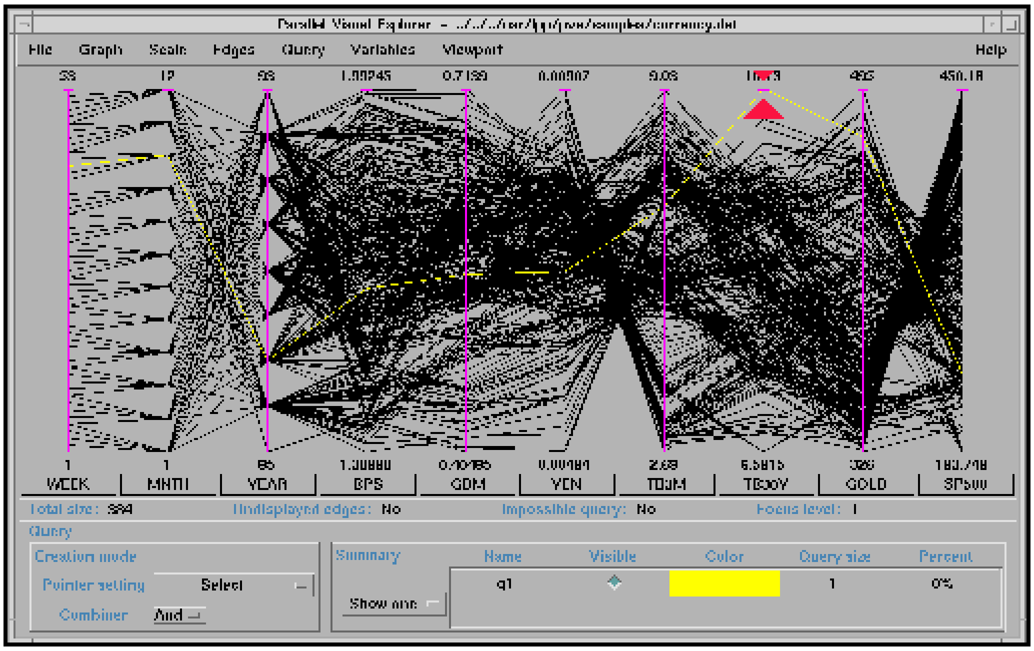
These screen captures were designed to show some of the core capabilities of Parallel Visual Explorer, and to illustrate how it would be used by a financial researcher. The content is real financial data taken from the global money markets, but it can just as easily be medical research results, marketing data or information from a wide range of research disciplines.

Data collected from the New York currency markets from 1985 to 1993.



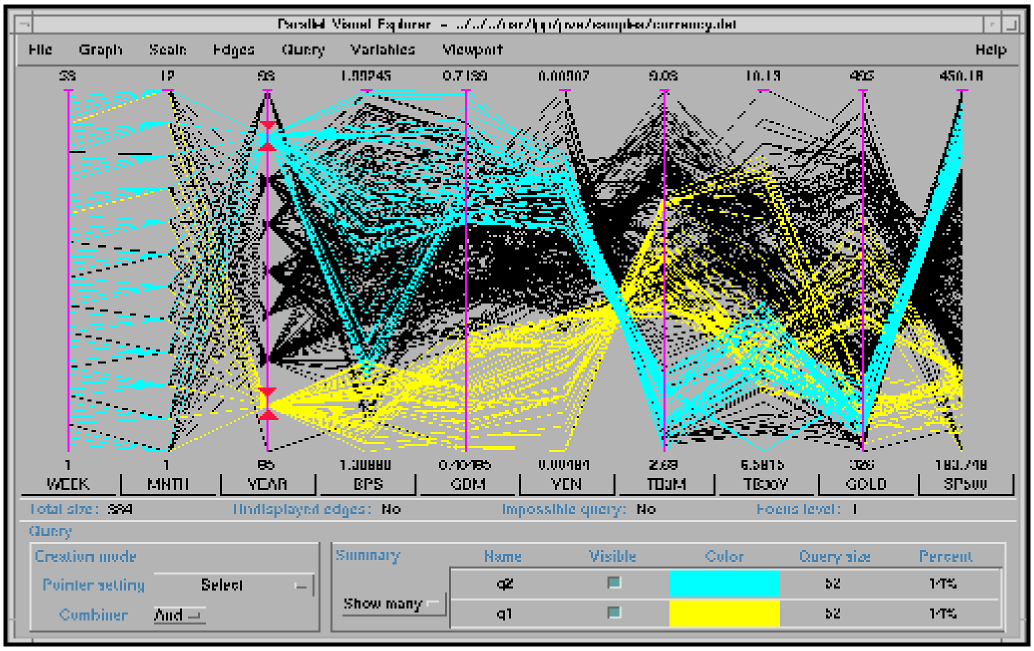
This data is collected every Monday –– from the last Monday in 1985 through the first Monday of May 1993. Variables (or columns) are represented on parallel axes. Each variable is scaled using its respective minimum and maximum value obtained over the eight–year period. Please note that the data values for the currency are measured as US $/unit currency (i.e. US $/Yen etc.). The variables are WEEK, MNTH (1–January, 12–December), YEAR, BPS (British Pound Sterling), GDM (Deutsche Mark), YEN, TB3M (3 Month Treasury Bill Yields), TB30Y (30 Year Treasury Bill Yields), GOLD ($/ounce), and SP500 (Standard and Poors index).

A data point (row of data) is represented as a polygonal line, in yellow.



Data values are measured on the respective axis and are joined by a polygonal line. The polygonal line in yellow shows the data point for the third Monday of October 1987. Here the data point is selected using one of the patented queries on variable TB30Y. Note the gap in TB30Y. This was the week when the stock market crashed, and the Treasury Bill jumped abruptly when money shifted from stocks to bonds.

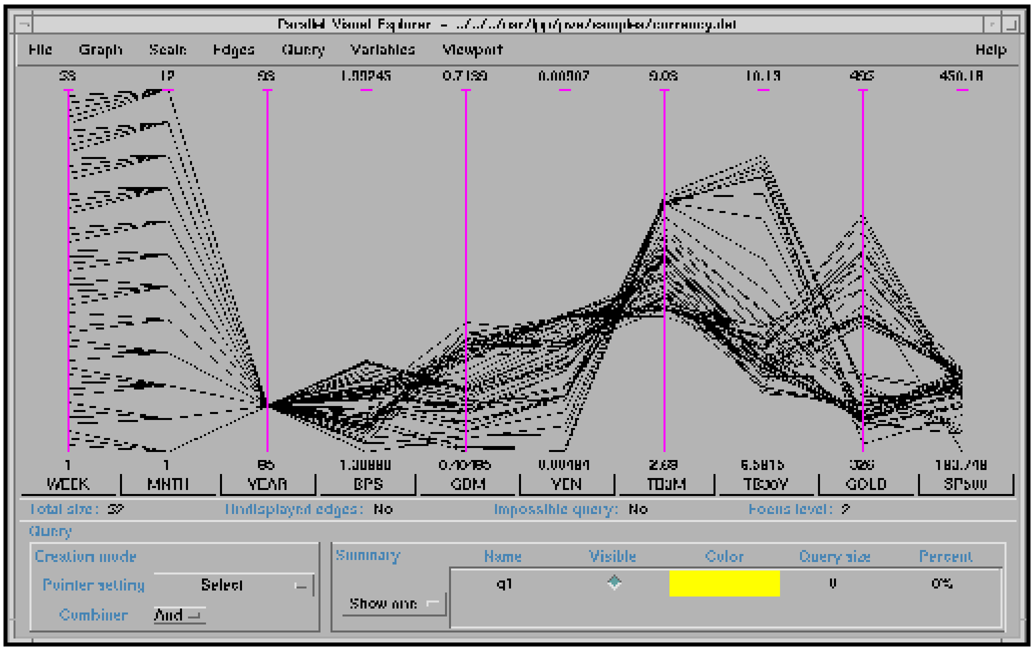
Contrast of two different years.



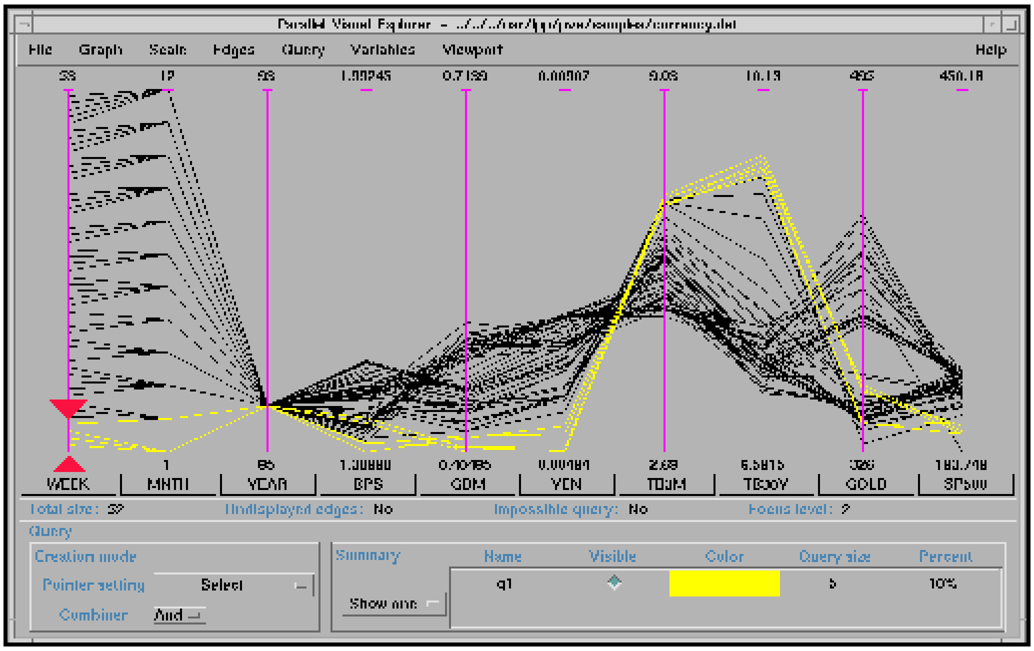
Here 1986 data points are displayed in yellow, whereas the 1992 data points are displayed in blue. In 1986, the Yen was the most volatile currency among the three; the stocks were low; the bonds were medium; and there was a gap in the gold prices.

In 1992, the BPS was the most volatile currency, the bonds and gold were low, and stocks were high.

Isolating the 1986 data points to investigate the gap on gold.

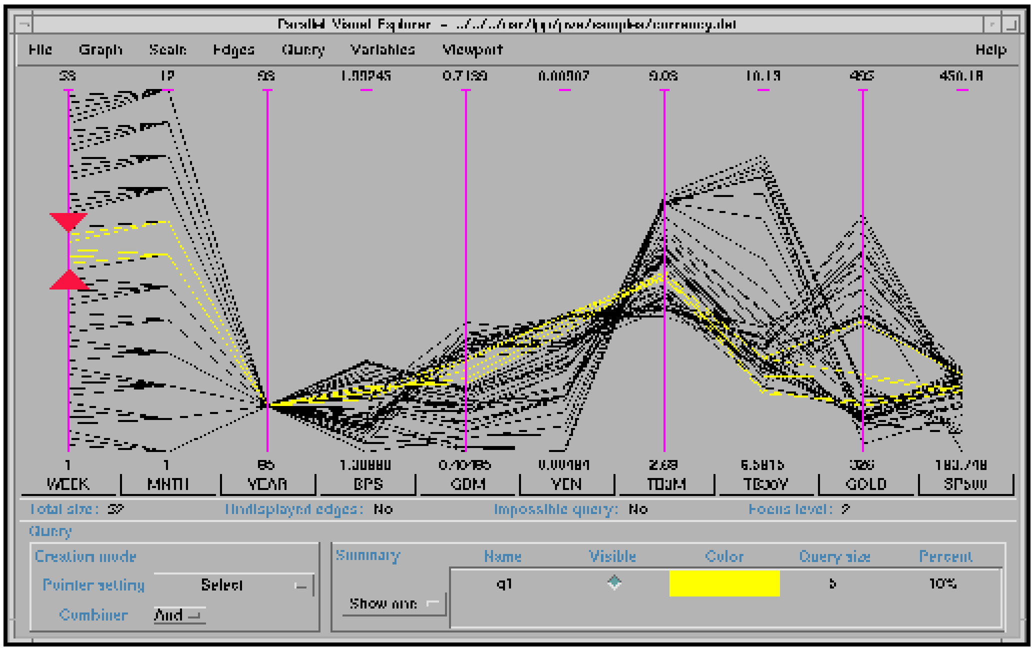


The first five weeks of January are selected using a query on WEEK, and are displayed in yellow.



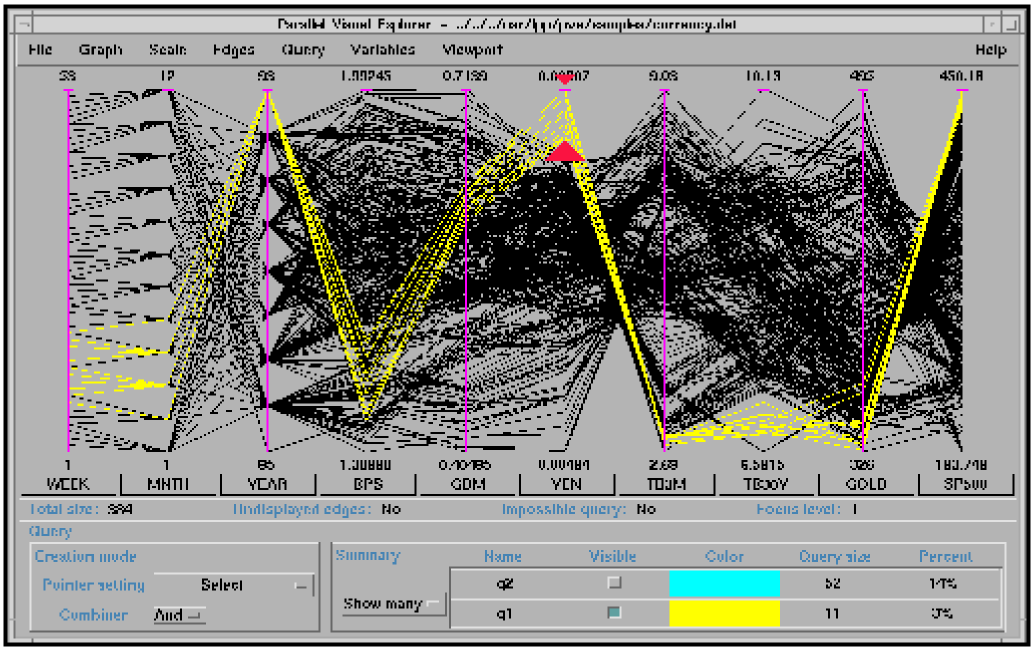
We can see that the currencies, gold and stocks started off low in 1986, whereas the bonds were high. Here both the arrow markers (defining the query) are selected, so that they can be moved up along WEEK simultaneously using the mouse.

Moving the query upwards on WEEK, the last three Mondays of July and the first two Mondays of August are selected.



We notice that there was a jump in GOLD during this time period. Between the first and second Monday of August it turns out that gold jumped around 25$/ounce.

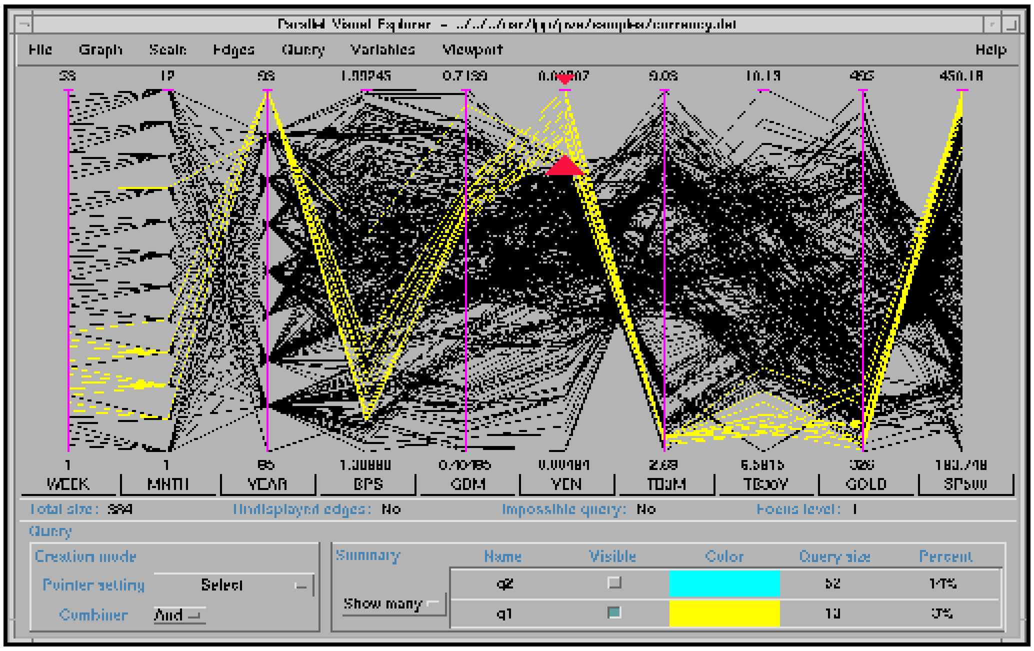
The next four pictures explain the effects of YEN vs GDM relationship on gold.



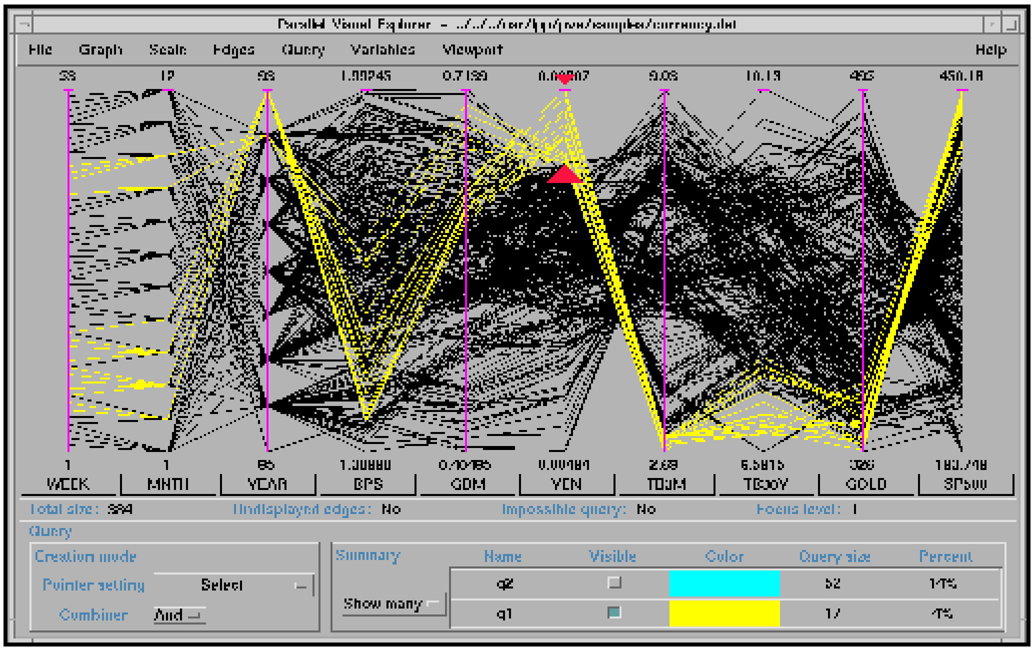
Starting from the high values of Yen, as long as the lines connecting the GDM and YEN (drawn in yellow) are closely parallel, the market is stable and there are no sharp changes in other variables.

At the first abrupt change of direction of yellow lines between GDM vs YEN (it

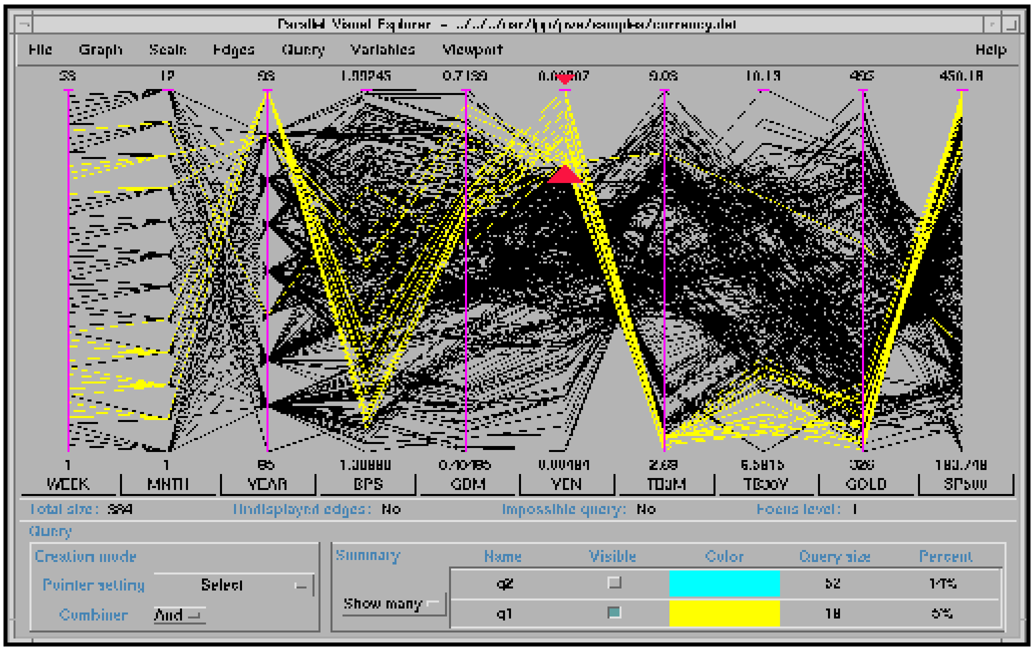
jumps from upward inclined to downward inclined) there is a jump in GOLD.



Things settle down again as further lines are selected between GDM and YEN, which are closely parallel to the new direction (inclined downward).

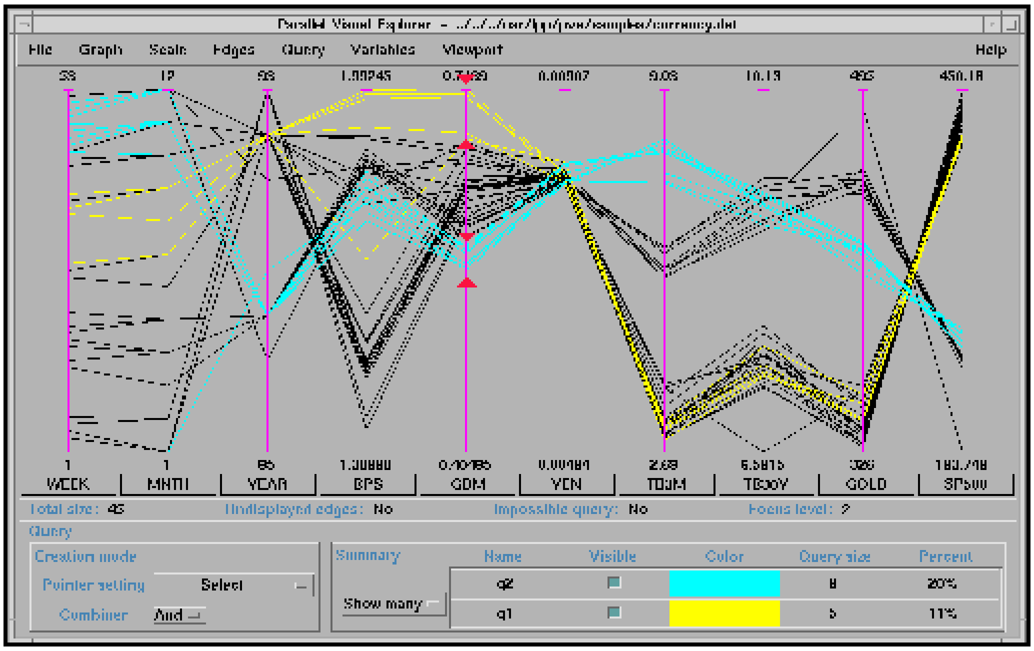


At the next abrupt change of direction (from downward pointing back to pointing upward), gold jumps again.



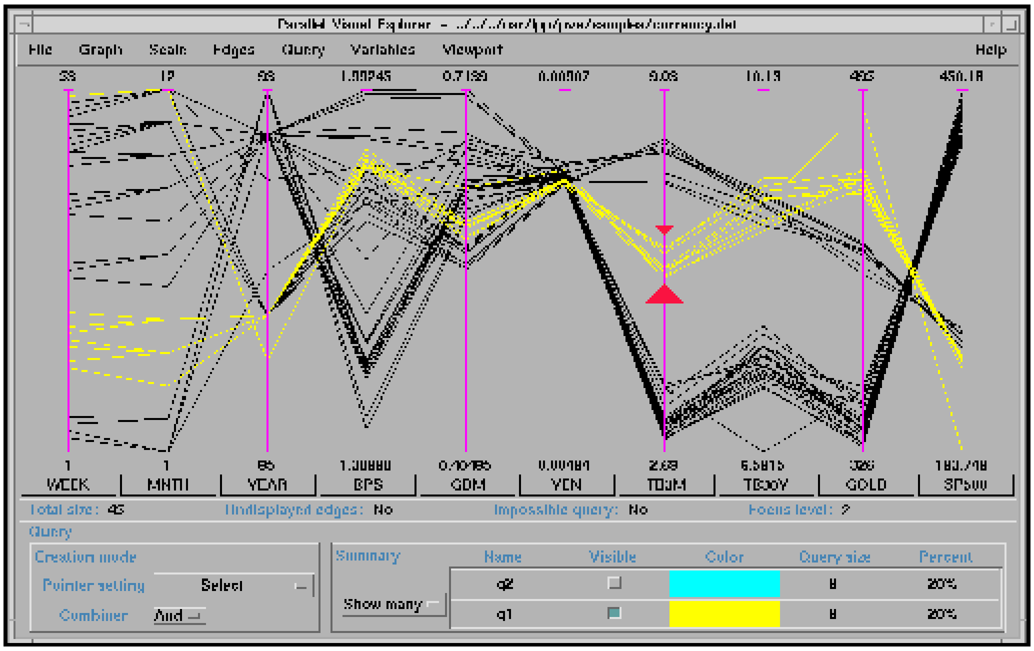
Notice the yellow line above the middle range of GOLD ––that’s due to the jump.

The next two pictures display inter–relationships between non–adjacent variables (more than two).



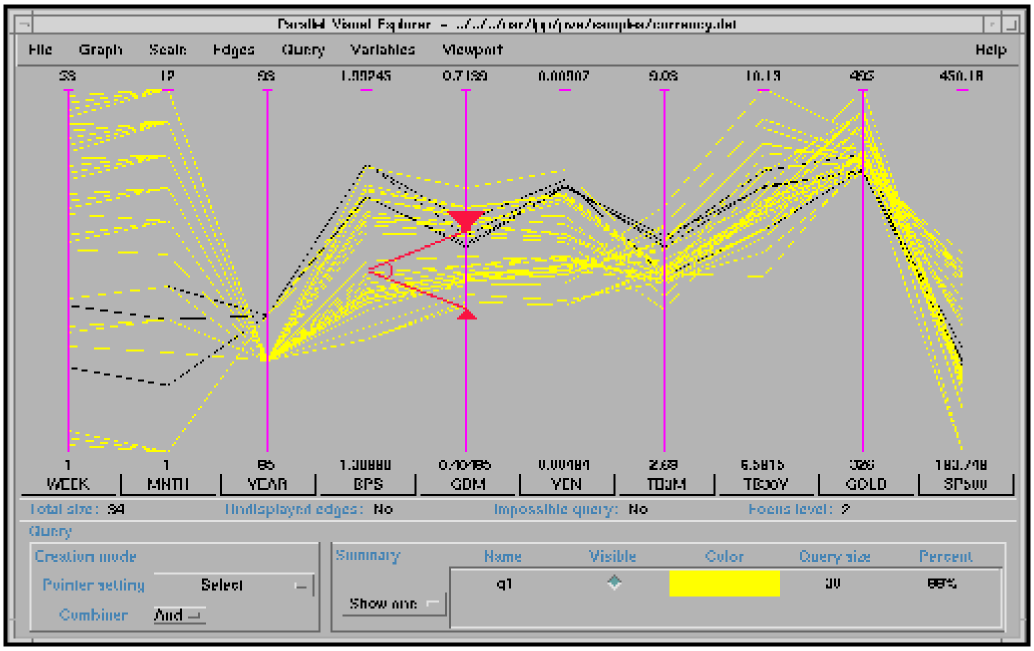
Here, a set of data points are selected where the Yen is very stable (narrow range), but the GDM is very volatile. Selecting data points on the upper and lower ranges on GDM, with yellow and blue, respectively, we note the inverse relationship between GDM and TB3M (i.e., high GDM corresponds to low TB3M and vice–versa).

Also notice the three–way split in TB3M and GOLD.



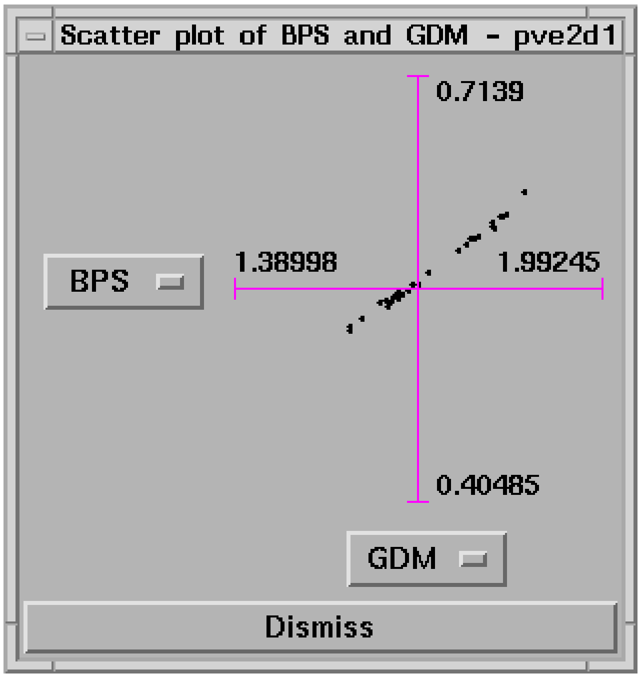
The middle range in TB3M corresponds to the upper range in GOLD, the upper range in TB3M corresponds to middle range in GOLD, and the lower range corresponds to the lower range.

Let's select the highest 30 values in GOLD during the eight– year period.



The objective here is to observe market trends during very high gold prices (supposedly when the market is unstable!). The lines between BPS and GDM are convergent (visualize it like a pencil of light rays that converge to a point when extended to the right of of GDM axis), with a few exceptions (shown in black). Using a patented query (between BPS and GDM in this case), the convergent lines are selected in yellow.

The data points in yellow in this picture are isolated and then shown in a scatter plot for variables BPS and GDM.



Notice a strong linear relationship between BPS and GDM. The line is at a diagonal slope of 45 degrees, which indicates that the relative changes in BPS was identical to relative changes in GDM when the GOLD prices were high. Thus, there seems to be a constant rate of exchange between the two European currencies. Seems like there still is a "Gold standard"!
