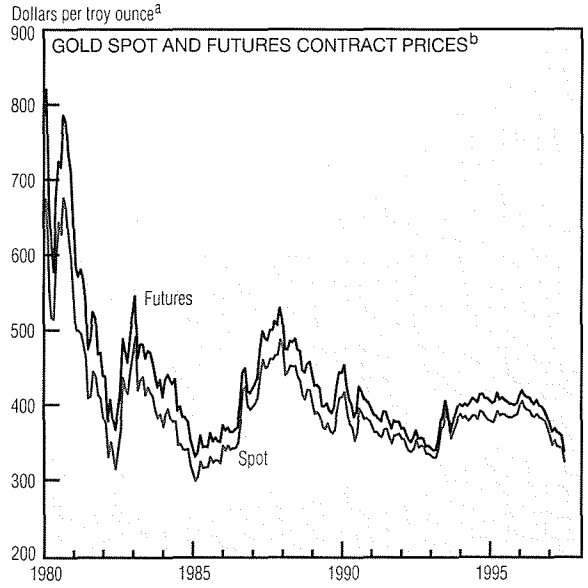
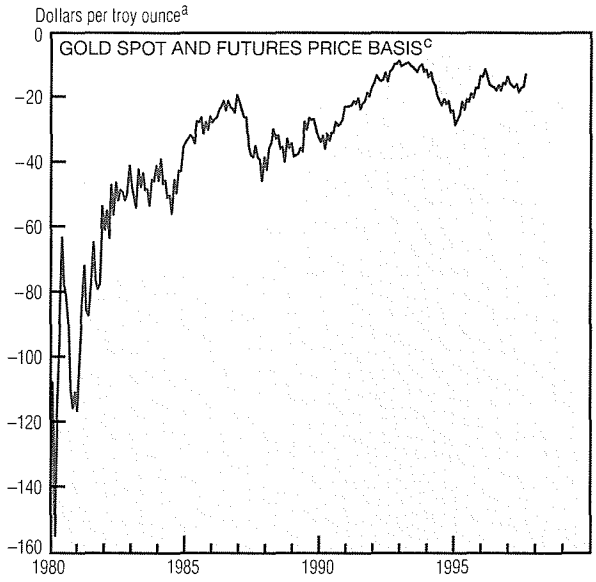
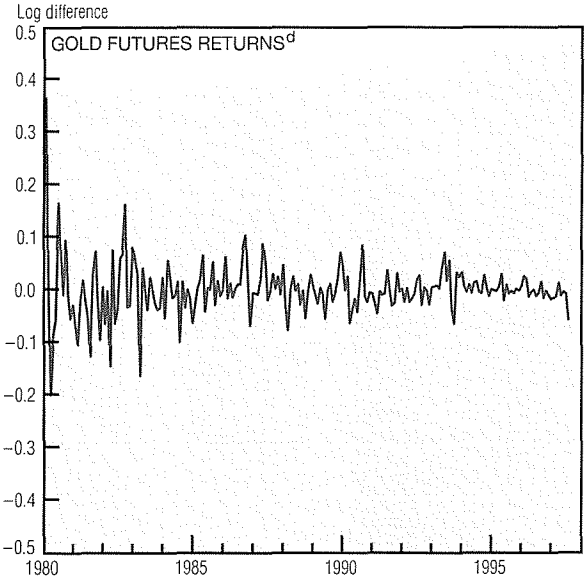
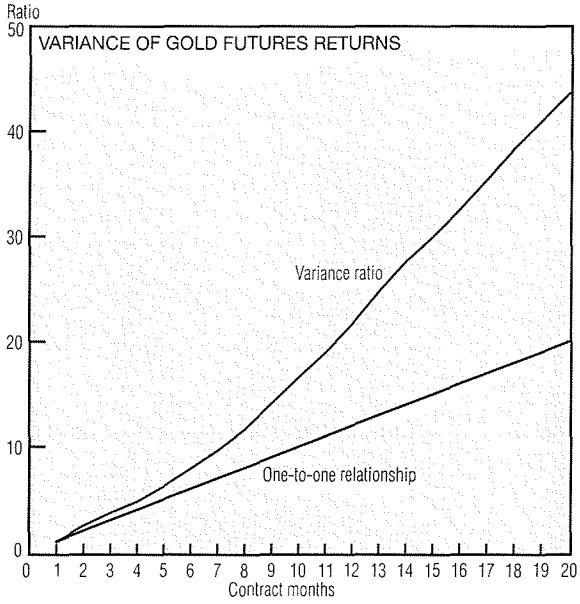
Gold Futures, January 1980–July 1997









a. Monthly averages of daily data.
b. Gold futures contracts have settlement dates at least seven months in the future.
c. The basis is the spot price of gold less the futures contract price.
d. Continuously compounded.
SOURCE: DRI/McGraw-Hill.

Both spot and futures prices of gold have been declining fairly steadily since March, dropping to levels not seen since the first months of 1993. While this may indicate a sanguine attitude among international investors (gold being a traditional safe-harbor asset in stormy times), it may also reflect the strength of alternatives such as dollar-denominated assets and world stock markets. The basis—the difference between spot and futures prices—remains negative, but it too has been diminishing since April.

One enduring question about any asset price (gold futures included) concerns predictability: Do prices follow a random walk? The answer boils down to two different possibilities: Price *changes* (or returns, which are the log of changes) may have an identical and independent distribution each period, or they may be uncorrelated over time. A chart of gold futures returns strongly discredits the first possibility, because gold returns' variability seems to have changed over time, markedly decreasing since the 1980s. One way to assess the correlation of returns is to look at the *variance ratio*. If returns are uncorrelated—if prices follow a random walk—yearly returns should have 12 times the variance of monthly returns, six times the variance of two-month returns, and so on. In the actual data, however, the variance of yearly returns is closer to 21 times that of monthly returns, suggesting a correlation. This evidence indicates that gold prices are at least partially predictable.