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baseball

The Bubble in the Price of Baseball Cards

Almost immediately after his trip to the slammer for a five month vacation for tax fraud, the price of the Pete Rose rookie baseball card was reported to have fallen by fifty percent--from \$500 to \$250. Still after the fall the price of this card was more than twice as high as the price of an IBM share. And in recent years the average return on baseball cards has been three times higher than the return on IBM shares.

The radio story piqued my curiosity, and so I visited the local baseball card store to learn more about prices of baseball cards-and their determinants. Were baseball cards like Renoirs or postage stamps or rare books or other collectibles? Or like an equity that paid no dividend?

The baseball card industry has been one of the America's small growth industries these last several years. The annual rate of return for the last three years has averaged forty two percent. Sothebys had an auction of baseball cards in March--and several cards sold for tens of thousands of dollars.

The key features of the industry include four or five companies like Topps, Fleer, and Top Deck that produce the cards, a large number of middlemen that retail the newly produced cards and transact in the cards that are in the market (between eight and ten thousand stores sell baseball cards--and football cards and basketball cards and hockey cards) and the millions of collectors-a large proportion of the boys between the ages of six and thirteen and some adults. Thousands of these budding entrepreneurs rent space from the promoters that have rented the local high school gym or Elks club or a meeting room in the local Holiday Inn or Ramada to set up small tables to trade cards; about one hundred such events were scheduled in Illinois last November. Probably because of differences in the quality of cards, there is no organized central market.

Most of the card companies are private and so their total revenues can only be estimated--several stories have suggested annual sales of \$400 to \$500 million. The sales of card stores probably exceed \$1 billion; many of the stores sell various kinds of memorabilia--ticket stubs, autographed scorecards, batting practice gloves. The market value of these cards outstanding is about \$3 billion to \$4 billion--which would mean if there are five million collectors that each has a collection with a market value of \$1.000.

There almost certainly has been a bubble in the price of baseball cards; few rates of return can continue above twenty percent a year for more than a handful of years. And this bubble may implode in the near future, since there are no limits to the number of cards that can be produced each year--more companies will enter the industry and each will produce more cards, and so in this way the industry is very different from the price formation for French Impressionists and rare books. (When I eight or nine, baseball cards were used as a promotion to help sell the gum-twenty years ago, my son came home one day and said, "Daddy, when you buy the baseball cards, you get the gum free." Now many of the cards are sold without the gum.) The number of twelve and thirteen year old boys is more or less fixed, and not likely to increase anywhere near as rapidly as the supply; indeed prices probably have been increasing because a larger share of this cohort have been becoming card collectors.

Because the high rates of return must decline, some of the dealers will rush to lighten their inventories. And unless other dealers are willing to add to their inventories, the prices of these cards are likely to fall further. Twelve and thirteen year old boys may not rush to sell--but some of the adult holders may.

The surge in the prices of baseball cards is one of several bubbles in asset prices in the 1970s and the 1980s. Consider the rapid growth in the external debts of the Mexico, Brazil and Argentina in the 1970s--their debt was growing at an average annual rate of twenty percent a year for about ten years, at a time when nominal income in these countries was growing at an average rate of between ten and twelve percent a year. The consequence was the ratio of external debt to national income was increasing. National income was increasing more rapidly than interest payments

on this debt, because nominal interest rates were increasing less rapidly than the U.S. price level.

The lenders--primarily the fifty large international commercial banks--nevertheless believed that the borrowers remained good credit risks despite the increase in the ratio of their external debt to their national income because the interest rates on these loans were rising less rapidly than price level--real interest rates were declining as the inflation rate were increasing. As a consequence the debt servicing capabilities of these countries were increasing more rapidly than their external debts.

The key ratio in estimating the ability of any borrower to service debt is between the rate of growth of real income and the real interest rates on the foreign loans. Because real interest rates were declining and real income was growing, debt servicing capability was increasing. And for the two or three years when real interest rates were negative, each of the borrowers had an infinite capacity to service external debt.

The credit situation was about as close to Heaven as any of them would be likely to get--the funds available from new loans were much larger than the amount necessary to pay the interest on the outstanding loans, so the excess could be used to pay for commodity imports and the purchase of foreign securities (or what in less polite circles is called capital flight.)

Both borrowers and lenders were on an explosive treadmill; the ratio of debt to income could not increase without limit. Moreover the rate of growth of income in Mexico, Brazil, and Argentina could not exceed the interest rate on bank loans for an extended period.

The increase in bank loans to the developing countries was a quantity bubble, unlike the bubble in the price of baseball cards. The bubble in the bank loans to the developing countries burst soon after the oil price fell sharply in 1982; the lenders revised downward their estimates of Mexico's debt servicing capability. Because Mexico could no longer could no longer sell new loans, it couldn't get the funds to pay the interest on the outstanding loans. But if Mexico couldn't (or maybe wouldn't) pay the interest on the outstanding loans, the lenders would have looked stupid providing new loans.

The Monday morning quarterbacks can identify a number of mistakes made by the lenders. One was the belief that the commodity prices would rise for an extended period. A second was that real interest rates could decline indefinitely--the lenders forgot or ignored that commodity prices rise in inflations and then decline, and that periods of increasing real interest rates follow periods of declining real interest rates. Moreover the lenders ignored or slighted that eventually the borrowers would have to be weaned from paying interest with the borrowed cash to paying interest with earned cash. The logical implications of this transition was that the borrowers would have to make a significant

change in their domestic policies--the question the lenders should have asked is whether the borrowers would both be able and willing to make this change in their cash flow situation. Moreover the lenders should have recognized that the borrowers had only a modest incentive to strive to maintain their credit reputation without the prospect of new loans.

XXXXXXX Ironically once the international banks concluded that they wanted out, the governments in these countries switched to financing their large fiscal deficits with local currency funds. As a result the internal debt of these countries increased very rapidly--and the domestic interest rates on this debt increased sharply in nominal and real terms. So a bubble in domestic financial loans followed the bubble in external loans as domestic domestic interest interest rates and payments increased significantly. Eventually Argentina and then Brazil stiffed their domestic lenders, just as they has stiffed their foreign lenders.

One of the puzzles of the 1980s was the rapid rise in the financial wealth of Donald Trump, author of Art of the Deal, and what else. Trump's fortune was made in real estate. Many large fortunes have been made in real estate, since real estate is highly leveraged. Two factors made Trump somewhat unique--one was that he developed a fortune in a period of high real interest rates, and the second was that the cash flows on most of Trump's properties were negative.

Trump's wealth surged because the market value of his properties--or at least the appraised value--was increasing faster than the interest rate. Trump obtained the funds to pay the interest on his outstanding loans by increasing the draw under what in effect was a home equity credit line. The efficiency with which Trump managed these properties was more or less irrelevant--hence Trump could acquire the Taj Mahal in Atlantic City without much concern about the impacts on the profits of the two casinos he already owned. Trump was golden--he had a magic touch--as long as property prices were increasing at a more rapid rate than the interest rate on the borrowed funds.

The puzzle is that the lenders failed to recognize that the arithmetic of his cash flows was virtually identical with that of the developing countries; in effect Trump was Brazil in drag. In the short run Trump could make his interest payments with funds from new loans--but when the increase in property prices declined to a value below the interest rate, Trump would become short of the cash necessary to pay the interest on the outstanding loans.

The increase in U.S. real estate prices in the 1980s was regional, and concentrated in the Northeast and in Coastal California; for the country as a whole, real estate prices did not increase relative to the price level. The regional dispersion in the movement in real estate prices more or less paralleled the changes in personal income. Real estate prices dipped in the oil patch, climbed modestly in the rust belt, and surged in those areas

that benefitted from Starwars and income in financial services. The rapid increases in incomes in banking and financial services--sort of a derived demand from the financial success of Drexel Burnham. In effect these individuals with the high incomes in financial services--and with the prospect of sharp increases in incomes--set the pace for increases in real estate prices.

The increases in the prices of corporate equities and real estate in Japan and Taiwan and Korea in the late 1980s were almost as rapid as the increase in the price of baseball cards. Equity prices in Tokyo at the end of 1989 were about seven times higher than at the end of the 1979. Real estate prices were more than three times higher in 1989 than at the end of the 1979--and the 1980s was a period of low inflation in Japan. The market value of real estate in Japan was more than twice that in the United States, even though national income in Japan was less than half that in the United States.

Analysts in Tokyo debated whether the increase in real estate prices caused the increase in equity prices or whether instead the increase in equity prices led to increase in real estate prices. Inevitably a discussion of high real estates prices lead to the observation that Japan is a set of small mountainous islands, and that the high price of real estate could be explained by this geographic feature. It's not that easy--the land area of Japan has changed only marginally in the last several centuries, and it would be hard to explain the increases in real estate prices by the reduction in the available land.

Trump's cousins were alive and well and flourishing in Tokyo, Taipei, and Seoul especially in the second half of the 1980s. The prices of equities and real estate were increasing because they were increasing--the "greater fool theory" may have been relevant, in that the recent buyers believed there was a greater fool to whom they could sell these assets before the bubble imploded.

In any market economy the price of real estate will tend to reflect both its rental return and the rate of return on the riskless bond. Real estate is a riskier investment than bonds and even public utility stocks, so the anticipated return should be higher. But the real estate offers investors a more effective hedge against inflation. The cliche, "Land is a good investment; the price of land always increases" is right, wrong, and irrelevant. The price of land rise and the price of land sometimes falls--the relevant question is whether the anticipated increase in the price of land is sufficiently higher than the interest rate on bonds to justify a riskier investment.

A bubble was expanding in the real estate and equity markets in Tokyo, stimulated perhaps by the belief that Japan was about to dominate the world financial markets just as it had come to dominate the markets for autos and electronics. If investors anticipate that real estate prices will increase, they will bid up the price of real estate, and the rental return on real estate will decline below the return on the bonds. The dividend return on a growth stock is a weak analogy--investors will accept a very modest dividend yield to the extent the price of the shares to increase. In Japan rental rates on many properties declined sharply as real estate prices were increasing--the return while not quite up to the return on baseball cards nevertheless amounted to about thirty percent a year.

But then at the end of the 1980s interest rates on bonds in Japan began to increase sharply in response to higher inflation and a more contractive monetary policy--and then investors began to realize that the returns on real estate and on equities were too low. The equity prices in Tokyo and Seoul fell by forty percent, while the equity prices in Taipei fell by seventy five percent. Real estate prices have become to tumble--some reports suggest property prices in Osaka are down by thirty to forty percent. And armchair theorizing suggest that these prices will fall further.

The key question is why so many varied bubbles developed in the last several decades. The most general answer is that sharp changes in inflation rates and interest rates lead to extremely volatile movement in asset prices. And once these price movements begin, then on occasion momentum may develop and feed on itself--at least for a while. Non-scientific. Yes. But so are bubbles.

Versions of this talk were given to the University of Chicago Graduate School of Business Clubs in Boston, New York, Washington, and Paris.