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Asset Pricing and Asset Bubbles

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A habit of mine to turn hours spent in an airplane flying great distances into something more educational than just watching movies is to read something I would not otherwise have time for - like the *Memoirs* of the Duc de Saint Simon for example.

As with Boswell's *Life of Johnson*, Cervantes' *Don Quixote*, or Lady Murasaki's *Tale of Genji*, the Duc de Saint Simon's *Memoirs* were long ago recommended to me as part of the foundational reading of well-educated men and women. Just recently, I saw a reference to the Duc de Saint Simon in the *New York Review of Books* and so, before leaving for a long flight to Cape Town, South Africa, I went to a nearby college library to borrow a volume of his memoirs to read on the trip.

On the flight, I got through volume 3 of his *Memoirs*. I can recommend it to anyone interested in a lively, insider's view of the dysfunctions of French royalty in the early decades of the 18th century.

But the work contained a surprise – insights into the financial mismanagement that from time to time, on a regular basis, overtakes market capitalism with unseemly greed followed by panic sell-offs.

We have just come through two such episodes in the United States: first the stock-market bubble of the late 1990's centered on dot.com and telecom companies which was busted by the Enron/WorldCom/et. al. scandals, followed, second and rather quickly, by the virulent bust of the subprime mortgage market and the related market for CDO s, a financial collapse that has yet to run its course.

The asset bubble and ensuing bust swirling around the Duc de Saint Simon in 1719 and 1720 arose from selling shares in the Mississippi Company. The project was the brainchild of a Scotsman, John Law, who proposed his scheme to the Regent of France as a way to earn money for the government. Sales of the stock were very successful; share prices rose to absurd heights; millions were made by those who bought early and sold early; losses, when they came with the collapse of the company, withered the entire economy of France, coming to roost most heavily on those who could least afford the cost.

Saint Simon, a landed aristocrat, never bought shares even when pressured by his friend the Regent to take up thousands for the cash equivalent of a pretty song. Saint Simon didn't believe in the inherent value of paper assets.

He wrote in his diary:

One day M. le Duc d'Orleans (the Regent of France during the minority of Louis XV) made an appointment to meet me at Saint-Cloud, so as to take the air after he had been working there, and we both sat on the balustrade before the Orangery, looking down the slope of the woods towards Les Goulottes (fountains). He spoke again of the Mississippi Bank, urging me to accept stock from Law. I refused once more, but he continued to press me, producing one argument after another, until at last he grew angry, saying that it was mere vanity to refuse what the King offered (all was done in his name), when so many other persons of my rank and condition urgently desired it. I said that such a refusal would be stupid and impertinent, as well as conceited, and was not my way. Therefore, as he was so pressing, I would explain my true reasons. Not since the reign of King Midas had I heard of anyone who turn all he touched into gold, and I did not think that even Law had this talent. All his ability was, I believed, no more than clever trickery, a brilliant exhibition of juggling, a robbing of Peter to pay Paul, by which some people became rich at the expense of others. Sooner or later, I declared, it would be seen for what it was; enormous numbers would be made bankrupt, and then how, and to whom, would restitution be made? I added that I abhorred the idea of touching other people's money, and that nothing on earth could persuade me to do so now, not even at second hand.

M. le Duc d'Orleans was at a loss how to answer.

At a later point in his *Memoirs* as the Mississippi Company was desperately writhing in its death spiral, the Duc de Saint Simon commented:

It had become necessary to substitute something real for the mirage of the Mississippi, converting to a new trading company the Indies Bank, capable of guaranteeing the exchange of 600 million in banknotes and have profits of tobacco monopoly and numerous other vast sources of revenues, but even so it was still unable to meet the demand for payments of its notes and this despite all the measures taken to lower their value which, incidentally, had ruined great numbers of the people by reduction of their savings.

All this known as of 1719 and still we have to suffer globally from the unsustainable issuances of subprime mortgages and CDOs derived therefrom.

Why can't this great reoccurring flaw in capital markets be permanently corrected?

Is it all because of a greed that lies forever chained to the beating heart of capitalism and, from time to time, makes financial fools of us all?

Or, as I am coming to think, is it more a question of systematic distortion of pricing under certain conditions, leading to mis-pricing that opens the door of markets to "irrational exuberance" and supporting avarice for immediate cash profits.

My argument is the following:

First, when asset bubbles occur, the strategic good sense normally encouraged by micro-economic supply and demand curves does not operate. Under conventional supply and demand interactions, the marginal utility of additional amounts of supply is worth less and less. At some point it therefore becomes unprofitable to produce more of the good or service and so supply contracts and a market equilibrium at a sustainable value is reached between demand and supply. No asset bubble occurs. There is no "irrational exuberance" driving prices ever higher and higher.

Under these circumstances, the price/supply curve slopes downward to the right on the graph where supply is the horizontal axis and price is the vertical axis.

But when asset bubbles build up, the supply curve slopes very differently. It slopes upward to the right.

As price increases, so does supply, without any deterrent effect set in motion by declining marginal utility of additional units of the asset brought to market. This supply curve accurately represents the "irrational' belief of buyers that more of the good or service deserves higher and higher prices. There is no diminishing demand curve to intersect with the supply curve at a point of sustainable equilibrium. Demand grows; supply responds; and prices keep going up. Each increment of the good or the service seems to have added value attached to it, at least in the eyes of potential buyers.

Everybody is happy; the nominal price value of the asset class keeps growing higher and higher as more and more assets are brought to market to enjoy higher and higher returns – like shares in the Mississippi Company or, in the subprime mortgage bubble, new houses built to take advantage of easy credit. There is no regulation of self-interest by price that cautions producers to keep more product off the market. There is no automatic governor on the engine to keep it from spinning out of control.

Markets for contract rights – shares, loans, mortgages, CDOs – are especially susceptible to such upward sloping supply curves. As prices paid by willing investors rise, more opportunities to buy the contracts are brought to market by creative sellers. Each additional opportunity to invest in these promises for future returns continues to have the same (or greater) utility to buyers than the previous opportunity. The marginal cost of bringing more contracts to the market is almost zero –mostly payment for secretarial formalisms. It was thus very easy for John Law and his Mississippi Company to issue more shares; very easy for Enron to create more special purpose entities with which to manage reported earnings, and very easy for banks to issue both more sub-prime mortgages and CDOs.

But rising prices for assets can only be supported by rising supplies of money with which to buy them. Here is where the price of credit seems to become dysfunctional. In a bubble, as the price of the asset rises, the supply of credit expands as well. Another supply curve sloping upward to the right. Under conditions of "irrational exuberance" official bank interest rates do not rise with the amount of credit being made available as you would think. More and more credit is made available to buyers when bubbles are growing. The buyers, using mostly borrowed money, pass the resulting cash on to sellers.

The dynamic expanding the supply of credit for subprime mortgages was the proliferation of CDO sales. Global capital markets bought up CDOs and the cash from those sales was passed back to the originators of subprime mortgages, who then lent the money out on more subprime mortgages, which kept buyers in the market for houses at ever rising prices.

In the dot.com/telecom bubble, stock prices had been kept high by the arrival of day-traders in the market, using their equity plus borrowed funds to take advantage of rising prices for stocks.

As the risk/return tradeoff inherent in the extension of credit would have it, you would think, that as more and more credit is extended, the most reliable debtors would be taken care of first, so that later extensions of credit should carry more risk, and therefore be harder to sell. One might say that the marginal utility of additional credit carries higher and higher risk for the usefulness of the money lent.

The market for credit should stabilize at the point where investors providing new credits at the margins where new lending is offered and accepted begin to question if the returns and the security they are promised will support the risks they are to undertake. At that point of decreasing returns to credit, lending investors will demand so much for use of their money, that providers of the underlying assets will balk at the price demanded for credit and the market will slowly stabilize around sustainable prices of assets.

But in bubble environments, pricing does not reliably lead to sustainable asset valuations. Rising prices bring on speculation and then growing speculation brings on yet higher prices until buyer's remorse finally sets in at the margin, new supply is not taken up, and the market suddenly collapses.

Normally as the supply of credit expands, the price charged for increments of credit rises. The normal curve here is one sloping upward to the right. But when an asset bubble is underway, the curve is more flat; as the supply of credit expands, the price for credit does not rise substantially. Credit becomes, relatively speaking, cheaper than it should be. The gap between the thoughtful price for credit (high) and the actual price for credit (low) exposes the market to risk of future collapse.

One reason for this odd pricing of credit is the financial security seemingly provided by rising asset prices. The nominal higher and higher values of the asset offered for sale by the bubble market provide a vision of security protecting the money borrowed to own the asset. The owner/borrower feels confident that he or she can sell the asset at a moment's notice to repay the debt and the investor/lender feels confident that the asset can be acquired from the owner and sold if necessary to repay the debt.

But when the market collapses, asset values collapse and the credit appears in truth as having been essentially unsecured. It has long been said prudentially that lending too much money to an enterprise makes one take the risks of an equity investor – in for a dollar of risk as well as for the actual dime lent on security.

As asset bubbles expand, another gap in prices emerges to undermine the sustainability of nominal asset values. Under thoughtful analysis, the value of an asset should stay reasonably steady or decline some as more and more assets are brought to market. The value/supply curve is then largely level or sloping downward to the right. This assessment of value is largely sustainable.

But, in a bubble, the value of the asset rises and rises ever higher as more and more assets come to market. The value/supply curve slopes upward to the right. The growing divergence between the thoughtful curve and the "irrationally exuberant" curve is the gap between sustainability (thoughtful valuations) and collapse (irrational valuations). At some point, the gap between the two valuations becomes so large that it can't be ignored. Upon the discovery that "irrational" valuations are at risk, nominal asset prices start to drop towards the level of sustainability and the market collapses.

Mis-pricing drives financial markets first to excess and then to collapse. Greed may sustain the mis-pricing and its resulting bubble, but mis-pricing gives to greed its sometime power to trump thoughtful analysis of risk and sound valuations.

Discouraging mis-pricing of both assets and credit would seem to be essential to improving the level of economic justice provided by free capital markets to all participants, but especially to the less well capitalized ones.

If we could better understand the mechanics of how mis-pricing begins in any cycle of excessive accumulation of assets, especially the contract right assets favored by financial markets, we might be able to better eliminate such erroneous pricing signals. Better pricing would tip the odds away from speculators towards genuine value investors.

Two factors, it seems to me, contribute to the onset and the maintenance of mis-pricing.

First is the fact that most providers of contract rights (equity securities, debt obligations, derivatives, etc.) take a fee out of the deal on the sale of the right and leave town so to speak. They have no incentive to price accurately for the sustainable long run. They price to sell in the market at the time. They feed speculation and they feed off of speculation.

Second, and related to the way in which originators of contract rights get paid, is the fact that those who originate contracts rights to sell in financial markets very frequently assume no long-term ownership risk for sustaining the value of the asset. These originators do not retain an interest either in the tradable contract right sold to investors or in the underlying asset, if there is one, which supports the right to future income that is sold to the investor via the contract.

If the fees charged for selling contract rights became less and less profitable as the market for such securities grew, or if ownership responsibilities became more and more unavoidable as the risk of market collapse accumulates, then market-wise, enlightened self-interest would find ways to dampen speculation and to protect asset values.