Bubbles, Booms, and Busts

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The Rise and Fall of Financial Assets

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Preface

One of the problems that has challenged us for as long as we can remember is: how to value assets? In response to that challenge, we have invented the "free market economy" in which the price of an asset is set by the give-and-take between the buyer and the seller, one seeking the lowest price, and the other seeking the highest possible price. When demand is high, prices tend to rise, and *vice versa*. The two types of assets of greatest consequence to most of us are real estate and corporate stocks. According to classical economics, "the price is right" because it is set by negotiation between a rational buyer and a rational seller as to the "worth" of the asset. Unfortunately, history shows that at frequent intervals, this system gets seriously out of whack and the pricing of assets goes haywire. Stock and real estate prices are driven to "irrational exuberance." A bubble forms, and inevitably the bubble bursts and there is great misery throughout the land. Then the cycle repeats itself—again and again.

What seems to happen is that some event, some expectation, or some new development starts the asset price rise rolling. As asset prices rise, a vacuum is generated that sucks in more investors, hungry for quick profits. The momentum so generated attracts yet more investors. By now, most new investors ignore or are oblivious of the original stimulus for the boom, and are only buying with the intent of selling at a profit to "a bigger fool" who is expected to come along soon. Greed descends upon the land like a ground fog.

We have seen this process repeat itself with a minor variations as far back as we can remember,[1] whether in tulips in Holland in the seventeenth century, the South Seas bubble of the eighteenth century, the Florida land boom of the 1920s, the stock market boom and crash of the 1920s, the great bull market in stocks of 1982–1995, the Japanese boom of the 1980s, the savings and loan scandal of the 1980s, the *dot.com* boom of 1996 to 2000, the sub-prime mortgage housing boom of 2002–2007, and more recently, the stock market bubble of 2012–2014.

[1] Early booms and busts were discussed in: McKay, Charles (1841) Extraordinary Popular Delusions and the Madness of Crowds. Richard Bentley, London. Reprinted Farrar, Strauss Giroux: New York: 1932.

To add to the confusion, the bubble atmosphere provides a playground for charlatans, schemers, and crooks within which to operate. The Republican Party has provided impetus to these corporate criminals by implementing "deregulation" and interpreting this as "no regulation." In such an environment, banks and investment companies are free to play with the public's money and be bailed out by the Government.

The first part of this book examines the nature, causes and evolution of bubbles, booms and busts in asset markets as phenomena of human greed and folly. In doing this, I have built upon the foundations laid down by John Kenneth Galbraith's various works and I have also utilized material from Kindleberger's work: "Manias, Panics and Crashes", as well as various other sources cited in my book. Understanding bubbles, booms and busts requires first and foremost examination of the human element (greed, extrapolation, expectation and herd behavior).

The process by which a boom evolves into a bubble and thence to a bust is explored in detail. In many cases, there is a legitimate basis for expecting significant future growth (as with widespread electrification and the expansion of automobiles and highways in the 1920s, or the introduction and expansion of the personal computer and the Internet in the 1990s). This leads to investment of new money, which produces a boom. The boom expands into a bubble when the original basis for investing is gradually displaced by *momentum buying* when speculators invest only because the asset price is rising without regard to the merits of the organization. As prices rise, more speculators are sucked into the vacuum. Eventually, when the rate of rise reaches unsustainable epic proportions, the bubble pops.

Sornette and Woodward[2] discussed "the illusion of a *perpetual money machine*." They said:

> This term refers to the fantasy developed over the last 15 years that financial innovations and the concept that 'this time, it is different' could provide an accelerated wealth increase. In the same way that the perpetual motion machine is an impossible dream violating the fundamental laws of physics, it is impossible for an economy which expands at a real growth rate of 2–3 % per year to provide a universal profit of 10–15 % per year, as many investors have dreamed of (and obtained on mostly unrealized market gains in the last decade). The overall wealth growth rate has to equate to the growth rate of the economy.

[2] Financial Bubbles, Real Estate bubbles, Derivative Bubbles, and the Financial and Economic Crisis, http://arxiv.org/abs/0905.0220; updated October 2012 as The Illusion of the Perpetual Money Machine by Didier Sornette and Peter Cauwels, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2191509.

Sornette and Cauwels[3] (SC) drew analogies with the laws of physics. Referring to the impossibility of a perpetual motion machine and the impossibility of creating energy out of nothing, they asked whether we can perpetually create wealth out of nothing? They said:

> What about wealth? Can it be created out of thin air? Surely, a central bank can print crisp banknotes and, by means of the modern electronic equivalent, easily add another zero to its balance sheet. But what is the deeper meaning of this money creation? Does it create real value? Common sense, … would argue that money creation that outpaces real demand is a recipe for inflation…

The rationality of investors comes into question. So does the rationality of bankers, who also display these same tendencies to an irrational degree. Events in 2008 showed that just about every major bank, brokerage house and mortgage company was rocked by multi-billion dollar losses in the subprime mortgage fiasco, and their stock values plummeted.

In addition, we examine how Government policy (monetary policy, fiscal policy, tax structure)—or the perception by investors that the Government will bail them out of a financial crisis—affects bubble formation and collapse. Bubbles require money. The money is supplied by banks, which in turn are enabled by loose government monetary policies. Government policies include manipulation of interest rates and tax laws. Over the past 35 years or so, Government policies have been skewed repeatedly to support bubbles in real estate and stocks. Low interest rates hurt savers, and most savers are not wealthy. Low income taxes (particularly on upper bracket income, capital gains and dividends) promote speculation and bubble formation, which benefit the rich. Asset bubbles enrich those who own assets. Therefore, it is relevant to examine who owns the assets in America. We found that a relatively small percentage of people at the top, own a large percentage of the assets. Hence preservation and enlargement of assets via bubbles preferentially benefits the rich, and that has been and remains the policy of the US Government. This raises the question whether asset bubbles create wealth, or vice versa? While classical economics might suggest that asset bubbles should merely create inflation, not wealth, there is considerable evidence in recent decades that wealth has been created merely by bidding up the prices of stocks and housing (on paper), thus defying the laws of classical economics (the so-called "wealth effect" of Alan Greenspan). As a result, the rich get richer (relative to the poor and middle class) and the disparity between the top and the bottom expands

[3] The Illusion of the Perpetual Money Machine by Didier Sornette and Peter Cauwels, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2191509.

with time. The major supporter, architect and protector of bubbles over the decades prior to 2008 was Alan Greenspan who used Federal Reserve policies to support bubbles in almost every instance whenever it appeared. Since that time, Ben Bernanke has followed the same policies, promising Fed intervention every time the asset markets falter, and flooding the economy with borrowed money to generate a new bubble in the aftermath of the collapse of the previous bubble in 2008.

Much of the prosperity is confined to the rich. Most of the prosperity is due to the asset growth and since the rich own most of the assets, they have profited the most. By contrast, real wages (adjusted for inflation) have been relatively flat for some time. Modifications to the income tax structure by Republicans (with support of Democrats) have exacerbated this disparity. In addition to asset growth, a huge expansion in debt: federal, state, municipal and personal, has created the illusion of wealth. Ronald Reagan's introduction of "spend and borrow" as a new theme for the Republican Party over the past three decades, competes with the Democrat's "tax and spend" philosophy. In a widely quoted comment, then Vice-President Chaney voiced the Republican viewpoint: "Deficits don't matter." The combination of (1) asset bubbles, (2) expansion of debt, and (3) temporary control of inflation by purchasing cheap goods from China (while losing our manufacturing industries and blue-collar jobs) seems to have worked—but this shaky house of cards could easily collapse, and likely will.

The second part of this book examines a number of specific boom-euphoria-bust cycles during the last 100 years. Most of the emphasis is on American bubbles but a few overseas bubbles are also included.

The Florida land boom of the 1920s ushered in the era of boom-bust cycles in the twentieth century, when a single piece of property might trade six times in a single day with each purchase heaping promissory note upon promissory note until the whole thing collapsed.

The stock market in the late-1920s was a bubble in which stock prices rose incredibly from 1924 to 1929, and the general atmosphere was that of a gigantic bubble driven by euphoric investors, with heavy margin buying and leverage introduced via investment trusts. However, a number of learned articles claim that most stocks were not overpriced in 1929. There are many explanations for why the stock market collapsed in October 1929, and all of these provide insights; nevertheless an all-inclusive explanation has yet to be found. It appears that the economy topped out about three years before the stock market crash. The stock market crash of 1929 did not in itself cause the ensuing depression. We have discussed theories for the cause of the depression of the 1930s later in this book.

The savings and loan scandal of the 1980s was partly a bubble and partly out-and-out fraud, encouraged, supported and abetted by policies of the Reagan administration that blindly believed that deregulation (interpreted as no regulation) would solve an inherent problem of S&Ls in which their revenues from fixed mortgages would no longer cover their costs when interest rates on deposits escalated. The cost of bailing out failing S&Ls could have been contained if the Reagan administration had acted in a timely fashion; but it didn't, and unseemly speculators and criminals took over the S&L industry while Mr. Reagan kept his head in the sand. In the end, the taxpayers paid for the debacle after Mr. Reagan left office.

The *dot.com* mania of the late 1990s was based on a sound intuition that the Internet would have a profound positive effect on communications, business efficiency and information storage and retrieval. However, the boom very quickly turned into euphoria as new companies were created daily and bid up to incredibly high prices. The valuations (stock price × number of shares outstanding) given to minor emergent Internet businesses with no earnings often exceeded valuations of major companies like General Electric. It was inevitable that after the huge run-up in stock prices prior to 2000, the bubble would collapse in 2000; and it did collapse with a thud.

Mr. Greenspan tried to rescue the collapsing stock market with a series of drastic rate cuts starting in 2002, and to some extent he was successful. But an unintended (at least presumably unintended) consequence of the rate cuts was generation of a new huge bubble in residential housing prices from 2002 to 2007. This bubble was aided and abetted by the prevailing interpretation of deregulation of banks and home loan institutions as "no regulation"—allowing them to pursue speculative, risky, and in many cases just plan stupid policies regarding issuing mortgages without adequate down payments, and issuing gerrymandered loans to people who could not afford the payments, in the expectation that rising house prices would bail them out. This was further exacerbated by large financial institutions packaging large numbers of mortgages into investment vehicles that obscured the fragility of the underlying collateral. Once more the adage is proved that "the road to hell is paved with good intentions". The desire of the Government to provide house ownership to those who could not afford it under previous regulations, pressured the government backed mortgage agencies to reduce the standards for issuing mortgages.

When the housing bubble popped in late 2007, as it had to, it dragged down the stock market as the realization spread that most financial institutions had lost countless billions in inflated real estate securities. However, once again "Helicopter Ben" and the Fed came to the rescue dropping down

money on the markets after every significant falter in the stock market. And with each money drop, the federal deficit inflated. It took a few years, but by 2012–2014 new bubbles were forming in stocks and real estate.

Perhaps most wondrous of all is not the repeated boom-bubble-bust cycle that we see over and over again in asset investments; but rather it is almost the religious belief of investors who prostrate themselves before the Federal Reserve with its rate-settings, as if like a Colossus astride the economy, it can single-handedly steer the ship of state to safety.

It appears that Eric Janszen's insights into bubble formation and popping may be correct.[4] "The new economy belongs to finance, insurance, and real estate—FIRE" and represents "a credit-financed, asset-price-inflation machine" that is built upon a fundamental belief that the value of one's assets no longer fluctuates in response to the business cycle and the financial markets, but now mainly rises, with only infrequent short-term reversals.

Dr. Donald Rapp April 2014

[4] Eric Janszen (2008) The Next Bubble: Priming the markets for tomorrow's big crash, Harper's Magazine, February, 2008.

Introduction—The Holland Tulip Mania of 1636–7

One of the first documented boom-bubble-bust cycles was the "tulip craze" that took place in Holland in 1636–1637 when buying and selling tulips became a national mania that led otherwise rational people into mortgaging their worldly goods to invest in tulips.

Tulips originated in Asia and Turkey, where they were cultivated and propagated in Turkey almost a thousand years ago. They were introduced into Holland for the first time in 1563, where they were propagated and studied by a Dutch botanist from the 1570s to the 1590s. The culture of tulips and propagation from bulbs or seed is a slow process. By 1600, tulips were in some demand throughout Europe but supplies were limited. The colors of tulips began to change due to a virus and some magnificent tulips evolved. Tulips were valued by their color, and a hierarchy of tulips evolved with the most desirable ones bringing very high prices. A tulip called "*Semper Augustus*" was mostly the highly prized of all, and quickly became very valuable.

Between 1600 and 1630, Dutch tulip growers propagated more tulips, and tulip sales became a thriving business. Tulips were taken out of the ground after the blooming season and dried and stored for the summer to preserve them prior to replanting in the fall. Most sales therefore took place in mid to late summer when the bulbs were accessible. With the passage of time, tulip prices rose significantly, but in an orderly fashion.

In this era, some Hollanders became wealthy through trade with distant lands, but the great majority of the Dutch were artisans or farmers who worked long hours for subsistence wages. It was tempting to these laboring people to try to earn some additional money by acquiring and propagating tulips themselves. Thus, with the expansion of the tulip market, a number of amateurs began growing tulips for sale in the early 1630s.

Dash[5] described two national propensities of the Dutch of that time: savings and gambling. The plague killed off a number of people during the 1630s, leaving a shortage of labor. Wages went up as a result, and artisans had

[5] Dash, Mike (1999) Tulipomania, Three Rivers Press, New York, NY.

some extra savings to gamble on the tulip trade. Tulip prices rose considerably from 1630 to 1635, and the interest in earning profits from tulips expanded amongst the populace during that period.

The demand for tulips was such that a market that only existed for about two months in late summer was inadequate. As a result, in 1635, an important change was made in the way tulip sales were carried out. Instead of an exchange of cash for bulbs in late summer, the transactions could now take place at any time of the year, even while the tulip bulbs remained in the ground, and the exchange of cash was for a contract in which the bulbs would be made available to the buyer at the next late summer opportunity. This introduced several issues because the buyer was not sure exactly what he was getting, and the care of the sold bulbs was not always ideal. At the same time, many sales were made on contracts in which the buyers put up little cash, but paid a down payment in kind, with personal goods, and promised to pay the seller a large cash payment after the buyer took possession (based on the expectation that he could sell the bulbs to another buyer at a higher price). Most of these people could not possibly come up with the cash required at completion of the deal, except by selling their tulips to a hypothetical future buyer. (If this sounds familiar in current times, it is because this was the same philosophy of those who bought housing that they could not afford in 2004–2007 with the expectation that rising prices would bail them out.) Very often, the down payment was a small percentage of the total price. Thus, buyers were highly leveraged. With these changes in the market, there was no need to know much about growing or propagating tulips. Investments were now made for the purpose of resale, not for the purpose of use. Thus, the tulip market passed from a boom phase to a mania phase.

Beginning in the autumn of 1635, prices escalated and as they did, more and more investors were sucked into the market to buy, driving prices higher and higher. By 1636, tulips were traded on the stock exchanges of numerous Dutch towns and cities. This encouraged trading in tulips by all members of society, with many people selling or trading their other possessions in order to speculate in the tulip market. By the autumn of 1636, a single tulip bulb could command a price equivalent to a few years' average salary, and the top bulbs were priced at several decades of average salary. Prices rose by a factor of ten from November 1636 to January 1637. The peak in the market occurred in early February 1637, when an auction of tulips netted 90,000 Guilders. (For calibration, an artisan's salary was about 300–400 Guilders/year and a prosperous merchant may have earned 1000 or more Guilders per year.) However, at an auction a few days later, there were no bids. This led to a nationwide panic as buyers disappeared from the markets. The ensuing collapse of the tulip market was swift and profound. By the spring of 1637, tulip

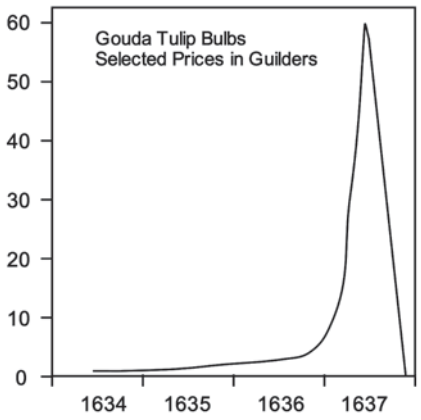

Fig. 1 Estimated price of selected tulip bulbs around 1635–1637 (originally drawn by Elliott Wave International)

prices had dropped by factors of 20 to 100. Many of the relatively common tulips became completely worthless. As in the case of the Florida land boom of the 1920s, a given tulip may have been bought and sold several times, each time with a small down payment and a promissory note. As each buyer defaulted, they left behind a tangled web of unpaid bills.

Jiménez[6] provided Fig. 1.

Had the tulip transactions been enforced, those who had mortgaged their few possessions to enter the tulip market would have been ruined—implying consignment to the workhouse, or starvation. Attempts were made to resolve the situation to the satisfaction of all parties, but these were unsuccessful. Ultimately, individuals were stuck with the bulbs they held at the end of the crash—no court would enforce payment of a contract, since judges regarded the debts as contracted through gambling, and thus not enforceable by law. In many cases the people who owed had no assets worth suing for anyway. It appears that after the collapse of the tulip market, the courts decreed that all purchase contracts would be treated as options to buy and need not be fulfilled.

Dash described the end result of the tulip craze as surprisingly benign. Most of the crazy deals were negated and life went on, although bankruptcies increased and there are other signs of financial stress in the aftermath. However, Galbraith claimed that a recession followed the puncture of the bubble.

[6] Understanding Economic Bubbles, Álvaro Jiménez Jiménez, http://www.eco.uab.es/ue/trabajos%20premi/tfc%2061%20Jiménez%201.pdf.

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Abbreviations

ACC	American continental corporation
ADC	Acquisition, development, and construction
AH	Affordable housing
AMT	Alternative minimum tax
AMTP	Alternative Mortgage Transactions Parity Act
AOL	America on-line
ARM	Adjustable rate mortgage
ARPA	Advanced research projects agency
ATM	Automatic teller machine
BAPCPA	Bankruptcy Abuse Prevention and Consumer Protection Act of 2005
BLS	Bureau of labor statistics
CAB	Civil aeronautics board
CBPP	Center for budget and policy priorities
CD	Certificate of deposit
CDOs	Collateralized debt obligations
CDS	Credit default swap
CEO	Chief executive officer
CFO	Chief financial officer
CFTC	Commodity futures trading commission
CINB	Continental illinois national bank and trust company
CPI	Consumer price index
CPI-U	Consumer price index for urban areas
CQS	Case, Quigley and Shiller
CSREI	Case-Shiller real estate index
DBL	Drexel, Burnham and Lambert
DCJ	David Cay Johnston
DIDC	Depository Institutions Deregulation and Monetary Control Act of 1980
DJIA	Dow-Jones industrial average
DOJ	Department of justice
ENW	Edward N. Wolff

ERISA	Employee Retirement Income Security Act
FDIC	Federal deposit insurance company
Fed	Federal reserve system
FHA	Federal housing administration
FERC	Federal energy regulatory commission
FHLBB	Federal home loan bank board
FIRE	Finance, insurance, and real estate
FOMC	Federal open market committee
FSLIC	Federal savings and loan insurance corporation
GDP	Gross domestic product
GNP	Gross national product
GPS	Global positioning system
GS	Gjerstad and Smith
GSAMP	Goldman sachs alternative mortgage product
GSE	Government supported enterprises
HUD	Housing and urban development (Department of)
ICT	information and communications technology
IMF	International monetary fund
IPO	Initial public offering
JKG	John Kenneth Galbraith
K&A	Kindleberger and Aliber
LMI	Low- and moderate-income borrowers
LTCM	Long term capital management
LTV	Loan-to-value ratio
MBLI	Mutual benefit life insurance
MBS	Mortgage backed security
MLS	Multiple listing service
NAR	National association of realtors
NBR	Nightly business report
NINA	No income—no assets
NIVA	No income—verified assets
MWH	Megawatt-hours
NBR	Nightly business report (Public Television)
NPR	National public radio
NYSE	New York Stock Exchange
NYTI	New York Times Index (of 25 industrial stocks)
OMB	Office of management and budget
OPEC	Organization of petroleum exporting countries
P/E	Price/earnings ratio
PBGC	Pension benefit guaranty corporation
PCE	Personal consumption expenditures

PFM	Pizzo, Fricker and Muolo
PG&E	Pacific gas and electric
PPI	Producer price index
S&L	Savings and loan
S&P	Standard and poor's
SEC	Securities and exchange commission
SIV	Structured investment vehicle
SS	Social security
SW	Sornette and Woodward
TIAA-CREF	Teachers insurance annuity association
WTHII	Inflation-what-heck-is-it
WWII	World War II
Y2K	Year 2000 problem

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