



Bubbles: Are they rational?

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What are bubbles?

- A bubble is the part of asset price movement that is unexplainable based on what we call fundamentals.
 - We define fundamentals as a collection of variables that we believe should drive asset prices



The definition of bubbles is fuzzy

- Palgrave's Dictionary of Political Economy (1926) defines it as
 - "Any unsound undertaking accompanied by a high degree of speculation."
- Kindleberger defined it as
 - "A bubble is an upward price movement over an extended range that then implodes"



Inappropriate Use of Early Bubbles

- *“When the crowd tried to reverse direction after August 17, as Russia defaulted on its debt, many comforting systems for limiting risk broke down. This was because, like the seventeenth century tulip speculators, they relied on continuous orderly markets for closing unsuccessful positions. When everyone panicked the computerized strategies only exacerbated market turmoil” (Financial Times, “The Madness of Crowds,” December 22, 1998).*



Earliest Bubbles

- Dutch Tulipmania (1634-1637)
- Mississippi Bubble (1919-1920)

Dutch Tulipmania (1634-1637)





The Market of Tulips

- Two Market for Tulips
 - Common Bulbs
 - Start in late 1636
 - Traded by a wide range of people
 - Rare Bulbs
 - Serious/Informed Traders
 - Present during the entire period



Traditional View of Dutch Tulipmania from Mackay

- Beginning in 1634, non-professionals entered the tulip trade in large numbers, and bulb price reaches enormous level.
- Large amounts of foreign funds entered the country to participate in the market
- When the frenzy terminated overnight, even rare bulbs could find no buyers, and an economic depression followed



Is Dutch Tulipmania rational?

- Bulb Prices Decline Fast: Is it in Their Nature?
 - The prices paid were a function of scarcity of the bulb
- Where Was the Purported Economic Distress?
 - Little notice of “economic distress”



Bulb Prices Decline Fast: Is it in Their Nature?

Table 9.1
Post-Collapse Bulb Prices in Guilders

Bulb	Jan. 1637	Feb. 5, 1637	1642 or 1643	Annual % Depreciation ¹
1. Witte Croonen (one-half pound)	64.	1668. (avg.)	37.5	76
2. English Admiral (bulb)		700. (25 aas bulb)	210.	24
3. Admiraal van der Eyck (bulb)		1345. (wtd. avg.)	220.*	36
4. General Rotgans (Rotgansen)		805. (1000 azen)	138.	35

* Adjusted downward fl. 5 to account for the English Admiral outgrowth.

¹From February 1637 peak.

Guilder Prices of Tulip Bulbs Common to 1637, 1722, and 1739 Price Lists

Bulb	Jan. 2, 1637	Feb. 5, 1637	1722	1739
1. Admiraal de Man	18.	209.		0.1
2. Gheelee Croonen	0.41	20.5		0.025*
3. Witte Croonen	2.2	57.		0.02*
4. Gheelee ende Roote van Leyden	17.5	136.5	0.1	0.2
5. Switsers	1.	30.	0.05	
6. Semper Augustus	2000. (7/1/25)	6290.		0.1
7. Zomerschoon		480.	0.15	0.15
8. Admiraal van Enchuysen		4900.	0.2	
9. Fama		776.	0.03*	
10. Admiraal van Hoorn		65.5	0.1	
11. Admiraal Liefkens		2968.	0.2	

Note: To construct this table, I have assumed a standard bulb size of 175 azen. All sales by the bulb are assumed to be in the standard weight, and prices are adjusted proportionally from reported prices. When more than one bulb price is available on a given day, I report the average of adjusted prices.

*Sold in lots of 100 bulbs.

Hyacinth Price Patterns (Guilders)

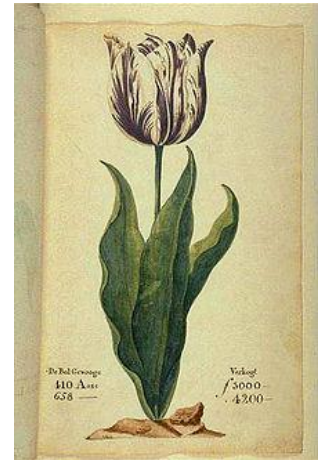
Bulb	1716	1735	1739	1788	1802	1808
1. Coraliijn*	100	12.75	2	0.6	—	—
2. L'Admirable	100	—	1	1.	—	—
3. Starrekroon	200	—	1	0.3	—	0.3
4. Vredenrijck	—	80	16	1.5	—	—
5. Koning Sesostris	—	100	8	1.	1	—
6. Staaten Generaal	—	210	20	1.5	2	—
7. Robijn	—	12	4	1	1	0.5
8. Struijsvogel	—	161	20	—	—	—
9. Miroir	—	141	10	—	—	—
Bulb	1788	1802	1815	1830	1845	1875
10. Comte de la Coste	200	50	1	0.75	0.5	0.15
11. Henri Quatre	50	30	1	3	5	1
12. Van Doeveren	50	—	1	2	1.2	0.75
13. Flos Niger	60	20	10	—	0.25 (1860)	
14. Rex rubrorum	3	1.5	0.3	1	0.35	0.24

Source: Krelage, 645–655.

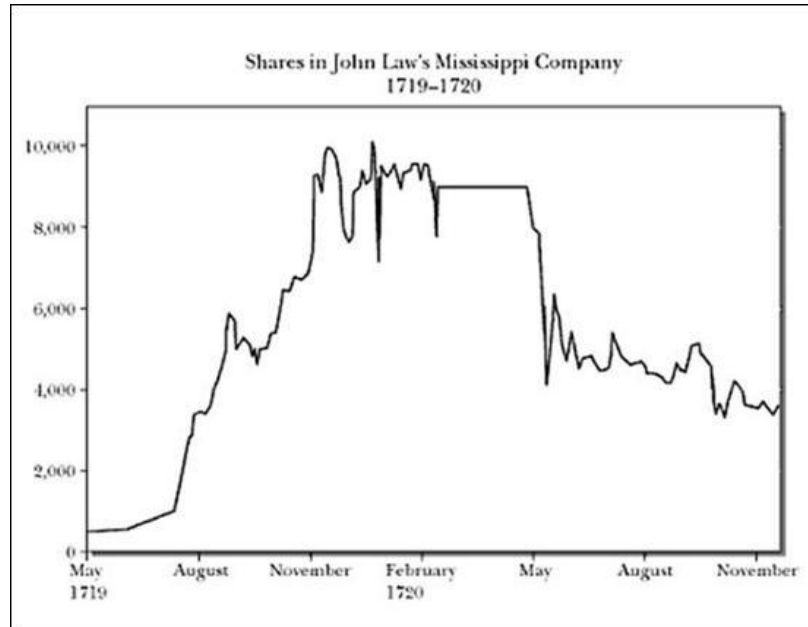
*Krelage (645) notes that the Coraliijn bulb originally sold for 1000 guilders, though he does not include a year.

Where Was the Purported Economic Distress?

- No significant agricultural resources were devoted to expand their cultivation
- Common bulb increases occurred after planting (Sept 1636)



Mississippi Bubble (1919-1920)



John Law

- Scottish economist
- Believed an emission of paper currency would expand real commerce permanently, thereby increasing the demand for the new currency sufficiently to preclude pressure on prices





Law's Plan for France

- Fiat Currency Introduced: This meant establishing a state-owned bank that would take in gold and give out paper receipts. The receipts could technically be redeemed for gold on demand. However, such a situation would seldom arise.
- Mississippi Company: To create a excited company called the Mississippi Company. This company would be given a royal charter which provided them with the exclusive privileges of conducting trade with Louisiana region of the United States which was then a French colony.



Financial Operation

- Take over banque generale, acquire East India & China Company
- On July 25 1719, purchase the right to mint new coinage;
- In August 1719, buy the right to collect all French indirect taxes
- Refund most of the national debt to finance the debt acquisition and undertook a sequence of three stock sales
- Acquiring the debt would create a huge “ fund of credit”, a steady income flow from the government. Simultaneously, the company would reduce the interest paid by the state to 3% per year.

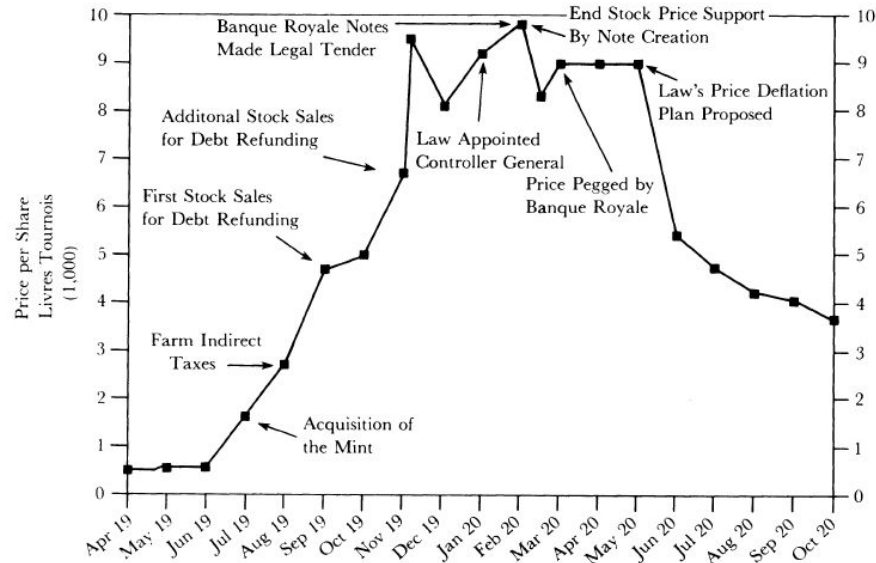


Financial Operation

- Whenever the stock prices started cooling down, John Law would create more fiat money.
- Paper Money Withdrawal
 - As the banks could not come up with payments easily, lot of people started demanding their gold and bank runs started taking place. This led to a fall in the belief of the strength of the paper money system in France.
- Collapse of Mississippi Company
 - Once the government could not create money out of thin air to raise the stock prices of Mississippi Company, the shares started collapsing.

The Mississippi Bubble

Compagnie des Indes Stock Price





Is it rational?

- Law's theory was plausible and even has modern manifestation. At each stage, as the implementation of the economic experiment became ever more likely, they had to factor the possibility of success into the share prices of the company.
- The final fall of share price is driven by Law's fall from power and the accession of his enemies who aimed to dismantle the company
- Law's promised expansion never materialized does not imply a bubble occurred, as more convincing economic idea would fracture in practice.
- Law's principle was also that finance came first; the financial operation and the expansion of circulating credit was the driving force for economic expansion. From a modern perspective, this idea is not flawed.



Conclusion

- Fascinated with the brilliance of grand speculative events, economists have huddled in the bubble interpretation and have neglected an examination of potential market fundamentals. Before clutching the bubble last resort, we should always search for the market fundamental explanation of those “bubbles”

“Takes us behind the curtains of financially folly”

-Rudi Dornbusch



Work Cited

Peter M. Garber (1990) “Famous First Bubbles”, The Journal of Economic Perspectives, Vol. 4, No. 2.

Peter M. Garber (2000) “Famous First Bubbles: the Fundamentals of Early Manias”, the MIT Press

[https://en.wikipedia.org/wiki/John_Law_\(economist\)](https://en.wikipedia.org/wiki/John_Law_(economist))