The South Sea Bubble

The Nation too late will find,
Computing all their Cost and Trouble,
Directors Promises but Wind,
South-Sea at best a mighty Bubble.
(last stanza of Jonathan Swift's "The Bubble"[1])

(William Hogarth: An Emblematical Print on the South Sea Scene)[2]

[1] Swift, Jonathan, ***The Bubble,*** 1721 in Emmett, Ross B. *Great Bubbles.* London: Pickering and Chatto, 2000, p.185.
[2] Hogarth William, *An Emblematical Print on the South Sea Scene.* 1721 (reprinted c. 1822). This is obviously a satire of the events of the South Sea Bubble: the London Fire Monument (erected after the Great Fire of London in 1666) reads: 'This monument was erected in memory of the destruction of the city by the South Sea in 1720', , investors ride the financial merry-go-round (centre), a female trade lies starving to death (bottom right) , Villainy whips Honour (centre right) clerics (a catholic, a Jew and a puritan) lay bets (bottom left), the Devil throws haunches of Fortune to the greedy crowd (left centre) and Self-Interest tortures Honesty on the Wheel (bottom centre).

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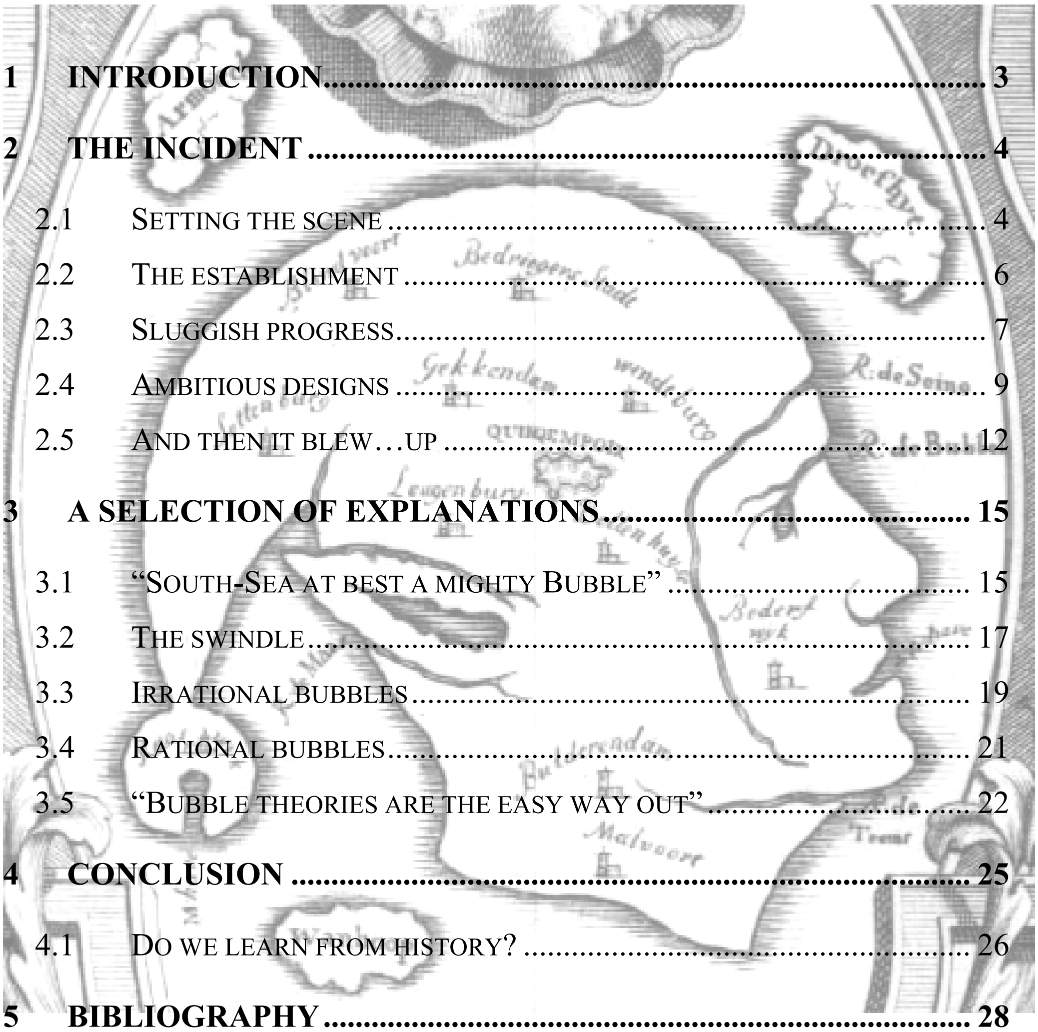

(The Island of Madhead: An image forming part of: Anonymous/Henri Abraham CHATELAIN?,AFBEELDINGHE van't zeer vermaerde Eiland GEKS-KOP. geligen in de Actie-ze, ontdekt door Mons.r Lau-rens, werende bewoond door een verzameling van alderhande Volkeren. die men dezen generalen Naam (Actionisten) geest.) .(Translated:- "Representation of the very famous island of Mad-head, lying in the sea of shares, discovered by Mr. Law-rens, and inhabited by a collection of all kinds of people, to whom are given the general name shareholders.")) [3]

[3] This copper engraving is part of the 'Het Groote Tafereel der Dwassheid' (The Great Mirror of Folly) and was printed by *L'Honore & Chatelainm of Amsterdam in 1720.* On the Site http://www.mapforum.com/05/kop.htm, the following explanations and translations are offered:- "***QUINQUEPOIX***: *capital of the island, named after the headquarters of the Compagnie in the Rue Quimquempoix, Paris.* ***R: de Seine, R. de Teems & R. de Maas***: *the principal rivers of the three major countries involved: the Seine (Paris), the Thames (London) and Meuse (Amsterdam).* ***R: de Bubbel***: *Bubble River* ***Z.Z. have***: *South Sea Haven, alluding to the English South Sea scheme.* ***M. have***: *ie Mississippi haven.* ***Blind voort***: *Fort Blind* ***Bedriegers Stadt***: *Deceivers' Town* ***Sottenburg***: *Foolsburg* ***Gekkendam***: *Fool's Dyke* ***Windtburg***: *Windburg* ***Leugenburg***: *Liarsburg* ***Dollen huyse***: *Madhouse* ***Bederf wyk***: *Abandoned Quarter****Raas wyk***: *Noise Quarter* ***Bulderendam***: *Roaring Dyke* ***Malvoort***: *Fort Evil* ***Armoed***: *Island of Poverty* ***Droefhyt***: *Island of Sorrow* ***Wanhoop***: *Island of Despair*"

1 Introduction

Whilst the word "bubble" is most commonly associated with chewing gum and detergent, it has also been used to describe the behaviour of financial markets. The original and slightly cheeky metaphor, generally used ex post to explain how an asset price or even an entire national economy (e.g. Japan) ballooned unsustainably only to then deflate painfully, is far from uncontested despite (or perhaps due to) the fact that it "(lacks) *a solid operational definition*".[4] Individuals' ideas about the financial markets and in particular about investor rationality tend to lead them to espouse or reject the concept of financial bubbles. In other words, if one considers economic agents to be completely rational and both securities and information markets to be efficient[5], then asset prices should be driven solely by fundamentals (*"a collection of variables that we believe should drive assets prices*[6]*"*).

The "South Sea Bubble" - a spectacular and almost unbelievable financial venture that failed almost three hundred years ago, sending shock waves through eighteenth-century Britain – is, alongside Dutch Tulipmania and the French Mississippi System, one of the "classic bubbles" typically analysed by economists. Looking closely at this particular phenomenon makes possible not only a better understanding of the venture itself , but also serves as a good introduction to a whole assortment of interpretations of speculative episodes offered by economists. This paper will therefore initially describe the scheme more closely. It will examine the historical context: isolate who and what inspired it and how it was that government was willing to implement it; and briefly portray the events of 1720. Secondly, it will compare and contrast different interpretations offered over almost three centuries. Via a description of a specific "bubble" incident followed by a discussion of various interpretations, it is hoped that readers (and the author) may for themselves answer the very personal question:

"Can prices be driven by anything other than fundamentals?"

[4] Garber, Peter, *Famous First Bubbles* (2nd edition). Cambridge (Ma.): MIT Press, 2000. p.4.
[5] Efficiency markets theory states that financial assets are always priced correctly, according to the publicly available information. Thus *if* the information is perfect then the market prices accurately reflect all possible information.
[6] Garber, p.4.

2 The incident

2.1 Setting the scene

During the opening years of the eighteenth century the English economy was in a phase of transition. The banking system was in its infancy, the metamorphosis of goldsmiths into bankers only having properly commenced in the years after the Restoration (1660). The stock market too, was embryonic. It was quickly growing more active and liquid as the number of investment opportunities in form of joint-stock companies and public securities increased from 14 before 1698 to over 100 in the 1690s and foreign investors (e.g. Huguenot refugees) were attracted.

In particular, it was the demise of absolutist government in England that provided the decisive impetus for innovation and change. The monarch was no longer above the law. He lost the ability to default on debt when he so chose and became reliant upon the consent of Parliament to increase taxes[7]. In John Carswell's view, the year 1693, when the borrowings of the government were first guaranteed by Parliament, marks the birth of national debt. Thus, the system of public finance had to be adjusted to befit a modern nation-state. Rondo Cameron and Larry Neal emphasise that:

> *"the so-called Glorious Revolution of 1988-89 constitutes a major turning point not only in political and constitutional history, but in economic history as well. In the matter of public finance alone, the 1690s saw, in addition to the establishment of a funded debt, the creation of the Bank of England, a re-coinage of the nation's money and the emergence of an organised market of public as well as private securities"*[8].

Indeed, it was the funding of national debt that, according to P.G.M.Dickson, lay at the heart of Britain's financial revolution. National debt had exploded

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[7] Also, the sloppy payment habits of the Stuarts had caused interest rates to rise, reflecting credit risk.

[8] Cameron, Rondo and Larry Neal, ***A Concise Economic History of the World. From Palaeolithic Times to the Present*** 4th Ed. Oxford: Oxford University Press, 2002.p.155.

as a result of an almost constant succession of expensive international wars notably the War of the Leagues of Augsburg (1688-89) and the War of the Spanish Succession (1702-13). The latter war waged by the legendary Marlborough pushed debt up by a neat £34,900,0000- almost the quadruple of the previous level . To secure finance and act as a sophisticated financial agent of the government, the Bank of England was created (1694) by a coalition of Whigs and the London mercantile establishment enthused by the Dutch system of finance. Its raison d'être was to lend to the government at a fixed interest rate payment (initially of 8%) which was secured by a specific customs grant and more generally to "*transform the chaotic assortment of obligations issued by the English government during its almost continuous wars into funded obligations, widely distributed*"[9]. Der- Yuan Yang of the university of California points out that the bank "*acted as the king's credible commitment to Parliament*" that he would not default as doing so would ruin the Bank[10]. Nonetheless, the system was still far from optimal.

The expansion of funded debt caused inflation and financial crisis (1696). Contemporaries considered the unprecedented debt levels immense and worrisome. Particularly, the interest rates of 8 to 10% paid on annuities issued during the wars, which were much higher than the peacetime rates of 5 to 6%, were of great concern to the government. What is more, between 1694 and 1720, the Bank of England experienced turbulent times. While it had been granted legal monopoly of joint-stock banking in 1694, the charter had to be renewed periodically leaving the Bank vulnerable to attacks by government agents seeking bribes, competitors and sceptical Tories[11]. The year 1707 was particularly eventful. Not only did the East India Company instigate a failed run on the Bank, but the Sword Blade Bank made a rival bid

[9] Charles P. Kindleberger, ***A Financial History of Western Europe 2nd ed.*** Oxford: Oxford University Press, 1993.p.77.
[10] Der-Yuan Yang, ***The Origin of the Bank of England: A Credible Commitment to Sovereign Debt***. University of California, Revised October 1997. (online paper, www.econ.ucsb.edu)
[11] Political infighting was rampant with the Tories and Whigs fighting for the favour of Queen Anne (1702-14). It was the painful birth of the two party system.

for its charter. To keep its privileges the Bank was forced to increase its loan to the government and reduce the rate of interest[12].

A poorly tuned government instrument, the Bank was at times brusquely defiant of the government. In fact, in 1710, the new Chancellor of the Exchequer Sir Robert Harley (1661-1724)[13] (promoted to Earl of Oxford in 1711) could not convince it to furnish the urgently needed loans. Not only was he a Tory leader, but he had previously launched a Land Bank Scheme aiming to weaken the Bank's position. These unfavourable circumstances forced Harley to seriously consider proposals made by George Caswall (a London merchant, financier and stockbroker) and John Blunt (a London scrivener turned stock broker).

2.2 The establishment

In 1711, the South Sea Company, later dubbed "the Earl of Oxford's masterpiece", was established as a joint stock company. The Tory government hoped that it would eventually challenge the Bank of England and the East India Company as a provider of loans to support national debt[14]. As a reward for homogenising army and navy debentures and other parts of the floating debt[15] amounting to over nine million pounds, the government agreed to pay the obliging trading company six percent over a fixed period (an expense that was to be financed through duties)[16]. Hereby the government effectively replaced long-term debt at 6% for high interest short term debt.

[12] Charles P. Kindleberger, ***A Financial History of Western Europe 2nd***.p.77.

[14] There is some controversy about the aims of the foundation of the South Sea Company. MaKay, Kindleberger and Neal believe that the primary motivation was the funding of national debt.
[15] For this kind of debt there was no provision for funding.
[16] Debt-equity swaps of this kind had been used to found the Bank of England and the New East India Co.(1698). Victor Morgan and E. Thomas have given one of the best explanations for this type of deal, called "ingrafting" by contemporaries: "*In part it was just one of the many expedients of a hard pressed government to raise money, and in part it was a product of the not unreasonable idea that citizens who receive monopolies from the state should pay for them*". Morgan, V and A. Thomas, ***The Stock Exchange. Its History and Functions.*** London: Elek, 1969.p.30.

The enticement to the company was a trade monopoly to the South Seas - a region famed for its endless riches - coupled with the ability to raise capital on the security of the annuity. An Act of Parliament and granted it:

> *" the sole trade and traffick, from 1 August 1711, into unto and form the Kingdoms, land etc. of America, on the east side from the river Aranoca, to the southernmost part of the Terra del Fuego…", all trade from the Western Americas and "into unto and from all countries in the some limit, reputed to belong to the Crown of Spain, or which shall hereafter be discovered."*[17]

Moreover, the unusual method of incorporation provided the company with a potential "fund of credit[18]". Antoin Murphy, who has described this concept in some detail, explains that this "*developed though the emergence of a gap between the issued and issuable capital of the Company*"[19]. The absence of a stipulated debt-equity exchange rate made conversion above par a logical and attractive possibility which the management would later learn to exploit. Combined with the permission to issue a certain number of shares, this would allow the company to raise more capital for its investment projects on the market.[20]

2.3 Sluggish progress

There was, however, a noteworthy impediment to the project: namely Spain. Engaged as it was in a war against Britain until the Peace of Utrecht in 1713, the Spanish Government under King Philip V was in no way inclined to grant the South Sea Company access to riches its English charter supposedly

[17] A close association existed between the South Sea Company and the Sword Blade Bank. Indeed John Blunt had earlier helped transform the failed manufacturer of hollow swords using Huguenot methods into a bank. George Carsall had been a partner and was a director from 1712 onwards. Charles Kindleberger draws a straight connecting line between the two companies: "*The same group then formed the South Sea Company to undertake trade in the South Sea*". Charles P. Kindlberger, ***A Financial History of Western Europe 2nd***.p.77.

[18] This idea was introduced by Scott, William R. ***The Constitution and Finance of English, Scottish and Irish Joint-Stock Companies***. Cambridge, 1968(1912).

[19] Murphy Antoin E., Richard Cantillon: ***Entrepreneur and Economist***. Oxford: Oxford University Press, 1986. P. 160.

[20] While this "fund of credit" must certainly not be confounded with profit, it may be similar to the modern accounting principle of "share premium account". The amount of money paid or promised to be paid by a shareholder for a share is credited to this account if the shareholder paid more than the cost of the share. Furthermore, this can be used to issue bonus shares.

entitled it to. In fact, despite deliberately circulated rumours and politically motivated assurances[21] made by the Earl of Oxford, little changed for the trading company after peace had been brokered. Demands for fortified settlements - which would really have facilitated trade - having been abandoned by the government, the South Sea Company received less significant concessions. For thirty-year period it was granted the "Assiento de Negros": the right to supply New Spain with slaves(4,800 annually). Yet, this came at a price. Not only did Spain expect to receive tax on 4,000 slaves, but it also demanded one tenth of the profits. These, according to Adam Smith were already slim, the asiento trade having ruined the Portuguese and French companies previously engaging in it.[22]

In the same passage of The Wealth of Nations Smith points out that the second concession - sending an annual 500 ton ship to trade in Cartagena or Veracruz - was also scarcely cost-effective when possible:

> *"Of the ten voyages which this annual ship was allowed to make, they are said to have gained considerably by one, that of the Royal Caroline in 1731, and to have been losers, more or less, by almost all the rest."*

Worse still, the voyage of the first ship in 1717 could not be replicated in the following year thanks to renewed hostilities between the two countries which were used as an excuse to confiscate South Sea property in the New World.

This means that the newly established company, boasting none other than the Prince of Wales as its governor[23], was (at least temporarily) both incapable of fulfilling its charter and fairly unprofitable. Dickson considers that part of this "original ineffectiveness" was due to the weakness of the company's capital structure which was "*entirely fictitious, consisting of the debts to be changed*

[21]Dickson accepts the view that the foundation of the South Sea Company was part of a bluff to assist Harley's peace negotiations. Dickson, Peter, *The Financial Revolution in England*. London: Macmillan, 1967. P.67.

[22] Smith, Adam, *An Inquiry into the Nature and Causes of the Wealth of Nations*, Book, Chapter I, Part III: ***On the Expense of public Works and Public Institutions***. London: Random House, 1937(1776).

[23] The Earl of Oxford was obviously the first governor, but he was disgraced and imprisoned having connived to overthrow Hanoverian who succeeded Queen Anne.

for South Sea stock"[24]. Whatever the reason for its failings, neither public, monarch nor government seemed to want to abandon the "chimerical supposition" that extremely lucrative trade opportunities would materialise in the near future. In part, this is ascribable to the rising importance of the media[25] which the South Sea Company learned to take advantage of (employing writers including Jonathan Swift[26] and Daniel Defoe) and an age of optimism. Kindleberger points out that: "*gambling moved from a pastime to an obsession in the C17.*"[27]

Yet, despite popular patience, the company still needed a stream of income apart from the frequently delayed annual interest payments from the government. The management, which had been granted a handsome £8,000 per annum by the original charter, was constantly looking for new opportunities.

2.4 Ambitious designs

By a happy coincidence the state was still looking for a way to overcome its budgetary woes. In 1717 George I had addressed the opening session of Parliament with the following plea:

> *"You are all sensible of the insupportable weight of the national debts which the public became engaged for from the necessity of the times, the pressure of a long and expensive war, and the languishing state of public credit" ...."but the scene being now so happily changed, if no new disturbances shall plunge us again into straits and difficulties, the general expectation seems to require of you, that you should turn your thoughts towards some method of extricating yourselves, by reducing, by degrees the debt of the nation"*[28]

[24] Dickson, p.67.
[25] In 1702 London had one daily newspaper; by 1709 it had 18.
[26] Swift was a cofounder of the *Scriblerus Club*, which included such member as Pope, Gay, Congreve and Robert Harley, 1st Earl of Oxford.
[27] Kindlberger, *A Financial History of Western Europe 2nd* ed. P. 175.

[28] Melville, Lewis, *The South Sea Bubble.* London: Daniel O'Connor, 1921. p.22.

In response, a kind of meta-solution was developed under the supervision of Robert Walpole. Due to a schism in the ruling Whig party, this was never completely implemented. However, those measures executed in 1717 were effective and reduced the annual charge by £325,876 (13%)[29]. These did, on the other hand, not address the high expenses occasioned by an unusual breed of expensive outstanding debt - which yielded its owners guaranteed high interest over many years and which the government couldn't pay off prematurely without the owners' consent(irredeemable debt). Pressure mounted as it was increasingly felt that the French had had a head start in debt reduction - which could have geo-political repercussions should England not catch up quickly[30]. The South Sea Company offered its assistance . It mounted a dress rehearsal to prepare for the tragic South Sea Bubble comedy[31].

In 1719, it recommended converting the annuities created by the Lottery of 1710, (irredeemable annuities expiring after 32 years) into South Sea shares. These cost the government £135,000 per annum and there were also arrears of a year and a quarter. Through this process the debt would be transformed into redeemable principal sums at five percent interest, which were cheaper and easier to discharge. Melville summarises how this worked:

> "*The company asked for powers to increase their capital by £2,500,000. Of this amount they would devote £1,721,250 to taking in the annuities into their stock at 12 ¾ years purchase (including the arrears), and would lend to the government the balance of £778,750 at the rate of 5 %, and for charges of management £2000 per annum*[32]."

Parliament accepted this proposal and 69% of debt holders converted. For them it was more convenient and lucrative to hold easily traded stock than

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[29] Dickson, p.87.

[30] As Kindleberger points out, there was a capital inflow into Paris from London. The British Ambassador Stair urged his government to do something to compete with the Mississippi venture to stem the flow. Kindleberger, *Manias and Crashes*, p.112.

[31] Dickson has proposed a "pilot-project" theory. It is based on the fact that Chancellor of the Exchequer from 1718 John Aislabie had been in contact with the South Sea Company since in his previous position as Navy Treasurer he was responsible for paying the interest on its capital .

[32] Melville, p.30.

short annuities (interest payments of which were overdue). The government's annual interest payments on Standing Orders shrank from £94,330 to £54,240 and the South Sea Company made an immediate gain of £76,180.[33]

Slightly intoxicated with success and motivated by higher management fees, Sir John Blunt and other directors suggested the amalgamation the funds of the Bank of England, East India Company, Exchequer and the South Sea Company to create a gargantuan company. Unsurprisingly, the plan was rejected. Not so the next proposal which involved the consolidation and eventual disposal of national debt – a slightly more modest undertaking.

John Aislabie, the Chancellor of the Exchequer, laid out the plan (in which he most certainly had a personal interest) before the House of Commons on the 22 of January 1720[34]. Broadly speaking it was proposed that the company pay £3,500,000 into the Exchequer for the right to take over the £3 1million of privately held debt. Holders of redeemable debt would be given no choice in the matter whereas holders of irredeemables would have to be lured. In return, the South Sea Company would receive both permission to increase its capital stock dramatically and interest on the debt. Thanks to two counter bids made by the Bank of England, the South Sea Company was forced to raise its offer to a fantastic £7,567,000. Notwithstanding prophetic warnings voiced by Walpole and other parliamentarians (including Lords North, Grey, Cowper and the Duke of Wharton, Archibald Hutchinson) who had been closely observing events in France, the Sea Company was given the green light and promised annual interest payments on the debt managed to convert (of 5% until 1727 and 4% thereafter). Moreover, despite a debate on 23rd of March, the government neglected to define in advance the amount of new stock it would give the creditors in exchange for their stock and annuities. Dickson believes that : "*had this course of action, which the Bank of England had been willing to follow in its own proposals, been adopted, the worst features of the*

[33] Neal, pp.95-96.
[34] It has been suggested, by Neal amongst others, that this project was devised by government and company officials in the second half of 1719.

subsequent speculation might have been avoided."[35] But bribes to Parliamentarians and royal favourites amounting to £1.3 million were involved. These certainly facilitated the passage of the Act in Spring 1720.

2.5 And then it blew…up

The market reacted favourably to the novel projects and the share-price, which was already well above par (£100) in January[36], rose steadily. Melville writes: "*As soon as Parliament gave the preference over the Bank to the South Sea Company, the price of its stock went up in leaps and bounds.* He quotes a contemporary : "*South Sea is all the rage and fashion; the ladies sell their jewels to buy, and happy are they that are in*"[37]. Peter Garber has created a very useful graphical representation which summarises the main movements of South Sea stock during the bubble year 1720:[38]

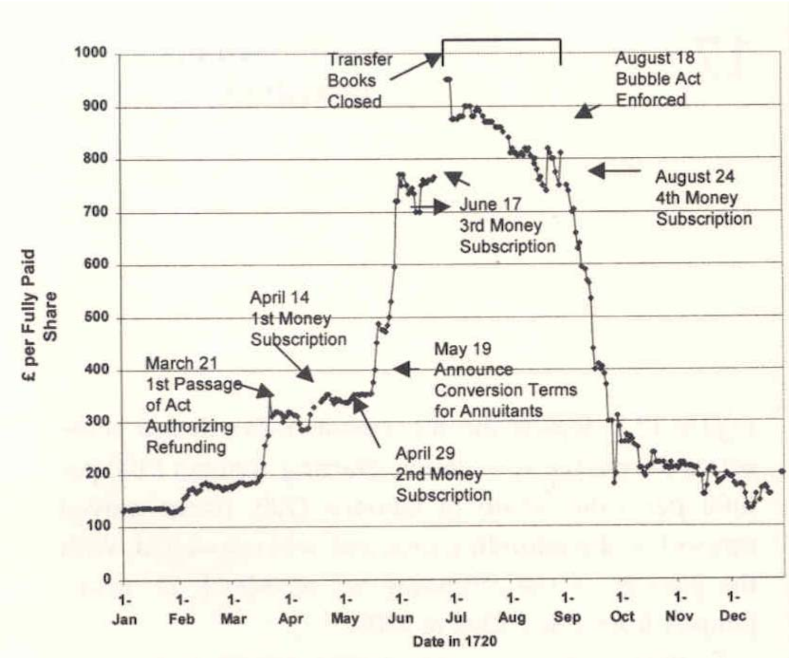

Figure 17.1
Daily South Sea Share Prices, 1720. Data courtesy of Larry Neal.

As can be seen, the company held two money subscription before beginning the debt-equity exchange. Garber and Murphy explain that this was done to

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[35] Dickson, p.101.
[36] It is important to note that the price had often fluctuated below par value before 1720 primarily due to political instability and the depressed value of government securities. See Table 1.
[37] Melville, p. 54.
[38] Garber, p.166.

finance bribes and loans to shareholders.[39] These loans, extremely small required initial down-payments (10-20%) on stock, credit provided by the Sword Blade Bank, planted rumours[40] and direct intervention on Chancery Lane[41] were tools used by the an inner circle of directors[42] to support the share price so as to be able to sell surplus stock. In doing so they effectively set in motion a monetary expansion. This was the only way the £7.5 million pounds owed to the government could be raised. Whilst the constant need to manipulate the share price and pump liquidity into the market[43] seems to provide a rationale for further money subscriptions, Larry Neal actually argues that the third subscription can be interpreted as an effort to limit participation[44].

Dickinson has dissected the price developments and identified three important upward trends (taking place in late March, late May and June) which he describes in some detail. The first, he explains was due to investors moving from Paris to London, the second to increased involvement of Dutch investors and the beginning of loans by directors of the company on the security of South Sea stock, and the third to a colossal increase in loans on stock, on subscription receipts and even on subscriptions made verbally.[45]

In late summer the system crumbled and parliamentary and royal support were withdrawn. On the 24th of September the Sword Blade Bank failed marking a definitive end to the bubble. The South Sea Company's downfall was correlated to the Bubble Act passed in June, ironically at its own behest, to suppress rival ventures born out of the speculative mood by forbidding joint-stock companies to digress into activities outside of those authorised by their charters (if they had charters). Since South Sea share prices were intimately connected to those of other stock and even land and since stock was generally

[39] Garber, p. 115 and Murphy, p.163.
[40] For example that Gibraltar would be returned to Spain in exchange for trading posts.
[41] Melville, p. 69.
[42] Dickson (p.119) has confirmed the idea of an inner ring: "It seems clear, therefore, both that these was an inner ring of directors, and that several others were 'innocent' as Anderson claimed"
[43] Carswell uses the metaphor of a "financial pump" that created a loan-stock cycle.
[44] Neal, p. 111.
[45] Dickson, p. 91-92.

held on a margin, this regulatory measure caused general selling on the market. (Not just of shares of the targeted companies but also those of the South Sea company).[46] In addition similar speculative ventures were ending in other financial centres (Paris and later Amsterdam). Most economists, including Garber, seem to agree that a liquidity crisis, caused by these international and domestic events[47], brought down the shares. The liquidity-pump had broken down. On the 24th of September the Sword Blade Company failed marking the final collapse of the venture.

Shareholders, especially late-entrants, faced huge losses. "*Persons in all ranks of society were left penniless. The Duke of Portland had to sue for the Governorship of a distant colony, and held himself fortunate when his request was granted…thousands of humble homes were ruined*"[48]. Anger followed.

[46] Speculation had moved from South Sea shares into other ventures. Owners often also held shares of rival companies. As their holdings in the latter lost their value they would have had to sell South Sea shares, particularly if they were highly indebted.
[47] Neal, *Financial Capitalism*, p.109 adds that the third subscription priced at a dizzy £1000 was a mistake as it sucked £5 million out of an already extended market faster than it could be injected through loans. This can be seen as an early cause of the liquidity crunch.
[48] Melville, p.vii.

3 A Selection of Explanations

3.1 *"South-Sea at best a mighty Bubble"*

The classification "bubble" was attached to the South Sea Company by financially bruised investors including Jonathan Swift. This word acquired, since the Middle Ages when it originated, a pejorative slant and a sense of un-sustainability making it appropriate vocabulary for victims. Even before the scheme had collapsed, onlookers (most notably Sir Robert Walpole) had had premonitions of what was to come (which like those of Cassandra were largely ignored). Indeed, in April the Weekly Journal had actually included a detailed calculation of the losses to which the scheme would lead.[49]

Post bubble, explanations were sought; many of which still prevail. These were also intended as warnings. Illustrative of this is a book published in 1825 to avert a similar disaster which the author felt was imminent: "*The same destroying spirit is again unfortunately abroad, and the same melancholy consequences will as inevitably ensue, if the nation, which it is to be hoped only slumbers, be not aroused to an immediate sense of the perils that surround it*"[50]. This text, like many others, contains extensive use of phrases like "madness", "delusion", "folly and rapaciousness of individuals" underlining the irrationality of investor behaviour. Moreover, it expresses the idea that "*all other professions and employments were utterly neglected; and the people's attention wholly engrossed by this and other chimerical schemes, which subsequently obtained the appropriate name of bubbles*"[51]. Hogarth's print, designed a hundred years earlier, reflects the same idea showing trade starving whilst investors indulge in ludicrous activities.

Behaviour of this kind is labelled "euphoria" by Galbraith. This, he considers, forms an integral part of speculative episodes in general causing a "*mass*

[49] Dickson, p. 101.
[50] ***The South Sea Bubble and the Numerous Fraudulent Projects, p.3.***
[51] ***The South Sea Bubble and the Numerous Fraudulent Projects, p 15..***

escape from reality, that excludes any serious contemplation of the true nature of what is taking place."[52] In his belief all the "*predictable features of the financial aberration*" were on view during the South Sea episode:

- *large leverage turning on the small interest payments by the Treasury on the public debt taken over*
- *Individuals dangerously captured in their belief in their own financial acumen and intelligence and conveyed this error to others*
- *investment opportunities rich in imagined prospects but negative in any calm view of the reality*
- *something seemingly exciting and innovative captured the public imagination*

"And as the operative force, dutifully neglected, there was the mass escape from sanity by people in pursuit of profit".[53]

Thus Galbraith's interpretation, like those of bubble contemporaries, focuses on the irrational behaviour of investors. His emphasis is on mob psychology and his interpretation contains many aspects herd behaviour theory. Yet his analysis is compromised since he makes the mistake of quoting a rather misleading passage of Charles MaKay's well-known and yet rather sketchy account of "The Madness of Crowds":

> *"(*in autumn 1720) *public meetings were held in every considerable town of the empire, at which petitions were adopted, praying the vengeance of the legislature upon the South Sea directors, who by their fraudulent practices, had brought the nation to the brink of ruin. Nobody seemed to imagine that the nation itself was as culpable as the South Sea Company. Nobody blamed the credulity and avarice of the people – the degrading lust of gain… or the infatuations which had made the multitude run their heads with such frantic eagerness into the net held out for them by scheming projectors. These things were never mentioned.*"

[52] Galbraith, ,Kenneth, ***A Short History of Financial Euphoria***. NY: Whittle Books, 1990. p.13.
[53] Galbraith, pp. 51-52.

Silke Stratmann, whose study focuses on Bubble literature, shoots this argument down and reprimands Galbraith: "*The literary sources give a completely different testimony, but even 150 years later* (after MaKay), *the renowned economist Galbraith still subscribed to this diagnosis because it fit only too well into his theory of speculative waves"*.[54] Indeed, this inaccuracy does some damage to the theory of the "brevity of financial memory" he is trying to derive from the passage by commenting "*nor in the aftermath of modern speculation are they ever mentioned, as will amply be evident*"[55].

3.2 The swindle

The above cited MaKay passage, though exaggerated, still gives us an impression of degree of anger directed against the South Sea Company. Directors were attacked both graphically (for example this satire of Robert Knight the cashier) and physically (an attempt was made on the life of John Blunt). As the House of Commons Secret Committee revealed the extent of the scam, tremors ran through the political system. The public was made aware of the fictitious stock that had been distributed to the Earl of Sunderland, Mr Craggs senior, Mr Secretary Craggs, Mr, Aislabie, the Duchess of Kendal, the Countess of Platen and her 2 nieces. Exposed politicians were disgraced or imprisoned. Some committed suicide. The fortunes of company directors were confiscated. Even more spectacularly, since bribe recipients included the royal mistresses, the foundations upon which the Hanoverian dynasty stood rocked. Melville underlines the seriousness of the matter: "*the indignation was so deep that if the Pretender had, as Atterbury wished, landed again in England, it is not beyond the bounds of possibility that the Stuart dynasty might have been restored.*"[56]

[54] Stratmann, Silke, ***"South Sea's at best a mighty Bubble". The literalistation of a national trauma*** . Trier: Wissenschaftlicher Verlag, 1996.p.4.
[55] Galbraith, p.52.
[56] Melville, p.ix.

It is no surprise, therefore, that corruption and fraud should feature in most accounts of the venture. One of the most expert commentators was John Law who had engineered the Mississippi on which the South Sea venture was loosely modelled. The Scottish financial pioneer apparently considered the "*projectors to be great bunglers*"[57]. Kindleberger points out that whilst "the Mississippi bubble was not a swindle; the South Sea bubble was" the insiders deliberately making profits on stock issued to themselves against loans secured by the sock itself (i.e. for free) which they then converted into real estate.[58] In fact he seems to suggest that it was a super-swindle: "*In order to pay out profits, the South Sea company needed both to raise more capital and to have the price of its stock moving continuously upward. And it needed both increases at an accelerating rate, as in a chain letter or a Ponzi scheme*.[59]"

Garber doesn't necessarily disagree with this view. He suggests that in a financial venture *"the original investor (falsely claiming high profitability of the venture) might use some of the proceeds from the stock to pay high dividends to the early investors. This would provide evidence of the great prospects of the venture to new investors. Of course this twist in the original bubble is known as a Ponzi scheme.* However, these two economists draw vastly different conclusions from the same analysis. This is but a symptom of the ongoing debate - between those who believe market are always rational and efficient, resting on fundamentals and historians who call attention to numerous financial crises throughout modernity – previously alluded to. Over the next three chapters it will be shown how these two lines of reasoning as well as Larry Neal's compromise-argument have been used to unravel the South Sea scheme.

[57] Melville p. 64 quotes a letter from Dr. William Stratford (chaplain to *Rob Harley later Earl of Oxford* and then Canon of Christ Church Oxford) to Edward Harley Oct 9 1722 "He spent the evening with me (1721). I put him upon the talking of his own affairs, and he entered into them very readily. He seemed to take it as a great reflection on him, as he well might, that anyone should think our South Sea scheme to have been modelled on the plan of his Mississippi. I perceive he takes our projectors to be great bunglers".
[58] Kindleberger, *Manias, Panics and Crashes*, p.71.
[59] Kindleberger, *Manias, Panics and Crashes*, p.71. Here Kindleberger gives Hyman Minsky's definition of Ponzi finance: "a type of financial activity engaged in when interest charges of a business unit exceed cash flows from operations."

3.3 Irrational bubbles

Charles Kindleberger staunchly defends his view that the South Sea Bubble involved both irrationality and the market being temporarily inefficient. He uses Hyman Minsky's financial instability model to show how financial crises can come about:

> "*The macroeconomic system receives some shock - called by Hyman Minsky.. - a 'displacement'(1982). This displacement can be monetary or real. What is significant is that it changes expectations in financial markets with respect to the profitability of some range of investments. New profit opportunities are opened up, and people move to take advantage of them. Each individual so moving may be rational, but it can happen, and historically has happened, that the sum total of all the people reacting to the opportunity is excessive. In the course of undertaking new investment, credit is extended. This stimulates business, and credit is extended further. At some point the displacement may lead to business euphoria, to speculation, and to more pervasive credit expansion"…*
> *…"At some stage in the process it becomes clear to a few, and then to more, that the fallacy on composition is at work- that the whole is rather less than the sum of the parts, that credit positions are extended beyond some limit sustainable in the long run, and that the maintenance of capital gains depend on getting out of assets rising in price ahead of others…. More and more speculators seek to get out of whatever was the object of speculation, to reduce their distended liabilities, and switch into money; and more and more it become clear that not everyone can do so at once. There is a rush, a panic, and a crash"*[60]

If we apply this model to the South Sea Bubble and add in liquidity shocks we can identify the following chain of events:

- the debt conversion venture attracts investors (who may believe that the fund of credit will soon be used profitably),

[60] Kindleberger, *A Financial History of Western Europe*, p.264.

- credit is expanded (Sword Bank loans, payment for stock in instalments)
- "Prices increase, giving rise to new profit opportunities and attracting still further firms and investors. Positive feedback develops, as new investment leads to increases in income that stimulate further investment and further income increases. At this stage we may well get to what Minksy calls 'euphoria'.",[61] (i.e. copycat firms springing up, prices of existing firms and land rise)
- liquidity shocks hit, share prices fall
- "distress" sets in
- there is a "a rush, a panic, and a crash"

Garber and Neal would not necessarily disagree with this sketch of events per se. The element of the model they attack vehemently is the possibility for investors to be acting irrationally. This idea forms a key part of Kindleberger's analysis of Sea Bubble which relies on a more complex analysis of mob psychology than Galbraith's. The following passage can be seen as a distillation of his argument:

> "*In my talks about financial crisis over the last decade, I have polished one line that always gets a nervous laugh: 'There is nothing so disturbing to one's well being and judgement as to see a friend get rich'.* ***When the number of firms and households indulging in these practices grows large, bringing in segments of the population that are normally aloof from such venture, speculation for profit leads away from normal, rational behaviour to what had been described as 'manias' or 'bubbles'****."*[62]

Since this implies that speculation by green investors caused the link between the fundamental and market values of the South Sea Company to break down, Neal has classified Kindleberger's view under the label "irrational bubbles".[63] He himself believes that although a bubble did form it was rational in character i.e. shrewd investors knew what they were doing. He states: "*It*

[61] Kindleberger, *Crashes and Manias*, p.13.
[62] Kindleberger, *Crashes and Manias*, p. 13.
[63] Neal, p. 76.

appears to be a tale less about the perpetual folly of mankind and more about the continual difficulties or the adjustments of financial markets to an array of innovations".[64]

3.4 Rational bubbles

After conducting a series of statistical tests on the South Sea Company price data, Neal came to the following conclusion:

> *"that a rational bubble in SS stock occurred, but only during the period 23 February through 15 June, precisely the period identified by Dickson as the interval when foreign participation was most active."*[65]

By referring specifically to rational bubble Neal buys into a distinction made in modern financial literature between rational and irrational bubbles. This maintains that the appearance of a rational bubble is a sign of a self-fulfilling belief among rational investors (using all the information at their disposal) that an asset's price depends on variables unrelated to market fundamentals. They may recognise that there is a bubble, but as long as share prices are likely to keep rising and a burst is unlikely, they will invest.

Applying this reasoning to the South Sea Bubble, Neal believes that a rational bubble was formed as speculators foreseeing a price rise accepted to buy at above fundamental prices. (Thus rationally gambling that they would not be in the last wave of buyers). The bubble could develop as there were actors with different levels of information: insiders and outsiders and several generations of traders entering the market. When the probability of the price bubble continuing had fallen to unacceptably low levels the bubble ended. He explains the huge price increases which followed the end of the bubble in mid June were actually part of a shift from spot to derivative prices (occasioned as transfer books had closed). The latter prices, he believes contained a massive forward premium reflecting tighter credit conditions. As the time of delivery

[64] Neal, p.90.
[65] Neal, p.77. With similar tests Neal also proves that the various European bubbles of the time were related but not irrational.

approached these prices fell which, in his view explains the sharp decline in share prices.[66]

The main problem with Neal's analysis is that it relies principally on statistical tests the validity of which must be questioned. As Mathias Binswanger has pointed out: "*Numerous bubble tests done since the early 1980s mainly proved one thing: it is a futile attempt to test directly for bubbles because fundamental values are unobservable and, consequently bubbles cannot be distinguished from unobserved fundamentals*[67]*"*. Whilst Binswanger is arguing that tests normally fail to detect unobserved fundamentals, it seems logically possible that tests could also fail to detect an irrational bubble should the model be inaccurate (which is often the case).

3.5 "Bubble theories are the easy way out"[68]

Neal's rational version of events provides a stepping-stone linking bubble and fundamentals interpretations. Theoretically the big difference between the rational bubbles and fundamentals only interpretations should be that in the former prices reflect a bubble component that investors rationally accept whereas in the latter they don't. In reality however, thanks to Garber's loose definition of fundamentals and belief that asymmetric information still allows all investors to make rational decisions, the two theories are actually fairly compatible.

Perhaps, the only incompatibility is due to the name. As has already been mentioned the word "bubble" contains the idea of unsustainably (of the imminent 'pop') and of irrationality. Peter Garber is allergic to all such notions. Bubble theories, he believes, are tautological explanations which only divert attention from real explanations and analysis as they can never be refuted.[69]

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[66] Neal, p.111.
[67] Binswanger, Mathias, *Stock Markets, Speculative Bubbles and Economic Growth. Edward* Elgar: Cheltenham, 1999. p.241.
[68] Garber, p.126.
[69] Garber, p.126.

In his search for explanatory fundamentals he comes to a number of crass conclusions. Since bribery was common at the time Garber presumes that investors could have guessed that carrots were being distributed. Indeed, doling out shares to members of Parliament (who could curb future commercial projects) was potentially financially justified.[70] Moreover, whilst not denying it, Garber brushes aside the importance of fraud and deception of investors. He explains that whilst investors are being duped, they are still acting on the their perception of the market fundamentals they have. Due to asymmetric information they are unaware that they are being conned and thus acting rationally. They could be lucky, as the scheme might just work out, if not they will be furious and perhaps come up with an irrational explanation for their financial accident.[71]

Garber goes as far as suggesting that the huge market value of the company in September of £164 million was justified. He explains the excess of share value over asset value (five or more times net tangible assets) through reference to the massive fund of credit which was being accumulated. This intangible asset could, in his view, conceivably have been used to finance profitable projects at some point in the future. It is worth pointing out that at this stage he is defining fundamentals more narrowly (discounted sum of future income streams) and in doing so effectively refutes rational bubble arguments. Garber's final verdict: "*the episode is readily understandable as a case of speculator's working on the basis of the best economic analysis available and pushing prices along by their changing view of market fundamentals"*[72] quite creative and ignores the idea that rational investors are risk adverse. In short he is stipulating that prices were reasonable reflections of investor expectations of profits that could possibly be generated at an undefined point in the future.

By stretching the term "fundamental factor" Garber has made a valiant attempt at showing that the South Sea Bubble was rational ex ante. The

[70] Garber, p.113.
[71] Garber, p.88-89.
[72] Garber, p.122.

question is whether or not he stretched it too far. In a scathing review of Garber's book Kindleberger writes: "*Garber claims that the world "bubble" lacks clear meaning and that it should be invoked only as a last resort. The same would seem to apply to fundamentals based on hope*."[73] In the same piece he again expresses his doubt that all investors behaved rationally. By quoting Chancellor's *Devil Take the Hindmost: A History of Financial Speculation* he challenges Garber's interpretation:

> "A rational investor is one who seeks to optimise his wealth by offsetting risk with reward and using all publicly available information. **Was the investor who bought South Sea stock at £1,000 behaving rationally?** The answer is no. First, there was sufficient public information to suggest that the share price was seriously overvalued. Second, by entering the bubble at an advanced state the investor faced a poor ratio of risk to reward: he was chasing a small potential gain and risking a larger and more certain loss. Third the 'fundamentals' (i.e., the long-term prospects of the company) did not change significantly in the year.[74]"

Whilst the above cited question would appear to give an irrefutable answer to the question of whether or not speculators buying into South Sea shares at the pinnacle of their zenith were rational, it actually rests on a number of suppositions not universally shared. In fact looking at it closely just proves how circular rationality arguments are. The above argument for example claims shares were overvalued at a certain level (£1,000) which the shareholder knew. Yet, even if they were overvalued (and not as Neal suggests just reflective of future prices in an illiquid market) it is disputable that all investors were aware of this. If the level of publicly available information at the time (however that is measured) implies that investors should have realised that the price was untenable (which Garber disputes),

[73] Kindleberger, Charles P. Review of Peter M. Garber *Famous First Bubbles: The Fundamentals of Early Manias*" Economic History Services, Aug 15, 2000, URL : http://www.eh.net/bookreviews/library/0281.shtml"
[74] Chancellor, Edward, *Devil Take the Hindmost: A History of Financial Speculation* (New York: Farrar, Straus and Giroux, 1999) quoted in Kindleberger's review.

they either acted irrationally (as Chancellor suggests) or rationally (as they expected the bubble to last).

4 Conclusion

As we have just seen, the circularity of arguments, over whether or not the South Sea Bubble was a rational incident compatible with efficient markets, makes it virtually impossible to choose a single correct answer. Finding an interpretation for oneself implies answering the question: "Can prices be driven by anything other than fundamentals?" for which there is no one answer. I personally believe that they can and contend that the South Sea Bubble proves that investors and markets are not always rational. Whilst I have great respect for the neatness of Garber's analysis, it seems futile to rationalise away what can intuitively be perceived so as to be able to fit spectacular and complex financial episodes into the strait-jacket of economic theory. In fact it seems rather more sensible to adapt theory to facts. Furthermore, by choosing definitions (e.g. of rationality and fundamentals) that are all encompassing Garber creates an argument that is watertight – which is exactly the type of argument he was seeking to discredit.

On the other hand, there are also certain generally accepted explanations for the events of 1720 which should not be neglected by placing too much emphasis on the rationality argument. It has been shown that the South Sea Bubble was part of a historical process of modernisation and adjustment of financial markets. This involved discontinuity and meant that both the government and investors had to constantly adapt - a situation very likely to bring about a certain level of confusion as neither had fully developed modern financial mindsets. That the government used companies to help discharge national debt led to the creation of the South Sea company and, nine years later, to the bubble. This company could – given that the political constellation prevented it from trading in the manner originally envisaged, i.e. in the South Seas - in the short term do little more than transform pre-existing debt into shares which when fundamentally valued had to be worth less than the shareholders' input. As such it was at the mercy of the government.

Probably due to political infighting, its patron did the company a bad turn by charging an excessive price for the right to convert privately held national debt. Unsurprisingly, this lead a small group of ring-leading directors - intent on expanding the company for their own benefit (agency theory)– to resort to trickery. It was bribes and the lack of financial regulation and of proper financial valuation tools made it possible for planted rumours and secret price support operations to work effectively for a while. Shareholders whose paper fortunes went up in flames had every right to be incensed, they had simply not understood. Judging from anecdotal evidence and the fact that losers came from all social classes, it is probably fair to conclude that most investors were largely unaware of the machinations behind the scheme. Post bubble they furiously searched for scapegoats rather than realising that they themselves, and specifically their ignorance, was primarily to be blamed. In fact, even the connivers may have been insensitive of the monster they were creating. Only few, including foreign investors, were able to invest wisely and jump off the bandwagon in good time.

4.1 Do we learn from history?

The question that remains is whether or not the incident taught financial market a lesson and helped them avoid similar catastrophes. Sadly, the answer appears to be no, confirming Galbraith's suspicion that financial memories are brief so that "past experience, to the extent that it is a part of memory at all, is dismissed as the primitive refuge of those who do not have the insight to appreciate the incredible wonders of the present"[75]. In point of fact something strikingly similar to the foundation of South Sea Company was repeated less than three years ago when a number of European governments managed to take about one hundred billions of Euros from competing telecoms who all recklessly assumed unsustainable debts in order to position themselves to benefit from an unproven and risky (still not yet introduced) technology, UMTS. These licences turned out to be just as disappointing as trade in the South Sea. Unlike the investors of eighteenth century Britain these corporate investors were able to model future projections using highly sophisticated

[75] Galbraith, p. 13.

financial models which may however have been filled with overly optimistic assumptions. In addition, even if the discounted cash flow numbers did not add up, there was always the overriding argument that being part of the new technology was a matter of long-term vision and strategy. Furthermore, some national governments appear to have exercised undue influence over telecoms in which they still held controlling stakes. There was a tremendous attraction to generating a windfall into the national coffers at a time of EU pressure for balanced budgets and dealing with half-privatised telecoms therefore had to be done not quite at arm's length. Should the debt turn out to be unsustainable, at the prevailing exaggerated share price new shares could, so it seemed at the time, be offered to new investors who regretted not having jumped onto the bandwagon several years earlier. An inflated share price was not just a matter of corporate ego but also gave management a readily employed "currency" for further acquisitions of subsidiaries or licences.

These companies made the same mistake as the one committed by the South Sea Company in 1720 – they paid the government too money for privileges of uncertain value. The successful contenders at auction scored Phyrric victories. Furthermore, prices behaved in a relatively similar fashion indicating that the market did not realise the excess until it was too late. Does this graph of the share price of Deutsche Telekom from the date of its IPO to the present not look familiar? The present price is lower than that at the time of the 1996 IPO, at the peak a 500% increase of price over that at the time of IPO had briefly been achieved.

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Table 1. Pre-1720 Share Prices

Autumn of 1711	76
End of 1713	94 ½
Beginning of 1714 (Queen Anne dieing)	85
After the Rebellion of 1715	106
Christmas 1719 (New project rumoured)	126

Source: Melville, p.33.