Berkeley on economic bubbles

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Introduction

'The search is on for whom to blame for the global economic crisis. It is not just a matter of vindictiveness; it is important to know who or what caused the crisis if one is to figure out how to prevent another, or perhaps even to fix this one.' So writes Nobel Prize-winning economist Joseph Stiglitz.[1] His answer to the question 'Who is to blame?' is a combination of deregulated financial markets and corrupt greedy bankers. According to Stiglitz, without regulation on the types of investments that banks can make, bubbles – or the unsustainable pricing of assets above fundamental market value – are inevitable because of the greed of bankers, investors, credit-rating agencies, mortgage brokers, homeowners and homebuyers, regulators, politicians and even economists.[2] Stiglitz's call for an accounting of, and answers to, the most recent bubble ring oddly with the echoes of previous calls and similar diagnoses. The Dutch tulip bubble of 1637 precipitated calls for the government regulation of asset trade and laments about the decay of the moral fibre of society,[3] as did the South Sea bubble of the early eighteenth century. George Berkeley raised one of many voices decrying the lack of morals and attributing the blame to greed and depravity when the South Sea bubble hit in 1720-1721.

It makes sense that the dramatic boom and bust of an asset bubble would engender both calls for more regulation of

1. Joseph Stiglitz, 'The anatomy of a murder: who killed America's economy?', *Critical review* 21:2-3 (2009), p.329-39.
2. Stiglitz, 'The anatomy of a murder', p.332-33.
3. See, e.g., C. van der Woude, 'A pamphlet about the Dutch tulipomania' (1637), accessed from http://library.wur.nl/speccol/pamphlet.html on 19 November 2014.

particular markets and lamentations about the moral character of the individual participants in the market. At first glance, bubbles seem simply irrational. In fact, many theories of economic behaviour do not even allow for the presence of asset bubbles.[4] Rational expectations by individual investors should lead to the immediate correction of any price that is too high or too low – and this tendency should intensify as the price distortion increases. Yet, in bubbles, higher-than-rational prices (i.e. prices seriously misaligned with the value of the asset) only spur investors to further odd behaviour as the phenomenon of higher prices leads many to believe that other investors will pay yet higher prices. The inevitable end of this euphoric process is a sudden drop in the price of the asset as individuals no longer believe that the price will continue to rise. As those who only purchased the asset because they thought the price would go up realise this, they sell, leaving more people who do not believe in the long-run profitability of the prospect of holding assets that are losing value. They then attempt to sell. The result is a reallocation and destruction of resources as well as an increase in insecurity. The assets that can be affected range from shares of stock (as in the South Sea Company) to the family home.

What could drive people to continue to buy and bid up prices when to even the casual observer the looming disaster is so obvious? This seeming deviation from rational behaviour with devastating results leads spectators to decry the intelligence, moral values and even sanity of investors. Indeed, if bubbles are caused by stupidity, greed and insanity, then it makes some sense for government to attempt to intervene to stop them. Bubbles, however, are not caused by moral decay or lapses of sanity – in any meaningful sense of the word 'caused'. Greed, sloth and other moral defects are not even a necessary condition for the appearance of bubbles. Only the desire for profit maximisation is required – the same impulse needed for efficient resource allocation.

4. See Jean Tirole, 'On the possibility of speculation under rational expectations', *Econometrica* 50:5 (1982), p.1163-81; and J. Bradford De Long, Andrei Shleifer, Lawrence H. Summers and Robert J. Waldmann, 'Positive feedback investment strategies and destabilizing rational speculation', *Journal of finance* 45:2 (1990), p.379-95.

Here I argue that the mistaken belief that economic bubbles are caused by 'moral decay' (such as greed and the desire for something from nothing) has a venerable history extending as far back as George Berkeley, who provided a diagnosis for the South Sea bubble in England. This article will focus on Berkeley's analysis as an exemplar of the long history of this sort of theory. Furthermore, on the basis of this analysis I suggest that such 'moral decay' theories generate policy prescriptions that not only fail to stop bubbles but in fact might work to hasten them or deepen their severity. In short, policies that seek to control and regulate the particular manifestations of greed in markets are unlikely to succeed since they misdiagnose the underlying causes of bubbles in the first place.

The nature of bubbles

While the use of the term 'bubble' to refer to dramatic increases and subsequent decreases in the prices of assets dates back to the origins of the stock market in eighteenth-century England, there is considerable debate about the phenomenon. According to the classical definition of bubbles, as expressed by Joseph Stiglitz,[5] a bubble is a systematic pricing of an asset that is higher than the fundamental market value. That is, a bubble exists if an asset is trading for prices higher than what it is worth even to those paying the higher prices.

According to what is known as the 'first fundamental theorem of asset pricing',[6] the price of any risky asset in a market will be equal to the expected future discounted value of the asset. In other words, individuals are willing to pay a price now that equals the expected return on the asset discounted by the opportunity cost of money (the interest rate) and a risk measure. The return on the asset will depend on the marginal product of the capital used in the particular production process where it is being invested. The most important implication of this model for our

5. Joseph Stiglitz, 'Symposium on bubbles', *The Journal of economic perspectives* 4:2 (1990), p.13-18.
6. J. Michael Harrison and David Kreps, 'Martingales and arbitrage in multiperiod security markets', *Journal of economic theory* 20:3 (1979), p.381-408.

purposes is that asset bubbles cannot exist if individuals are rational because a bubble requires some individuals to be willing to pay more than the expected present discounted value of an asset.[7]

Given the basic intuition behind this model – that a rational investor will not participate in an asset bubble – it is not surprising that, when these phenomena do arise, or appear to arise, the explanations tend towards a-rational or irrational models of human behaviour. When, in the seventeenth century, the prices of Dutch tulip bulbs began to rise dramatically in response to increased demand generated by a French fashion trend whereby women would attach tulips to their ballgowns, the response was to blame the rising prices on a feverish insanity of traders and calls for a government ban of the bulbs.[8]

Similar explanations accompanied the English South Sea bubble of the eighteenth century, the American stock-market bubble of the late 1920s that precipitated the Great Depression, the Asian real-estate bubble in the late-twentieth century and of course the American real-estate bubble that culminated in the financial crisis of the first decade of the twenty-first century. What all these explanations have in common is that some human weakness for greed and sloth overwhelmed the rational faculties of human beings, causing them to over-invest in what was clearly an unsustainable trend. The popularity of this kind of explanation has deep roots, as evinced in particular in analyses of the South Sea Company.

The South Sea Company

In January 1720, the South Sea Company was formed and traded shares for the first time. The only notable asset of the company was a precarious trade monopoly with a few ports in the Spanish colonies in South America. Modelled on John Law's Compagnie d'Occident founded in 1717 to take over the French government's

7. See Tirole, 'On the possibility of speculation', and De Long, 'Positive feedback investment strategies'.
8. Colin Camerer, 'Bubbles and fads in asset prices: a review of theory and evidence', *Journal of economic surveys* 3 (1989), p.3-41 (6).

monopolies in the New World on animal pelts, the South Sea Company sought to finance trade ventures by acquiring government debt in exchange for shares. This generated revenue in the form of payments from the government (interest on the debt held by the company) and provided capital that was to be leveraged for the company's various enterprises. As the company held government debt – as reliable a form of credit as one was likely to have in the eighteenth century – and as it was curiously supported by all manner of royal and governmental notables, the company's apparent potential for profit was high.

When shares were first released in January 1720, they sold for £120 per share. Through successive and widely publicised releases of additional shares, the price quickly rose to over £1000 per share by June. By October, however, the bubble had burst and shares were trading around £290. The decline in prices coincided with Parliament's passage of the Bubble Act in June 1720. The act was designed to cripple the competitors of the South Sea Company, but resulted in a wave of sell-offs that included South Sea shares. The frenzy of trading was mostly over by October. Fortunes had been made – but mostly lost.

In the same year as the famous South Sea bubble, the Irish philosopher and Anglican divine George Berkeley authored a tract, 'An essay towards preventing the ruin of Great Britain', that diagnosed the trouble. Economic bubbles and their resultant widespread economic damage and dislocation are the result of the impoverishment of public morals, the subjugation of public good to private interest, and the replacement of productive labour with greed, sloth and gaming.

> Whether the prosperity that preceded, or the calamities that succeed, the South Sea project have most contributed to our undoing is not so clear a point as it is that we are actually undone, and lost to all sense of our true interest. Nothing less than this could render it pardonable to have recourse to those old-fashioned trite maxims concerning religion, industry, frugality, and public spirit which are now forgotten, but, if revived and put in practice, may not only prevent our final ruin, but also render us a more happy and flourishing people than ever.[9]

9. Berkeley, 'An essay towards preventing the ruin of Great Britain' (henceforward 'EPR'), in *The Works of George Berkeley, bishop of Cloyne* (henceforward

From his essay, one can reconstruct Berkeley's analysis of the forces involved in bubbles and also his prescription for wealth and public well-being. What emerges is what I call the 'theory of moral decay'. Greed, sloth and other moral vices are the causes of economic bubbles and the damage wrought by them.

Berkeley was perhaps fortunate in that he did not buy South Sea stock in that tumultuous year of 1720. At any rate, none of his surviving correspondence suggests he owned stock during the bubble or had any personal concerns about the affair. He did, however, later own shares as a result of his administering the estate of Hester Van Homrigh. He estimated the value of the stocks newly acquired in the summer of 1725 at approximately £880.[10] He would continue to own shares for many years, and several letters are extant between Berkeley and his friend John Percival, later earl of Egmont, that detail transactions concerning the shares, especially while Percival acted as an agent for Berkeley while the latter was in the American colonies. The point is that Berkeley, at least during the bubble itself, was an observer who had no personal stake beyond his interest in promoting the well-being of his fellow countrymen.

Berkeley's diagnosis

Berkeley starts with a well-worn truism: wealth and public well-being are dependent on productive labour. In the 'Essay' he writes, 'Industry is the natural sure way to wealth' ('EPR', p.71). The implication is that wealth creation that does not involve 'productive labour' is somehow suspect, on both economic and moral grounds. The rival, where wealth is created in other ways, Berkeley calls 'gaming'. Thus not all forms of trade are necessarily good, since according to Berkeley some forms of trade are not genuinely wealth producing at all.

Non-productive labour, in addition to not genuinely being wealth producing, has an additional downside: it is corrosive to

Works), ed. A. A. Luce and T. E. Jessop, 9 vols (Edinburgh and London, 1948-1957), vol.6, p.61-85 (p.69, from the 1752 *Miscellany* edition).

10. Berkeley, 'Berkeley to Prior, 20 July 1725 (Letter 131)', in *The Correspondence of George Berkeley*, ed. Marc Hight (Cambridge, 2013), p.201-203.

the well-being of both individuals and the general public. In other words, non-productive labour is at bottom not a rational course to pursue. Wealth acquisition without productive labour (examples would be get-rich schemes, stockbroking and the like) is the equivalent of gaming. '[B]ut money or credit circulating through a nation from hand to hand without producing labour and industry in the inhabitants is direct gaming' ('EPR', p.71). The insinuation is that anything other than productive labour is at best zero sum: it is the equivalent of gaming, like playing poker.

In general, however, Berkeley's main target is greed. Pursuing wealth even via productive trade is all well and good, provided that its pursuit is appropriate. 'Frugality of manners is the nourishment and strength of bodies politic. It is that by which they grow and subsist, until they are corrupted by luxury, the natural cause of their decay and ruin' ('EPR', p.74). Labouring to provide for a lifestyle that is frugal is one thing, but labouring to acquire wealth for the pursuit of luxury is quite another. And thus Berkeley invokes a distinction when it comes to wealth ('EPR', p.74-75).

> Men are apt to measure national prosperity by riches. It would be righter to measure it by use that is made of them. Where they promote an honest commerce among men, and are motives to industry and virtue, they are, without doubt, of great advantage; but where they are made (as too often happens) an instrument to luxury, they enervate and dispirit the bravest people.

Just what Berkeley means is made clear elsewhere in the essay, where he parades a number of examples. He opposes the wearing of ostentatious gold and silver jewellery for instance ('EPR', p.74-75). Sending one's hard-earned wages abroad to import the raw materials to build industry is one thing, doing so to import baubles to wear around your neck for vanity is quite another. It is rather like buying that tenth sports car just to be able to demonstrate to others your wealth and social standing. Berkeley even explicitly endorses sumptuary laws (laws designed to control expenditure or extravagance, typically through luxury or 'sin' taxes), calling them 'necessary' ('EPR', p.76-77).[11] We should,

11. See also *The Querist*, in *Works*, vol.6, p.88-181 (p.106, no.13 and Luce's footnote there).

advised Berkeley, follow the example of Cardinal Richelieu, who used the extravagance of the nobles to indebt the nobility to the crown in France. Greed, and the luxuries that follow upon it, put a people on the path to ruin ('EPR', p.77):

> We cannot but know that, in our present circumstances, it should be our care, as it is our interest, to make poverty tolerable; in short, we have the experience of many ages to convince us that a corrupt luxurious people must of themselves fall into slavery, although no attempt be made upon them. These and the like obvious reflexions should, one would think, have forced any people in their senses upon frugal measures.

One should not think, however, that 'making poverty tolerable' means that Berkeley wished people to be destitute. He wanted people to be frugal and avoid seeking luxury. It is avarice that lies at the root of the problem.

According to Berkeley, the South Sea Company represented an opportunity to make money without engaging in any actual productive labour. Instead of engaging in hard work to produce wealth, people saw what they perceived to be an opportunity to get rich easily. There is nothing wrong (even in Berkeley's eyes) with the desire to acquire wealth; there is, however, something wrong with avarice. Greed differs from the desire to acquire wealth in that the greedy seek their profit without interest in performing productive labour and without any concern for whether the potential gains are appropriate. Greed is acquisition for acquisition's sake for the benefit of the individual. Such claims have endured since the eighteenth century almost without alteration. Thus Stiglitz writes of the housing bubble that deregulatory economic theories 'made the bankers believe that in pursuing their self-interest, they were, in fact, advancing the well-being of society'.[12] The belief that unfettered private acquisition uniformly produces larger social benefits is a key component in the crisis. As with lending institutions like Freddie Mac and Fannie Mae, the South Sea Company was essentially backed by the government; as a result the perceived risk in buying the stock was low. Yet, because no one stopped to actually think about

12. Stiglitz, 'The anatomy of a murder', p.334.

either the ends or the means, moral corruption and disaster were sure to follow.

So how might one solve this human dilemma? For starters, Berkeley is quite clear that private measures cannot correct the problem, since it is human nature to imitate the corrupt and envy the rich ('EPR', p.77):

> But we are doomed to be undone. Neither the plain reason of the thing, nor the experience of past ages, nor the examples we have before our eyes, can restrain us from imitating, not to say surpassing, the most corrupt and ruined people, in those very points of luxury that ruined them. Our gaming, our operas, our masquerades, are, in spite of our debts and poverty, become the wonder of our neighbours.

As a result, simply exhorting private citizens to be less greedy and more conscientious about their manner of living will change nothing. In the early eighteenth century, masquerades, having been imported from the continent, were all the rage in elite society. Ever more extravagant parties were thrown and the reputed debauchery at these parties became so infamous that Edmund Gibson, the bishop of London, even introduced a bill banning public masquerades in England. Berkeley shared these sentiments and despaired of reforming people individually. Similarly, it is unlikely that in a free market individuals will not seek to maximise their own gain. If offered a low-interest loan and given the opportunity to acquire a house formerly denied to them with an expectation that the value of that asset will not decline, most people will buy. Furthermore, they will do so without stopping to consider whether they are a part of a larger social movement that constitutes a moral hazard.

The solution, according to Berkeley, lay in promoting public spirit through judicious governmental intervention. This could be accomplished in three principal ways. First, the government should promote a true sense of religion (by supporting the Anglican Church in particular). Second, public works that lift the spirit and sense of nation should be undertaken. Such endeavours would include the building of arches, statues and fountains to celebrate Britain. Glorious public buildings should be erected to give people a sense that what matters is the public good

and not private interest. Finally, laws should be passed to direct the attention of the people to the public interest over their private concerns. Such would include stringent anti-bribery laws (a clear reference to the gross and wanton briberies that occurred during the South Sea scandal; see 'EPR', p.83), prohibitions on stockbroking and other forms of gaming, and the passage of sumptuary laws ('EPR', p.84):

> The South-Sea affair, how sensible soever, is not the original evil, or the great source of our misfortunes; it is but the natural effect of those principles which for many years have been propagated with great industry; and as a sharp distemper, by reclaiming a man from intemperance, may prolong his life, so it is not impossible but this public calamity that lies so heavy on the nation may prevent its ruin. It would certainly prove the greatest of blessings if it should make all honest men of one party; if it should put religion and virtue in countenance, restore a sense of public spirit, and convince men it is a dangerous folly to pursue private aims in opposition to the good of their country; if it should turn our thoughts from cozenage [i.e. trickery, cheating] and stock-jobbing to industry and frugal methods of life; in fine, if it should revive and inflame that native spark of British worth and honour which hath too long lain smothered and oppressed.

In a similar analysis, Berkeley later argued in *The Querist* that the solution to Ireland's poverty was to address the root cause: the natural sloth and vice of the poor. The cure for Ireland was to have the government and other charities give food and basic subsistence to the Irish poor in order to give them an incentive to overcome their natural sloth. The basic idea makes some sense. The masses of Ireland are slothful and poor because they prefer a life of miserable idleness to a life where they work but are only marginally less miserable. Give the poor (perhaps just one time) charity and, as a result, the incentive to engage in productive labour will work its magic on its own. Consistent with his own pronouncements, Berkeley later attempted when he was bishop of Cloyne to do exactly this by spending his time and money developing local industries for the people in southern Ireland.

Contemporary analyses of the South Sea bubble

A number of recent scholars of economic history have adopted the claim that the South Sea bubble is a prime example of irrational investor behaviour. 'The South Sea Bubble has a pivotal role in this debate [concerning investor rationality] because it represents the extremity of investor conduct. If there ever was an example of manic herd behavior this was surely it.'[13] Even more tepid historical accounts cannot resist taking a jab at the greed and alleged irrationality displayed. 'The story of the events of 1720 holds more than just the elements of greed and pathos. It was, to those on the edges of the affair, so ridiculous that it inspired a generation of satirists to make fun of the human condition.'[14] I do not dispute that many investors were inspired by wanton avarice in the South Sea affair, yet noting that there was greed does not obviously imply that the greed was responsible for the bubble.

Richard Dale argues that the South Sea bubble was the result of fundamental investor irrationality: 'The new data provides conclusive evidence that in 1720 investors did not conform to the rational model favoured by many financial economists.'[15] The analysis is important, since Dale generalises the point. '[T]his study treats the Bubble, not as a self-standing episode in English financial history, but as one, admittedly extreme, example of the way in which investment markets may behave anywhere, at any time.'[16] The stakes are fairly clear. If Dale and others are correct and investor behaviour is fundamentally non-rational, then market prices will not reflect fair value, contrary to efficient market theory. That, in turn, provides a rationale for regulation: 'Macroeconomic policy makers may need to intervene, if only by "leaning against the wind", since bubbles, when they unwind, can lead to economic dislocation, lost output, and amplified business fluctuations.'[17]

13. Richard Dale, *The First crash: lessons from the South Sea bubble* (Princeton, NJ, 2004), p.1.
14. Malcolm Balen, *The King, the crook, and the gambler* (London, 2002), p.10.
15. Dale, *The First crash*, p.2.
16. Dale, *The First crash*, p.2.
17. Dale, *The First crash*, p.3.

Yet what does it mean to say that an individual is acting irrationally? It is one thing to use pejorative language such as investors acting 'feverishly', but quite another to establish that such behaviour is not rational. The examples that Dale consistently invokes as irrational are predominantly cases of greed or moral defect. For instance, when the South Sea Company opened a fourth money subscription in August 1720 (at a price of £1000), it oversold. 'The success of this issue again points to irrational investment behaviour.'[18] Similar analyses claim that the problem was investor irrationality brought on by greed. In 1852 Charles Mackay is quite explicit in his *Memoirs of extraordinary popular delusions and the madness of crowds*:

> During the progress of this famous bubble, England presented a singular spectacle. The public mind was in a state of unwholesome fermentation. Men were no longer satisfied with the slow but sure profits of cautious industry. The hope of boundless wealth for the morrow made them heedless and extravagant for to-day. A luxury, till then unheard of, was introduced, bringing in its train a corresponding laxity of morals. The overbearing insolence of ignorant men, who had arisen to sudden wealth by successful gambling, made men of true gentility of mind and manners blush that gold should have power to raise the unworthy in the scale of society. The haughtiness of some of these 'cyphering cits,' as they were termed by Sir Richard Steele, was remembered against them in the day of their adversity.[19]

The picture that both Dale and Mackay paint is one of greed blinding reason. The cause of the South Sea bubble was pure human greed and its attendant irrationality.

Assessing the theory of moral decay

Although they present an initially compelling picture, and, as we have seen, a picture that continues to echo down through history, are Berkeley, Mackay, Dale and others actually right that it is greed, avarice and gaming that is responsible for the misery that

18. Dale, *The First crash*, p.120.
19. Charles Mackay, *Memoirs of extraordinary popular delusions and the madness of crowds* (1841; New York, 2004), p.58.

attends economic bubbles? Does greed drive people to irrational behaviour? In short, is the theory of moral decay correct? With the advantage of hindsight and more historical data, there is good reason to think that Berkeley was simply wrong. Perhaps more importantly, he was wrong in precisely the same way as contemporary advocates of the theory of moral decay are wrong about the twenty-first-century housing bubble.

The problem with Berkeley's analysis is strikingly simple. There is excellent reason to believe that, even had people behaved in 'moral' ways of which Berkeley and others would have approved, bubbles like the one that occurred with the South Sea Company stock would still have occurred. I maintain that, if a reasonable case can be made that the bubble occurred independently of the greedy and gaming behaviour of individuals, then the theory of moral decay is simply not explanatory.

It is instructive to see how the South Sea bubble did not require moral defect to occur. I note at the outset that I am not saying that greed and similar motives are not involved in the production of bubbles; rather, I am noting that they are neither sufficient nor necessary. Well-intentioned, rational investors can produce asset bubbles as well. The basic idea is simple: bubbles occur based on what investors expect others will believe, not on the actual ('fundamental') valuation of the asset. Thus, if I believe that an asset is over-priced and wish to maximise my profit, and if I also believe that others think the price will rise, then I should buy more of the asset in order to realise a profit as the price continues to rise. I might do so out of greed, but I might also do so in order to realise profits that support a charity. The motivation for the behaviour is not actually key to the phenomenon.

Consider the housing bubble in the United States. It would be odd, I submit, to argue that everyone who bought homes did so simply out of unvarnished greed. People took out ill-advised loans with short-term balloons (loans where the interest rates rise or can rise after a fixed initial period) on the expectation that they would be able to sell the house before the balloon took effect and make a profit. Everyone appears to benefit. The buyers get a nice home for several years that accumulates value, the loan companies make a premium on their fees, and subsequent buyers can get new advantageous loans to continue the cycle. One might

argue that securing a loan beyond one's financial means is just a disguised form of greed and the point is well taken. But technically that judgement applies to any purchase made on credit where the individual cannot immediately pay the debt. Some big-ticket items are only affordable when a loan is taken and it strikes me as not unreasonable and certainly not greedy for individuals to make purchasing decisions based on expected future income. We do this all the time. So, although one might buy a house with the hope of making a healthy profit, it is also possible that individuals might buy a home with the hope of living in it and paying for it over time. If they believe that the value of the home will rise (or at least not fall), then the risk of taking a large loan for such a purchase is relatively small. That behaviour is neither irrational nor particularly greedy.

With respect to the South Sea Company, we can also find multiple strands of motivation at play. Some of them are unvarnished avarice, but others have a more noble appearance. When Robert Harley formed the South Sea Company in 1711 his stated intent was to relieve the government of a considerable amount of debt it had accumulated. In short, at least in part he was trying to perform a sort of public service. The government offered a group of merchants 6 per cent interest to take the debt. The government levied new taxes to cover the interest and granted Harley and his company a monopoly on trade with Spanish-controlled ports on the east coast of Latin and South America where England was shortly expected to secure trading rights. Everyone knew of the gold and silver mines in the New World. Manufactured goods from England could be shipped to the newly wealthy West and a healthy profit made. Unfortunately, unfettered access to the ports was never actually given by Spain. The English were allowed to trade slaves and send a single ship per year to the ports – provided they paid a tax to the Spanish crown. The first English ship did not actually reach one of the ports until 1717 and shortly thereafter war between England and Spain precluded additional trade.

The South Sea Company, however, remained in the public eye. In 1717 King George put out a call to lower the national debt. The Bank of England and the South Sea Company both advanced proposals in Parliament in May of the same year. The South Sea Company offered to raise its capital to £12 million and lend the

government £2 million at 5 per cent interest (the Bank of England made a similar proposal). Parliament accepted both proposals and passed the South Sea Act accepting the loan from the South Sea Company. As a result, even though the company was making essentially nothing as a trading company, it had secured itself a position as a financial institution. Demand for shares in the company started to rise. At this point, there is nothing particularly nefarious about the venture.

In January 1720 the South Sea Company put forth a proposal to eliminate the entire national debt of England. The company would take on the state debt of nearly £31 million at an interest rate of 5 per cent until 1727. After some political manoeuvring (Robert Walpole led the rival Bank of England's interests) the South Sea Company prevailed and its stock price rose overnight from £130 to £300 per share after provisional approval was given by Parliament. Here we can see rational investor behaviour. On the news of a deal favourable to the company, the demand for the stock rose and thus the price did as well. But now others saw an opportunity. During the two-month journey of the bill through Parliament, interested parties talked up the possibilities of free trade in Spain and the potential for profit. Virtually all of that talk was speculative and some of it was clearly spread with the malicious intent of further inflating the stock price. Nonetheless, as unrealistic as some of those claims were, because the company would hold the state debt, it was widely believed that its assets were stable and relatively risk-free. This perception exerted additional upward pressure on the stock price. The point is that there were several factors involved in pushing up the price of the stock.

To be fair, as reasonable an investment as the South Sea Company might have appeared, other investment opportunities appeared overnight to capitalise on the frenzy of investments, and few of these were legitimate. Some placed adverts for stock issues that asked for only £2 down on a £100 investment (to be collected in a month) for a huge promised return – with absolutely no details or discussion about what the investment was for or how it would turn an alleged profit. The unscrupulous individual sold 1000 shares overnight and then absconded with the £2000 never to be seen again. Charlatans abounded and many people were the victims of fraud. Although there is no

discounting the fact that such events occurred, the presence of such behaviour does not actually demonstrate that investors were being irrational. Rather, it shows poor judgement, a lack of information or most likely both. People, becoming swept up in the excitement of trading stock, fail to carefully consider what they are doing. But the same can be said for people who simply make a mistake and buy a house in a place where, for any number of reasons, the prices of houses start to fall.

There were a number of signals to investors that the risk of investing in the South Sea Company was much lower than one would otherwise be led to believe. Yes, rumours and speculation were rampant, but they gained all the more purchase when married with the knowledge that the company held the national debt. England defaulting on its debts was virtually unthinkable. The typical investor had no way of knowing that the stock issues outstripped the value of the company or when that point was likely to occur. We have therefore two important elements at play: an information asymmetry and a diffusion of risk. Some people did know – Archibald Hutchinson and Robert Walpole both argued that the South Sea scheme was ill-advised and doomed to failure, but their arguments required a bit of savvy to understand and were typically lost amidst the partisan politics of the day. Walpole was associated with the Bank of England – an erstwhile competitor with the South Sea Company – and thus had his claims correspondingly discounted.

I find that it is not unreasonable for rational people to engage in profit-seeking behaviour that directly contributes to the production of an asset bubble. In the case of the South Sea bubble, those underlying factors are obscured by the frenzy of the event. But, as we have seen with the recent housing bubble, one need not be an avaricious charlatan to make a bad decision and purchase a home whose value is falling when one lacks all the relevant information and has the risks associated with the loans pushed off to other claimants.

Conclusion

Berkeley argued that moral decay was the cause of the South Sea bubble. Perhaps more importantly, he urged government

intervention to remedy matters ('EPR', p.69 from the 1721 original edition):

> Since it hath pleased God to visit this land, and make us feel the fatal effects of our corruption and folly, it should be our care to profit by this judgment, and make it an occasion of our reformation rather than of our final ruin. Sure it is, if we had been suffered to go on a few years longer in that full tide of prosperity which hath already so bewitched and debauched the nation, we must have irretrievably undone ourselves, and grown the same vile corrupt slaves with those whose vices and follies we have so eagerly copied. [...] It is therefore heartily to be wished that our legislature would, as they love their country, think of effectual methods for restoring and promoting religion, industry, frugality, and public spirit, which ever were, and ever will be, the only sure foundation of public happiness and prosperity.

But, if my analysis is correct, Berkeley is wrong on both accounts. Moral decay did not cause the South Sea bubble even if it contributed to the phenomenon. Similarly, there is reason to believe that greed and avarice by themselves were not responsible for contemporary bubbles either. And, if that judgement is right, calls for governmental intervention to regulate moral matters today will be just as ineffective and misguided as they were in Berkeley's day.[20]

20. My thanks to Jennifer Dirmeyer for her assistance on this paper.