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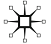

The Man Who Knew: The Life and Times of Alan Greenspan by Sebastian Mallaby

A Policy Wonk's Extended Review

WILLIAM POOLE*

I agree that Sebastian Mallaby's detailed and well-sourced The Man Who Knew: The Life and Times of Alan Greenspan, *will be essential for every future economic historian studying the Greenspan era. That said, Mallaby does not convey to his readers a sound understanding of monetary policy. I disagree with Mallaby's claim that Greenspan could and should have done something about the housing and subprime mortgage bubbles. Peter Wallison makes a strong case that the affordable housing quotas did not just "encourage" but forced the GSEs to buy subprime mortgages. Information available in real time on aggregate subprime mortgage issuance was seriously flawed because the GSEs did not report accurately. Greenspan cannot be held responsible for the GSEs hiding the subprime debt on their balance sheets. These mortgages were central to the crisis. It seems improbable that any monetary policy mistake of 2001–05 was large enough to create the crisis. Mallaby could have written a final chapter emphasizing the Maestro resisting the power of a malign and evil pair of GSEs and the power of the President and Congress of the United States pursuing a disastrous housing policy. Despite the Maestro's best efforts, Leviathan triumphed and brought ruin upon the Nation.*
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I have read many reviews of Sebastian Mallaby's *The Man Who Knew: The Life and Times of Alan Greenspan*, and agree that this biography is an important contribution to understanding our history. The book is an arresting read. Mallaby's detailed and well-sourced account—subject to the amendments in the next paragraph and at the end of this essay—will be essential for every future economic historian studying the Greenspan era. The book contains many delightful anecdotes, delightfully recounted.

That said, Mallaby does not convey to his readers a sound understanding of monetary policy. His sourcing for his conclusions on monetary policy issues is almost nonexistent. That will be one theme of this review. Another is this: Mallaby attempts to convince the reader that Greenspan's libertarian views were out of step with the realities of the modern economy. Exhibit one for Mallaby is the financial crisis itself. In fact, Mallaby is off by 180 degrees. The financial crisis was caused by government and is a complete vindication of Greenspan's libertarian views.

In his final chapter, Mallaby asserts that, "[b]ecause Greenspan dominated monetary policy so completely for almost two decades, his impact on history is best viewed through a monetary lens" (p.

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680, Kindle edition). I agree. Mallaby's final sentence is harsh. "From hero to antihero, from maestro to villain, his story is a fable of the land that made him" (pp. 685–686). I disagree with the "villain" characterization. It arises from Mallaby's claim that Greenspan could have and should have done something about the housing and subprime mortgage bubbles that inflated after 2000. In my review, I will take as correct (unless I know otherwise) the facts asserted by Mallaby and by others to whom I will refer; my approach will be to concentrate on inferences from the facts and matters of economic analysis.

Here is an analogy to illustrate the central issue with Mallaby's book. Imagine a large ship at sea. At the appointed time, scheduled long in advance, a new officer—Ben Bernanke—comes to the bridge to assume command. The previous deck officer—Alan Greenspan—retires below for a meal and a nap. Two hours later the ship runs onto a reef in a chaotic and costly accident. Who is to blame? A court of inquiry is convened.

With only a few exceptions, the court of public opinion has concluded that Alan Greenspan is responsible for the wreck. Mallaby shares that view without examining *any* of the contrary evidence. Greenspan and Mallaby's readers deserve better.

A digression to begin. My background with Greenspan goes back to the early 1970s, when I was a member of the Brookings Panel on Economic Activity and Greenspan attended many of the meetings. We interacted at every Federal Open Market Committee (FOMC) meeting of the for FOMC eight of the ten years I was president of the St. Louis Federal Reserve Bank, starting in March 1998 (Greenspan's final FOMC meeting was January 2006). I was not an intimate; I am not sure that I ever had a conversation with him that could be called "private," with the exception of 10 minutes when I was making the rounds at the Board of Governors prior to my St. Louis Fed appointment. I had, and have, tremendous respect for Greenspan as a person and for his policy savvy. I did not always agree, as indicated by the fact that I dissented several times when I was a voting member and disagreed for the record several times when not a voting member.

A basic understanding of modern macroeconomics is missing from the book. Mallaby's discussion of policy to deal with bubbles ignores core developments in our discipline over the past 40 years or so. As a journalist, he should have interviewed leading economists to confirm his judgments. I was amazed to search the book for "Meltzer" and come up dry. Allan Meltzer is the leading historian of the Federal Reserve and well known for his contributions to monetary theory.[1]

Mallaby's thought process on bubbles is subject to a not uncommon error, but one that he ought not to commit. A price is an endogenous variable—a result and symptom of something going on in underlying supply and/or demand conditions. "The tragedy of Greenspan's tenure is that he did not pursue his fear of finance far enough: he decided that targeting inflation was seductively easy, whereas targeting asset prices was hard…" (p. 506). Mallaby's statement has surface appeal, but reflects a profound mistake. The appropriate policy response depends critically on *why* a price is behaving as it is.

Mallaby interprets stock prices in the late 1990s and house prices before 2006 entirely in psychological terms and never explores whether something in demand or supply conditions might be responsible. In the late 1990s, the stock market drove up stocks based on the new Internet technology. None of us, not even market professionals, could be sure that their views on the dot-com stocks were correct. It was perfectly reasonable for Greenspan, whatever his personal doubts, to let the market sort out the value of stocks, provided the macroeconomy was in good shape. And, the macroeconomy was indeed doing very nicely, as Mallaby discusses in some detail.

As for house prices, Mallaby never considers the possibility that something might be going on other than bubble psychology. As argued below, there *was* something going on—the Government-Sponsored Enterprises (GSEs) (Fannie Mae and Freddie Mac) were driving up house prices because they had an insatiable demand for subprime mortgages to meet affordable housing goals.

In "Acknowledgments" at the end of the book, Mallaby lists a number of people who reviewed the book before he submitted the final draft. Some are economists. Did any of them discuss the basic distinction between a policy and a policy action? If so, Mallaby never thought the distinction was important enough to explain to his readers. A theme throughout the book is that Greenspan should have intervened as necessary to limit expansion of bubbles. The book—796 pages long with 110 pages of photographs, acknowledgments and the like—contains 100 instances of the word "bubble." Mallaby seems obsessed with the bubble explanation of what went wrong; Greenspan is a villain because he failed to act to contain bubbles.

Mallaby discusses each asserted bubble as if it is adequate to consider each one on a one-off basis. It is

[1] Author's email correspondence with Meltzer indicates that Mallaby did not interview him in conjunction with this book.

not. The distinction between a policy and policy action is not that difficult to understand; it deserves a place in a first semester economics course. For the Fed during Greenspan's tenure as Chairman, the principal policy lever was the federal funds rate, which the Fed could control quite accurately, and a policy action was the setting of that rate. Holding the rate steady was as much a policy action as increasing or decreasing it. A policy could be defined as the regularity or predictability of policy actions based on the state of the economy and forecasts of its direction. Setting the fed funds rate by consulting a table of random numbers would be a policy, though not a good one.

Let's cut to the heart of the problem of determining a policy in the face of a possible bubble this way. First, Mallaby recognizes the problem of having more goals than instruments. "A stock market correction would ameliorate the Fed's problem of having two objectives and one instrument…" (p. 515). However, his discussion throughout the book essentially ignores this issue.

Second, Mallaby recognizes that changes in the federal funds rate have an unpredictable effect on asset prices. "The impact of higher interest rates on asset prices depends on market psychology, whose shifts are too fickle to predict confidently" (p. 681). Mallaby's discussion of bubbles ignores this problem also.

Consider a thought experiment designed to bypass these two problems. Imagine that the chairman's desk has a lever below it, rather like the lever to set the cruise control on some cars. Each tap down (up) cuts (increases) the S&P 500 stock index by 0.1 percent just before the market closes. In this thought experiment, the FOMC has the second instrument it needs and the instrument has a precise and known effect on stock prices. However, the thought experiment does not permit the FOMC to be any smarter or have any more foresight than it actually has. The Committee must make judgments and announce them in its policy statement, just as it does with its fed funds rate target.

If Greenspan had introduced an anti-bubble *policy* to resist the dot-com bubble of the late 1990s, and had available this magic lever to control the stock market, these questions would have arisen repeatedly in the markets. "Is Greenspan about to act? How many lever taps? What exactly will he do? If a few taps on the lever seem not to be effective, how far will he go?" "Is the stock market about to self-correct without Fed intervention?" That is, what is the *policy*? How will the economy and the stock market react to policy actions and predictions of future policy actions? An essential feature of sound *policy* is that individual policy *actions* be coherent, consistent and therefore predictable.

Mallaby never considers such central issues in dealing with perceptions of bubbles. "Perceptions" because it is rarely clear in real time whether there is a bubble, whether it will self correct, the size of its effects and how the market will interpret policy actions. Mallaby discusses Greenspan's policy decisions primarily in psychological and political terms and rarely explores the economics.

Mallaby discusses Greenspan's uncanny insight into data, and is correct to do so. However, for the most part Mallaby misses another key feature of Greenspan's policy regime—his uncanny understanding of the appropriate timing of policy adjustments. Greenspan did not always make the correct calls but, more often than not, he did. The correct calls required insight into markets, market psychology *and* into political processes.

Mallaby mentions John Taylor four times and did interview him. However, in his Taylor interview Mallaby did not discuss Taylor's 2009 book, *Getting Off Track: How Government Actions and Interventions Caused, Prolonged, and Worsened the Financial Crisis*.[2] This book is directly relevant to the story Mallaby tells. Taylor's title is pretty pointed: "*Caused, Prolonged, and Worsened.*"

Mallaby never mentions an important book by Peter Wallison, *Hidden in Plain Sight: What Really Caused the World's Worst Financial Crisis—and Why It Could Happen Again*, published in January 2015, roughly a year before Mallaby finished writing.[3] I will discuss the relevance of Wallison's book below but emphasize at this point that the book is directly relevant to conclusions Mallaby reaches, and inconsistent with them.[4] Another book directly relevant to Mallaby's conclusion "Greenspan-the-Villain" is *Reckless Endangerment: How Outsized Ambition, Greed, and Corruption Led to Economic Armageddon*, by Gretchen Morgenson and Joshua Rosner, published in 2011. This book is very helpful in understanding the GSE political machine, which included co-opting several prominent economists (named in the book) to write studies supporting Fannie Mae. The large fees paid made it less likely that these economists would

[2]Author's email correspondence with Taylor.

[3]Additionally, the American Enterprise Institute published Wallison's, *Bad History, Worse Policy: How A False Narrative About the Financial Crisis Led to the Dodd-Frank Act.* (2013). This book contains 29 of his essays, starting with one in 2004, reflecting his concerns over the risks posed by the GSEs. It is a myth that GSE failure was unanticipated.

[4]Through email correspondence, I have confirmed with Wallison that Mallaby never interviewed him.

criticize Fannie, and Fannie could bask in the reputation of the economists.

Much of the material in Wallison's book was in his *Dissent* to the majority report of the *Financial Crisis Inquiry Commission* (FCIC). The Commission, of which Wallison was a member, released its report in January 2011. To support his argument, Mallaby should have explained why Wallison's work, Taylor's and the Morgenson-Rosner book, are not relevant to his "Greenspan-the-Villain" conclusion. Mallaby has four footnote references to the FCIC but never discusses its *Report* in his text. Is it unreasonable to have expected Mallaby actually to argue the case as to why Greenspan should be considered a "villain?"

When I say "argue," I mean that readers deserve more than assertions about popping bubbles.

With regard to Greenspan-the-Villain of the subprime mortgage disaster, there are two somewhat distinct issues to be discussed. First, when Greenspan went off watch, did he leave his successor in an impossible position? The standard argument is that monetary policy in the mid 2000s allowed the housing and mortgage bubbles to inflate. Interest-rate policy, some contend, was the fundamental cause. Moreover, Greenspan's opposition to regulation to rein in irresponsible behavior in the private sector contributed to a situation he could have at least attempted to control, so the argument goes.

The second issue is the way the Fed dealt with the crisis as it unfolded. Might Greenspan have managed the crisis differently? Why should Greenspan take the rap if Bernanke made a mess of things?

1. House Price and Mortgage Bubbles

Here is the summary conclusion of the FCIC on Greenspan's responsibility: "The prime example [of pervasive permissiveness] is the Federal Reserve's pivotal failure to stem the flow of toxic mortgages, which it could have done by setting prudent mortgage-lending standards. The Federal Reserve was the one entity empowered to do so and it did not" (Financial Crisis Inquiry Commission 2011, p. xvii).

Consider assignment of responsibility for a murder. A cop might have prevented it. But doesn't the blame rest squarely with the person who pulled the trigger rather than the cop? To me, the conclusion that Greenspan is responsible for the crisis because he was an inadequate regulator is simply strange. The argument that Greenspan's monetary policy caused the bubbles deserves attention—an issue I take up below. Of course, just as we might investigate what clues the cop missed, so also we should investigate what regulators might have done. Nonetheless, the regulator is not the guilty one. The FCIC blames the cop for the murder.

The FCIC *Majority Report* discusses at various places, from page 178 to page 506, conclusions drawn from its interview on March 4, 2010 with Thomas Lund, former EVP of Fannie Mae Single Family Business (Financial Crisis Inquiry Commission 2010a).[5] A huge amount of material is now available but it would most likely not have been available to Mallaby as he was finishing the book. However, could Mallaby have interviewed Lund? Given controversy over the role of affordable housing goals, several such interviews would have made perfect sense.

When you read both the Lund interview and the FCIC *Majority Report*, you realize how selective the *Report* is in quoting what Lund said. Consider four examples from the Lund interview with the staff of the FCIC: (a) "In his role as Chief Acquisition Officer, Mr. Lund had increased interaction with regulators from OFHEO and HUD.[6] He stated that he felt pressure to meet HUD housing goals. The housing goals were raised in 2000 and again, substantially, in 2004, and Fannie Mae received pressure from the administration to expand its business beyond the traditional 15- and 30-year fixed-rate mortgages that were previously the core of the Company's business." (b) "Mr. Lund said that he was extremely concerned about the impact of some of these new initiatives and the risk associated with expanding into riskier, nontraditional mortgage products to meet housing goals. He said that he was in constant communication with HUD about housing goals, but the goals were still raised." (c) "Mr. Lund wanted to have the housing goals declared 'unfeasible' since the only way Fannie Mae could meet the goals was to access the nontraditional mortgage market and expand into riskier products since these borrowers were not going through traditional channels." (d) "Mr. Lund responded that Fannie Mae had to cross-subsidize products 'all day long.' Mr. Lund explained that the 15-year, fixed-rate mortgage was the most profitable product, and if the GAP reports were examined, it was obvious that the Company used its profits on the 15-year, fixed-rate product to subsidize the rest of its

[5] The National Archives released FCIC materials on March 11, 2016.

[6] OFHEO was the Office of Federal Housing Enterprise Oversight, which had regulatory authority over the GSEs, Fannie Mae and Freddie Mac. HUD is the Department of Housing and Urban Affairs, which set affordable housing goals for the GSEs.

product offering" (Financial Crisis Inquiry Commission 2010a, pp. 2–3).

The FCIC essentially ignored Lund's information and instead argued that Fannie's actions were driven by a desire to maintain market share in what the Commission majority claimed was the profitable subprime market. That cannot be correct if Fannie "had to cross-subsidize products 'all day long.'"

A Mallaby conclusion: "Greenspan was ultimately guilty of one serious analytical error—admittedly, a consequential one. Although he understood the frailty in finance, he underestimated the cost in doing little about it" (p. 675). The reader of the biography should understand that Mallaby did not, apparently, believe that he needed to explain why the crisis occurred. Greenspan is obviously the villain.

Peter Wallison argues—persuasively—that Fannie Mae and Freddie Mac accumulated subprime paper on their own balance sheets under pressure from HUD. HUD in turn was acting in response to political pressures from Congress, President Clinton and later President George W. Bush. Here are some quotes from Wallison's work that state the points clearly.

In his *Dissent* to the report of *The National Commission on The Causes of The Financial And Economic Crisis In The United States*, Wallison states that

> … I believe that the *sine qua non* of the financial crisis was U.S. government housing policy, which led to the creation of 27 million subprime and other risky loans—half of all mortgages in the United States—which were ready to default as soon as the massive 1997–2007 housing bubble began to deflate. If the U.S. government had not chosen this policy path—fostering the growth of a bubble of unprecedented size and an equally unprecedented number of weak and high risk residential mortgages—the great financial crisis of 2008 would never have occurred.
>
> …
>
> Ultimately, all these entities [Fannie Mae, Freddie Mac and some others]… were compelled to compete for mortgage borrowers who were at or below the median income in the areas in which they lived. This competition caused underwriting standards to decline, increased the numbers of weak and high risk loans far beyond what the market would produce without government influence, and contributed importantly to the growth of the 1997–2007 housing bubble (Wallison 2011, p. 444).
>
> …
>
> …Although at the end of 2005 Fannie was exposed to $311 billion in subprime loans, it reported in its 2005 10-K (not filed with the SEC until May 2, 2007) that: 'The percentage of our single-family mortgage credit book of business consisting of subprime mortgage loans or structured Fannie Mae MBS backed by subprime mortgage loans was *not material* as of December 31, 2005'. [emphasis supplied]
>
> Fannie was able to make this statement because it defined subprime loans as loans it purchased from subprime lenders… (Wallison 2011, p. 467).

The conventional "Greenspan guilty" view has been that the private sector originated and spread subprime debt to private bank and nonbank balance sheets around the world. Wallison demonstrates that the conventional facts are simply wrong. "… government agencies now look to have guaranteed, originated or underwritten 60 percent of all 'non-traditional' mortgages, which totaled $4.6 trillion in June 2008"[7] (Wallison 2015, pp. 5725–5727). The GSEs were desperate to increase their holdings of mortgages that met the ever-expanding affordable housing targets set by HUD after 1992. These targets required loans to homebuyers below median income, and subprime credit was the only way to create an adequate supply of such mortgages. In his dissent and his book, Wallison offers extensive data and quotes from various HUD, internal Fannie and Freddie memos and other documents to support his case. You will have to read Wallison's book to understand the full extent of his argument and evidence. Mallaby could have done so, but apparently did not. Mallaby refers briefly to the Commission's Report, but not to Wallison's *Dissent* to the majority position in the report.

Yes, investment banks and some commercial banks bought subprime paper and should be held responsible for doing so. Yes, investment banks securitized some of this paper. That was a mistake for which managements and directors are responsible. However, those were not Greenspan mistakes nor did the Federal Reserve have regulatory authority over investment banks.

The question on Greenspan is whether he could have stopped the GSEs and other investors from

[7] In email correspondence, Wallison says that, "[b]y the time I wrote the book I had a lot more data, as well as information collected by the FCIC which was not made available to the commissioners. For example, the book notes that by 2008, more than a majority of all outstanding mortgages in the US were subprime and Alt-A loans, and of these 76 percent were on the books of government (or government controlled) agencies, primarily Fannie and Freddie." These are amazing figures. A *majority* of outstanding mortgages were subprime and Alt-A and *three quarters* of these on the books of government agencies.

buying subprime mortgages, either directly or by cutting off the supply from Countrywide and other originators of subprime mortgages. Keep in mind that the *affordable housing goals were policy of the United States Congress* and HUD under both Clinton and Bush. If Greenspan had attempted a frontal assault, would many members of Congress and affordable housing groups have attacked without mercy? Attempting to confine Fannie and Freddie to properly underwritten prime mortgages would have failed. Greenspan would have then been a villain because he wanted to block low-income families, especially minority ones, from buying houses, contrary to the policy of Congress.

Keep in mind also that, due to accounting irregularities at both Fannie and Freddie, neither firm presented standard financial reports for several years. When they finally did, as Wallison demonstrates, they presented misleading reports. They lied. In December 2011—well before Mallaby finished writing—the SEC sued the companies and six of their former officials alleging misrepresentation of the financial condition of the firms. The complaint alleged that as of March 31, 2007 Fannie disclosed Alt-A mortgage exposure of 11 percent of its book of business whereas the actual figure was 18 percent. The SEC also alleged that as of the second quarter of 2008 Freddie Mac disclosed total subprime exposure of $6 billion when the actual exposure was $250 billion and for Fannie the disclosed exposure was $ 8 billion whereas estimated actual was $110 billion. The SEC complaint would not have been available to Greenspan attempting to make a public case to rein in the GSEs.

Wallison's *Dissent* contains page after page of tables and quotes from internal Fannie, Freddie and other documents. With respect to non-traditional mortgages (NTMs), Wallison concludes:

> The use of the affordable housing goals to force a reduction in the GSEs' underwriting standards was a major policy error committed by HUD in two successive administrations, and must be recognized as such if we are ever to understand what caused the financial crisis. Ultimately, the AH goals extended the housing bubble, infused it with weak and high risk NTMs, caused the insolvency of Fannie and Freddie, and—together with other elements of U.S. housing policy—was the principal cause of the financial crisis itself (Wallison 2011, p. 518).

If Greenspan could not have used regulatory authority to restrict subprime mortgage issuance, could he have raised the federal funds rate sufficiently to pop the bubbles? John Taylor has argued that he could have and should have because interest rates were too low during the 2002–05 period. My view, biased no doubt because I was a member of the FOMC at the time, is that the macroeconomy was doing pretty well. Thus, the right way to think about the issue is in the context of a macroeconomy in decent shape, gradually recovering from the 2001 recession, but with the housing sector out of equilibrium.

Was Fed monetary policy too easy 2002–05? Perhaps, but the magnitude of the error seems too small to explain the financial crisis. In assessing the Fed's monetary policy role, an evaluation must come to grips with the enormous GSE contribution to subprime loan origination, a magnitude described earlier in this paper based on Wallison's data. If the GSEs had continued to buy and securitize prime mortgages only—their traditional function—they would have owned and guaranteed millions fewer subprime mortgages. Moreover, the GSE activity pumped up the size and profitability of subprime mortgage originators; thus, most likely, without the GSE demand for subprime mortgages there would also have been fewer private (non-agency) subprime mortgages. The house price bubble could not have inflated to the extent it did, nor would the deflation have been so painful as subprime mortgages failed.

All of us knew that there were subprime mortgage abuses. Let me speak of my own attitude here. Financial abuses have a long history. Charles Ponzi has a particular scheme named after him and frauds of this type continue to this day. I did not and do not condone subprime mortgage abuse schemes.[8] To my knowledge, none of us realized that the GSEs were the *principal* source of demand for subprime mortgages. I had always understood that Fannie and Freddie securitized prime mortgages. While in office, I gave several speeches warning of GSE dangers, but I focused on interest-rate risk and thin capital rather than credit risk.

Alan Greenspan retired from the Fed at the end of January 2006, at almost the exact peak of U.S. house prices. Could he, "*The Man Who Knew*," have known or figured out the scale of issuance of subprime mortgages? The extensive evidence Wallison accumulated, most of it after the crisis, was not available

[8]Many of us today have to deal with a steady stream of email and phone scams. The telephone scams—"Hello-this is Heather from Account Services"—are especially annoying and the federal government seems incapable of shutting them down.

to Greenspan. To my knowledge, the Fed did not have any moles inside Fannie or Freddie, or HUD for that matter, with access to the information we now have.

As noted earlier, Wallison quotes Fannie's statement that its "subprime mortgage book was *not material* as of December 31, 2005." That statement was in Fannie's 2005 10-K report, *filed May 2, 2007*, which was two years late. How could that be? Both Fannie and Freddie had accounting irregularities so severe that the auditors would not sign their financial statements. I have no idea what Greenspan knew about the financial condition of Fannie and Freddie in the period they were not issuing financials, but would it not have been an appropriate question for Mallaby to put to Greenspan in one of his many interviews?

Mallaby asserts that, "… as Fed chairman, Greenspan turned away suggestions that the Fed should regulate the GSEs, preferring to encourage reformers privately behind the scenes rather than joining the front lines of the struggle" (p. 678). Did Mallaby check opensecrets.org, the website of The Center for Responsive Politics, before he wrote these words? Not only did Fannie Mae have a PAC but also individual executives of the company made extensive contributions to members of Congress, well over half the members as I recall.

Greenspan made exactly the right decision. Those of us who worked on GSE issues understood that Fannie, especially, had a formidable political machine. Fannie bought off academics by commissioning academic papers, for which it paid handsomely. The Fannie Mae Foundation showered funds on affordable housing nonprofits. For the Fed to assume responsibility, or even have suggested the possibility, would have embroiled the Fed in political controversies it was not well positioned to confront.

Greenspan was working behind the scenes to broker GSE reforms at least as early as 2001. I had a speech scheduled for October 2001, and as was my usual practice I distributed a draft for comment. A senior economist at the Board of Governors who worked closely with Greenspan on GSE issues called me. The speech draft contained some critical comments about the GSEs; he said that he did not disagree with me but that the Chairman was working to broker reforms and thought my rather outspoken speech would not be helpful. I toned it down (Poole 2001). In subsequent years, I presented several more speeches on risks created by the GSEs, some of which drew considerable press attention. I did not hear from Greenspan again, except for a wry remark just before an FOMC meeting after a speech I presented in Washington in March 2003 (Poole 2003).

2. Markets, Monetary Policy and Information

Several commentators on an earlier draft of this paper suggested that I needed to say something about monetary policy during the period over which the housing bubble inflated. What follows are the key points to what could be a more extended treatment.

A theme running throughout economic analysis is the importance of accurate information to sound decisions, public and private. People, whether consumers, managers or policymakers, will make mistakes when they act on erroneous information. As emphasized earlier, markets and policymakers before the crisis suffered from an enormous gap in accurate information on the subprime market and especially the role of the GSEs.

In June 2005, the FOMC spent an afternoon discussing housing and mortgage issues. The discussion was wide-ranging, organized around three superb papers by Fed economists. One was by Joshua Gallin, "Is Housing Overvalued?" Another was by Andreas Lehnert, "House Prices and Mortgage Finance." A third was by Richard Peach, "Measuring House Prices." There were also two papers on monetary policy issues, one by Glenn D. Rudebusch and the other by John C. Williams. These are also excellent papers and helped the FOMC to focus its discussion. All these items are available on the Board of Governors web site.

As I reviewed this material when working on this paper, one finding particularly flew out at me. In presenting his paper to the FOMC, Lehnert offered this observation. "The statistics presented in exhibit 2 are taken exclusively from data on private-label—that is, non-GSE [government-sponsored enterprise]—residential mortgage-backed securities, or RMBS, pools. The overwhelming advantages of these pools for my purposes are that they are very transparent; that is, a great deal of information is available on the underlying mortgages and that they contain many heterodox mortgages, including interest-only mortgages" (Board of Governors of the Federal Reserve System 2005, p. 8). This remark indicates that information was available to investors in private-label MBSs to enable them to judge risks. The fact that investment banks and quite a few commercial banks got into trouble investing in subprime paper suggests that they failed to understand what they were buying.

However, information available in real time on aggregate subprime mortgage issuance was seriously flawed because the GSEs did not report accurately. Perhaps the investment banks *did* know what they were doing, given the information available. Wallison reports that:

> In September 2007, for example, after the deflation of the bubble had begun, and various financial firms were beginning to encounter capital and liquidity difficulties, two Lehman Brothers analysts issued a highly detailed report titled ‘Who Owns Residential Credit Risk?’ In the tables associated with the report, they estimated the total unpaid principal balance of subprime and Alt-A mortgages outstanding at $2.4 trillion, less than half the actual number at the time. Based on this assessment, when they applied a stress scenario in which housing prices declined about 30 percent, they still found that ‘the aggregate losses in the residential mortgage market under the ‘stressed’ housing conditions could be about $240 billion, which is manageable, assuming it materializes over a five- to six-year horizon.’… [T]he failure of these two analysts to recognize the sheer size of the subprime and Alt-A market, even as late as 2007, is the important point. It seems reasonably clear where the Lehman analysts went wrong. Under the ‘stressed’ housing conditions they applied, they projected that the GSEs would suffer aggregate losses of $9.5 billion (net of mortgage insurance coverage) and that their guarantee fee income would be more than sufficient to cover these losses. The basis for this spectacularly low estimate had to be the GSEs’ own estimate of the subprime mortgages they held, which of course was far below the actual number. In Fannie’s credit profile for the second quarter of 2009, showing its exposures as of June 30, 2009, Fannie estimated that it had subprime loans with a value of $7.9 billion, but its exposures to mortgages with FICO scores of less than 660 totaled $358 billion—about 45 times as much (Wallison 2015, pp. 4216–4230).

Keeping this essential point about availability of information in mind, we need somehow to apportion responsibility for the crisis between the affordable housing goals and the behavior of the GSEs on one hand and Federal Reserve decisions on monetary policy on the other. Greenspan, in his discussion of the Federal Reserve’s regulatory authorities in his testimony before the FCIC, argued that the Fed did not have the authority to stop or control subprime issuance (Financial Crisis Inquiry Commission 2010b). That conclusion seems fully justified.

John Taylor in his fine 2009 book, *Getting Off Track*, argues that Fed policy was too easy after 2001. His figure 1 reproduces a Taylor-rule chart from the *Economist* Magazine, which shows the actual federal funds rate well below what his famous rule would recommend (Taylor 2009, p. 3). He also refers to a 2007 paper of mine with a similar chart (Poole 2007). My chart shows the fed funds rate below the Taylor-rule rate after 2000, but the two rates are very much aligned from 1987 to 2000.

Interestingly, as of this writing the St. Louis Fed FRED web site has a similar chart based on the Taylor-rule formula I used in the paper. Here, the two rates are not very well aligned in the late 1990s. The actual fed funds rate is substantially above the Taylor-rule rate from mid-1994 to early 2000-above by 100–200 basis points and almost 300 basis points in early 1998. The difference between the chart in my 2007 paper and the one on the web site is that the former uses data available in real time to the FOMC and the latter uses actual GDP and inflation data available as of February 2017 when that chart was created. As Mallaby emphasizes, Greenspan had tremendous intuitive insight into the data and was cautious about taking data releases at face value. The late 1990s was a period of robust productivity and GDP growth; the stock market was enjoying the dot-com boom. We can also observe that, based on the FRED chart, the actual funds rate was above the Taylor rule rate every quarter from the cycle trough 1982: IV to mid-1992, and by over 500 basis points in 1984. Quite clearly, in retrospect, we are fortunate that the funds rate did not follow the Taylor-rule path in the current St. Louis Fed FRED chart during the boom years in the 1980s and late 1990s.

The point of this discussion is not to belittle the Taylor rule but to say that an assessment of monetary policy 2000–06, and in the 1980s, on that information alone is inadequate. Taylor finishes his chapter 1 by saying that, “The government-sponsored agencies Fannie Mae and Freddie Mac were encouraged to expand and buy mortgage-backed securities, including those formed with the risky subprime mortgages…. Thus the actions of those agencies should be added to the list of government interventions that were part of the problem” (Taylor 2009, p. 14).

Taylor did not have the benefit of Wallison’s work at the time he finished *Getting Off Track* in 2009. Wallison’s evidence makes a strong case that the affordable housing quotas did not just “encourage” but forced the GSEs to buy subprime mortgages. These mortgages were central to the crisis and not just an item that “should be added to the list of government interventions that were part of the problem.” If the GSEs had confined their mortgage purchases to prime mortgages, as they had done before 1992, the boom in subprime mortgages would have been far

smaller. It seems improbable that the monetary policy mistake 2001–05—if there was one—was large enough to create the crisis.

3. Managing the Crisis

Alan Greenspan was not the officer on the bridge when the ship began to hit the reef. He cannot be held responsible for leadership of the Federal Reserve at that time. Nonetheless, some of his policy positions are relevant to understanding what happened, or what might have been. To begin, might his legendary skills digging into the data have made a difference? In 2007, Ben Bernanke was telling the world that the subprime crisis was likely to be "contained." He continued that refrain until the mortgage problem was clearly not contained.

Consider Fannie and Freddie's annual financial reports for 2007. Rising house prices had obscured weakness in mortgage underwriting because homeowners in trouble could refinance their loans as long as house prices were rising. A properly underwritten mortgage is secure because the mortgagor has adequate income and incentive to make monthly payments. The default rate on such mortgages is low, especially during a time of prosperity.

December 2007 is the peak of the business cycle and the beginning of the recession. As of that date, the labor force was fully employed. The unemployment rate was 5.0 percent in December 2007, up from roughly 4.5 percent in the middle of the year; both nominal personal income and real disposable income rose throughout 2007 and into 2008. In 2007, there should not have been abnormal delinquencies on properly underwritten mortgages.

Fannie Mae submitted its *Annual Report* for 2007, including its financial report for the year, on February 27, 2008.[9] If its mortgage underwriting were sound, including its credit enhancements for subprime debt, how could Fannie report a 2007 loss before income taxes of over $5 billion? Moreover, Fannie's balance sheet was very weak. The company reported, on a GAAP basis, stockholders' equity of $44,011 billion, but that included $12,967 billion of deferred tax assets.[10] Excluding the tax assets, Fannie had capital of only 1.5 percent of assets. That calculation assumes that Fannie accurately reported the value of its assets, and ignores Fannie's guaranteed off-balance sheet MBSs.

How did Fannie value assets on its balance sheet? A reading of the 2007 10K report indicates that the values were based, in part, on market prices of Fannie MBSs. But those prices, of course, reflected the Fannie guarantee, and the assumption that the federal government would stand behind the firm. It is almost certainly true that Fannie was insolvent at the end of 2007.

Freddie Mac's situation was no better as it too lost money in 2007. In mid-July 2008, I had a phone interview with a Bloomberg reporter and noted that Freddie was insolvent.[11] My observation was very simple: Freddie reported negative net worth on its fair-value balance sheet, according to its *own* 10Q financial report for 2008 first quarter. I speculated that Fannie Mae would most likely soon be insolvent also. With Wallison's work, we now know how that happened. Fannie and Freddie held a huge amount of subprime debt and kept the fact hidden.

Would Greenspan, with his legendary data skills, have figured out that there was much more subprime debt in the financial system than was being reported? Or, as "The Man Who Knew," did he in fact know after he retired as Fed chairman and not discuss his conclusion? I have no idea. What I do know is that Greenspan cannot be held responsible for the GSEs hiding the subprime debt on their balance sheets.

In writing this review, I have recently examined materials prepared for the FOMC meetings in March 2008. These included an FOMC conference call meeting on March 10, the regular meeting on March 18 and the staff materials (Bluebook, Greenbook Part 1, Greenbook Part 2 and Greenbook Supplement) prepared for the regular meeting. The Fed bailed out Bear Stearns on March 14.

From reading these materials, the Board of Governors and FOMC were occupied inventing new liquidity facilities. There is no evidence that anyone read the Fannie's 2007 *Annual Report and 10 K*

[9] I was still on the St. Louis Fed payroll but in the standard cooling-off period with no access to inside information and no policy role. I was packing my office, preparing to move, and did not read Fannie and Freddie Annual Reports when they were released in February 2008. I have read them in preparation of this Review.

[10] The balance sheet can include tax assets when losses can be carried forward to offset taxes due on future earnings.

[11] "Chances are increasing that the U.S. may need to bail out Fannie Mae and the smaller Freddie Mac, former St. Louis Federal Reserve President William Poole said in an interview. Freddie Mac owed $5.2 billion more than its assets were worth in the first quarter, making it insolvent under fair value accounting rules, he said. The fair value of Fannie Mae's [net] assets fell 66 percent to $12.2 billion, data provided by the Washington-based company show, and may be negative next quarter, Poole said" (Smith 2008). Indeed, given the value of preferred stock on the balance sheet, the fair value of Fannie's common equity was negative by March 31, 2008.

released on February 27. It is hard for me to believe that Greenspan would not have had a staff member read this report closely. In hindsight, admittedly a dangerous perspective, Fannie's *Annual Report* was full of red flags. But in real time, the Fed could have and should have seen that Fannie was insolvent or close to it. This was the Bernanke Fed, not the Greenspan Fed.

The Fed and Treasury had no contingency plan after bailing out Bear Stearns. David Wessel, in his 2009 book *In Fed We Trust*, devotes a major part of his chapters 10 and 11 to this subject. John Taylor, in his 2009 book *Getting Off Track* argues that,

> The main message of figure 13 [which shows daily data for the Libor-OIS spread] is that identifying the decisions over the weekend of September 13 and 14 [when an effort to find a buyer for Lehman failed] as the cause of the increased severity of the crisis is questionable; it was not until more than a week later that conditions deteriorated. Moreover, it is plausible that events around September 23 actually increased risks and drove the markets down, including the public's realization, shock, and fear that the intervention plan had not been fully thought through and that conditions were much worse than many had been led to believe. At a minimum a great deal of uncertainty about what the government would do to aid financial institutions, and under what circumstances, was revealed, thereby influencing business and investment decisions at the time. Such uncertainty would have driven up risk spreads in the interbank market and elsewhere. Some evidence of the uncertainty is found in a survey taken November 5 by the Securities Industry and Financial Markets Association (SIFMA), showing that 94 percent of securities firms and banks found the TARP lacking in clarity about its operations. Uncertainties about the procedures or criteria for government intervention that would prevent financial institutions from failing had existed since the time of the Bear Stearns intervention in March. The implication of that decision for future interventions was not made clear by policy makers. This lack of predictability about Treasury-Fed intervention policy and recognition of the harm it could do to markets likely increased in the fall of 2008, when the underlying uncertainty was revealed for all to see. What was the rationale for intervening with Bear Stearns, not intervening with Lehman, and then intervening again with AIG? What would guide the operations of the TARP? (Taylor 2009, pp. 29–30).

Timothy Geithner, President of the New York Fed at the time of the crisis, apparently agrees. In his *Stress Test*, published in 2014, he says,

> Still, our constant zigzags looked ridiculous. We were lurching all over the place, and no one had any idea what to expect next. Hank said he wouldn't need to inject capital into Fannie and Freddie, then did what had to be done and injected $200 billion. Collectively, we helped prevent Bear's failure, then seemed to suggest we let Lehman fail on purpose, then turned around and saved AIG from collapse. Now we had announced and then unannounced a merger. Our inconsistency had multiple causes: the limits of our authority, which made us look like we were flailing; the balkanization of our authority, which put different tools in the hands of different officials with different strategies and different perceived responsibilities; and the inevitable messiness of fighting a crisis with limited time and incomplete information to make decisions. But whatever the cause, our unpredictability undermined the effectiveness of our response (Geithner 2014, pp. 3478–3484).

Mallaby, and all the reviews I have read, take for granted that the financial crisis was unavoidable and was fundamentally Greenspan's fault. Greenspan was the one who allowed the subprime mania to occur. Not only that, but there was nothing that Bernanke, Paulson and other officers on the bridge could have done once the ship began to scrap bottom. Does it not make sense to discuss whether that view is correct?

In fact, Mallaby argues that Greenspan did have the correct position on how to handle the Lehman crisis

> 'If Greenspan was dismayed by Lehman's recklessness, he did at least know how to respond to its impending failure. On September 14, he appeared on a Sunday-morning talk show and called for a public rescue. 'There are certain types of institutions which are so fundamental,' he pleaded. 'On very rare occasions, and this is one of them, it's desirable to prevent them from liquidating in a sharply disruptive manner.'
> Greenspan's words would soon appear prophetic. Having rescued Fannie and Freddie, Hank Paulson was tired of being Mr. Bailout; and when a plan to have a British bank absorb Lehman was blocked at the last moment by the authorities in London, the Treasury secretary ignored Greenspan's advice, allowing Lehman to declare bankruptcy early on Monday morning (p. 661).

Two things deserve emphasis about this incident. First, Greenspan was public in presenting his advice, on a Sunday morning talk show. Since leaving office, he has been very careful not to comment on monetary policy, which he properly believes would be inappropriate and could only complicate the Fed's policy problems. Second, he was arguing for an orderly liquidation and not a bailout. I am not a lawyer, but what comes to my mind is that the Federal Reserve might have provided debtor-in-possession financing as is common in a Chapter 11 bankruptcy while a firm is either liquidated or financially reorganized. I suspect that Greenspan would have told his lawyers to find a way to do it rather than find arguments as to why it could not be done.

In any event, if Lehman had been somehow put into an orderly liquidation mode, is it not a conjecture worthy of analysis that the financial crisis would not have occurred, or not in September 2008, or not with the same contours actually observed? Why is Greenspan held responsible for the shipwreck when he was not at the helm at the time? How can observers be so sure that he put the economy on course to hit the rocks and that no decisions could have saved it?

4. Less Important Notes

I have learned much from reading Mallaby's biography, and he has forced me to review some of my own prior thinking. Mallaby, in his concluding chapter, says that, "As an observer, analyst, and forecaster, he was formidable.... he managed to be right about most things..." (p. 674). I agree with that judgment. That said, Mallaby is such a smooth and engaging writer that the reader may fail to see the contradictions, gaps, biases and mistakes in Mallaby's work. Here are some that I flagged as I read.

Nixon price controls

"Greenspan might easily have ducked this fight with the president. In denouncing Nixon's price controls, he was attacking the central plank of the administration's economic policy—and he had intimate knowledge of how the White House dealt with its critics. Moreover, some of his natural allies hesitated to take his side, especially when prices remained subdued into the next summer. As inflation fell to 2.7 percent in the year to June 1972, even Milton Friedman seemed willing to believe that Nixon's controls had notched up an unlikely victory" (pp. 151–152). Mallaby footnotes a Greenspan speech in December 1971, a letter to Friedman in October 1972 and a column in the *Wall Street Journal* in 1973.

Everyone who knew Friedman must wonder where this idea of Mallaby's came from. Friedman wrote a regular column for *Newsweek Magazine*; many of them were collected and published in 1972 with a second edition in 1975 (Friedman 1975). Friedman's *Newsweek* column appeared every three weeks. In columns June 15, 1970 and January 11, 1971 Friedman criticized his long-time friend, Arthur Burns, for advocating wage-price guidelines. Nixon introduced the wage-price freeze August 15, 1971; Friedman blasted the idea in a column August 30, 1971 and continued that same theme in further columns. Knowing both Friedman and Greenspan, I am positive that there was no daylight between them on wage-price controls. They might have speculated as to why there was, apparently, some temporary effect but they both were confident that controls would break down, as they did.

Greenspan on bank capital

After leaving office, Greenspan presented a paper at Brookings. In that paper, Greenspan emphasized the importance of capital and offered some calculations as to how much capital is appropriate for banks. Greenspan begins by saying, "The central theme of this paper is that in the years leading up to the crisis, financial intermediation tried to function on too thin a layer of capital, owing to a misreading of the degree of risk embedded in ever-more-complex financial products and markets" (Greenspan 2010a, p. 202). In fact, although there were many complex products, the trouble was centered in old-fashioned home mortgages. Weak underwriting and affordable housing goals put far too many subprime mortgages on the balance sheets of financial institutions. In interviewing Greenspan, why didn't Mallaby press Greenspan on the reasons he did not push for higher capital requirements while in office?

Moreover, in his Brookings paper Greenspan argued for contingent bonds. "The solution that, in my judgment, has at least a reasonable chance of reversing the extraordinarily large 'moral hazard' that has arisen over the past year and more is to require banks and possibly all financial intermediaries to issue contingent capital bonds, that is, debt that is automatically converted to equity when equity capital falls below a certain threshold" (Greenspan 2010a, pp. 231–232). Greenspan was surely familiar with the Federal Reserve Staff Study 172, "Using Subordinated Debt as

an Instrument of Market Discipline" (Board of Governors of the Federal Reserve System 1999). The study says that subordinated notes and debentures, "… have several characteristics that make them particularly attractive for providing increased market discipline." Is there a reason Mallaby in his interviews didn't press Greenspan as to why he did not lead the way on this promising reform?

Greenspan on Bailouts

While Chairman of the Council of Economic Advisers, in 1975 Greenspan opposed a bailout of New York City, which was in dire financial condition. Mallaby claims that, "A dozen years after New York's rescue, Greenspan himself would join the bandwagon" (p. 200). Mallaby continues in footnote 83 to say, "But history shows that bailouts will be forever with us; nobody wants to trust the market when the market threatens pandemonium. Conservatives of all people should accept this truth about human nature, not pretend that human nature can be otherwise" (p. 713). And, "[h]e offered impractical antibailout purism when New York flirted with bankruptcy" (p. 676).

A sensible observation about "human nature" is that people will of course seek handouts, and work the political system to get them if they can. Orange County, California entered bankruptcy in 1994. At the time, it had about 3½ million people. Detroit entered bankruptcy in 2013. At the time, it had a population of about 690,000. Neither the federal government nor the Federal Reserve provided assistance in these two cases. Those asking for bailouts will always claim that there is a threat of "pandemonium," to use Mallaby's word. Most observers today, across the political spectrum, will agree that it would be a terrible mistake for the federal government to begin assisting local jurisdictions claiming "pandemonium" if they are not bailed out. Many cities and states are in deep financial trouble because of pension promises on their books—promises that are underfunded. What "history shows" is that efforts to obtain bailouts will continue *and* that new bailouts will engender more of them.

The issue is basically the same as ransoming hostages. If you do, terrorists will take more of them. It is a tragic mistake to consider a hostage situation on a one-off basis. Each one-off exception defines a policy, no matter what officials say. If you want to encourage hostage taking, pay ransom to gain release of hostages.

Is it really sensible to label Greenspan's view "impractical antibailout purism?" A bailout economy cannot be successful in the long run. I know that many believe that "rigorous" regulation is the solution. This paper is not the place to enter that debate, but it is the place to insist that Mallaby's readers should understand that Mallaby has not even attempted to state the problem correctly. He finds it easier to criticize Greenspan for his "purism."

Social Security reform

According to Mallaby, "Greenspan ducked the challenge of using the Social Security commission to reform government pensions, even though, from the perspective of a libertarian, his appointment represented a golden opportunity to offer more than tweaks and patches" (p. 676). President Reagan established the Social Security Commission in December 1981, with an instruction to report by December 31, 1982. The Commission included several members who were adamantly opposed to any benefit cuts. These included, especially, Claude Pepper, a congressman from Florida who was chairman of the House Select Committee on Aging, and Robert Ball, who had been Social Security Commissioner in 1962–73. The economy had entered a recession in July 1981 and unemployment rose rapidly, to a peak of 10.5 percent in late 1982. The Social Security trust fund was within months of running dry, which would have required that benefits be cut. I simply do not understand Mallaby's comment that Greenspan "ducked." The votes were not there. Greenspan led the Commission to recommendations of modest reforms—very modest, to be sure—and saved Reagan from a political disaster. Not bad for government work, as they say.

Leadership

"The recovery from the 1987 crash owed less to him than to a cast of lesser-known players…" (p. 676). Mallaby proceeds to name several people who played important roles in handling the crash. Instead of "owed less to him," the correct view is that Greenspan's leadership skills allowed him to mobilize key players who managed the crisis created by the crash. My personal experience was that Greenspan is a man of impressive leadership skill.

The Media

"… Greenspan went to extraordinary lengths to cultivate the media…" (p. 677). The media are an important conduit between policymakers and the

outside world. I have never understood why politicians attack the media. For fleeting political gain, the attacks create long-term enemies. Mallaby's tone on this issue seems unnecessarily negative to me.

Political fights

"Greenspan knew he could survive in Washington only by avoiding fights, or by engaging them passively and deviously" (pp. 677–678). Seems correct to me. It also seems to me to be very sensible not to pick fights you believe you cannot win. "He wanted to make friends, not alienate them" (p. 679). Seems like a good idea to me.

Modern finance

"First, he made a pragmatic judgment that megabanks, derivatives, and securitization might be stabilizing, seeing in them risk-spreading advantages as well as evident pitfalls—and even if this judgment ultimately proved wrong…." (p. 679). Mallaby never actually argues the case that securitization and derivatives had much to do with the crisis. The problem was not with securitization itself but the quality of the mortgages that were securitized. There was no reason for the holder of MBSs issued by the GSEs to investigate the quality of the underlying mortgages because Fannie or Freddie guaranteed them. And the two firms, in turn, were backstopped by the federal government, despite their pro forma statements to the contrary. This was an arrangement *designed* to prevent market discipline from working. It is also true that repeal of Glass–Steagall had nothing to do with the crisis. In fact, absent the repeal it would not have been possible for the crisis managers in 2008 to have arranged for Morgan to buy Bear Stearns and Bank of America to buy Merrill.

Timid Greenspan

"Quite how harshly Greenspan should be judged for this timidity… (p. 679). "… by the time Greenspan became Fed chairman, his ideology was mostly gone: he was 'a get along, go along, comfortable and increasingly popular' figure…" (p. 678). However, consider that President Clinton, in his State of The Union Address, January 19, 1999, proposed that the Social Security trust fund include equities. "Specifically, I propose that we commit 60 percent of the budget surplus for the next 15 years to Social Security, investing a small portion in the private sector, just as any private or state government pension would do. This will earn a higher return and keep Social Security sound for 55 years" (Clinton 1999).

Greenspan's public response: "As I have indicated in earlier testimony, I doubt that it is possible to secure and sustain institutional arrangements that would insulate, over the long run, the trust funds from political pressures. These pressures, whether direct or indirect, could result in suboptimal performance by our capital markets, diminished economic efficiency, and lower overall standards of living than would be achieved otherwise…. It is possible that institutions could be created that would prevent the trust fund investments from being subject to political interference. But, investing the social security trust funds in equities does little or nothing to improve the overall ability of the U.S. economy to meet the retirement needs of the next century. Given this lack of evident benefit, it is unclear to me why we should take on the risk of interference, which, probably short of a Constitutional amendment, cannot be eliminated" (Greenspan 1999).

There was nothing timid about the way Greenspan criticized the proposal offered by the President of the United States. The politics could not be controlled, he asserted, "short of a Constitutional amendment." Strong stuff. He was right. Given the movement in the 1990s toward investing Social Security funds in equities, explored by many academics, for example, Greenspan's support might have produced that outcome. Would that not have led to calls in recent years to divest tobacco and coal stocks? And what about using the trust fund to sidestep the federal budget? Might the trust fund, engaging in environmental activism, have invested in now-bankrupt Solyndra, for example? The controversies would have been endless and have detracted from the need to face up to the budget realities of an aging population.

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As I have reflected on the book, I ask myself why, despite the story so well told, I find myself deeply dissatisfied. Perhaps the reason is that Mallaby did not do what actors do in playing a character of historical importance. The actor listens to the speeches, reads them and tries to put himself in the character's own shoes, the better to understand and play the part. There is no evidence that Mallaby attempted to understand the case for being a libertarian today. Rather than get inside Greenspan the libertarian, Mallaby seems bent on ridiculing that approach to public policy.

Mallaby says, in his early chapter entitled "Introduction," that, "Greenspan and his contemporaries blundered: they were insufficiently wary of the distorted incentives within large financial institutions; they were too complacent about bubbles and leverage" (p. 9). I was one of the contemporaries, but put me aside. There is one thing wrong with the statement: it is not true.

Consider Greenspan's testimony in February 2004, which contains many warnings (Greenspan 2004). Here is one passage: "As always, concerns about systemic risk are appropriately focused on large, highly leveraged financial institutions such as the GSEs that play substantial roles in the functioning of financial markets…. [T]o fend off *possible future systemic difficulties, which we assess as likely* if GSE expansion continues unabated, preventive actions are required sooner rather than later. As a general matter, we rely in a market economy upon market discipline to constrain the leverage of firms, including financial institutions. However, the existence, or even the perception, of government backing undermines the effectiveness of market discipline." (emphasis added) How can Mallaby say "insufficiently wary of the distorted incentives?"

There is more to the distorted incentives than Greenspan wanted to take up in testimony before a Senate committee. We all knew that the political incentives were terribly distorted. Fannie and Freddie were cash machines for organizations, such as affordable housing nonprofits, leaning strongly toward the Democratic Party.

Several commentators on an earlier draft of this paper have said that Greenspan should have done more to rein in the GSEs and the production of subprime mortgages. Here are my thoughts, which I have not discussed with him. First, if in testimony or a speech he had used a phrase as memorable as "irrational exuberance," he might have triggered a run on the GSEs. If Greenspan had spooked the markets, he would rightly have come under severe criticism and, possibly, have created a problem like the market disruption when Long-Term Capital Management got into trouble. In my own fairly frequent speeches on GSEs, I tried hard not to spook the markets. That despite the fact that I was in a position to speak more frankly than could Greenspan.

Second, suppose Greenspan had come on strong and a mischievous senior member of Congress had said, "Chairman Greenspan, we agree that subprime mortgage abuses require stronger action. If you will present draft legislation, we will be delighted to work with you." Keep in mind that political Washington operates on the three Ds—Disparage, Discredit and Destroy. Sad to say, it is not possible to assume good faith when dealing with many members of Congress.

In August 1970, the Democrats, in control of Congress, passed the Economic Stabilization Act of 1970, which provided authority for the President to impose wage-price controls. Nixon, in signing the bill, said that he did not intend to use the authority. Congress could pass such legislation in the firm belief that Nixon would never impose price controls. The strategy was that members of Congress could then say that Congress had provided Nixon with authority to address the nagging inflation problem, which continued month after month in 1970 and into 1971, but the "ideologically conservative" President Nixon refused to use his authority. Nixon did refuse, until he imposed wage-price controls in August 1971. Sad to say, this is the way the political game is played. Greenspan was wise not to fall into a trap. If Greenspan had attempted to use new regulatory authorities to reduce issuance of subprime mortgages, he would have been accused of damaging the prospects of lower income families—especially minority families—to buy houses.

Greenspan's libertarian views were not crazy, off the wall. Mallaby has a fascinating discussion of Greenspan's association with Ayn Rand. Unfortunately, throughout the book Mallaby offers almost mocking observations of Greenspan's Randian views. Enough. Think of the material progress America has enjoyed over the course of Greenspan's life. Yes, government has played an essential role, maintaining a free society and the rule of law. Military support of technology has been important. Nonetheless, does anyone doubt that private markets and the entrepreneurial environment of the United States has shaped and reshaped the world?

Private entrepreneurs *have* driven our technology. We can make fun, as Mallaby does, of the dot-com bubble of the 1990s. Stop. This was an era of rapid expansion in which transformative technologies took hold. Intel, founded 1968; Microsoft, founded 1975; Apple—1976; Amazon—1994. eBay—1995; Netflix—1997; Google—1998; Facebook—2004; Twitter—2006; on and on. Biotech firms might be added to the list, for example. Yes, there were some nutty ideas that did not fly, but don't forget the great successes. Greenspan's celebration of the market and a free society in which these advances can occur was not misplaced.

My criticism—perhaps "observation" is a better word—of Greenspan is that he may not have left a

legacy of how to operate a successful monetary policy. Consider an analogy from medicine. Frederic E. Mohs invented and perfected a procedure for removing skin cancers, which is still today known as Mohs surgery. He trained one generation after another of surgery residents, who spread his work around the globe. Many medical procedures have been developed this way and often have the innovator's name attached. It is not clear to me that "the Maestro" Greenspan left behind students of his successful management of monetary policy. In fact, my earlier discussion of the Fannie Mae *2007 Annual Report*, where it appears that no member of the FOMC or staff read this report before or after the Bear Stearns bailout, suggests that Greenspan did not leave a culture at the Fed of digging into the data. As of now there does not seem to be an imprint on monetary policy the way there is for Walter Bagehot; today, we still refer to Bagehot's 1873 book, *Lombard Street: A Description of the Money Market*, from time to time.

Greenspan remains a vigorous and thoughtful person. Perhaps he will write a treatise, *Principles of Successful Central Banking Practice*.

Mallaby does emphasize that the case for markets is not that they are perfect. Rather, the issue is market processes versus government processes. What better example could we find than the affordable housing/GSE disaster?

Greenspan's *policy* of resisting bailouts, perhaps starting most publicly with New York City in 1974, helped to create market expectations that, as Fed Chairman, he would not bail out Drexel Burnham Lambert when it got into trouble in the late 1980s. The firm entered bankruptcy in 1990. Each such decision works like a legal precedent does. When judges do not follow precedents, or set new ones, individuals can no longer determine their behavior with confidence about legality or predict the responses of authorities. Any good lawyer will be able to describe areas of the law that have become confused because the case law is incoherent. A well-defined case law provides guidance to individuals as to what behavior is and is not legal *and*, equally important, to judges as to how do decide future controversies that come before the court. Economic *policy* ought to be understood the same way. Alan Greenspan sought to provide monetary and regulatory policies that were reliable, coherent and predictable. He was successful to a far greater extent than Mallaby acknowledges.

From the very beginning of the book, Mallaby is setting up the reader to conclude that Greenspan is the villain. "The financial crisis is indeed key to judging Greenspan's legacy. He cannot be blameless; the cost of the implosion was so great that more should have been done to avert or at least mitigate it" (p. 6). The passive sentence structure is convenient—"more should have been done"—and Greenspan is the one who should have done more.

If we are looking for villains of the financial crisis, why Greenspan? When there is a murder, we blame the person who pulled the trigger, not the cop. The cop himself may reflect on lost opportunities. "There was a clue. Why didn't I see it?" Sometimes the cop himself will feel guilty. We console him—"you are not the one who pulled the trigger."

Why does Barney Frank—the member of Congress most responsible for pushing affordable housing and subprime debt—not stand far ahead of Greenspan in line? He famously said, in 2003, "I do think I do not want the same kind of focus on safety and soundness that we have in the [banking agencies]. I want to roll the dice a little bit more in this situation towards subsidized housing…"(Wall Street Journal 2008). Some dice roll. And President George W. Bush, who celebrated the "ownership society" of ever expanding home titleship—"titleship" because far too many owners had no equity in their properties. It was Bush's HUD, not Greenspan, that pushed ever-higher affordable housing targets on the GSEs. Why do we not put Bush high in the lineup of villains? Yes, Greenspan was unsuccessful in resisting but he did resist and was not the subprime pusher.

Greenspan is right about the sources of material progress and he ought not to be placed first in line in responsibility for the financial crisis. Mallaby has written a book that is wonderful in many respects. I learned a great deal from reading it, and from the research I've done as I wrote this review. Greenspan is correct that only government can produce a giant disaster. Too big to fail is a real problem, but Greenspan has stated the issue better. A firm may be too big to liquidate quickly, but ought never be too big to fail. An orderly closure of a private firm will rock the boat, but not capsize it.

Ultimately, my personal views on such issues are not relevant to judging the book; however, Mallaby's complete neglect of these issues *is* relevant to his readers. Mallaby has not written a well-informed account of Greenspan's monetary policy. He refers to "…the do-nothing libertarian within Greenspan…" (p. 518). Why not instead, "Greenspan, the libertarian whose principled policy of non-intervention…" There are many other similar remarks throughout the book—

the biographer displays more about his own political biases than about his subject.

As with the 100 instances of "bubble" in the book, there are 42 instances of "fragility." The structure of the book is built around "bubble" and "fragile." If the reader agrees with Wallison, even part way, this steel structure turns to jelly. "[H]e [Greenspan] was beaten back by lobbyists. He supported the Fed's efforts to clamp down on risky mortgages, and the housing lenders soon found ways around the restrictions" (p. 679). "He was maneuvering in cramped political terrain, boxed in by a clamorous multitude of turf fighters and string pullers and influence peddlers…. He should not be condemned, for with limited power comes limited responsibility" (p. 680).

Yet, Mallaby does condemn Greenspan, the villain of the financial crisis. These passages and others show that Mallaby does not understand why the modern state is characterized by "string pullers and influence peddlers." Because he does not understand, he does not understand Greenspan. Although Mallaby is not insightful about the inner Greenspan, his book will nevertheless remain a useful chronicle of places, names and events.

I think of the film director who shoots two versions of the final scene of a gripping drama. In the cutting room, the director decides which one to use. Mallaby's *Greenspan* is a gripping drama. Unwittingly or not, Mallaby casts it as a Greek tragedy in which the hero is brought down by his tragic flaw and brings ruin upon the Nation.

Mallaby could have written a final chapter emphasizing the Maestro rather than the villain. The Maestro resisted the power of a malign and evil pair of GSEs and the power of the President and Congress of the United States pursuing a disastrous housing policy. Despite the Maestro's best efforts, Leviathan triumphed and brought ruin upon the Nation.

Mallaby's obligation as a biographer above all was accuracy, not drama. If he had thought hard about monetary policy and consulted economists who knew, *The Man Who Knew* could have been a very different book. To me, Mallaby left the wrong final chapter on the cutting room floor.

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