DRAFT – NOT TO BE REPRODUCED OR QUOTED
WITHOUT THE AUTHORS' PERMISSION

Going Critical:
American Power and the Consequences of Fiscal Overstretch

by

Niall Ferguson* and Laurence Kotlikoff**

* Herzog Professor of Financial History, Stern School of Business, New York University, and Senior Research Fellow, Jesus College, Oxford: nferguso@stern.nyu.edu
** Professor of Economics, Boston University: kotlikof@bu.edu

May 2003

'… the interesting subject of the finances of the declining empire.'

(Gibbon, *Decline and Fall of the Roman Empire*, Book I, ch. XVII)

Introduction

Toppling three tyrannies within four years is no mean achievement by the standards of any past global empire. Since 1999, Slobodan Milosevic, the Taliban, and now Saddam Hussein have all been overthrown as a result – admittedly an indirect result in the first case – of American military intervention against their armed forces. What makes this so remarkable is that it comes little more than a decade after a wave of anxiety about American "overstretch" and decline. In 1987 Paul Kennedy warned that the US was running "the risk ... of what might roughly be called 'imperial overstretch'." America, he maintained, was spending too high a proportion of national income on its military commitments. This was already having an impact on the performance of the American economy compared with more or less demilitarized Germany and Japan, which were able to spend much more on civilian research and development. Could the US hope to preserve its Cold War position as a superpower? "The only answer to the question," wrote Kennedy, "is 'no'."[1]

Indeed, Kennedy went further, hinting at the dire domestic political consequences that might ensue from imperial overstretch. Citing the defense-driven growth in the federal debt under President Reagan, he drew a parallel with pre-revolutionary France – "the only other example which comes to mind of a Great Power so increasing its indebtedness in *peacetime*".[2]

As Keynes once said, when the facts change, one ought to change one's opinion.[3] Writing last September about America's subsequent ascent from superpower to "hyperpower", Kennedy invoked the *deus ex machina* of the "revolution in military affairs" to explain

[1] Paul Kennedy, *The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000* (London, 1988), p. 689.
[2] Ibid., p. 681 and note.
[3] "If the facts change, I change my opinion. What do you do, sir?": quoted in Joan Robinson, Economic Philosophy (London, 1962).

why his predictions of overstretch had not been fulfilled. All that investment in military R&D – of which he had been so disapproving back in the 1980s – had paid an unforeseen dividend.[4] Not only did the Soviet Union collapse as it strained to match the Reagan-Weinberger arms extravaganza. The US went on to collect a triple peace dividend in the 1990s: falling defense spending as a share of GDP, accelerating economic growth, and a quantum leap in military capability that left other military powers far behind.

The irony is that Kennedy's original thesis of *fiscal* overstretch is about to be vindicated – at the very moment when he appears to have abandoned it. No doubt it is true that the US *is* now a military hyperpower. Its defense spending is equal to the combined military budgets of the next 12 or 15 nations. It can wage a war like the three-week campaign in Iraq at a cost of less than 1 per cent of its vast Gross Domestic Product. Yet America's fiscal overstretch is nevertheless far worse today than anything Kennedy envisaged 16 years ago.

The key point – and here the resemblance with Kennedy's earlier argument ends – is that this overstretch has almost nothing to with the United States' overseas military commitments. It is the result of America's chronically unbalanced *domestic* finances. And the magnitude of the problem is such that most Americans – even those who consider themselves well informed about the nation's finances – find it quite literally incredible. Indeed, the main reason America's fiscal crisis remains latent is precisely because people refuse to believe in its existence. We argue in this paper that it will be precisely when they wake up to the reality that American finances will "go critical".

I

First, let us consider the extent of the country's fiscal overstretch. Far from resulting from excessive military expenditures, it is primarily the result of a mismatch between earlier social security legislation, some of it dating back to the New Deal, and the changing demographics of American society.

[4] Paul Kennedy, "Power and Terror", *Financial Times*, September 3, 2002.

In just five years time, 77 million "baby boomers" will start collecting Social Security benefits. In eight years they will start collecting Medicare benefits. By the time they are all retired, the United States will have doubled the number of its elderly population but increased by around 15 percent the number of workers able to pay for their benefits. Over time, a falling birthrate and lengthening life expectancy are a potent combination.

Economists refer to the commitment to pay pension and medical benefits to current and future elderly as part of the government's "implicit" liabilities. But these liabilities are no less real than the obligation to pay back the principal plus the interest on government bonds. Indeed, politically speaking, it may be easier to default on explicit debt than to stop paying Social Security and Medicare benefits. While no one can say for sure which liability the government would renege on first, one thing is clear: the implicitly liabilities dwarf the explicit ones. Their size is so large as to render the U.S. government effectively bankrupt.

The scale of this implicit insolvency has just been laid bare in an explosive paper by Jagadeesh Gokhale, a senior economist at the Federal Reserve Bank of Cleveland, and Kent Smetters, former Deputy Assistant Secretary of Economic Policy at the U.S. Treasury and now an economics professor at the University of Pennsylvania. They asked the following question: Suppose the government could, today, get its hands on all the revenue it can expect to collect in the future, but had to use it, today, to pay off all its future expenditure commitments, including debt service. Would the present value (the discounted value today) of the future revenues cover the present value of the future expenditures? The answer is a decided no. According to their calculations, the shortfall is $44 trillion.[5] To put that figure into perspective, it is twelve times larger than the current official debt and roughly four times the size of the country's annual output.

Gokhale and Smetters also asked by how much would taxes have to be raised or expenditures cut – on an immediate and permanent basis – to generate, in present value,

[5] Jagadeesh Gokhale and Kent Smetters, "Fiscal and Generational Imbalances: New Budget Measures For New Budget Priorities," The Federal Reserve Bank of Cleveland, Policy Discussion Paper, March 2002.

$44 trillion? Four alternative answers are reported in the table below. We could either, starting today, raise income taxes (individual and corporate) by 69 percent; or we could raise payroll taxes by 95 percent; or we could cut Social Security and Medicare benefits by 56 percent; or we could cut federal discretionary spending by more than 100 percent (which, of course, is not feasible).

Table 1: Percentage increases in taxation or cuts in expenditure required today to achieve generational balance in US fiscal policy

Policy	*Change*
Increase Federal Income Taxes	+ 69 %
Increase Payroll Taxes	+ 95 %
Cut Federal Purchases	- 100% plus
Cut Social Security and Medicare	- 56 %

Source: Gokhale and Smetters, "Fiscal and Generational Imbalances".

Another way of expressing the problem is to compare our own lifetime tax burden with the lifetime tax burden the next generation will have to shoulder if the government does not do one of the above. Hence the term often used to describe calculations like these: generational accounting. What these calculations imply is that anyone who has the bad luck to be born in America today, as opposed to back in the 1940s or 1950s, is going to be saddled throughout his working life with very high tax rates – potentially twice as high as those his parents or grandparents faced.

There is, however, one serious problem with these figures: not with the calculations that underlie them, but with their *acceptance*. To put it bluntly, this news is so bad that scarcely anyone believes it.

It is not that people are completely oblivious to the problem. It is common knowledge that we are living longer and that paying for the rising proportion of elderly people in the

population is going to be expensive. What people do not yet realize is just how expensive. One common response is to say that the economists in question have a political ax to grind, and have therefore made assumptions calculated to paint the blackest picture possible.

But the reality is that the Gokhale-Smetters study was commissioned by Paul O'Neill when he was Treasury Secretary and was meticulously prepared by while Smetters was working at the Treasury in conjunction with staff at the Treasury and the Office of Management and Budget. And far from being a worst-case scenario, the Gokhale and Smetters figures are based on what are arguably *optimistic* official assumptions about growth in future Medicare costs as well as about future increases in longevity. The

Historically, the annual growth rate in real Medicare benefits per beneficiary has exceeded that of labor productivity by 2.5 percentage points. But official projections assume only a one percentage point differential in the future. (They also assume, optimisitcally, that it will take us fifty years to achieve the current Japanese life expectancy.) Table 2 shows that under somewhat more realistic assumptions the total fiscal imbalance could be even larger than $44 trillion. In order to eliminate the fiscal imbalance altogether using Gokhale and Smetters' methodology it is necessary to imagine a real long-term interest rate of X per cent, annual growth of per capita output of Y per cent and annual growth in the cost of Medicare of Z per cent [Larry: please can you provide some figures here].

Table 2. The Federal fiscal imbalance under eight sets of different assumptions

Real long-term interest rate	3.6	3.9	3.3	3.6	3.6	3.6	3.6	t.c.
Annual growth rate of real GDP per capita	1.7	1.7	1.7	2.2	1.2	1.7	1.7	t.c.
Annual growth rate of Medicare benefits	2.7	2.7	2.7	3.2	2.2	3.2	2.2	t.c.
Fiscal imbalance (trillion dollars)	44	35	59	56	37	65	29	0

Source: Gokhale and Smetters, "Fiscal and Generational Imbalances".

Perhaps predictably, the Treasury now denies that it had anything to do with the Gokhale and Smetters study. It would rather we read the supposedly independent Congressional Budget Office's (CBO) ten-year budget forecasts, which are frequently cited in the press and are one of the principal reasons for the prevailing mood of complacency about fiscal policy.

The credibility of the CBO's forecasts is a perfect illustration of the phenomenon known to students of drama as the suspension of disbelief – the psychological quirk that allows movie audiences to feel excited when actors pretend to murder or make love to one another. Without even trying, we make believe that the soldiers in *Saving Private Ryan* really are getting shot at. This also operates in the financial world. Without even trying, investors make believe that the US government is in fact running a fiscal surplus. How does the CBO get us to suspend disbelief? The answer is: the same way a good movie director does it, namely with good special effects.

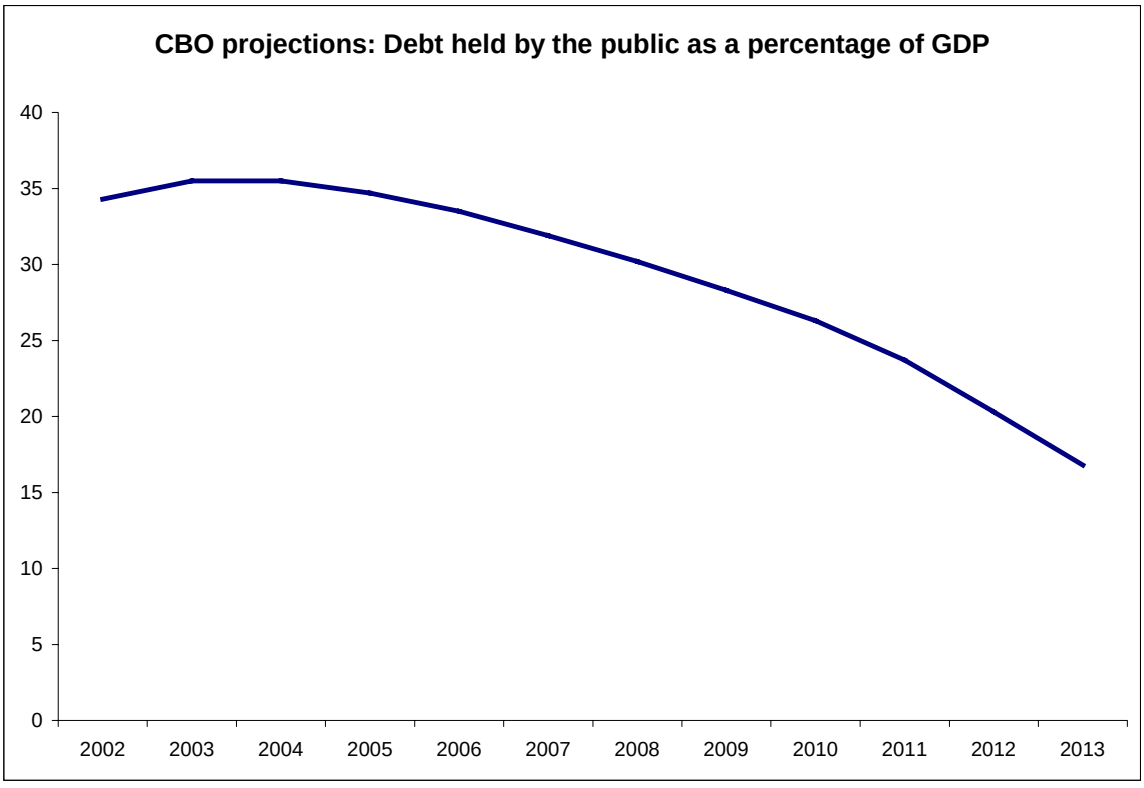
During the Clinton administration, the CBO routinely projected that, regardless of inflation or economic growth, the federal government would spend precisely the same number of dollars, year in and year out, on everything apart from social security, Medicare, and other entitlements. At the same time, the CBO confidently assumed federal taxes would grow at roughly 6 percent per year. As a result it was able to make dizzying forecasts of budget surpluses stretching as far as the CBO could see. (These phantom surpluses were the money Albert Gore promised to spend on voters and George Bush promised to return to them in the 2000 election.)

With the election over, the CBO decided that failing to adjust projected discretionary spending for inflation (but not economic growth) was no longer "useful or viable". Making this adjustment reduced the CBO's projected 2002–2011 surplus from $6.8 trillion to $5.6 trillion. But that was nothing compared with the impact of subsequent unforeseen events. Two years later, after a recession, a huge tax cut, September 11th, and the Iraq war, the projected ten-year surplus has fallen to $20 *billion*.

These factors notwithstanding, the CBO is still able to predict a medium-term decline in the federal debt in public hands from 35.5 per cent of GDP to 16.8 per cent ten years hence. The reason is that the CBO assumes that discretionary spending will remain fixed over the next decade even as the economy grows. In fact, these purchases have grown more than twice as fast as the economy over the last three years. Suppose – to be optimistic – that from now on discretionary spending grows only as fast as the economy. Under that assumption, the $20 billion surplus turns into a $1.5 trillion deficit. The difference between running a decadal surplus of $6.8 trillion and running a deficit of $1.5 trillion is $8.3 trillion in additional red ink – more than twice the current outstanding stock of federal debt.

Unfortunately, even if the CBO were not massaging its projections, it would still grossly understate the true size of the government's liabilities because its "bottom line" is only that part of the federal government's liabilities that takes the form of bonds. Publicly issued and traded debt is, however, simply dwarfed by the gargantuan off-balance-sheet liabilities of the Social Security and Medicare systems.

Figure 1.



Source: Congressional Budget Office website.

III

Nobody can be surprised that in our political system the very unpleasant fiscal arithmetic revealed by generational accounting gets marginalized, not to say suppressed. The tax hikes and spending cuts needed to achieve long-term fiscal balance are so huge that most politicians simply avert their eyes from them. We cannot blame them. No sane presidential candidate would campaign with the slogan "Hike taxes by two-thirds." Nor is any rational incumbent likely to implement such a radical fiscal crunch. It is, therefore, safe to assume that in the short run almost nothing will be done to address the problem. Which means the problem will just keep getting worse. According to Gokhale and Smetters, if policy were left unchanged until 2008, income taxes would have to go up even higher – by 74 per cent – to close the intergenerational gap.

So what will happen? And when? The answers to both these questions depend on how quickly Americans wake up to fiscal reality. Perhaps the hardest thing to figure out is why they haven't done so already. Even financially sophisticated Americans seem not to appreciate the fragility of the country's fiscal position. Conventional wisdom predicts that if investors and traders in government bonds anticipate a growing imbalance in a government's fiscal policy, they will sell that government's bonds. There are good reasons for this. A widening gap between current revenues and expenditures is usually filled in two ways. The first is by selling more bonds to the public. The second is by printing money.[6] Either response leads to a decline in bond prices and a rise in interest rates – the incentive people need to purchase bonds. That incentive has to be larger when the real return of principal plus interest on the bond is threatened by default or inflation.

There is currently no sign of falling bond prices and rising interest rates. On the contrary: yields on 10-year Treasures have been heading downwards for more than twenty years. At their peak in 1981 they rose above 15 per cent. As recently as November 1994, they

[6] See most recently Luis Catão and Marco E. Terrones, "Fiscal Deficits and Inflation", *International Monetary Fund Working Paper*, No. 03/65 (2003).

were above 8 per cent. At the end of May 2003 they stood at 3.3 per cent. That is the lowest they have been since 1958 – a time when, if anyone had known about generational accounts, they would have been justly celebrating the good times ahead. (Back in 1958, the baby boom was still underway, Social Security was half its current size, and Medicare did not exist.)

Figure 2.

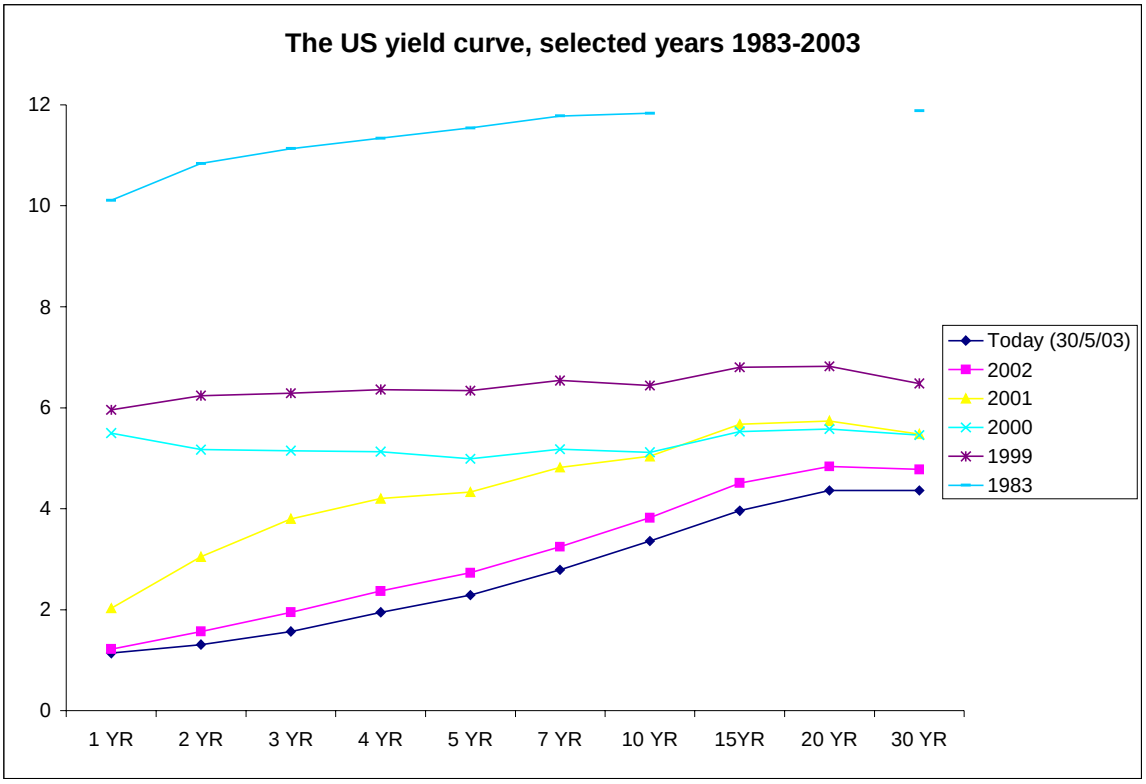
Source: Economagic (Federal Reserve Bank of New York).

There are two possible explanations for the apparent insouciance of the bond market. One is that investors and traders know of a painless answer to the federal government's coming fiscal crisis, which they are somehow managing to keep secret from the economics profession. The other is simply that they are "in denial". Many of them are aware of the black hole. Some have even read the "menu of pain" summarized in the table above. But nobody wants to be the first to admit what it implies. Or maybe – to be fair – nobody can quite work out *what* it implies. We are, after all, in uncharted waters.

Previous fiscal crises were not like this, because most of a government's liabilities took the form of official bonds, not statutory pledges to pay various index-linked benefits to citizens. Bond traders are used to a world in which governments in fiscal difficulties either default or allow inflation to erode the real value of their debts. They look at the United States and find it hard to envisage either scenario.

For reasons quite unrelated to federal fiscal policy, there are strong deflationary pressures operating at home and abroad. Overcapacity generated during the 1990s boom, investor pessimism in the wake of the bust, consumer anxiety about job losses – all these things mean that virtually the only sector of the US economy still buoyant is housing, for the simple reason that mortgage rates are the lowest in two generations. Meanwhile, the unleashing of China's productive energies is filling the global economy with amazingly cheap consumer goods. Small wonder bond traders are betting – to judge by the current yield curve – on continuing low inflation. True, two important indicators suggest a slight upward shift in investors' inflationary expectations. First, the yield curve, which had become more or less flat by the late 1990s has become more steeply sloped upwards in the course of the past two years. At the end of 2000, the spread between 90-day and 30-year interest rates was slightly negative (minus 42 basis points). At the end of May 2003 it stood at 326 basis points.

Figure 3.

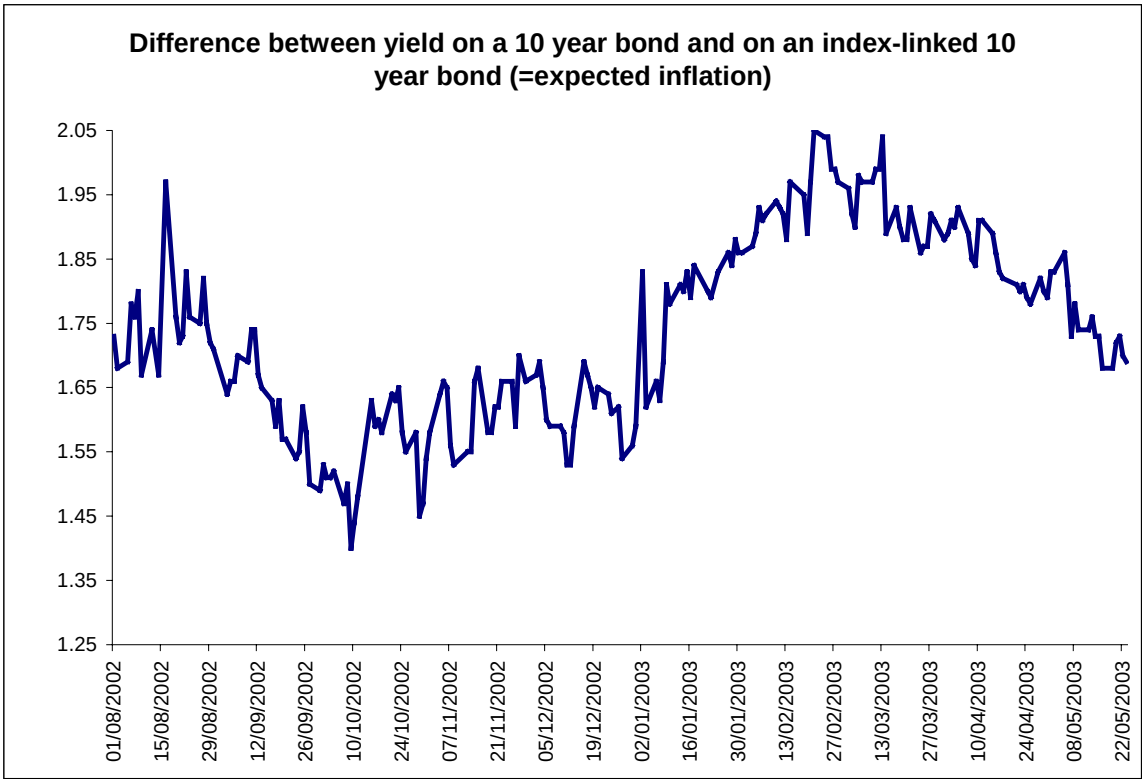


Source: Bondsonline.com.

Secondly, the spread between yields on ten-year bonds and index-linked bonds with the same maturity has widened slightly, from around 140 basis points in October last year to over 200 basis points in February, though it has since fallen back to 169 bps. Still, these figures are hardly indicative of serious inflationary fears. At the time of writing, one of the lead stories on the Bloomberg website describes *de*flation as "great bugaboo menacing the markets and the economy in the early 2000s".[7] On May 22 the Chairman of the Federal Reserve, Alan Greenspan, acknowledged that there was a "possibility" of deflation in his most recent testimony before the Joint Economic Committee of Congress.[8]

Figure 4.

[7] Chet Currier, 'Deflation-defense Strategy Uses Treasuries, Cash', www.bloomberg.com, April 26, 2003.
[8] David Leonhardt, "Greenspan, Broadly Positive, Spells Out Deflation Worries", May 22, 2003.



Source: Economagic.

There is, however, another way of looking at the bond traders' mindset. Compare their predicament with that of their colleagues (now in many cases former colleagues) trading equities just five years ago. At that time, it was privately acknowledged by nearly everyone on Wall Street and publicly acknowledged by most economists that American stocks – especially those in the technology sector – were wildly overvalued. In 1996 Alan Greenspan famously declared that the stock market was suffering from "irrational exuberance". Over the next three years, a succession of economists sought to explain why the future profits of American companies could not possibly be high enough to justify their giddy stock market valuations. Still the markets rose. It was not until January 2000 that the bubble burst.[9]

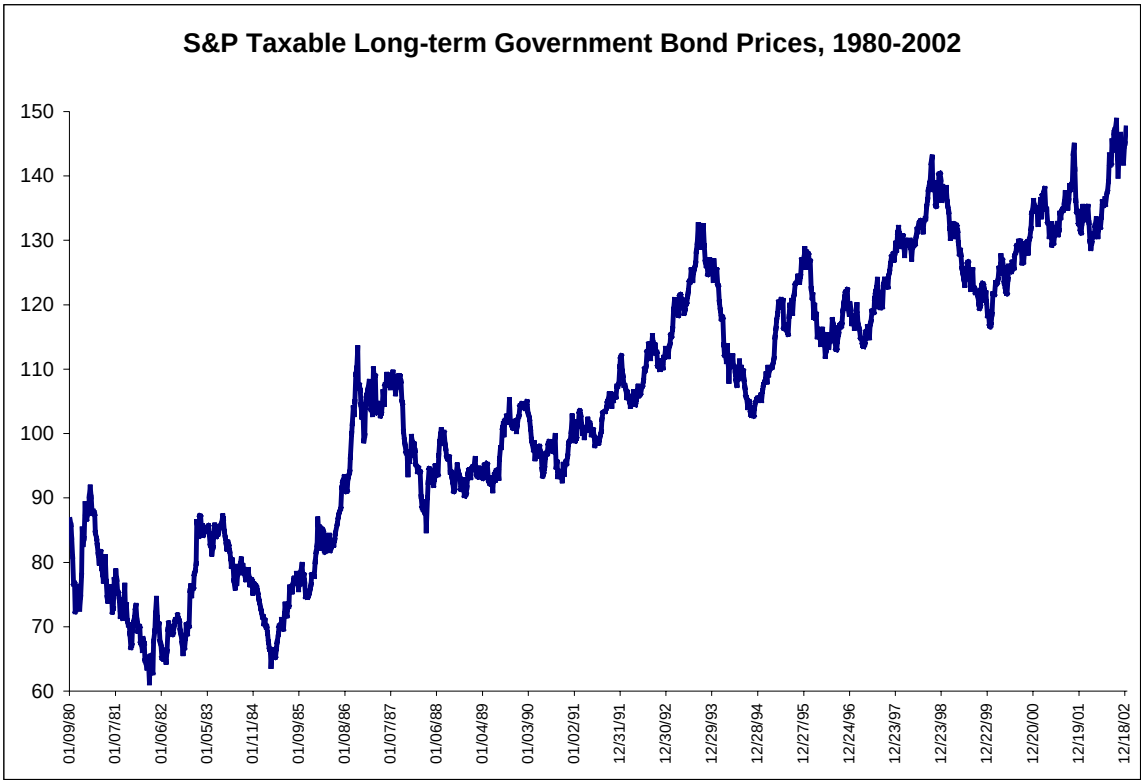
Could something similar be going on in today's bond market? Just as investors and traders knew that most Internet companies could never earn enough to justify their 1999

[9] See Robert J. Shiller, *Irrational Exuberance* (Princeton, 2000).

valuations, investors and traders today know that future government revenues cannot remotely cover both the interest on the federal debt and the transfers due on the government's implicit liabilities. But just as participants in the stock market were the mental prisoners of a five-year bull market, so participants in the bond market today are the mental prisoners of a twenty-year bond bull market that has seen the price of long-term Treasuries rise by a factor of two and a half in twenty years (figure 5). In both cases, everyone knows there is going to be a "correction." But nobody wants to be the first player out of the market – who then has to sit and watch the bull-run continue for another year.

Since January 2000, the Dow Jones Industrials index has declined by almost exactly 30 per cent as irrational exuberance has given way to rational gloom. It is certainly not hard to imagine a similar correction to the bond market at some point in the near future. The difficult thing is to predict what will trigger it.

Figure 5.



Source: Global Financial Data.

IV

When trying to make financial matters more vivid, writers often invoke imagery from the natural world. Bubbles burst. Bears chase bulls. So vast is America's looming fiscal crisis that it is tempting to talk about the fiscal equivalent of the perfect storm – or the perfect earthquake, if you prefer; even the perfect forest fire. In this case, however, nature offers more than mere literary color. For the dynamics of fiscal overstretch really do have much in common with the dynamics of natural disasters. Like a really big earthquake, we can know only that a big fiscal crisis will happen. What we cannot know is when it will strike, nor the size of the shock. Adopting the language used by scientists who study the unpredictable pattern of earthquakes and forest fires, we are condemned to wait and see when our fiscal system will enter "self-sustaining criticality" – in other words, when it

will *go critical*, passing with dramatic speed and violence from one equilibrium to another.[10]

The simplest example of this is what happens when you try to add to a pile of dry sand. If you drop more sand on top of it, one grain at a time, the pile keeps growing higher for a while. But then suddenly – and there is no way of knowing which grain will make it happen – the pile collapses. That collapse is when the pile of sand goes critical. Something not wholly dissimilar happens when one of the earth's tectonic plates pushes once too often against another along a fault line – and causes an earthquake. Now translate this into the world of mammals, which – unlike particles of sand – have consciousness. Imagine a herd of cattle quietly grazing while you and your badly disciplined dog take a walk through a field. At first, one or two cows on the periphery spot you. Then a couple more. They start to feel and act a little nervously. But it is only when your dog barks that the whole herd stampedes. A stampede is the self-sustaining criticality of mammals panicking.

What will panic the mammals who buy and sell bonds for a living? All the material ingredients for the fiscal crisis are, as we have seen, already in place. But the all-important sand pile is composed of the *expectations* of millions of individuals. Like grains of sand, little bits of bad news are dropped on us, day after day, week after week. Like the sand pile, we can go a long time before the cumulative weight of these grains of bad news causes us to alter the shape of our expectations. But one day something happens – maybe just one extra grain of bad news – that triggers the shift from equilibrium into self-sustaining criticality. Everything, therefore, depends on what bond traders expect the government to do about the $44 trillion black hole, and what might happen to change the irrationally exuberant expectations they currently hold.

The printing press is the time-honored last resort of governments that cannot pay their bills out of current tax revenue or new bond sales. It leads, of course, to inflation and,

[10] For a popular introduction to the subject see Mark Buchanan, *Ubiquity: The Science of History … Or Why the World Is Simpler Than We Think* (London, 2000).

potentially, hyperinflation. The higher the anticipated rate of inflation is, the higher interest rates will rise because nobody wants to lend money and be paid back in banknotes whose real value has been watered down by rising prices. The process whereby current fiscal policy influences expectations about future inflation is a dynamic one with powerful feedback effects. If financial markets decide a country is broke and is going to inflate, they act in ways that make that outcome more likely. By pushing up interest rates, they raise the cost of financing the government's debt and hence worsen its fiscal position. Higher interest rates may also depress business activity. Firms stop borrowing and start laying off workers. The attendant recession lowers tax receipts and drives the government into a deeper fiscal hole. In desperation, the government starts printing money and lending it, via the banking system, to the private sector. The additional money leads to inflation and the higher inflation rates assumed by the market turn into a self-fulfilling prophecy. Thus, the private sector and the government find themselves in a game of chicken. If the government can convince the private sector it can pay its bills without printing money, interest rates stay down. If it cannot, interest rates go up, and the government may be forced to print money sooner rather than later.

This suggests one possible scenario. Bondholders will start to sell off as soon as a critical mass of them (a) recognize that the government's implicit and explicit liabilities are too much for it to handle with conventional fiscal policy and (b) conclude that the only way the government will be able to pay its bills is by printing money. What commonly triggers such shifts in expectations is an item of financial news. In Germany in May 1921 – to give an extreme example – it was the announcement of a staggering post-war reparations burden of 132 billion marks that convinced investors the government's fiscal position was incompatible with currency stability. The assassination of the liberal Foreign Minister Walther Rathenau in July of the following year delivered the *coup de grace*, sending both interest rates and exchange rates sky-rocketing.[11] America today is a long way from being the Weimar Republic, plainly. But an item of fiscal news could nevertheless conceivably cause a major shift in inflationary expectations and hence in

[11] For a good illustration see Stephen B. Webb, "Fiscal News and Inflationary Expectations in Germany after World War I", in *Journal of Economic History*, 46, 3 (1986), pp. 769-94

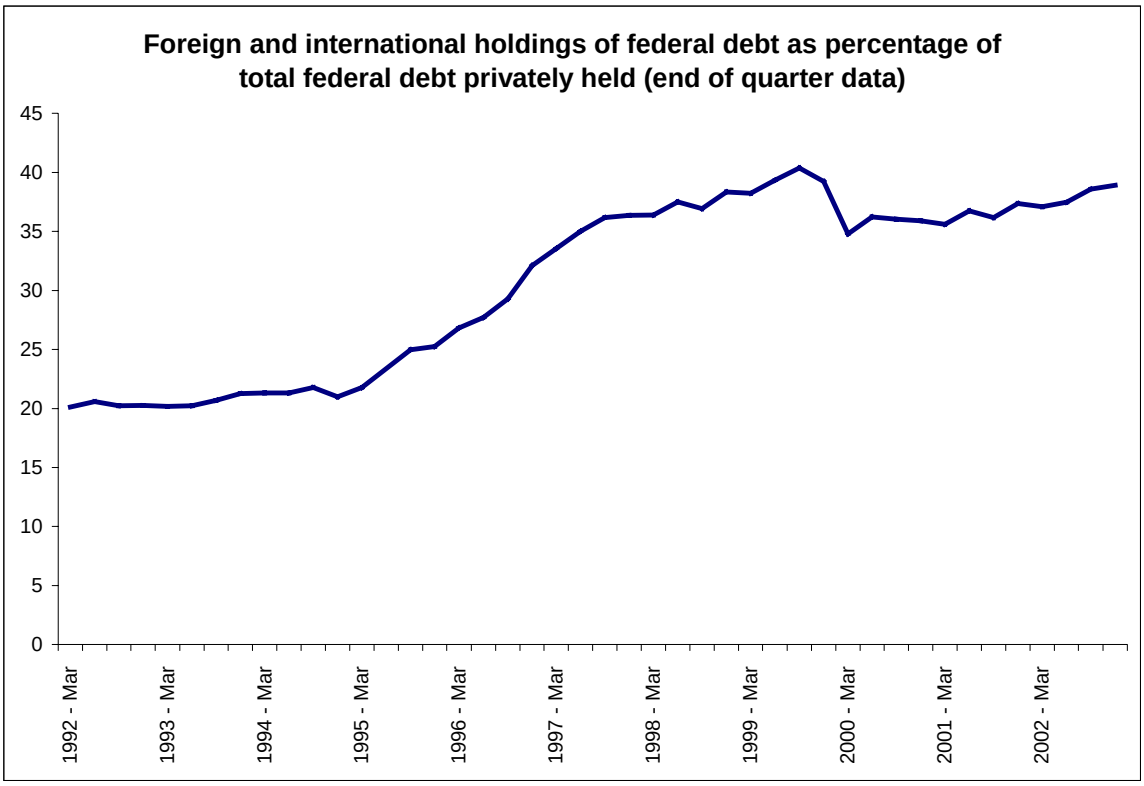
long-term interest rates. The trigger for a shift in this case might be the publication of government deficit data significantly higher than those forecast by the CBO. Another potential flashpoint might be Alan Greenspan's retirement at some point in the next two years (though judging by the muted reaction to the seventy-seven year old's recent warnings about the Bush administration's "lack of fiscal discipline", his power to move the markets is not what it was).

A third possibility is that the panic might not begin among American investors. According to data published in September 2002, foreign investors currently own close to two-fifths of the federal debt held in private hands (figure 6). The much-vaunted "hyperpower" would quickly find itself humbled if foreigners were to express their anti-Americanism by dumping US Treasuries.[12] Conventional wisdom has it that there is "nowhere else to go" for international investors seeking low risk securities in the world's reserve currency. However, this overlooks the growing importance of euro-denominated securities in the wake of European monetary union. To begin with, the volume of euro-denominated government bonds was very large even before the single currency was introduced: in 1998 the outstanding volume of Eurozone government bonds was roughly half the outstanding volume of US government bonds.[13] Secondly, as the rapid convergence of Eurozone bond yields clearly shows, monetary union has greatly reduced pre-1999 country risk, so that (in effect) all Eurozone countries' bonds are regarded as being almost as good as the old German bunds. Thirdly, net issuance has been significantly boosted by EMU: according to the Bank for International Settlements, around 44 per cent of net international bond issuance has been denominated in euros since the first quarter of 1999, compared with 48 per cent in dollars. For the equivalent period before the introduction of the euro the respective shares were 29 per cent and 53 per cent.[14] Fourthly, for all its crudeness, the Growth and Stability Pact notionally imposes tight constraints on the fiscal policies of Eurozone members – though whether

[12] For the view that this has already begun, see 'Return of Capital Fears Boost the Euro', *Financial Times*, April 15, 2003.
[13] Jean-Pierre Danthine, Francesco Giavazzi and Ernst-Ludwig von Thadden, "European Financial Markets after EMU: A First Assessment", NBER Working Paper 8044 (Dec. 2000), table 2.2.
[14] Bank for International Settlements. This was predicted by the BIS: Robert N. McCauley and William R. White, "The Euro and European Financial Markets", BIS Working Paper, May 1997.

the rule restricting deficits to 3 per cent of GDP will be enforced this year remains to be seen. EMU may not have boosted economic growth in the Eurozone but it has certainly enhanced fiscal and monetary credibility for the member states. Finally, unlike the US, the Eurozone runs a balance of payments surplus. The possibility that investors may come to regard to the euro as being as good as the dollar when it comes to denominating low risk securities cannot be excluded. Indeed, it may already be happening. Since February last year, the dollar has declined against the euro by 28 per cent. Significantly, since 1997 US long-term bond yields have been between 10 and 70 basis points higher than Eurozone yields, having been lower for all but two of the previous twenty years.[15]

Figure 6.



Source: US Treasury, citing the Federal Reserve Board Treasury International Capital Survey.

A plausible sequence of events might therefore run like this. The Congressional Budget Office suffers a blow to its credibility as the government posts a 4 per cent deficit.

[15] Figures from Economagic, OECD.

Greenspan steps down. The dollar slides further. Long-term interest rates edge up. The IMF publishes a report criticizing US fiscal imbalances.[16] Long-term interest rates rise some more. Inflation picks up due to higher import prices, which is due to the weaker dollar. Long-term interest rates move into the double-digit range. The Fed starts printing money to lower rates, but this raises long-term rates even further. The economy moves into recession. Deficits now exceed 5 percent of GDP. Inflation hits double digits. The government is forced to raise taxes, depressing the economy further.

One reason this scenario has at least superficial plausibility is that it echoes past events. Although few bond traders have history degrees, they recollect that the high bond yields of the early Eighties were in large measure a consequence of the inflationary fiscal and monetary policies of the previous decade. Nor do the Seventies furnish the only historical precedent for inflationary outcomes of fiscal crises. As is well known, printing money helps a government in fiscal difficulties in three ways. First, the government gets to exchange intrinsically worthless pieces of paper for real goods and services. The second fiscal advantage of inflation is that it waters down the real value of official debt. At the end of the First World War all the major European combatants had run up immense public debts with nominal values in excess of around two years' national income. But by 1923 the Germans had got rid of nearly all of theirs by printing so much paper money that the real value of government bonds fell close to zero. Thirdly, if the salaries of government workers are paid with a lag or are only partially adjusted for inflation, inflation will lower their real incomes. The same holds true for welfare, social security, and other government transfer payments – provided they are not index-linked. In Russia in January 1992 inflation hit its post-Communist peak of 296 per cent a month, but

[16] This has already happened informally. At a press conference on April 9, 2003, the chief economist at the IMF, Kenneth Rogoff, said as follows: "Let's suppose for a minute that we were talking about a developing country that had gaping current account deficits year after year, as far as the eye can see, of five percent or more, with budget ink spinning from black into red, with the likely deficit to GDP ratio for general government debt exceeding five percent this year, open-ended security costs, and a real exchange rate that had been inflated by capital inflows, with all that, I think it's fair to say we would be pretty concerned. Well, the U.S. is not an emerging market. It is, in fact, the greatest engine of economic growth in the history of the modern world. But I still think it's fair to say that at least a little bit of that calculus still applies" (transcript of the World Economic Outlook Press Conference, IMF website).

increases in government transfer payments (especially pensions and some salaries) lagged far behind.[17]

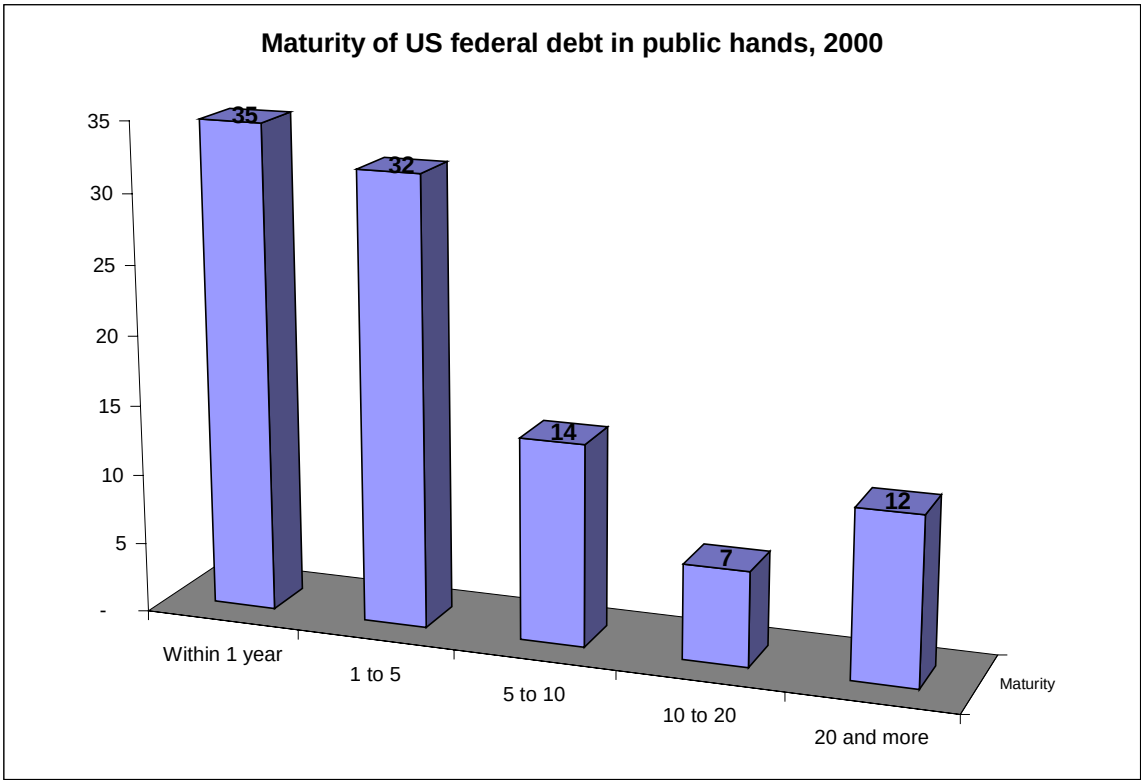
But is a 1970s-style inflation really the only way America's coming fiscal crisis can unfold? One reason why not is that only a modest proportion of the federal government's $44 trillion budget gap would in fact be reduced through a jump in inflation of the sort described above. First, much of the government's tradable debt is of short maturity – indeed fully a third of it has a maturity of one year or less (see figure 7). That makes it much harder to inflate away, because any increase in inflationary expectations will force the government to pay much higher interest rates when it seeks to renew these short-dated bonds.

Secondly, Social Security benefits are protected against inflation via an annual inflation adjustment. Medicare benefits are also effectively inflation-proof because the government unquestioningly pays whatever bills it receives. Thirdly, government workers are not likely to sit idly and watch prices outpace their wages. We tend not to think of the United States as a country with powerful labor unions, but the power of public sector employees should not be underestimated. Any attempt to erode their real wages by a pay freeze during a sudden bout of inflation would surely elicit a strong reaction, if not a strike.

For all these reasons, a rerun of the 1970s would not solve the federal government's fiscal problems. It would merely compound them. What, then, are the alternatives?

Figure 7.

[17] See Niall Ferguson and Brigitte Granville, "'Weimar on the Volga': Causes and consequences of inflation in 1990s Russia compared with 1920s Germany", *Journal of Economic History*, 60, 4 (December 2000), pp. 1061-1087.



Source: *Statistical Abstract of the United States* (2001), table 552.

V

The Bush administration's approach to the impending federal fiscal crisis appears, surprisingly, to be a variation on Lenin's old slogan: "The worse the better." Faced with the perfect fiscal storm, the President and his men appear to have decided to punch a hole in the boat by pushing through not one but two major tax cuts. Their initial proposal to Congress this year was for tax reductions totaling $726 billion. Whatever the merits of reforming the double taxation of dividends, this measure has sometimes been defended by administration spokesmen as designed to stimulate economic activity – a version of the "voodoo economics" dismissed by the President's father. Sadly, in the real world, cutting taxes raises consumption, which lowers saving, which lowers investment, which reduces the amount of equipment and other capital per worker, which lowers workers' wages, which lowers their tax payments. This reduction in the tax base reinforces the direct loss in revenues associated with cutting tax rates.

Some proponents of a tax cut as a stimulus argue that reducing certain taxes, like dividend taxes, gives people a greater incentive to save. To illustrate the point, imagine a 70 year-old who receives a $1,000 tax break on his dividends. For that tax break to contribute to national saving, he needs to lower his consumption. So he needs to not only save the entire $1,000 check, but to drop his spending below the level he was at and add to the $1,000 he has already decided to save. This is not how people behave, nor even how economic theory predicts they should behave. Yes, lower taxes on dividends gives the beneficiary an incentive to consume less today in order to consume more tomorrow. But it also gives him an incentive to consume more, because tax cuts have income effects as well as substitution (incentive) effects. Even if they did not, the expansion of the tax base from cutting taxes would need to be very large to offset the direct loss of revenues associate with lowering tax rates.

In fact, one viable fiscal solution to generational imbalance has already been implemented in Britain: that is simply to break the link between the state pension and wages. In 1979 the newly elected government of Margaret Thatcher discreetly reformed the long-established basic state pension, which was increased each year in line with the higher of two indices: the retail price index or the average earnings index. In her first budget, Thatcher amended the rule for increasing the basic pension so that it would rise in line with the retail price index only, breaking the link with average earnings.[18] The short-run fiscal saving involved was substantial, since the growth of earnings was much higher than inflation after 1980 (around 180 per cent to 1995, compared with 120 per cent). The long-run saving was greater still: the UK's unfunded public pension liability today is a great deal smaller than those of most continental governments: as little as 5 per cent for the period to 2050, compared with 70 per cent for Italy, 105 per cent for France and 110 per cent for Germany.[19] This and other Thatcher reforms are the reason the UK is one of the elite of developed economies which do not facing a major hole in their generational accounts. Interestingly, the others are nearly all ex-British colonies: Australia, Canada,

[18] Details in Nigel Lawson, *The View from No. 11: Memoirs of a Tory Radical* (London, 1992), p. 37.
[19] Gabriel Stein, 'Mounting Debts: The Coming European Pension Crisis', *Politeia*, Policy Series No. 4, (1997), pp. 32–5.

Ireland and New Zealand. According to international comparisons done in 1998, each of these countries could have achieved generational balance with tax increases of less than 5 per cent.[20]

Could it happen in the United States? The answer is that it seems unlikely in view of the growing political organization and self-consciousness of the American elderly. If you spend a little time in Florida, you are bound to see the sticker "I'm Spending My Kids' Inheritance" on scores of car bumpers. Fifty years ago such sentiments were seldom uttered. But attitudes and behavior have changed. Economic research shows conclusively that the elderly as a group are indeed consuming with next to no regard for their adult children. If the elderly were altruistic toward their adult children, government policies that took money from grown children and gave it to their parents would change neither party's consumption. The reason is that the parents would simply hand the money back to the children in the form of gifts or bequests. It is easy to test for such intergenerational altruism. All that is necessary is to see if government transfers from the young to the old increase the consumption of the old relative to the young. The American government has spent half a century taking ever larger sums from workers and handing them to retirees in the form of Social Security, Medicare and Medicaid benefits. The result has been a *doubling* of consumption per retiree relative to consumption per worker. Indeed, retirees now appear to consume more, on average, than workers.

The absence of significant voluntary intergenerational transfers between the old and the young helps explain why Social Security is sometimes referred to as the "third rail" by American politicians. Politicians who touch it by suggesting any cut in benefits will receive a violent political shock from the American Association of Retired Persons (AARP). Mindful of the British experience in the 1980s, the AARP has already commissioned a study showing what the effect would be if an American government replaced the link between the state pension and wages with a link to inflation. It concludes that price indexation would cause the average replacement rate (benefit as a

[20] Alan J. Auerbach, Laurence J. Kotlikoff and Willi Leibfritz (eds.), *Generational Accounting Around the World* (Chicago, 1999).

percentage of pre-retirement income) to drop by half over a period of 75 years, "fundamentally changing the relationship between workers' contributions and the benefits they receive".[21]

Quite why today's elderly should worry about the level of pensions 75 years hence is not altogether clear. Nevertheless, such arguments resonate not only among the retired but also among the soon-to-retire. Ageing baby-boomers are now so old that they have a bigger stake in preserving their future benefits than in lowering their current payroll taxes. Indeed, many have already joined the AARP, which sends Americans application forms on their fiftieth birthdays.

So are there any viable policies an American President could adopt without risking electoral oblivion? The first thing must be to bring Medicare spending under control. Medicare is in fact responsible for the lion's share – 82 percent – of the $44 trillion budget black hole. Since 1970, the rate of growth of real Medicare benefits per beneficiary has exceeded that of labor productivity by 2.4 percentage points. The $44 trillion figure assumes, optimistically, that in the future the growth rate of Medicare benefits per beneficiary will exceed productivity growth by only 1 percentage point. Just cutting the growth rate of Medicare benefits per beneficiary by half a percentage point per year would shave $15 trillion off the $44 trillion long-term budget gap. There must be a way of capping the program's growth without jeopardizing its ability to deliver critically important health insurance protection to the elderly.

The President's scheme for limiting Medicare growth effectively bribes the elderly with a drug benefit to join HMOs. This approach has three flaws. First, the benefit he proposes is fabulously expensive – $400 billion to $1 trillion over ten years, and that's if we're lucky. Secondly, his scheme retains the traditional and very expensive fee-for-service Medicare system and permits the elderly to switch back to it whenever they like. Unfortunately, they are likely to switch back just when they are becoming expensive to

[21] Alison Shelton, Laurel Beedon, and Mitja Ng-Baumhackl, "The Effect of Using Price Indexation Instead of Wage Indexation in Calculating the Initial Social Security Benefit," AARP Public Policy Institute, July 2002.

treat. Thirdly, the HMOs are free to shut down and ship their customers back to the traditional plan whenever their clients become too expensive.

The key, then, to meaningful Medicare reform is to eliminate entirely the traditional fee-for-service option and give all Medicare participants a voucher to purchase private health insurance. But would this not leave them at the mercy of the private health insurance industry, which will seek to insure only the healthiest among them? The answer is no, provided the vouchers handed to the elderly are weighted according to their health status.[22] Thus an 80-year old with pancreatic cancer might get a $100,000 voucher, while an 80-year old who is in perfect shape might get only a $5,000 voucher. The vouchers would be determined each year in light of the participant's health status at the end of that year. Having fixed a total amount to be spent on Medicare, the government can readily determine the amount of each voucher. Hence, total Medicare expenditures will be rigidly set. The major objection to this proposal is the loss of participants' privacy since they will have to reveal their medical histories to a government-appointed doctor. But this seems a small price to pay to regain some measure of fiscal sanity.

The second key policy is to privatize Social Security, but in such a way that the current elderly help rather than hinder reform. One way to do this would be to close down the old system at the margin and enact a federal retail sales tax to pay off, through time, its accrued liabilities. What workers would otherwise have paid in payroll taxes would now be invested in special private retirement accounts, to be split 50-50 between spouses. The government would make matching contributions for poor workers. And it would contribute fully on behalf of the disabled and the unemployed. Finally, all account balances would be invested in a global, market-weighted index of stocks, bonds and real estate.

Will either of these policies be implemented? We are not optimistic, since each would entail sacrifices by the retired – as the AARP would hasten to point out.

[22] We owe this policy proposal to Dr. John Goodman, President of the National Center for Policy Analysis.

There is one other, more drastic, possibility. It is usually assumed that outright default on the government's implicit liabilities is unlikely. Is it? Let us suppose that we are right about the risk of a major change in expectations about America's fiscal future. If the bond market does "go critical" – if, in other words, investors suddenly start to fear an inflationary outcome of the federal fiscal crisis – then an executive like this one, which is as attracted to reductions in Social Security as it is to reductions in taxation, might seize the moment of national emergency. And it would indeed be a national emergency. A government facing a steep increase in its borrowing costs would confront a large and powerful social group determined to defend their entitlements.

Such a scenario has one obvious historical precedent. In *ancien régime* France the biggest burden on royal finances did not take the form of bonds but the salaries due to tens of thousands of office holders – men who had simply bought a government sinecure and expected to be paid in return a salary for life. These were the most important part of the *dette exigible*. All attempts to reduce these implicit liabilities within the existing political system simply failed. It was only after the outbreak of the Revolution – arguably a direct consequence of the fiscal crisis of the monarchy – that the offices were abolished. The office holders were compensated by cash payments in a new currency – the *assignats* – which within a few years were reduced to worthlessness by the revolutionary printing presses.[23] The parallel has two implications. First, when fiscal systems go critical there can be big political consequences. Second, vested interests that resist necessary fiscal reforms can end up losing much more heavily from a revolutionary solution.

Perhaps, then, Paul Kennedy was not so wrong to draw parallels between modern America and pre-revolutionary France. Bourbon France, like America today, had pretensions to imperial grandeur. But she was ultimately wrecked by a curious kind of overstretch. It was not their overseas adventures that did it for the Bourbons. Indeed, Louis XVI's last foreign war – in support of the rebellious American colonists – was a

[23] Richard Bonney, 'France, 1494–1815', in *idem* (ed.), *The Rise of the Fiscal State in Europe, c. 1200–1815* (Oxford, 1999), pp. 131ff., 152f. Cf. J. F. Bosher, *French Finances, 1770–1795* (Cambridge, 1970)

huge strategic success. The overstretch was internal, and at its very heart was a black hole of implicit liabilities.

As Gibbon said, the finances of a declining empire do indeed make an interesting subject.