



Fiscal Crises and Imperial Collapses: Historical Perspective on Current Predicaments

Niall Ferguson, Harvard University

Peterson Institute for International Economics
Washington, DC
May 13, 2010

C. Fred Bergsten: I'm delighted to welcome you this evening to our 9th Annual Niarchos Lecture. This is a lecture series that's been sponsored throughout by the Stavros Niarchos Foundation, to whom we are very grateful for doing so.

Tonight it's a particular pleasure that Niall Ferguson, the distinguished and rather famous historian from Harvard, will be speaking to us. I want to turn the podium immediately to Spyros Niarchos to offer a welcome from the Foundation then to our chairman Pete Peterson to introduce the speaker. After that, after Dr. Ferguson gives his opening remarks, we will have a little discussion among ourselves, and then open to the audience for questions and comments on what I think will be a very provocative and interesting presentation tonight. Spyros, thank you again for your sponsorship; it's great to see you and your colleagues here.

Spyros S. Niarchos: Thank you very much and good evening to everybody. I'm very, very pleased to welcome you tonight here on behalf of the Stavros S. Niarchos Foundation. When we established this actual program in 2001, our hope had been to be able to use the opportunity for an informative and engaging, thought-provoking evening on topics of concern both for the United States and internationally. In cooperation with my fellow foundation directors, one of whom is here tonight, Mr. Andreas Dracopoulos, the Institute's leadership and staff have consistently ensured that our goal has been met, and I thank them very much for their efforts.

I'm confident that tonight's speaker and topic will more than live up to the standard set over the last nine years. Niall Ferguson is the author of such visionary books as *The Cash Nexus*, *Empire*, *War of the World*, and the most recent book and television series, *The Ascent of Money: A Financial History of the World*. He has currently completed a biography on Siegmund Warburg and has recently begun researching the life of Henry Kissinger, which should be very, very interesting. He has been listed by *Time Magazine* as one of the most influential people in the world and as a renowned historian in Britain. A prolific commentator on contemporary politics and economics, Niall Ferguson is a contributing editor also for the *Financial Times*.

His lecture tonight will focus on the relationship between economic policy and global strategy positions of the United States, a topic on which he is certainly well informed. So, for those of you who have joined us before and those who may be attending the Niarchos Lecture for the first time, let me again welcome you here. We're delighted to have you all with us. Thank you.

Peter G. Peterson: Thank you. I want to thank the Niarchos Foundation once again. Given what's going on in Greece, I assume the Greek government would have alternative uses of your resources that they might prefer to helping the Institute. But we're very grateful that you make this choice.

This is not part of the planned program, but Ferguson can't run everything here. I'd like to say a few words about Fred. Over something like about 30 years ago, a group of us started this Institute, including the [German] Marshall Fund and other great people. And during that 30-year period, I've had a chance to look at a lot of think tanks in the world, and if there's anyone in the world who can run a think tank any better than Fred Bergsten, I don't know who it is. I call him the triple threat.

When you're seeking a leader of an institution like this one, you want someone who has impressions about future policy issues. Fred certainly has that. You want a leader who is very good at attracting talent and keeping it. And I'm prejudiced, I know, but I think this is the best group of economists anywhere in the world. And I believe, Fred, it's been named the top think tank in the world, and Fred deserves a lot of credit for that.

The other thing that you look for in a leader is the ability to raise money, and I can tell you that he is so effective in that, that I have a Pavlovian response. Every time I see him, I stick both hands in my pockets and wonder what his next request is going to be. But Fred, I'd like to give you a hand for your leadership.

Now, having Niall Ferguson with us today takes me back, Fred, to our early days in the White House in the early 1970s. I had been named assistant to the president for international economic affairs. Fred was Henry Kissinger's senior economic adviser. In those days, it was almost a status symbol for the top foreign policy establishment to be invincibly ignorant of economics. Fred will remember Henry Kissinger used to say, "Peterson, that is a minor commercial or economic matter." And I used to say, "Kissinger, that's a redundancy. You think all such matters are minor."

More recently, he said, "My knowledge of economics is one of the reasons to oppose universal suffrage." Fast forward to today, geoeconomics—as it is referred to, for example, at the Council on Foreign Relations, where I have spent so many years—is a crucial integration of things economic and geopolitical. And it seems to me that our speaker tonight is the ultimate example of that conceptual integration. He's a professor of history at Harvard and at the same time a professor of business administration at the Harvard Business School. As Spyros pointed out, he has been named by *Time Magazine* as one of the world's 100 most influential people.

Niall, some might wonder if it's an indication of your ambition that you're preparing a biography on Henry Kissinger. I must warn you, if it indeed is your ambition to be the next Kissinger, Henry would be the first to tell you that that's an unachievable ambition. Perhaps most important for us today is that Niall has written, with grace, talent, and insight, on the nexus between the global economic power and the political position of key nations, including the United Kingdom and Germany and earlier periods in the United States today. Niall, I may be oversimplifying a bit, but it strikes me that your topic might well be on the theme "Can the world's largest debtor country remain the world's greatest power?" It's my great privilege to introduce Niall Ferguson.

Niall Ferguson:

Well, thank you very much indeed Pete, Spyros, Fred, and all of you ladies and gentlemen for coming to hear me this evening. It may well have struck you as rather appropriate that a Greek foundation and an institute named after the son of Greek immigrants should support a lecture on the subject of fiscal crisis. This was by no means foreseen when I was invited to give this lecture many months ago. And you may also be struck by the somewhat Hellenic quality of my first slide; like so many once intelligent people, I too, am a slave to PowerPoint, but I hope you'll see why I'm using this technology as the evening progresses.

That image of a Greek, or possibly Roman column, comes from one of the great cycle of paintings that hangs in the New York Historical Society by the Hudson School American artist Thomas Cole. This extraordinary sequence of paintings, which you all should go and take a look at, inspired me to write an essay in a recent edition of *Foreign Affairs* on the way in which empires rise and fall.

The way the artist depicts it is the way most of you, I suspect, think about it. It's a story of birth, of rise, of zenith, of decline, and of fall. It's a cyclical story, gradual story—the life cycle of empire is something that we all, I think, carry around embedded in our consciousness, and we assume that empires follow roughly this trajectory. And after the zenith there comes a gradual decline and fall—that, after all, is the title of the greatest work of history ever written, Edward Gibbon's *Decline and Fall of the Roman Empire*, which incidentally covers more than a thousand years. If empires decline that gradually then I suppose we, relatively near to the zenith of the American empire, can feel relaxed. But the theme of my talk this evening and indeed of that essay in *Foreign Affairs* is that very little in the realm of financial history and particularly the realm of fiscal history is gradual or cyclical.

On the contrary, what I want to emphasize this evening is the nonlinearity of fiscal history, the suddenness with which things can go wrong in the realm of public finance and from there, to the realm of geopolitics.

I'm going to begin with a little contemporary stuff if I can find the keyboard. We're living through—as I'm sure I hardly need to point out—a debt explosion in the developed world. This first slide shows the net public debt of major advanced economies from the 1990s projected forward to 2014 by the International Monetary Fund. And you can see the explosive increase, for example, in Japan's net public debt to above 130 percent of gross domestic product, overtaking Italy—a remarkable feat for students of public finance.

Notice also the great upsurge in the net public debt of nearly all the other major developed economies toward the 80 percent threshold with further, to go, as we'll see. Canada alone seems to have avoided this extraordinary debt explosion. This kind of fiscal crisis, this great rise in the ratio between debt and gross domestic product can periodically spook governments into drastic emergency action. This slide shows what happened in the European bond market in the last few weeks and months. And what it shows is the explosion of the borrowing costs of the Greek government from being, in November of last year, only perhaps a hundred basis points higher than the borrowing costs of other European countries, notably the core European economy, Germany. The Greek yield on the long-term government bond exploded to close to 20 percent at its

peak, as investors in Europe and around the world suddenly woke up to the fact that Greece was on an unsustainable fiscal trajectory.

I've been arguing for some time and I noticed that the *New York Times* recently, indeed yesterday, took up this argument of the experience of Greece is not peculiar to that country but is in fact a warning to many other countries in the western world of what can happen if you pursue an unsustainable fiscal course. It's just that Greece is the first of the borrowers to get caught out by market sentiment in the same way that Bear Stearns was the first of the investment banks to get caught out by market sentiment in the financial crisis that began in the summer of 2007.

The story of the age of leverage, as I've called it elsewhere, continues. What began in the household sector spread to the banking sector, has reached the sovereigns, has reached the public sector. Then all of us, not only Greeks, but all of us in the western world with a few notable exceptions like the Canadians, now have to grapple with extraordinary challenges to avoid Greek tragedies in our own economies.

As Peterson pointed out, I'm a historian, a historian incidentally, with no ambitions to replicate the unique career of Henry Kissinger. My sole ambition is to write a book that accurately chronicles that extraordinary story. As a historian, I'm struck by the fact that crises of the sort that we've witnessed in the last weeks and months in Europe are nothing new. In fact, they're as old as the bond market, and the bond market is quite old as I try to show in *The Ascent of Money*. There's been a bond market since 12th century Venice. It was the Italians, rather than the Greeks, who invented the idea that it might be best to finance government undertakings of an extraordinary nature, like wars, by borrowing from citizens rather than by taxing them.

So bonds began to trade in northern Italy in the medieval period, and part of the story of *The Ascent of Money* is the spread of this form of finance throughout the western world and finally throughout the world as a whole. What this picture tells you is the story of the great crisis between the middle of the 18th century and 1815, which occurred when Britain and France fought for global supremacy. From the Seven Years' War through the American War of Independence through the Revolutionary Wars in Europe to the Napoleonic Wars, the great conflict between the French and the British was a fiscal, as much as it was a naval or military, conflict. And this was a conflict that the British emphatically won.

What the chart shows you is in the green line, the yield on British consuls, that's to say the interest paid to investors on British government debt. The consul was the treasury of its day—a long-term, in fact notionally perpetual bond that had been issued by the British since the mid-18th century. And as you can see, even at its very height, at the time when things were going worst in the 1790s in the war with France, yields on consuls barely rose above 6 percent. Compare that with the French cost of borrowing, first in the blue line, the 5 percent royal halt and then rather the *emprunt d'Octobre* that was one of the loans issued by the French royal government before the revolution and then the 5 percent [halt] that was issued in the late Revolutionary, early Napoleonic Period.

The French Revolution caused a complete breakdown of French public finance. But French public finance had been in trouble really throughout the 18th century, and

one good explanation that historians have come up with for the French revolution is precisely this: At root, the revolution was a fiscal crisis. It was the fiscal crisis of the ancient regime that required the French monarch to summon the estate's general and that, of course, began the revolution. But the revolution precipitated even more severe deterioration in French public finance: a complete collapse of the currency and new currency *assignat* and an explosion, as you can see, of the borrowing costs of the French state. In fact that red line, were one to represent it accurately, goes far off the chart. In the pre-Napoleonic period French borrowing cost was stratospherically high because of the hyperinflation that had occurred.

If you calculate a spread by subtracting British yields from French yields, you can see just how significant the British advantage was: 700 basis points in the period after the victory in the Seven Years' War, a spread that was dramatically compressed by Britain's failure to control its American colonies but which then blew out again as revolution spread across the Atlantic from the United States to France.

Ladies and gentlemen, the work that I have done over many years, going back to the history I wrote of the Rothschild Bank—has explored the way this kind of pattern of fiscal divergence has repeated itself throughout the period from the late 18th century to the present. I'm just going to show you a few slides that illustrate the way financial history can illuminate the mainstream history that most of us are familiar with.

This slide takes the story of the international bond market from 1870 through to the mid-1890s. And in this case, as in the case in the next two charts, I'm just calculating the spreads between other government's borrowing costs and British government borrowing costs, expressed in terms of basis points, that's to say fractions of a percent. What's really interesting here is that if you go back to the 1870s, there's a familiar sight because up there with the 5,000 basis points spread over consuls is indeed Greece.

The Greek crisis is a really fascinating one because it illustrates a point that I'm going to revert to later. The credibility of a government as a borrower is bound up with a number of things. But one of them is the stability of its domestic politics, because of course without domestic political stability, it's very hard to raise taxation and, therefore, it's very hard to pay the interest on your debt.

Greece was going through a profound constitutional crisis in the 1870s that wasn't really resolved until the end of that decade. That, I think, was something that investors were acutely conscious of. Mexico, too, stands out as one of the bad boys of that era, as interestingly do Uruguay and Turkey. In each case, crises of either war or internal politics, and sometimes both, drove investors to sell bonds and therefore to drive up the yields on the bonds. In the period from 1895 to 1919, there was a pattern of convergence, which in many ways should be familiar to us today because we saw a very similar pattern of bond market convergence from 2000 to 2007. This was an extraordinary period in which, in highly liquid financial markets, the spreads of emerging-market bonds came down to just 20, 30—up to 100 basis points over US treasuries or German bunds. Much the same happened in what's being called the first stage of globalization from the mid-1890s to 1914.

Governments like, say, that of Egypt became dramatically more creditworthy, not least because, in Egypt's case, it came under direct British rule. But with the outbreak of the

First World War, the pattern of convergence broke down. Exploding deficits to pay for the war and surging public debts caused an increase in risk in the eyes of investors. And by the end of the war, the risk was really explosive in some of the marginal countries and, of course, for the losers of the war. In the period after the end of World War I, there was some convergence in the illusory tranquility or prosperity of the 1920s, but some countries even before the Great Depression had spiraled out of fiscal control, once again the standard country in this chart is Mexico.

If time permitted I could tell you a story about each of these jagged lines. I have to admit that they bring out the nerd in me because in some ways what these lines tell you is the way in which financial markets voted on the credibility of a government's fiscal policy. And what's most striking is the way in which very suddenly confidence could be lost in a country. The interesting thing to notice is that advanced economies are not exempt from the kind of crisis that we traditionally have associated with Latin America or Central and Eastern Europe. It's not just South American economies that get into real difficulty, nor was it just Middle Eastern and East European economies. In a wonderful book my colleague Ken Rogoff has coauthored with Carmen Reinhart, which I heartily recommend, *This Time is Different: Eight Centuries of Financial Folly*, they show just how many countries, including countries we think of as quite developed, have experienced episodes of default or rescheduling, which is just a fancy word for default. This chart simply ranks them, and it's not too surprising to find Honduras, Ecuador, Greece, Nicaragua, Mexico, and Peru, not forgetting Russia right at the top of the chart, with really huge numbers of years in those countries' histories since 1800 being characterized by default or debt rescheduling.

But if you carry on down the list you'll encounter some more surprising names. There's Spain, for example, Austria and gosh, just below Turkey, you'll find Germany. The Germans who like to strike attitudes of great fiscal rectitude, and they've been striking a lot of those just lately, strike them partly because of the harsh memory of two massive fiscal disasters in their history, one caused by the First World War and the other caused by the Second World War, catastrophes that were accompanied by full-scale default on public debt and hyperinflation.

This table illustrates that, yes, it happens to the best of us. Even the United Kingdom deserves a place on the roll of dishonor because, as I've pointed out to Ken Rogoff—he'd overlooked it—the United Kingdom defaulted on part of its external debt. Its debt to the United States after World War II was not fully paid off until the chancellorship of Gordon Brown.

Let's come up to the present and look ahead to the future and reflect a little bit on the crisis that we find ourselves in at the moment. As I've tried to imply, this is a pretty familiar story. Countries get into positions of excessive indebtedness. The markets overnight lose faith in the credibility of fiscal policy, and the rest you know. Looking here at a recent paper from the Bank for International Settlements (BIS), it's impossible not to be struck by the extreme instability of public finance in these countries: Portugal, Ireland, Greece, and Spain, known, rather rudely in my view, as the "PIGS" in some quarters. Now, what's striking about the Bank for International Settlements projections is that they show current policies leading to debt explosions of mind-blowing proportions in each of these countries over the next 30 years.

The baseline scenario, the red dotted line, just assumes that no policy change happens. If that's the case, then by 2040 the Portuguese debt-to-GDP ratio is about 275 percent, the Irish is 300 percent, the Greeks win the race at 400 percent, and Spain comes in on 300 percent. Notice though that even if these countries make significant fiscal reforms, including attacking the problem of aging populations and welfare budgets, none of them comes back down below 100 percent; even in the rosiest blue line scenario they all end up with debt-GDP ratios above 100 percent. And a reminder for those of you who haven't picked it up, Ken Rogoff made the point in the paper back in January that 90 percent is really the threshold after which public debt tends to be associated with problems of low growth or high inflation, usually both.

Well, we can sit, whether it's in Washington or in London, and make mock of the PIGS and the Greek tragedy that's unfolded. But if we do that, then we do so at our peril because the Bank for International Settlements also produces projections for these English-speaking countries, and they don't make pretty sights.

In the case of the United Kingdom, if there isn't a radical change in fiscal policy—and I'm happy to say one is just beginning—the debt-GDP ratio explodes to 500 percent, in fact slightly more, and for the United States the equivalent figure is 450 percent. You don't need to have a PhD in economics to see that that's actually worse than all of the PIGS. And that insight, which hit me forcibly a few months ago, gave rise to my favorite headline of the last few months. A headline that I wasn't allowed to publish by Lionel Barber, the editor of the *Financial Times*, who I think was a real kill-joy and it's this headline which I'd like to share with you this evening: "PIGS 'r' US."

PIGS are us, ladies and gentlemen, and it really is no consolation to say, but at least we're not in a monetary union with the Germans, and we can therefore print our way out of this. I don't find it very reassuring to imagine us printing our way out of a crisis of public debt, because we've done that sort of thing in the past, and unless you've got a very short memory, you'll remember where it got us.

Let's look a little bit more closely at what I'm going to call the metrics of doom. The metrics of doom are really ways in which we can compute fiscal sustainability, and I'm going to share two with you. One is the Bank for International Settlements's cyclically adjusted primary balance, which is a terrible mouthful. Really the primary balance is just the deficit, or of course possibly surplus, excluding interest payments on past debt, and it's usually seen by economists as a pretty critical measure, because if you are in a debt crisis, that needs to be positive. If it's not, then you're heading toward a kind of Ponzi scheme where increasingly you're borrowing money in order simply to pay the interest on the money you already borrowed. This is Madoff finance.

If you look at the cyclically adjusted primary balances in the right-hand column, you'll see that Greece has a painful -6 percent of GDP, that's what all the fuss has been about. But guess what, the equivalent figure for the United Kingdom is 6.8 percent and the figure for the United States is 7.3 percent. So we are, in a sense, "outpigging" the PIGS. Even more strikingly, if you look at the IMF's recent projections of what countries need to do in the way of fiscal adjustment in order to stabilize their debt-GDP ratios—the IMF suggests 60 percent of GDP by 2030—the adjustments are really very remarkable indeed.

Just to be clear, by fiscal adjustment, what I mean here is the percentage of GDP by which fiscal policy has to contract—either through tax increases or through spending cuts, probably through some combination of the two—to prevent a public debt explosion. I've ranked the problem so that you can see who's worst off. Japan is worst off. It would have to achieve a fiscal tightening of 13.4 percent GDP to stabilize its debt-GDP ratio even at 80 percent. Then I'm afraid, and I say I'm afraid for the sake of David Cameron and George Osborne because it's their harsh task to clear up this mess, then comes the United Kingdom and of course it's not surprising to see the usual suspects lined up behind them: Ireland, Spain, Greece, Portugal—but oh, before we get to Portugal, there's the United States.

The fiscal adjustment the United States would have to make in order to stabilize its debt-GDP ratio is in fact 0.2 percent of GDP less than that which Greece has to make. So there is really no significant fiscal difference, though there is a difference in monetary regime between Greece and the United States. Many people find this hard to believe. In fact, it causes all kinds of disquiet when I make this point to audiences, but I didn't make these numbers up; they're numbers, as I've said, from the International Monetary Fund.

And here's perhaps the most striking chart I can show you about our present and future predicament. The BIS has calculated projected interest payments in relation to GDP for all the major developed countries, and yeah, the picture is certainly pretty bleak for Greece, which on its present course, would end up spending more than 20 percent of GDP on interest by 2040. But look at the right-hand chart and you'll see that powering ahead in the interest payment stakes are once again, the United Kingdom and the United States.

This projection suggests that by 2040, unless there's a radical change of course, the United States will be spending over 20 percent of GDP on interest payments on the federal debt. Guess what, that's exactly the percentage of GDP that the CBO, the Congressional Budget Office, estimates will be raised as tax revenue by the federal government. Once again, you don't need a PhD in economics to do this math. That implies that by 2040, unless we radically change course, all federal tax revenues will be consumed by debt service.

Ladies and gentlemen, during the financial crisis, many economists picked up their dusty copies of John Maynard Keynes's *General Theory* and pronounced that deficits would save us. And this argument was made not only by Paul Krugman in the *New York Times* but also by Martin Wolf in the *Financial Times*. It seems to me that these commentators confused flows and stocks. By looking only at flows, they made a perfectly legitimate argument that an upsurge in private sector saving needed to be compensated for by an upsurge in public sector borrowing to avoid a collapse and demand and a depression. Fair enough, at least over a short period of crisis. But one also has to take account of the existing stock of debt, because Keynesian policies in many western countries came on top of long-lasting structural crises of public finance, which had driven debt-GDP ratios up already to dangerous heights.

Ignore those past debts, think only in terms of the flows and not the stocks, and you completely fail to foresee the unintended consequences of hyper-Keynesian policy. I believe we're witnessing these consequences today and Greece was the first to blow out.

Let's reflect, ladies and gentlemen, historically, about what causes these crises. Well, in one way, it's really obvious; it's excessive debt, however you measure it. And you could measure it in better ways than debt-to-GDP. You can measure it by comparing debt to revenue or debt to exports if a large part of the debt is held by foreigners, which incidentally it is in the case of the United States, as well as in the case of Greece.

I think a better metric, though, is to look at excessive interest payments. In my historical view, it's when a government is spending a rising share of tax revenues on interest payments that it starts to get into trouble. This is a really important point that I want to emphasize. You can relate debt service payments to GDP but I think it's more important to look at tax revenue. Because when the nasty fiscal arithmetic really kicks in, it kicks in there.

Only a few years ago, the United States was spending less than 7 percent of federal revenues on interest payments on the federal debt. The debt wasn't that huge and interest rates were very low, but on present trajectories, we will quite quickly get to the point when a fifth of federal revenues are going on interest payments. And as I've said, if the BIS is right, within three decades, it will be 100 percent. Of course, it never will get there because that's just impossible. What a crisis like this does is to force impossibly difficult political decisions about what is going to be sacrificed in order to pay the debt or which debtors are going to be sacrificed to maintain other payments.

Another cause of crisis is of course an excessive reliance on foreign capital. Many of the great debt crises of the 19th and 20th centuries were crises caused when foreign investors took fright at unsustainable policies, and that's been a really important part of the story in Europe. Italy is much less vulnerable than Greece in this respect because most Italian debt, like most Japanese debt, is held by natives; it's not actually held by foreigners. But the Greek position was really quite extreme where a huge proportion of Greek debt was held overseas. And in the United States, the situation at the moment is about half the federal debt is in foreign hands, including, of course, a very substantial chunk in the hands of the People's Republic of China.

Let's dig a bit deeper: What really causes these crises? Well, part of the cause is economic weakness. When your economy grows slowly or when the returns on private sector investment are low, then you're much more likely to get in the debt trap; low growth can breed large deficits because tax revenues disappoint. And of course if the GDP doesn't grow as fast and the debt does, then very quickly you find yourself in trouble.

Milton Friedman famously says, and we have at least one of his pupils in the room, that inflation was always and everywhere a monetary phenomenon. I want to suggest to you that public debt crises are always and everywhere a political phenomenon. They're consequences of political weakness. Excessive expenditure and insufficient taxation, failures to make decisions about unsustainable fiscal policies are political; they are not the results of profound economic processes.

Finally, we need to remember, to invoke a previous lecturer in this series, irrational exuberance. Investors keep forgetting to learn from history, no matter how hard I try to teach it. As is illustrated by the history of Argentina's yield spread and the spread of the British government debt 1870–1914—two great defaults in this period, one very famous

in 1890 that blew up Barings Bank—some people just never learn, because Argentina just keeps doing this, and it will just keep doing this until there's some profound change in Argentina's political economy. And this is true no matter how often it happens.

Turkey—and here I'll say something that the Greeks in the audience will enjoy—Turkey has really had a pretty disastrous fiscal history. One of the most spectacular defaults of the entire 19th century came in the mid-1870s when the Ottoman Empire defaulted on its external debt and that caused a huge blowout of the spreads, 8,000 basis points. Wow, you really didn't want to be at the wrong end of that trade back in the 1870s. And it just does keep on happening. Here's the history of Turkish spreads over US treasuries from 1999 to 2008.

So part of the problem is that we seem incapable of learning from the history of the bond market, and that itself is a very puzzling phenomenon. Peter Lindert did a study, quite a few years ago now, that illustrates the extraordinary way in which investors just refuse to learn. What he and his coauthor did was to compare the ex-ante returns that investors expected when they bought foreign bonds with the ex-post returns that they actually got on a sample of countries. And here they are, including some emerging markets and some not-so-emerging markets and established markets like Canada. What's amazing is that if you compare the ex-ante and the ex-post numbers, only in the case of Canada—and only in two of the three sub-periods—did investments in sovereign bonds actually surprise on the upside. In all other cases, the ex-post returns on foreign sovereign debt were less than the expected returns. That seems to me to be a pattern, and it also seems to me to be quite a strong recommendation to invest in Canadian debt.

What are the ways out of a debt crisis? That surely should be the burning question in the western world today, on both sides of the Atlantic. What do we do now that we are in this situation? Well, ladies and gentlemen, in theory, there are six ways out, which I will share with you now. One is to raise the growth rate of your economy. The second is to lower the interest rate on your borrowing. The third is to get bailed out by somebody. That's the route that at the very last minute the Greeks were able to go down. The fourth, of course, is fiscal pain. You increase taxes or you cut public spending and you try to run a primary budget surplus; you start, if you possibly can, to pay off the debt. The fifth is that you print money. That fancy term seigniorage is just a fancy term for printing money in order to inflate the debt away. And the sixth option is to default. There are all kinds of wonderful words for default that you need to know because they'll be appearing in the *Wall Street Journal* and the *Financial Times* quite frequently in the months ahead. You can have repudiation, standstill, a moratorium, restructuring, rescheduling, and so on. But it all boils down to changing the terms of the original loan—default.

Unfortunately, I have to strike out three of these six options right away because certainly from the vantage point of the United States, they're very unlikely to materialize. It's very hard for me to believe, given our present predicament, that we're going to see a sudden upsurge in economic growth in the United States. I think one consequence of the financial crisis has been to lower the growth path of the United States. At this point we've seen some slight recovery in the US 10-year yield, but that, of course, reflects a flight to safety as investors have exited Europe. At the moment the view persists that US treasuries are a safe haven, the safe haven for investors. But as I

pointed out in the *Financial Times* some months ago, US treasuries are a safe haven the way Pearl Harbor was a safe haven in 1941; safe but not for much longer.

The nasty fiscal arithmetic sooner or later catches up with all sovereign borrowers no matter how strong they feel themselves to be—which just leaves fiscal pain, inflation, or default.

Cut, print, or default. Ladies and gentlemen, history affords only one example of a country that managed to get itself out from excessive debt-to-GDP burden without either inflating or defaulting. The only case that I can find is Britain after 1815. For a long century, Britain paid down its debt through growth and through running primary budget surpluses. There was no default. There was no inflation. But this, unfortunately, is the only case that history offers us. And remember Britain did have some unusual advantages at that time. It was, of course, the first country to enjoy an Industrial Revolution. It also had the world's biggest empire to draw on, and it had a nondemocratic franchise throughout the period, which meant the propertied were represented and the propertyless essentially were not. That makes it much easier to make tough fiscal decisions, believe me.

So that just leaves us with two options: printing, and that's much easier for a country with monetary sovereignty like the United States or the United Kingdom (it's impossible for Greece, unless Monsieur Trichet agrees to print for them); or alternatively default, which I believe not only Greece but other eurozone economies will ultimately do because no bailout can essentially achieve the drastic contraction in fiscal policy that the Greeks have committed themselves to undertake. And I don't believe that that contraction is politically viable.

Let me illustrate as I draw to a welcome conclusion, two great Anglosphere debt reduction stories. Let's go back to the end of World War II, which was the last time that Britain and the United States had really huge debt-to-GDP ratios. The United States was well up above 120 percent. The United Kingdom, at the end of World War II, had gone above 250 percent of GDP, and as you can see in this chart, by the 1970s these burdens had been drastically reduced—well below 100 percent. In the case of the United States, in the 1970s when Pete Peterson was in government, this simply wasn't an issue at all because the debt was down toward 30 percent of GDP. There were other issues at stake but certainly that was not one of them.

Let's now look at how the debt was reduced. What this calculation does, and I owe it to Willem Buiter, is to decompose the reduction in debt into growth inflation and budget surpluses. And what you can see there is that in the case of the United States, the debt reduction was achieved by a combination of growth and inflation, certainly not by budget surpluses, which actually were so few and far between, that current fiscal policy added to the debt. For the United Kingdom, it's almost all a story of inflation. Although 98 percentage points of the reduction can be attributed to growth, 124 percent was subtracted from that achievement by budget deficits, leaving nearly all the reduction to be achieved through inflation.

My poor grandmother was one of many people who invested their savings in war bonds during World War II. War bonds were among the worst investments of the 20th century, and it was just unfortunate that nobody had explained to my grandmother

what her real interest rate was. If they had, she might have realized that she was earning negative real returns on her patriotic investment.

So one lesson of history is bond holders beware. If you look at the real annual returns on British and American bonds in the 20th century, the period after World War II is characterized by four decades of negative returns. These are the annual returns on both British and American government bonds adjusted for inflation. It wasn't until the 1980s that bond investors got anything like positive returns.

What are the implications, not only the economic implications, but the geopolitical implications? This was my favorite cartoon of last year and I want to share it with you: Chinese sub threatens the US Navy. The Chinese submarine captain is saying, "Turn around or we sell all our T-bills." I thought this was mildly funny when I saw it last year. When the United States announced arms exports to Taiwan the other day, it turned out to be a policy option that some Chinese military officers were willing to discuss in public, so not so funny. What, I repeat, are the geopolitical implications?

President Obama has made something of a custom of bowing to Asian leaders. This is another cartoon I rather liked, "Good grief, now he's curtseying." There's a big question really, which is the question that Larry Summers asked and Pete Peterson posed just before I began speaking, "How long can the world's biggest debtor go on being the world's strongest power?" When roughly half the federal debt is in foreign hands and a chunk of that is in the hands of the obvious strategic rival in the century ahead, that's a pretty good question to ask.

Let me offer three lessons of history that I think directly relate to the predicament of the United States today. I'm going to begin by telling you what governments don't do with world war-sized debt burdens. And let me reiterate, the debt burdens that we currently face in the western world are those we have previously only seen in times of world war. It's like we have the financial consequences of a world war without the world war. What governments don't do is slash expenditure entitlements, reduce marginal tax rates on incoming corporate profits to stimulate growth, raise taxes and consumption to try and balance the budget and encourage saving, and grow their way out of the problem without defaulting or depreciating their currencies. As I've said, there's only one exception to the rule and that was Imperial Britain after 1815.

Let's look at what governments usually do with world war-sized debt burdens. One, they tend to oblige, subtly or not so subtly, central banks and commercial banks to hold government debt. That of course, is already happening on both sides of the Atlantic. Two, they sometimes restrict alternative investment opportunities for citizens and firms—capital controls were a feature, of course, of the post-World War II era. Three, they tend to default on their commitments to politically weak groups at home and foreign creditors. And three, ultimately, if they can, they condemn bond investors to negative real interest rates. But I just want to make a point that's very important here. There are fewer naïve investors in government bonds today than there were in 1945, and the term structure of government debt today is much shorter than it was in 1945. Many people assume we will inflate the debt away like we did after 1945.

I want to suggest to you, and it's the most important point, that it may be harder to do that than we think. That, in fact, as the Greeks discovered, when the markets wake

up to a risk of inflation or default, they drive up the borrowing costs far ahead of any rise in the inflation rate and a country finds itself being crushed —by rising real rates. That's a more plausible scenario for me than a magic inflation that comes along and catches the investors out. It's no longer people like my granny who sit on piles of US treasuries and UK gilts. It's institutional investors managed by very smart people, not to mention our old friends the bond vigilantes.

Lesson number three: What are the geopolitical consequences of crises of public finance? Well, first in fiscal stabilizations, discretionary military expenditure is always the first casualty. Secondly, in cases of default on external debt, there can be conflict with the creditors who get, to put it politely, screwed. Thirdly, in cases of radical currency depreciation your reserved currency status can be lost. Just look at what happened to the British pound in the post-1945 period. This chart, and it's one of the last ones I'll force you to look at, looks at defense expenditure and debt service (defense is red and debt service is blue) as percentages of federal revenues since the 1960s. Those lines are going to cross soon. Within, I would say, the next six years, interest payments on the federal debt will exceed the defense budget. I think one of the clearest lessons of history is that that is a major turning point for any power—from Spain in the 17th century, the Netherlands in the 18th century, through the Turks in the 19th century, and the British in the 20th century. When you're spending more on your debt than on your army or your navy, it's all over as a great power.

It's no longer entirely possible to use the words Goldman Sachs without arousing a wry smile in an audience, but these figures I think are kosher. Jim O'Neill, as the chief economist [of Goldman Sachs], has been projecting gross domestic product forward for the major economies of the world, and for some years now he's been arguing that by 2027, the gross domestic product of China will equal that of the United States, and by 2050 India will have caught up. Now history is not like this, the lines are never smooth, but I think the long term trajectory is plausible and this really seems to me to be the most profound implication of the story that I'm telling.

Ladies and gentlemen, let me revert to Thomas Cole's great life Course of Empire. The point that I'm trying to make is very simple. It's not a thousand years that separates imperial zenith from imperial oblivion. It's really a very, very short ride from the top to the bottom.

Thank you very much indeed.

C. Fred Bergsten: Well, Spyros said he thought this would be the most distinguished of our lectures. It was certainly the scariest, and with that as backdrop, let's begin the conversation. Pete, you want to put any of your usually profound questions to our speaker?

Peter G. Peterson: Rather than focusing just on the melancholy but persuasive analysis you've done, why don't I ask you to think a little bit about your role as a historian and remind ourselves that something rather profound has happened in the American culture, its values, its sense of its future, its obligations to its children and grandchildren. And at the end of World War II as you remember, we had a debt of 110 percent of the GDP; by 1980, through a series of things, we got it down to about 30 percent. And then somewhere in that period, something happened to the American culture. To use John Maynard Keynes, our propensity to consume and borrow was very well developed. We started

saving a lot less. We started developing a kind of entitlement endowment in which we're entitled to it now and let somebody else pay for it, and so forth. So what I'm asking you is: Have you thought much about what the underlying changes are in our culture, in our values, in the way we think, in our morality, or whatever words you want to use, and does that give you any insight as to what might be done to change the situation? Because we keep saying it's a political problem; I'm not sure we've enough emphasis on the fact that it's a problem among our citizens, in our culture. Could you be a historian for a moment instead of an economist?

Niall Ferguson:

Well, I'm not an economist. I think that's been my saving grace actually in the last few years. It's a cultural question—I think you're right. Just over a hundred years ago, Max Weber went to the United States in search of an answer to the question "What produced capitalism?" It was partly a visit to the St. Louis World Fair that inspired the famous essay on the Protestant ethic and the spirit of capitalism. And although I think Weber was wrong to associate that ethic with Protestantism, I think the point that he was making still has some validity, because what he says in that essay is that Americans, and he also thought North Germans had this too, tended to work and to accumulate capital through thrift as ends in themselves. There was a culture of deferred gratification, consumption was postponed, work was the sign that you were a member of the godly elect. Weber was wrong in thinking it's just Protestants because even in his own day this was true of Europe's Jews who also had a work ethic. And I'm more and more convinced that the work ethic is not culture specific. There's a very powerful work ethic in China these days.

And so the conclusion that I find myself coming to is that these cultures of thrift and work are in fact relatively malleable and can change quite suddenly under the right circumstances. Why did Americans stop saving and start to add leverage to their balance sheets and devote more and more effort into speculating in real estate? I think one answer to that is that they learned from the experience of the 1970s that thrift in the traditional form didn't pay and that those who were thrifty and saved in traditional ways with their savings accounts or the purchase of government debt effectively got hammered. And the winners of the 1970s, in particular were those people who'd borrowed a lot, who'd bought real assets including their houses and then been able to pay off the debt in depreciated dollars.

So although it's cultural in its character, my inclination is to say that we can change that culture by policy errors, and the huge inflationary crisis of the 1970s, which was even bigger of course in the United Kingdom than it was in the United States, taught people a lesson and they acted quite rationally. They concluded that the smart thing to do was to lever up and buy as much real estate as you possibly could. I think the German case illustrates that, too, because in the period after Weber's life, the Germans experienced a cataclysmic series of economic disasters that really did alter their behavior. In the 1920s if you had paid a visit to a German city, you wouldn't have seen any thrift at all, because under conditions of postwar inflation, Germans had an incentive to spend their wages and salaries almost as soon as they had the cash in hand.

My sense is that we can change these cultures, and the challenge today is to see if we can change the behavior of Americans and indeed of most people in the West. Of course, they may change it themselves, and one of the really interesting indicators to

watch at the moment is the household saving rate. In the argument that I had with Paul Krugman last year, which got quite nasty I regret to say, one of the points that he made was that the debt didn't matter, the deficit was not a problem because we would finance it ourselves through an increase in saving. In fact, the saving rate didn't go up anywhere as much as people were forecasting and in recent months, it's come back down. So I don't see a radical change in behavior out there; even if people want to save more, it's hard to do that when you're as constrained by mortgage payments or interest payments and debt, as many American households are.

C. Fred Bergsten: Niall, let me ask a question about the lessons of history for triggering crisis. You've posited a situation where crisis is inevitable, and I think a lot of us here would tend to agree with that if we can't get our act together in time to preempt it. What do you take from your study of the history of all this in terms of what will trigger crisis? You've shown these cute cartoons about the Chinese pulling the plug, but when we here have studied the phenomenon of capital flight, we have found that in most cases, it's actually the natives, not the foreigners, who kind of get the word first, see what's coming, and tend to pull the plug, and sometimes the foreigners are actually left holding the bag. You have a take on that from your reading of history, either natives versus foreigners or events? Is there some numerical threshold or some market phenomenon that have tended to trigger the inevitable and bring on the forced adjustment?

Niall Ferguson: The British Conservative Prime Minister Harold Macmillan once gave the immortal answer to what the biggest problem in politics was when he said, "Events, dear boy, events." Events are really the key here; it tends to be a new story on a quiet news day that triggers a crisis of confidence. These days, of course, we have these interesting institutions, the rating agencies, that can make the news by announcing a downgrade of a country's credit worthiness. Now you have to hand it to the rating agencies, considering the role that they played in the financial crisis by misrating a whole range of toxic securities. It's wonderful the power that they continue to wield, and it's wonderful how little attention this great regulatory bill currently going through the US Congress pays to that phenomenon. So events can be manufactured by a ratings downgrade or it can just be a revelation. In the Greek case, it was the new government revealing that the old government had fiddled the figures.

So I think that there's no doubt that news—bad news—on a quiet news day can cause market sentiment to change. There's ample historical evidence to support that proposition going right back into the 18th century. Usually it would be a bad battle that would be reported and the most famous case, which I spent a lot of time trying to understand, was the way that news about the outcome of the Napoleonic Wars made its way to London. The famous story, which was completely wrong, was that the Rothschilds had spread false news about the outcome of the battle of Waterloo in order to make their first million. In fact, the truth was the very opposite; they *had* gotten the news, the correct news of the outcome, earlier than anybody else, and it was very bad news for them because they actually hadn't expected the war to end so quickly. So this is a really interesting example of how news can impact a market. Once the news came through that the war was over, there was a huge rally in British government debt and a slump in the price of gold. Then the Rothschilds were on the wrong end of that trade and had to scramble to extricate themselves.

One of my doctoral students, Ian Klaus has been doing some work on an event in 1814 when a fraudulent group of people, including a rather loose British admiral,

spread false reports in London that the war with France had been won by Napoleon. They even paid somebody to walk through the city of London dressed as a French officer speaking French in order to try to cause a panic on the stock market; and it almost worked until they were all arrested and put on trial for fraud in a wonderfully scurrilous court case.

So it's all about bad news and the timing of bad news. If that hits the markets at a particular moment, it can cause these great explosions in the spreads. The thing to answer the first part of your question is really hard, is to find some kind of threshold in terms of debt to gross domestic product. Now that's the measure that people always tend to cite but I spent a long time sitting in the Bank of England in the late 1990s running regressions on all the debt-GDP numbers I could get my hands on and there just was no pattern at all. In fact, I don't think that is a significant measure of fiscal sustainability. What looks more promising is this interest payments as a share of revenue, and the reason that's more promising is that that tends to precipitate political crises when it gets to a certain point, and it's the political crisis that often makes the front page.

So from our vantage point, the thing to worry about is when public finance becomes the stuff of the front page and becomes the stuff of really nasty political fighting. I'm afraid the British are probably about to find that out pretty soon when the happy marriage of the conservative- liberal coalition is put through the stress test of going through the books and discovering just how vast the deficit they've been left by Gordon Brown really is.

Peter G. Peterson: Fred, I'm wondering in the interest of fairness, if we shouldn't give Evelyn Rothschild equal time, so he can give the Rothschild version of economic history. You don't wish this opportunity? Don't accuse us of unfairness, please.

C. Fred Bergsten: But let's open it up to the audience and see—

Evelyn de Rothschild: I have a question.

C. Fred Bergsten: Sir Evelyn, go ahead.

Evelyn de Rothschild: And my question is rarely a statement in relation to what you said, Pete, in relation to culture. I believe the greatest change in culture that has happened in the last 50 years is technology, changing the attitude of people who deal with it. Eighty-five percent of the deals on the New York Stock Exchange—of course the problem last week—[is] done by computers. Now if you look at people's lives as they were when you were talking about the 19th century or even the beginning of this century, when the world—in 2005 when people started realizing things were going to pull apart. Do you think that technology has gone ahead of the brain? Do you think that what people had done, the instant attitude to react quickly, sending emails to one side of the office to another, not understanding, lack of history, do you think that is a big cultural change that has happened and we don't recognize it? I'm not against technological advancement, but hasn't it affected deeply the understanding of finance?

Niall Ferguson: I think there's no question that the acceleration of financial decision making has created new vulnerabilities in the system that weren't there when the information had

to travel by courier, a guy on a horse, in a boat across the channel, who had to gallop all the way back to London. I'm not sure that human beings react radically differently. It didn't hugely matter when the news got to London. It was a sure sign to sell or to buy depending on what the news was. So in some ways the acceleration hasn't greatly changed the quality of decision making. But once decisions get automated, as you say, you're into a completely different territory. We had a little glimpse of this, of course, in 1987, and I think we're going to need another report like the one that was produced after that by Nick Brady to really understand what happened the other day to cause that dramatic collapse in prices. The rumor, the story that was circulated on the day that somebody had typed a billion when he meant a million was so risible that I was astonished anybody believed it. Obviously, there's something much more complicated going on in these high frequency trades that are being carried out.

This brings me to the key issue that I wanted to raise in that *Foreign Affairs* piece, which is that we live in a complex system in the strict sense of the term, and it seems to be in equilibrium. I mean it looks like it's an equilibrium and economists are trained to think of it as being mostly an equilibrium. But actually it's not; it just appears to be that way. It's a complex system in the same way that a termite nest is or a rainforest is. It's on edge of chaos, constantly adapting and just staying on the right side of chaos. But it doesn't take much to tip a complex system over the edge, and that's really the most important point that I'm been trying to make for some time. Things are not gradual and linear in a world of complex systems and by having very, very complex technology, as well as enormously complex financial products and financial institutions, what we've created is a far more complex system than Nathan Rothschild knew in 1815—vastly more complex—and therefore, in a sense, more likely to tip over into chaos. That I think is a point that Nassim Taleb has made very forcefully in some of his recent writing, not only in the *Black Swan* but a recent piece he wrote in which he emphasized that we live in this highly optimized system. It's very efficient in the way that it allocates capital, and it allocates it with breathtaking speed, with far lower transaction costs than back even in the 1970s. But that very efficiency makes it fragile, and I think that's really what we're beginning to discover whether you look at the European bond market or the US stock market.

Jacob Frenkel:

Jacob Frenkel, JPMorgan. First, thank you. It was a fascinating presentation. The definition of success, today when we look at the public debate and last week the celebration about the new measures that have been announced, the definition of success seems to be the ability to avoid a default—more specifically within the coming two years or so there is enough money to salvage the debt—rather than to define the project as „let's see what happens after the two years when the program ceases and will there be ability to grow.“ Now the picture that you had about this guy who carries this extraordinary heavy burden on his back reminds me very much of the debate of a little more than 20 years ago. You mentioned already the name of Nick Brady. It was the mantra, pre-Nick Brady, that the only way that the debt problem at the time could be addressed or solved was by accelerating growth so countries would solve their debt problems through growth. At that time, there was somebody who suggested to reverse the question. He saw the picture that you showed and he said, “What is the debt that this patient can have on his back and still have a chance to pay it and grow, and if the existing debt is more than that number, maybe we should do something about it.” Now the state of mind that brought about the Brady bonds ended up being a win-win

situation—I'm not trying to advocate the virtues of default, but I'm trying to ask: If you define the project as let's avoid a default, you rule out the possibility that a default is the only way for the patient to move on. Why is it the case that everyone in a closed room says Greece will need to default? In fact, it may be a win-win to the creditors and the debtors, and yet nobody is allowed even to mention it.

Niall Ferguson:

Thanks, that's a great question. It does seem to me that one of the odder things about the crisis, the banking crisis in the United States and then the bond crisis in Europe, has been the extraordinary power of numbers that begin with seven then of two more digits followed by the word billion. These magic numbers you'll remember keep cropping up. It was a 700 billion dollar number that was dreamed up to pass TARP. It was a similar number that was dreamed up in order to have a stimulus bill and lo and behold, it's 750 billion euros that we need to bail out Greece, not to mention Portugal and Spain.

This is a fascinating psychological study in which number we find most reassuring because somehow 500 billion is not enough and 1 trillion would be way too much. Now I think in each of these cases, you're right. It's not any kind of psychological crutch, but it's a postponement of a problem of unsustainable debt. Certainly I've been arguing now for what seems all too many years since the crisis began even since before it, that you can't solve the problem of unsustainable debt in the private sector by having unsustainable debt in the public sector. This merely postpones the day of reckoning, and the act of postponement may make the day of reckoning worse.

That is a really important point that my good friend Larry Kotlikoff has been making at Boston University for years now. The more we kick this ball into next year and then into the year after that, then the more painful the fiscal adjustment becomes and indeed the more politically difficult. I think in the Greek case, the bailout really doesn't change anything about the impossibility of the Greek debt burden. Even if everything goes according to plan, it peaks out at 150 percent of GDP, and they're supposed to go from a 13.6 percent deficit to a 3 percent deficit in just a few years, a massive fiscal squeeze, and their economy is contracting.

So it's almost the opposite of the way in which Latin American debt crises were dealt with in the 80s right through to 2004. We seem willfully to be trying to pile on these incredible debts, these impossible debts, and essentially we're just lining these countries up for political crisis. We're asking governments to do what is historically not possible, and I think that's an extremely risky thing to do. Because in the case of Europe, it not only destabilizes a country like Greece or Spain or Portugal or Ireland and who knows, maybe Italy, but it destabilizes the European Union. And it seems to me the big casualty of this crisis may turn out to be the European institutions, including the European Central Bank, which has in effect, been rolled over. The real story was not actually this fantasy of balance sheet vehicle that was going to bail everybody out with money from who knows where. The real story was that the ECB agreed to buy debt directly, and that's one step away from monetizing the debt.

C. Fred Bergsten:

Niall, let me joy you out on this crucial point a little further because you've now indicated, I think rightly, that what's happening in Europe in the last few days and weeks, may represent a critical historical turning point in the whole European integration project. Query: Will the crisis and the response to it be an impetus to another great

leap forward in European integration, as most past crises have, in this case, leading to a completion of economic and monetary union by adding economic union, fiscal policy, economic governance to the common currency? Or, to the contrary, will we have passed the zenith of European integration and will the domestic politics, maybe in both the creditor and debtor countries, collapse and the whole project actually disintegrates? In turn, in a way that raises the question, is the traditional Monnet vision, the Franco-German agreement that geopolitical union in Europe had to dominate everything else, has that now waned with the distant past of the wartime memories or the like? Based on the history of the European integration movement, do you think this is going to propel a next big forward step or might we have now seen the peak of European integration?

Niall Ferguson:

Well, Fred, that's a good question because the 1992 exchange rate mechanism crisis did create the impetus for monetary union and the trauma of the near breakdown, and in the British case the complete breakdown of the exchange rate mechanism in the early 1990s, made monetary union seem like the answer, and so you could conclude that this crisis will make fiscal union in just the same way the answer. Except that I don't think it will work that way. I do not think there is the legitimacy in the eyes of voters in Germany, in particular, to pursue the idea of a federal fiscal system, and that is really what is necessary. The European monetary union or economic and monetary union was always going to fail. From 1999 onwards, my point was that if you have a monetary union with no fiscal union, it's inherently unstable and a shock at some point will cause this to fall apart. We've now had that shock, and it's become very clear that there is no mechanism for transfers from the rich to the poor, from the relatively indebted to the hugely indebted. We had to invent a mechanism practically over the weekend, and I don't think the mechanism is credible.

My sense is that if one were to go after the pain of getting the Lisbon treaty through, go back to European voters and say, "Guess what, we have a new treaty," and this treaty is a treaty to create the United States of Europe. Yeah, it's going to be a federal system folks. That means that there will be transfers from Germany to Greece, not just occasionally when times get tough but every year. I think the voters will just say no. I don't think it has a snowball's chance in hell of passing through national parliaments. I don't think, in particular, the will is there in Germany to bankroll the rest of Europe indefinitely.

Long ago, it seems long ago now, I wrote a piece, I think it must have been in 1989 or so, saying that if you added up all the net budgetary contributions that Germany had made to the other members of the European Union, ever since the process began with the treaty of Rome, if you added it all up to the late 1980s, it came to almost exactly the same nominal amount that Germany had been asked to pay under the Treaty of Versailles. So Germany in fact, paid its reparations after World War II. It's just that we call them net budgetary contributions to the European Union. I think that's enough actually, in the eyes of most Germans. I think that the desire to pay some kind of subtle reparations for the past is now gone and the German attitude is not really, you know, "What can we do to atone for the sins of our forefathers?" It's, "Why the hell can't Greeks pay their taxes the way we do?"

So if you had to choose between your two futures—and as a historian I'm always careful to say there's no such thing as the future singular, there are only futures plural—the United States of Europe or some kind of European disintegration, my money's on the second.

Herbjorn Hansson: I'm a Norwegian in international business, great to listen to you. I will not argue with Harvard professors; I've had two of them on my board for the last 15 years, and I believe you probably know them. I have two observations I would like you to comment on. I have done extensive business in Korea and also in China over the last 30 to 40 years, and I have wondered through my practical observations why have they succeeded as they have done. That has, in my judgment, many factors, but there are two things that I'm thinking about that are interlinked, hard work and productivity. So I would like you to comment on that. Maybe there's a lot of complacency in Europe—there is in Norway and Northern Europe, I know for a fact, there's nothing to argue about that—but also in all the parts of the western world.

My second question or observation is, this is the first period, at least that I know of, when we had a crisis in the globalized world. When you look back at history, have we had periods with a globalized world of the nature that we have now? Thank you, sir.

Niall Ferguson: Well, thank you very much. I had the pleasure of visiting your country just last week. I was in Stavanger, and it gives me an opportunity to say that if you're looking for a developed country that doesn't have a massive crisis of public debt, Norway is up there, well ahead of Canada incidentally. I think the issue of productivity is crucial here, and one of the reasons that Europe's monetary union was bound to come unstuck was that if you have a single interest rate, a single monetary policy for a group of countries of such divergent performance in terms of productivity and of unit labor costs, then something's got to give. There wasn't the migration, there could therefore only be transfers to compensate for these disparities. All the talk that there was in 1999 of the convergence that would be brought about by monetary union was for the birds, it never happened.

On the contrary, there was divergence, because German corporations really pushed to get their unit labor costs down and compete in export markets, and the other Europeans, particularly the south European equivalence, practically did the opposite, where the cost of labor, if anything, tended to rise, particularly because of the expansion of public sector employment. So I think that productivity is absolutely the core of this.

Now, for the United States, I would like to spread a tiny bit of good news, when I'm in Washington. For the United States there is the glimmer of hope of an exit strategy through high productivity, because the United States still leads the world when it comes to innovation and entrepreneurship, and it is still the best place to have a good idea and start a new company. Provided we don't kill that golden goose off with inappropriate taxation and regulation, there is the reasonable prospect that the United States will come out of the age of leverage with a high growth rate. I don't completely rule that out, even although it does seem to me premature to be talking about v-shaped recoveries.

Right now, the productivity action in China is so astonishing that they don't really need—and this is a conversation Fred and I often have—they don't really need to manipulate their currency. Even if they allowed some appreciation of the renminbi, the productivity gains that they're making in manufacturing would still make them pretty hard to beat in most global markets. Now in characteristic fashion, I'm completely forgetting what the second question you asked was but...

Ah, has there ever been a crisis of the global economy before: Yes. What's interesting is, I'll give a brief answer, we have been here before. Global markets were highly

integrated between say 1870 and 1914. Those charts I began with of the international bond market were charts from a highly globalized world in which the London market was tremendously liquid and traded assets of all kinds from all parts of the globe. For me, the fascinating thing about Globalization 1.0, the first version, is how suddenly it fell apart. It really fell apart in the summer of 1914 and never wholly recovered. So a geopolitical crisis, and this really links the two parts of my arguments together, a geopolitical crisis can be the way that a global finance system falls apart. That's why these issues that I raised at the end about relations between the debtor power and the creditor power are so hugely important.

Really, up until now, since 1972, since the opening to China, we've taken for granted that relations between China and America will be harmonious. And I've even written about Chimerica as a kind of happy marriage between the spendthrift and the saver. But the big concern is that that marriage is unraveling before our very eyes. What strikes me when I come to Washington is complacency on this particular issue, that when I raise the question, "Could the Chinese have a different strategy?," the answer I always get is, "Well, they need us as much as we need them," and that's an illusion because they don't.

The lesson they've learned from the financial crisis is that they don't depend on the US consumer anymore, that they can sustain something close to double-digit GDP growth by their own means and in trade with Asia. I think we're in that sense at a big turning point in relations between China and the United States, but only one partner seems to see that.

Peter G. Peterson: Niall, the director of the Institute and I had lunch the other day, and we reviewed together some charts I put together that are depressingly similar to yours. Given these scenarios, I'm going to ask you a micro question instead of all these macro historical things, what does history tell us about how one invests their money in this kind of situation?

Niall Ferguson: Pete, I think that is my favorite question. One of the reasons why I moved from the United Kingdom to the United States is that I never got asked that question in the United Kingdom, and I always get asked it here.

There are some pretty important conclusions that I think one could draw from this crisis. One is that if those rankings that I showed you are followed through, if I had a large enough screen, I could take you right down to the other end of the head table to the developed countries that don't have massive fiscal problems. I've mentioned Norway and Canada, there are some others too, and one obvious option for an investor is to switch out of sovereign debt that comes from the dodgy countries into sovereign debt from the sound countries. So I'm kind of along Norway, along Canada.

I think there's also an important point to be made about China. China, I think quite likely, will overtake the United States in terms of GDP, but of course things could go wrong. But I'm not sure China's a great place for a foreign investor compared with India. And I came away from a trip to India back in January deeply impressed by the fact that here is the second most populous country in the world, seems to be the most populous, and it has the rule of law, it has representative government, it has free speech, and it does, therefore, have the institutional foundations for an innovative and entrepreneurial society, which I'm not sure you can have with an authoritarian, one-party system that has a planned economy at its core.

So I guess my Asian strategy has become more Indian as this crisis has worn on. The Indian strategy is so much more self-propelled. There is an Indian middle-class, they are consuming, and it seems a politically stable country.

Finally, I guess one just has to ask oneself what's going to happen in the world of dodgy paper currencies, of fiat monies, because you could quite easily get burned if ultimately we do get a crisis not just of the euro but of fiat currencies generally. And I keep thinking that maybe I should be valuing my portfolio not in terms of this or that currency but in terms of the barrel or the ounce—in terms of commodities like oil and gold.

Maybe one of the lessons of history is that periodically paper currency loses credibility so much that we have to revert to commodity standards, and I think that may well be happening. When you look at what's happening in the gold market, it's not so much fundamentals that are driving gold up from a \$1,000 towards \$2,000. It's a fact that more and more people feel that they should hold gold as perhaps 10 percent of their portfolios. If everybody thinks that, if that becomes a standard investment strategy, then gold is going to go a lot further than its present price. So I've really re-thought my attitude towards gold almost on that momentum basis.

So I think that there are things that the individual investor can do to cope with this pretty scary picture that we're both painting, but let's not just think of this as investors. Let's think of it as voters, because in the end there's a political crunch time that's coming. You used the word preemption, I think Fred; this is a case where preemption is surely preferable to retaliation. Preempting a fiscal crisis has to be better than waiting for it to happen, just ask anybody in Athens. And the argument for preemptive measures in the United States and in the United Kingdom is absolutely overwhelming.

The question I ask myself is, why was it that when two weeks ago I came to this town to a dinner that was supposed to be about radical fiscal reform for the United States, I was expecting it to be a big dinner with a lot of congressmen present. Three turned up. It seems like there are three people in the US Congress who are serious about radical fiscal reform, and the rest are just hoping that the day will never come. Churchill famously said that the United States will always do the right thing when all the alternatives have been exhausted. I don't think that's a responsible fiscal strategy for this country.

C. Fred Bergsten:

Niall, on that cheery note, we want to thank you enormously for having stretched our minds so much. I think it's fair to say that this has been a very interesting Niarchos Foundation Lecture. We thank the Foundation again for making it possible. We thank you for being with us. I know you're off to Europe again later this evening. We thank you for taking the time with us, and we here will at least try to sally forth better armed to fight the fight that you suggested we better, or else we'll all be in deep trouble. Thank you very much.

To view the slides accompanying Niall Ferguson's lecture, visit
<http://www.piie.com/publications/papers/ferguson201005.pdf>

