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In his interesting paper (Kotlikoff, 2006), Professor Laurence Kotlikoff confronts the provocative question suggested by his title. The answer the paper provides is strongly in the affirmative. And to bring home the point of what this means, Kotlikoff reminds us of a paraphrased version of the *Oxford English Dictionary* definition of bankruptcy: “at the end of its resources, exhausted, stripped bare, destitute, bereft, wanting in property, or wrecked in consequence of failure to pay its creditors.” Although he does not do this, he could have underscored his point further by citing from Hemingway’s *The Sun Also Rises*: “How did you go bankrupt?” “Two ways. Slowly, and then all at once.” In any event, after making the case that the United States is bankrupt, the paper proceeds to examine policy responses that politicians might be tempted to adopt in response to the impending bankruptcy, which are summarily dismissed as economically disastrous. The paper ends with a discussion of the policy responses that Kotlikoff recommends. Thus, the paper can be viewed as having three main components: an examination of the relevant macroeconomic data to assess whether the United States is bankrupt in present value terms, an assessment of seemingly politically expedient policy responses that are likely to be economically devastating, and recommended policy responses. I will comment on each in turn.

IS THE UNITED STATES BANKRUPT?

Kotlikoff scoffs at the use of government debt or budget deficits as a measure of fiscal solvency because these measures are highly sensitive to the *labels* one attaches to what the government takes in as revenues and what it pays out to its citizens. A country can run budget surpluses and have no debt and yet be broke. The paper therefore suggests relying on generational accounting to examine the lifetime fiscal burdens facing current and future generations. It refers to a study by Gokhale and Smetters (2005) that calculated the U.S. *fiscal gap*, measured as the present value of the difference between all future government expenditures, including servicing official debt, and all future receipts. Gokhale and Smetters (2005) use the federal government’s definition of receipts and payments in their calculation, but alternative definitions would not change the final answer. According to the authors, the U.S. fiscal gap is \$65.9 trillion. This is an astounding number because it is more than five times the U.S. gross domestic product (GDP) and a little less than twice the size of national wealth. Based on this, Kotlikoff concludes that the United States is truly bankrupt.

The contributors to the fiscal gap are the familiar culprits—Medicare and Medicaid spending and to a lesser extent Social Security—combined with tax cuts. Kotlikoff considers many of the potentially counterveiling forces that could ameliorate the situation, such as immigration

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and productivity gains in developing countries such as India and China. He concludes, based on Auerbach and Oreopoulos (2000), that the additional taxes the government collects from immigrants barely cover the extra costs they generate in terms of public goods and services, and thus immigration is unlikely to be the answer. He is more optimistic about the role of China, in light of China's high savings rate, its national account surplus, and its eagerness to make larger and larger direct investments in various parts of the world. He is critical of the U.S. government's recent role in the events that caused the Chinese National Petroleum Corporation to withdraw its bid for Unocal, particularly in light of the very low national savings rate in the United States and the obvious need for foreign capital to flow into the United States.

Although the paper makes these points persuasively and forcefully, I have three groups of comments on the underlying analysis: (i) the root causes of the problem, (ii) the notion of bankruptcy as applied to the United States and the alternative view that emerges if we actually take seriously the analogy of the U.S. fiscal gap with corporate bankruptcy as understood in corporate finance, and (iii) the role of the key assumptions in the analysis.

The Root Causes of the Problem

The basic problem the paper identifies as a root cause seems hard to deny: As a nation we are spending too much and saving too little. In particular, the rampant growth in the government's spending on social welfare and entitlement programs has created a huge gap between what has been promised to future generations and what can be afforded. This should, in the usual circumstances, lead to an increase in long-term interest rates to provide the incentives for politicians to rein things in. In fact, one could argue that the fiscal improvements in the 1990s had a lot to do with politicians' concerns about the reaction of the bond market to reckless spending.

However, that is not what is happening at present. Although politicians are talking a lot about fiscal discipline, they are doing little about it. The government has recently handed out huge

subsidies to energy producers and promised several hundred billion dollars for transport projects. Yet, long-term interest rates have remained low, thereby substantially weakening one of the market-based incentive effects that tends to curb the fiscal profligacy of politicians. Normally, such low interest rates would imply too much saving relative to what people want to invest. But we know that the United States certainly does not have an excessive-savings problem. Rather, as Ben Bernanke and others have recognized, it is the increasing flow of dollar capital from emerging Asian economies into the United States that has contributed to the underlying long-term interest rate dynamics in the United States, and this flow of capital is in turn driven by demographic and structural shifts in the global economy.¹

Although Kotlikoff's focus is on the fiscal gap and his criticism is of the irresponsible behavior of U.S. politicians over the past 10 to 15 years, it is nonetheless useful to recognize that this problem also has roots in the apparent failure of market forces to discipline these politicians because of what is happening elsewhere in the world. That does not make the problem of tackling the fiscal gap head-on any less important, but it highlights an aspect of the environment today that is different from that of the past.

The Idea of a Bankrupt Nation

In corporate finance, a distinction is made among three types of financial distress: pre-bankruptcy financial distress, bankruptcy, and liquidation. Pre-bankruptcy financial distress

¹ The phenomenon of capital being channeled from other parts of the world into the United States is not a homogenous one, in that the underlying dynamics differ from country to country. In China, where the savings rate is a staggering one-third of national income, there is also high investment and rapid growth, but much of it is exported rather than used for domestic consumption. The net effect is a savings surplus that China is investing all over the world through direct foreign investment and in the United States through the purchase of dollar-denominated financial assets. In other parts of the world, it is a lack of investment at home combined with central bank intervention in the form of purchasing dollars with local-currency-denominated liabilities for "currency management" that has generated the flow of capital from these countries into the United States. Thus, with the exception of China, there appears to be relatively low investment outside the United States and relatively high debt-financed consumption combined with very low savings and possibly unsustainable levels of government spending in the United States.

refers to a situation in which the firm suffers a shock so that (i) its operating cash flows seem temporarily insufficient to cover its debt repayment obligations and (ii) access to further credit dries up as a result of adverse selection, moral hazard, or other frictions. However, the firm is still an economically viable business, with potential access to positive-NPV (net present value) projects in the future. One outcome in this case is that the firm renegotiates its contracts with its employees to lower costs, improve cash flows, and enhance its debt-service capability. An example of this is the renegotiation of General Motor's labor contract with the United Auto Workers, as well as the many renegotiations that the airlines have had with their labor unions. Another outcome—not mutually exclusive of the first—is that the firm renegotiates with its creditors to lower its repayment burden now in exchange for something provided to creditors in the future. The idea in both cases is to avoid bankruptcy, which can create deadweight losses in the form of restrictions on the firm's ability to do business as well as direct out-of-pocket fees for lawyers and accountants. Increasingly, however, the threat of bankruptcy is being used *strategically* by firms as a tool to renegotiate contracts that seem economically unattractive in light of changes in the environment.

When attempts to renegotiate fail, the threat point of the renegotiation is reached and formal bankruptcy proceedings follow. However, even in such a case, what essentially happens is that there is a court-mediated renegotiation, and the firm continues to operate—albeit with some court-mandated restrictions on things such as asset disposals, acquisitions, and so on—as it did before. Creditors may end up taking a “hair cut” in the form of a reduced repayment by the firm; but even during bankruptcy proceedings the firm has the ability to access additional financing for working capital,² and it is also judged to have access to positive-NPV projects in the future. Firms eventually emerge from bankruptcy with a set of renegotiated contracts, and life goes on.

The direst form of financial distress is liquida-

tion. Here the business is simply judged to be no longer economically viable. It cannot operate without additional infusions of capital, and nobody is willing to put any more capital into it. In other words, the supply of positive-NPV projects is exhausted and only negative-NPV projects remain. The firm's assets are therefore liquidated. This must have been the condition of buggy-whip manufacturers after the automobile was invented.

When Kotlikoff compares the state of the United States to that of a “bankrupt” firm, it is not clear which form of financial distress he has in mind. The reliance on the *Oxford English Dictionary* definition of bankruptcy as “exhausted, stripped bare, destitute, bereft, wanting in property” seems closest to liquidation. Yet, one would be hard-pressed to find someone who believes this is the state of the U.S. economy. With \$35 trillion in national wealth and a growing economy, the United States could hardly be described as exhausted, stripped bare, or wanting in property.

Could the U.S. situation be described as analogous to corporate bankruptcy then? Hardly. The fiscal gap problem identified in this paper is *not* one in which the U.S. government owes foreign creditors more money than it has the ability to repay, and U.S. Treasury bonds are still viewed as risk-free securities from a credit-risk standpoint.³ Moreover, because the U.S. government's commitments are in nominal terms, the corporate form of bankruptcy does not seem even technically feasible. Rather, the fiscal gap is caused by the government having made social-safety-net promises that seem large, relative to its revenue base. These promises are both explicit, as represented by Medicare and Medicaid, and implicit, as represented by unplanned expenditures on “bailouts” of victims of natural disasters such as hurricanes, floods, and earthquakes. It is essentially caused by an unsustainable structure of transfer payments.

The more appropriate way of describing the U.S. situation is as follows. Suppose we have an economy that consists solely of a single fruit tree

² This financing, which has grown substantially over the past two decades or so, is called debtor-in-possession financing.

³ In any event, because the dollar is the world's reserve currency and U.S. government's debt obligations are in dollars, the government can always repay its dollar-denominated liabilities, even if it means printing more money and inflating the currency.

and two agents. The entire output of the fruit tree goes to agent A, and he has promised to pay agent B \$3,000 per year for his share of ownership in the economy. The promise includes a clause that permits agent B to receive more should unanticipated needs arise. The fruit tree is producing \$6,000 worth of fruit per year that agent A is able to sell externally and share the proceeds equally with agent B. However, in a couple of years, as a result of good fortune the fruit tree's output is worth \$8,000; coincidentally, in those years agent B's demand for consumption goes up to \$6,500 as a result of illness, so agent A gives agent B \$6,500, keeping \$1,500 for himself. In subsequent years, the fruit tree's output drops back to \$6,000, but agent A has promised to pay agent B \$6,500 and the expectation is that this payment will experience a growth rate of $g = 1$ percent per year perpetually. If one uses a discount rate $r = 3$ percent, the present value of the shortfall agent A is faced with is

$$\frac{\$500[1+g]}{r-g} = \frac{\$500[1+0.01]}{0.03-0.01} = \$25,250.$$

This is the analog of the U.S. fiscal gap that Kotlikoff refers to, and he would call this economy bankrupt.

Note, however, that the closest analog of this in the corporate context is the pre-bankruptcy financial distress that I discussed earlier. And what usually happens in that case is precisely what is likely to happen in the simple economy above. Clearly, agent A's promise to agent B is no longer sustainable and a renegotiation of the promise will have to occur. This economy is not bereft or wanting in property. It is producing \$6,000 worth of fruit per year and is just as viable as it was when agent B was promised \$3,000 per year. The economy simply needs to change its structure of transfer payments.

Similarly, promises made by the U.S. government to future Medicare, Medicaid, and Social Security recipients will have to be renegotiated. And what will make this politically feasible at some point is the same set of factors that allows firms like General Motors to be able to renegotiate contracts during pre-bankruptcy financial distress—namely, the threat of actual insolvency or

other dire economic consequences. In other words, the United States is not bankrupt. It is a nation with unsustainable promises to future generations of citizens that will need to be renegotiated. It is a bit surprising that Kotlikoff does not focus on this renegotiation aspect of financial distress, because doing so leads to very different conclusions from those he reaches.

Would the U.S. government ever renegotiate its promises or change the rules? Of course, it would. For example, during the 1980s it became painfully obvious that the deposit insurance scheme for savings and loan associations was deeply flawed and produced perverse risk-taking incentives. It took the Savings and Loan Crisis and the implosion of a \$3 trillion industry for this to become a priority for politicians, but eventually the passage of the Financial Institutions Reform Recovery and Enforcement Act (FIRREA) changed the rules of the game substantially, including disallowing the inclusion of supervisory goodwill as regulatory capital.⁴

The Role of the Key Assumptions in the Analysis

I will focus on three key assumptions in the analysis in the paper: the discount rate for calculating the fiscal gap, the role of the government, and the role of innovation and technology.

Consider the discount rate first. Given that spending more than receipts is unsustainable in the long run, the likelihood of the government *not* honoring its social-safety-net promises must be assessed as increasing through time. This should increase the discount rate used to compute the fiscal gap and thus reduce the size of the fiscal gap. Although I have not performed a sensitivity analysis of the fiscal gap calculations Kotlikoff refers to, we do know that present values of perpetuities are highly sensitive to the discount rate.⁵ Moreover, when the government does renegotiate its promises to future generations, the numerator

⁴ Prior to FIRREA, savings and loans could count supervisory goodwill as regulatory capital and many considered this a government "promise."

⁵ For example, in the illustration I provided earlier, an increase in the discount rate from 3 percent to 5 percent would cut the present value of the shortfall in half.

in the fiscal gap calculations will also decline, causing the gap to shrink further.

Let me now turn to the assumed role of the government in the analysis. As the analysis so starkly points out, it is the excessively intrusive role of the government, by means of the huge social safety net, that is largely responsible for the fiscal gap. Although the paper does not focus on this, it is this safety net, combined with the sophistication of our financial system in making credit relatively easily available to individuals, that is significantly responsible for the low and falling household savings rate in this country. By contrast, China, which admittedly has a substantial underinvestment in its social safety net, has households saving at an astonishing 25 percent of disposable income. Thus, one implication of the Kotlikoff paper is that part of the solution may lie in cutting back on the role of the government and creating stronger incentives for individual fiscal responsibility.

The impediment to such structural reform, of course, is that a lot of safety-net expenditures seem highly desirable *ex post* and are hence politically very attractive. But they generate lousy *ex ante* incentives, ranging from low household savings to a persisting desire to build costly infrastructure and communities in high-risk geographies.

I now turn to the role of the corporate sector, which the Kotlikoff paper does not spend much time discussing. The paper does note that productivity improvements are unlikely to be enough to solve the fiscal-gap problem. I want to discuss, however, the role of innovation and new technologies. These are unpredictable by their very nature, but when they do occur they provide discrete jumps in economic growth and tax revenues, introducing nonlinearities. These *nonlinear* patterns in economic growth seem to be in contrast to Kotlikoff's apparent linear extrapolations of historical trends in productivity growth. Moreover, they also ease resource constraints. In fact, an important function of a new technology is to relax a resource constraint or create a resource out of

something that did not exist before.⁶ But one thing is clear: Successful innovations will boost investments and economic growth and could significantly affect fiscal gap estimates. In light of my earlier discussion, the key questions here are also how future innovations will affect global investment patterns and hence the flow of foreign savings into the United States and how these innovations and possible changes in capital flows will affect U.S. economic growth and its fiscal gap. Moreover, foreign direct investments by U.S. companies in India⁷ and China will pay increasing dividends as those economies grow, not only through higher profit repatriations back to the United States but also through the innovations these investments will lead to.⁸

LIKELY POLICY RESPONSES TO THE FISCAL-GAP CRISIS

I will be very brief in this section because the paper devotes little space to this, dismisses the likely responses as economic suicide, and moves on.

The most obvious short-term fixes would appear to be to raise taxes and/or cut government spending. However, as the paper correctly points out, this would call for infeasible levels of tax increases or cuts in discretionary spending. Consequently, Kotlikoff concludes that the most likely response will be for the government to print more money. An increase in the money supply will eventually lead to significant inflation worries and an increase in interest rates, possibly leading to spiraling expectations of higher inflation and then hyperinflation.

I agree with Kotlikoff's view that none of these policy responses make much economic sense. Where I disagree is in his assessment that hyperinflation is likely to follow. I think the government's other promises are much more likely to be renegotiated before we get to that state.

⁶ For example, land was not a resource to hunter-gatherers before the advent of the technology of farming; it's what they could hunt and gather from the land that was a resource. Similarly, sand was hardly a resource before silicon chips.

⁷ Currently, the annual flow of foreign direct investments in India is only about 10 percent of that in China, but this number will almost surely grow.

⁸ For example, General Electric's engineering research center in India generates more patents every year than any other General Electric research center.

REFORM PROPOSALS

The paper focuses on reforming three parts of our economic system to address the fiscal-gap problem: tax reform, social security reform, and healthcare reform.

On tax reform, Kotlikoff proposes eliminating all income taxes, the payroll tax, and the estate and gift tax and replacing them with a simple federal retail sales tax (or value added tax [VAT]) with a rebate. The sales tax would be levied on *all* final consumption goods and services and is estimated to be 33 percent to cover all of the government's expenses.

At first blush, one may wonder why it makes any difference at all whether the tax imposed on us is called a sales tax or an income tax, as long as the aggregate amount of tax paid remains unchanged. The reasons why the VAT proposal differs from the current system are twofold.

First, it is obviously a much simpler system, which is attractive. Second, and more importantly, it fundamentally changes the nature of intergenerational transfers. The current system taxes those who are earning and saving. According to Kotlikoff, these tend to be the young. Kotlikoff's proposed system would tax those who are consuming out of previous savings, that is, those who are dissaving. Thus, his proposal shifts the tax burden from the young earners to the old consumers.

I like this proposal. It is a much better system from the standpoint of the incentives to save and consume. I have just two thoughts on this. One is whether the 33 percent VAT is too high and whether such tax reform should also be combined with a fundamental rethinking of the role of the government and the extent of its safety nets. Second, I wonder if a VAT-based system may make it easier for politicians to raise taxes over time. Anecdotal evidence from Europe suggests that it is often politically more expedient for politicians to push through tax increases with a VAT-based system.

On social security, Kotlikoff proposes scrapping the retirement portion of the current Social Security system at the margin by paying in the future only those retirement benefits that were

accrued at the time of the reform. Current retirees would be grandfathered in and would therefore receive their full benefits, but current workers would receive benefits based only on their covered wages prior to the date of the reform. Individual accounts (a Personal Security System [PSS]) would replace the existing retirement system, with all workers contributing 7.15 percent of their wages into an individual PSS account. The government would contribute to the accounts of the unemployed and disabled and make matching contributions on a progressive basis to workers' accounts. The government would also guarantee a zero minimum nominal return from investing the PSS accounts in a global portfolio.

I like most aspects of this proposal too. It is a definite improvement over the current system, but then almost anything would be. However, I would want to go further in reforming the system. We know that the Social Security system generates poor savings incentives for individuals and also creates massive contingent liabilities for the government. In light of this, my main questions are these: Why do we need PSS accounts for everybody? Why do the relatively wealthy need PSS accounts with a return floor guaranteed by the U.S. government? Why not limit these accounts to the bottom 10 or 20 percent of the economic ladder?

I now turn to healthcare reform. Here Kotlikoff proposes reforming not only Medicare and Medicaid but also our private health insurance system. Basically, the proposed system would replace the current fee-for-service Medicare and Medicaid programs with a universal health insurance system called the Medical Security System that would provide individuals with *needs-dependent* vouchers to purchase health insurance each year. The government would have complete access to everybody's medical records and would assess how much health insurance a person needs, so that the sicker would get bigger vouchers than the healthier.

Again, the current system is such a mess that it is hard not to like the Kotlikoff proposal. My concerns here are threefold. First, there is an obvious concern with complete government access to everybody's medical records, even though Kotlikoff brushes this issue aside. Second, what

happens if no insurance company is willing to provide the benefits needed to cover someone with a particular voucher? That is, the size of the voucher communicates information about the person's health problems, but the market fails to clear in the sense that no insurance company is willing to provide the appropriate coverage at that price. We have examples of rationing in credit markets due to informational frictions, so this deserves some thought. Third, the quality of healthcare in countries where universal healthcare is provided is not very good. Canada is an example of this. While well over half of all U.S. doctors are specialists, the Canadian percentage is much lower, which means that there are far longer waiting lines for specialists in Canada. The point is that changing the system has far-reaching consequences, particularly supply-side effects induced by the career choices of individuals in the medical services industry, that one would want to think about.

CONCLUSION

This is a nifty and thought-provoking paper. Although I do not agree with the implicit assertion that the U.S. fiscal gap puts the country in the same position as a bereft and destitute firm that is bankrupt and on the verge of liquidation, I do agree that the current state of affairs is alarming and the problem needs to be tackled head-on sooner rather than later. I also would like to see how the fiscal gap calculation would be affected by alternative discount rate assumptions, but I doubt that different numbers would change the qualitative nature of the conclusions or the appropriateness of reform proposals. Moreover, it is

worth thinking about the intertemporal stability of fiscal gap estimates. I recall it was not that long ago that politicians in Washington were fretting over how to spend the *surplus!*

At its very core, this paper makes a powerful case that the existing promises by the government, both explicit and implicit, are simply not tenable going forward. My belief is that the fiscal crisis identified by this paper will become so painful at some point that the political will to renegotiate these extravagant promises and diminish the nation's contingent liabilities is likely to emerge. But even if that happens, the three areas for reform that this paper has identified are sorely in need of critical examination. The proposals this paper has identified, while not immune to criticisms, are excellent places to start. I hope those in a position to do something will heed the unmistakable warning in this paper.

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