# **How I Learned To Stop Worrying and**

### **Love the Current Account Deficit**

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#### Introduction

The U.S. current account deficit now stands at about \$666 billion, or 5-3/4 percent of GDP.<sup>1</sup> Americans – people, businesses, and governments – now borrow \$666 billion per year, on net, from foreign lenders. The deficit has grown rapidly over the past decade: a decade ago, the United States borrowed only about one-fourth of this amount: the 1994 current account deficit was \$118.2 billion, or 1-1/2 percent of GDP.<sup>2</sup>

Should the current account deficit worry Americans? Should we be concerned about the changes in underlying economic factors that have caused that deficit? Should we worry about its implications? Does the current account deficit cause or reflect serious underlying economic problems that threaten our living standards? Will the United States become such a debtor nation that American living standards will fall as we work mainly to pay foreign debts?

Can some change in government policies reduce the current account deficit or attack its causes? Would America benefit from some such policy change? Without any policy change, what will happen in the future to the current account and the growing U.S. debt to foreigners, and what consequences will it have for the American economy, and our living standards?

#### **Background: the Current Account, International Trade, and Wealth**

The current account deficit is closely related to international trade. The current account deficit equals the U.S. trade deficit -- U.S. imports net of U.S. exports -- plus other net payments to foreigners (interest, dividends, transfers, and so on). The trade deficit is the biggest factor in our current account deficit, we will use the terms interchangeably except when necessary. The large growth in the current account deficit over the past decade shows up as a fall in U.S. exports to other countries as a share of our GDP. Imports as a share of GDP have continued to follow their previous trend; exports as share of GDP have fallen significantly below trend.

When a nation has a trade deficit (and does not receive net payments of interest, transfers, etc. from foreigners), it must somehow pay for that excess of imports over exports. We do that (almost entirely) by trading financial and real assets – stocks, bonds, real estate, and so on – to

<sup>2</sup> The current account is measured with much less accuracy than is commonly thought, partly because of excluded capital gains and losses on foreign assets and liabilities. But 5 or 6 percent of GDP is a roughly accurate figure.

<sup>&</sup>lt;sup>1</sup> This was the current account deficit in 2004; indications are that it will rise further in 2005.

pay for our net imports.<sup>3</sup> In this way, a country with a trade deficit borrows from foreigners (selling assets to them), while a country with a trade surplus lends (acquiring foreign assets). Consequently, a U.S. trade deficit reflects investment in the United States that exceeds saving by Americans.

A deficit can occur when U.S. savings fall, or when U.S. investment rises. Because many factors affect U.S. saving and investment, we can no more conclude that current account deficits are bad than we can condemn all borrowing for any purpose. Individuals, families, and businesses benefit from being able to borrow and lend. So of course nations – which are merely collections of those individuals, families, businesses, and the governments they form – also gain.

If the United States were unable to borrow from or lend to people, businesses, and governments in foreign countries, all U.S. investment would have to be financed by U.S. saving. Newly created high-tech equipment, expansion and maintenance of pharmaceutical laboratories, replacement of industrial machinery, education and training for workers, construction of structures for businesses or housing for families – all would have to be paid for with money that people in the United States (and U.S. business firms and governments) saved. When promising new investment ideas are ready to be implemented, increased demand for investment funds would raise U.S. interest rates until people saved enough to pay for the new projects, or until business firms decided that the higher cost of capital would make it unprofitable to pursue those new investment projects.

But the United States is not a closed economy. U.S. investment can be financed by U.S. saving *or* by foreign saving. When new prospectively-profitable investment ideas emerge, U.S. interest rates rise by less than they would in a closed economy, because in addition to attracting new American saving, those higher rates also attract foreign saving, and the United States then runs a current-account deficit. Far from being a problem, such a current-account deficit allows Americans to implement profitable investment projects that they would abandon without those foreign savings. Americans – and foreign savers – gain from that current-account deficit.

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<sup>&</sup>lt;sup>3</sup> While foreigners could accept actual cash (Federal Reserve Notes) for their net exports, few foreigners want to hold American money, and instead invest that money in stocks, bonds, and other assets.

## The Strange Course of Unsustainable Actions

One common observation about the U.S. current account deficit is that it is unsustainable. *Something*, apparently, must change, and observers frequently warn that the United States must be on guard in case foreign lending ceases abruptly, igniting a financial crisis.

Economists sometimes reply that when something is unsustainable, it won't be sustained. That tautology is intended to emphasize natural market adjustments to changes in economic fundamentals, and sooth concerns about an impending crisis.

Recently I ate at an expensive restaurant. During the meal, the rate at which I ate was unsustainable: my stomach was getting fuller and fuller. Eventually, after a great dessert – that, truth be told, I had a hard time fitting into my stomach, I stopped. The eating I had been doing was simply unsustainable. And it wasn't sustained. Moreover, the rate at which I was spending money that night was simply unsustainable. The prices were higher than Taipei 101. I couldn't afford a dinner like that every night. And, behold, I don't eat one like that every night. No crisis.

Millions, perhaps billions, of unsustainable economic transactions occur every day, without crises. So unsustainability is not a problem per se. To determine any economic problems that our current account deficit might cause, or reflect, we need more information about the specific causes of that deficit. In fact, as we will see, we need that information even to determine whether the current account deficit is *truly* unsustainable.

# **Are Federal Budget Deficits Responsible for the Current Account?**

One common claim among commentators - and even some economists – is that our current account deficit results from our large federal budget deficits. Those fiscal deficits *are* truly large, and may very well have important effects on our economy and future living standards. But the most important fiscal policy issues are *not* related to the current account. And evidence indicates that government budget deficits are *at most* a minor cause of our current account deficits.

There is nothing wrong *theoretically* with the hypothesis that government budget deficits cause current account deficits. After all, an increase in the government budget deficit adds to the demand for loans (the supply of bonds), and those loans could be obtained from foreign lenders. Alternatively, budget deficits could induce other economic changes that mitigate this effect.

Specifically, they may raise household saving and thereby create an increase in the supply of loans that can fund the increase in government borrowing. Only evidence can settle this issue.

The evidence indicates that government budget deficits are not a major factor in current account deficits. A decade or two ago, many economists spoke of the "twin deficits:" fiscal and current account, and claimed that budget deficits caused current account deficits. However, those claims were always based on looking only at certain episodes and ignoring the broad body of evidence that showed little connection between the two deficits. While the lack of connection was always evident from careful analysis of the data, it was starkly illustrated in the 1990s as the federal budget deficit shrank and turned into a surplus, while the U.S. current account deficit increased rapidly.<sup>4</sup>

# **Are Falling Household Savings Responsible?**

Some analysts point to the low U.S. household savings rate as a cause of the current account deficit. And U.S. household savings *have* declined over the last decade. However, the question remains whether that decline *caused* the rise in the U.S. current account deficit, or whether the current account deficit caused the decline in the household saving rate; or whether both result from other factors. And there is a good reason to think that the U.S. current account deficit was one cause of the decline in U.S. private saving.

One way to think about the U.S. current account deficit is to ask why the U.S. *borrows* so much more than in the past. Another way is to ask why the rest of the world *saves* so much more and invests it in the United States.

Can we say that one of these two questions provides a "better" perspective on the U.S. current account deficit? The answer is yes. If the rising U.S. current account deficit were due *mainly* to rising federal budget deficits that raised the total U.S. demand for loans, then this

<sup>&</sup>lt;sup>4</sup> A recent, careful study using a large econometric model (Erceg, Guerrieri, and Gust, 2005) finds that each one dollar increase in the federal budget deficit leads to a 20-cent rise in the current account deficit. I don't mean to endorse that estimate, however. Their model implies that more persistent (longer-lived) budget deficits have *smaller* effects on the current account than more temporary changes. That implication is at odds with other evidence and, I believe, will eventually found to be false. It is more likely that more temporary government budget deficits have larger effects on the current account, just as temporary reductions in a family's income reduce their consumption less than more permanent income changes. Transitory changes in family income lead mainly to borrowing and lending, and transitory government budget deficits are similarly more likely to lead to more foreign borrowing and lending. Because future government budget deficits appear to be longer-lived than past deficits (particularly due to Medicare and Social Security spending), future effects of fiscal deficits on the current account deficit are likely to be even smaller than in the past.

rising demand would have raised world interest rates. Similarly, if the rising U.S. current account deficit were due *mainly* to falling American household saving, then the consequent falling American supply of loans would have raised raised interest rates.

However, if the U.S. current account deficit were due *mainly* to increasing savings by the rest of the world, then the consequent rising world supply of loans would have reduced world – and U.S. – interest rates. The data show clearly that world real and nominal interest rates – long term as well as short term – have declined markedly within the last decade, as the U.S. current account deficit has risen. Long-term rates on indexed U.S. government bonds have fallen by more than half in recent years, and are now below 2 percent per year, and long-term rates elsewhere in the world have done the same. These interest-rate changes provide a key piece of evidence: the U.S. current account deficit has resulted *not* mainly because of rising fiscal deficits or falling savings by profligate consumers. Instead, the current account deficit appears to have resulted mainly from a huge increase in saving by the rest of the world.

Notice that this also explains why the rising current account deficit deficit has appeared *not* mainly as a rise in U.S. imports, but as a fall in U.S. exports (as a share of GDP): the rest of the world is choosing to spend less and save more, reducing the growth in U.S. exports as it raises the amount of foreign savings seeking profitable investments.

Another implication is that the decline in the U.S. savings rate over the last decade has *resulted* from the increase in global savings and consequent decline in interest rates, rather than *causing* an inflow of foreign saving into the United States.

### The "Culprit:" Increased Saving by the Rest of the World

Who in the world has been saving more? The answer may be surprising: newly emerging economies. The combined current accounts of what the International Monetary Fund calls "newly industrialized Asian" countries and "other emerging market and developing countries" rose from a *deficit* of \$69 billion in 1994 to a *surplus* of \$336.2 billion in 2004 -- an increase of \$405.2 billion in one decade. The U.S. current account deficit rose \$547.9 billion over that same period. So nearly ¾ of the rise in U.S. borrowing over the last decade comes from increased saving and lending by those newly-industrialized Asian and other emerging-market countries. Aside from those countries, the biggest change in another country's current account over the last decade occurred in Germany. The German current account rose from a \$24 billion *deficit* in 1994 to a \$96.4 billion *surplus* in 2004, an increase of \$120.4 billion. While the German savings

rate has remained roughly constant over the past decade, investment in Germany has fallen: German savers have found better investment opportunities elsewhere in the world. This \$120 billion rise in German foreign investment over the last decade accounts for most of the remainder of the rise in the U.S. current account deficit.

#### The Motive – Why have World Savings Risen?

Why are these foreign countries saving so much more than a decade ago? And why is *Germany* in this mix with newly-industrialized Asian countries and other emerging-market countries?

The answer may partly involve economic growth. Germany has grown more slowly than the United States in recent decades, and it is likely to continue to grow as much as one percentage point per year more slowly.than the United States. While that may seem like a small difference in growth rates, when it occurs over many years its cumulated effect is large: a country that grows at 2 percent per year *doubles* its size in 24 years and quadruples its size in 48 years; a country that grows at only 2 percent annually takes 36 years to double, and 72 years to quadruple. Basic economics leads one to expect that countries with slower growth will save more than countries with faster growth, just as a family is apt to save more if it expects its income to remain constant than if it expects big future increases in income. The German current account surplus may *result* from its slower expected rate of productivity growth. For the same reason, the U.S. current account deficit may result partly from the faster expected rate of productivity growth in this country.

Federal Reserve Governor Ben Bernanke has recently made a persuasive case about the causes of the massive increases in savings in newly-industrialized Asian countries and other emerging-market countries. He argues that the causes lie *outside* the United States. In particular, their increased savings – and the increased U.S. current account deficit – are *not* mainly results of U.S. fiscal deficits or low U.S. private savings. In fact, argues Bernanke, U.S. household savings has fallen *because* of the increased saving in these other nations.

<sup>&</sup>lt;sup>5</sup> See Plosser (2004 and 2005). In 1992, German per capita GDP was 82 percent of the American level. But lower growth in Germany has changed this: German per capita GDP is now less than 72 percent of the American level. If the United States continues to grow by one percent per year faster than Germany, as most observers expect, per capita German GDP will fall to only 60 percent of the American level in less than a decade.

<sup>&</sup>lt;sup>6</sup> Bernanke (2005)

One obvious hypothesis about increased savings involves demographic changes. The United States is not alone in the problems that it will face as the "baby boom" generation ages. By around the year 2030, the number of older people per "working-age" person will rise dramatically in the United States *and* many other countries. If these older people are retired, then all the goods and services they consume must be produced by the relatively smaller group of working-age people. Of course, people will live longer and retire later in life. Nevertheless, the older people will be less productive – partly because of their age, and partly because their skills will tend to be more obsolete (and they have less incentive than younger workers to invest in new skills). Because the older people will be less productive, even if they are working rather than retired, much of their consumption will be produced by the relatively smaller group of working-age people.

These demographic changes are the primary reasons that Medicare and Social Security face such impending crises in the United States. But the problem is somewhat worse in much of Europe, and much worse in Japan. Countries would naturally be expected to save more in preparation for this aging of the population. And annual savings should rise as the demographic changes grow closer. As noted previously, countries with slower rates of productivity growth would be expected to save more than countries with faster growth, as higher future productivity can substitute for a stock of accumulated savings. This may help explain why total German saving is now roughly \$100 billion per year higher than it was a decade ago. It may also help explain why Japanese annual saving has grown by about that same amount. But, as Bernanke argues, it cannot explain why other European countries, such as France, Italy, Spain, and the United Kingdom are now (like the United States) saving less. Nor can it explain the huge increases in saving in developing countries in Asia, Latin American, and the Middle East.<sup>8</sup> Instead, argues Bernanke, increased global saving over the past decade has resulted from two main causes: (1) precautionary savings by countries that either experienced financial crises in the last decade, or, like China, was (and may still be) at risk for a crisis; and (2) rising oil prices that increased oil revenues in oil-exporting countries, leading them to save more.

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<sup>&</sup>lt;sup>7</sup> These increases in saving have shown up as increases in German and Japanese current account surpluses; both countries' current account surpluses have risen by more than \$100 billion per year in the last decade.

<sup>&</sup>lt;sup>8</sup> Bernanke argues that prospective demographic changes give Germany and Japan, among others, strong reason for high savings, they do not explain the *rise* in German and Japanese saving over the past decade. That point is debatable, as savings would be expected to increase over time as the baby-boom problems draw nearer, and as evidence accumulates over time that Germany and Japan may face lower rates of productivity growth than in the past – and in the United States - for many years to come.

#### **The United States – Home of Attractive Investments**

Why have world savings come to the United States rather than elsewhere in the world? The answer appears to be that the United States still offers investments with the best combinations of expected return and safety, whether the investors are private foreign investors or foreign central banks. Clearly, these investors perceive U.S. assets as their best option – because they have always had the opportunity to take their savings elsewhere.

Notice an implication of all this: the U.S. current account deficit may be sustainable after all! If countries elsewhere in the world, for whatever reasons, continue to save enough, and if the United States remains the nation with some of the world's best investment opportunities, then the U.S. current account deficit may continue for many years to come. The increased foreign debt of the United States would not be a threat to American living standards because that debt would have been used to fund profitable investments. Any threat to American living standards would come from a different source: low savings by Americans. And the U.S. government should change taxes and regulations with the intention of eliminating – as much as possible –the artificial distortions that reduce incentives for Americans to save.

Bernanke (2005) points out that in the long run it would be more natural for advanced countries to have current account surpluses, to help finance investment in lower-income countries to raise capital-labor ratios in those countries. In addition, the reasons that world saving increased so much over the last decade are temporary: once crisis-shy nations accumulate enough precautionary saving – private as well as central-bank reserves – their savings rates are likely to fall. Similarly, savings from higher oil revenue in oil-exporting countries is likely to be temporary. For these reasons, he argues that the U.S. current account deficit will fall. Those arguments are sound, and the conclusion is probably—but not certainly – true. Suppose that the U.S. savings rate remains relatively low, and that this country continues to offer many of the best investment opportunities in the world. Foreign savers could continue to invest in the United States, while *also* investing in the rest of the world. Capital-labor ratios could rise in developing economies, financed by their own saving, and saving from slower-growing advanced countries such as Germany and Japan, even as the United States continues to run a current account deficit. That deficit would, however, likely be smaller than its current level.

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<sup>&</sup>lt;sup>9</sup> See Plosser (2004 and 2005), and Levy (2005).

### **The Current Account and Government Policy**

This analysis of the U.S. current account suggests no reason that it should play any role in formulating U.S. monetary policy. And, as noted earlier, the most important issues dealing with government spending, taxation, and government debt do not involve the current account. While the U.S. current account deficit partly reflects a low savings rate in the United States, that reflection *per se* should have little bearing on policy discussions. Instead, the savings rate is an issue in its own right, because government policy – particularly taxation (and double taxation) of savings and investment (and the pay-as-you-go Social Security system) distorts individual incentives and reduces private saving.

For the reasons discussed here, it should go without saying that there is no current account "problem" that could be solved by protectionist policies that interfere with free international trade in goods, services, and assets. That includes policies directed to slow globalization, to reduce "outsourcing," or to create "fair trade" or "level playing fields." Policies like these may benefit particular special interest groups, but they would reduce the average living standards of Americans today and in the future. <sup>10</sup>, <sup>11</sup>

In the long run, the most important policy implication of the U.S. current account deficit is one that Bernanke (2005) cites: The United States should help developing countries to improve their investment climates by opening markets, fighting corruption, improving property rights and contract law, reducing regulations and other artificial barriers in goods markets and financial markets, and allowing free markets to provide incentives for entrepreneurship and investment. It

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<sup>&</sup>lt;sup>10</sup> Note that the trade deficit does **not** result from the inability of the United States to compete against lower-wage countries such as Mexico, India, and China. Such a claim embodies numerous fallacies about international trade and competition; and it *also* embodies separate fallacies that confuse the volume of trade with the trade surplus or deficit. A current account deficit – which is a trade deficit adjusted for other international payments – equals the difference between overall national investment and national savings. Only factors that affect overall national savings or investment can affect the current account.

Changes in conditions of international trade have had little effect on the U.S. current account deficit, or the trade deficit. Popular discussions of the issue involve a basic fallacy: that what is true at an individual level must also be true at the aggregate level. If I stand up rather than sitting in my seat at a ball game or movie, I can see better (over the head of the person in front of me). But it would be wrong to conclude that everyone could see better if everyone stood up. In fact, if everyone stood up only the relative heights of people would determine how well anyone could see. Similarly, no details of international trade – a larger deficit in textiles or a larger surplus in financial services -- affect the current account deficit: the U.S. current account is determined solely by overall, aggregate U.S. savings relative to investment in the United States, that is, by net foreign borrowing.

<sup>&</sup>lt;sup>11</sup> Note that if current account deficits hurt job creation and current account surpluses helped create jobs, then countries such as Germany and Japan would have experienced rapid employment growth, rather than the very low rates they actually had. Similarly, the United States would have experienced slow job creation in the mid- and late 1990s as the current account deficit grew, rather than the rapid employment growth we actually had.

should also help those countries reduce risks of future crises by strengthening their financial systems and increasing financial transparency.

What about the risk of a financial crisis in the United States if there were a sudden, unexpected reduction in foreign investment in U.S. assets? Of course, foreigners don't invest in U.S. assets to help the United States! Rather than behaving altruistically, they are investing in the United States because they want to buy the assets that pay them the best available combination of safety and expected return. The features of the U.S. economy that provide these assets will not change overnight, so a sudden reduction in foreign investment in the United States is extremely unlikely. Nevertheless, what if some foreign central banks changed their investment policies, perhaps for political reasons, curtailing investments in the United States?

To address this question, one must first ask where else in the world these savings would go. If European central banks, for example, switched from investing in U.S. assets to investing in Asian assets, then Asia would see a fall in interest rates, while U.S. rates would rise. Investors in Asia – and private investors even in Europe and elsewhere – would see that *they* could gain by switching *their* investments to U.S. assets, where they can get higher returns and less risk. Moreover, foreign central bank investments in U.S. assets – large as it is – is still a small fraction of overall world liquid wealth. Consequently, *even if* some foreign central banks decided suddenly to stop investing in U.S. assets, the magnitude of world capital markets and the fungibility of wealth would result in *at most* minor effects on U.S. interest rates and asset prices. Markets would adjust. And the Federal Reserve could easily stand ready to provide sufficient liquidity to prevent a financial crisis.

### **How the Current Account Will Unwind**

If the current account deficit will fall (or vanish) in the future, how will that happen? What changes will occur? If it is unsustainable (and we have seen that it *may* not be), how exactly will it stop being sustained? How will these changes affect U.S. living standards?

The U.S. is a net foreign debtor, particularly after the past decade of very large current account deficits. Note that a country may increase its wealth at the same time that it increases its net debt – which is what the United States has done over the past decade. Our net foreign debt is larger, but our gross wealth has increased enough that our wealth, net of foreign debt, has also risen: so our living standards continue to rise. Nevertheless, the United States *does* owe a debt to the rest of the world. That debt will be "paid" in two ways. First, the United States will

eventually have a trade surplus, exporting more goods than it imports. Our net exports will in essence pay interest, and perhaps principal, on our foreign debts. Second, asset prices may adjust to reduce the overall size of the U.S. net foreign debt. Recent evidence suggests that, if the past is a guide, perhaps one-fourth of the U.S. net foreign debt will be "wiped out" through (rationally-expected) changes in asset prices. Gourinchas and Rey (2005) show that, based on the past, we can expect the rate of return earned on American assets by foreign investors to be sufficiently below the rate of return earned on foreign assets by American investors that the negative net foreign asset position of the United States will diminish by about about one-fourth, and that most of this change in exchange-rate-adjusted asset prices will occur through depreciation of the dollar. Moreover, their analysis shows that markets expect this depreciation.

Other changes may occur through unexpected changes in exchange rates. Given current international investments, a one-time, permanent, unexpected ten-percent depreciation of the dollar transfers approximately 4% of U.S. GDP from foreign investors to American investors. Of course, that one-time transfer is only part of the change in U.S. wealth that would result from such a depreciation, because (other things the same) the American terms of trade would fall by 10%, resulting in *annual* American losses equal to approximately 1.5% of GDP.

#### **Conclusions**

The U.S. current account deficit has risen greatly over the last decade to a level that is very high by historical standards. Evidence suggests that the rise in this deficit has been caused mainly by an increase in saving in the rest of the world, particularly nations that had financial crises within the last decade or so, oil-exporting countries that have seen oil revenue rise significantly over the last decade, and (for various reasons) Germany, while at the same time the United States has continued to offer the best investments that foreign savers and foreign central banks can find. This large increase in foreign saving has reduced interest rates in the United States and around the world. Partly for this reason, the U.S. savings rate has declined. There is little or no reason to worry about the consequences of the current account deficit, or about a crisis resulting from a sudden halt to foreign investment in U.S. assets. The most important policy implication concerns the long run: the United States should help newly emerging economies develop the institutions and conditions that will allow free markets to flourish in and

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<sup>&</sup>lt;sup>12</sup> Economic growth complicates this issue; I ignore those complications here. The main points are not affected.

This assumes that the dollar depreciation does not *result* from some other change that affects American wealth, such as an increase in U.S. productivity that raises the supply of exports, reducing their relative price.

amongst those economies, reducing the risks of economic crises, creating new, valuable investment opportunities in those countries, and welcoming them to join us in a free, dynamic global economy. Far from fearing these developments, we should embrace them – and the opportunities they provide to improve living standards not only for people in those newly emerging economies, but also for Americans.

# References

Ben Bernanke (2005), "The Global Saving Glut and the U.S. Current Account Deficit," Homer Jones Lecture, St. Louis, Missouri, April 14, 2005.

Christopher Erceg, Luca Guerrieri, and Christopher Gust, "Expansionary Fiscal Shocks and the Trade Deficit." International Finance Discussion Paper 2005-825, Board of Governors of the Federal Reserve System, January 2005.

Pierre-Olivier Gourinchas and Hélène Rey (2005), "International Financial Adjustment," Princeton University working paper, and University of California, Berkeley, working paper, February 2005.

Mickey D. Levy (2005), "Worries About the Growing US Trade Deficit Are Overstated," Bank of American Economics Brief, April 13, 2005.

Charles I. Plosser (2004), "Trade, Jobs, and the Economic Outlook for 2005," Simon School of Business Administration, University of Rochester, December 7, 2004.

Charles I. Plosser (2005), "A Perspective on the Global Economy," Simon School of Business Administration, University of Rochester, January 18, 2005.