FRBSF ECONOMIC LETTER

Number 2007-08, March 30, 2007

The U.S. Productivity Acceleration and the Current Account Deficit

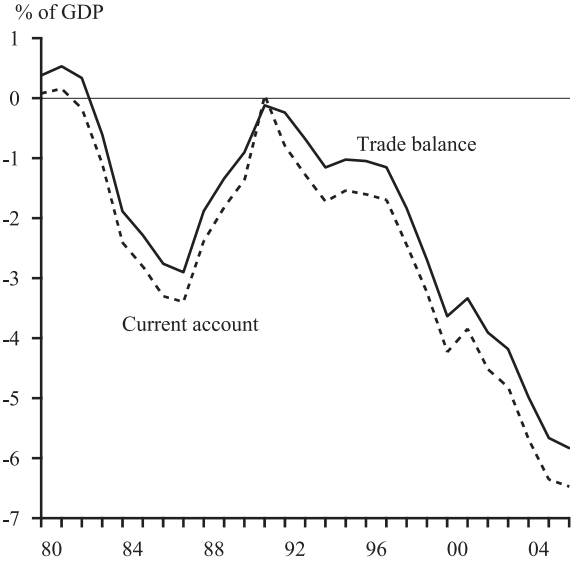
On March 14, the Bureau of Economic Analysis reported that the U.S. current account deficit for 2006 increased from the previous year to over 6% of GDP. This deficit reflects the difference between U.S. income and expenditures, and the additional indebtedness that the country needs to take on to cover this difference. As Figure 1 illustrates, the current account consists mainly of the trade balance, but it also includes the payments on returns from foreign U.S.-owned assets, net of the payments made to foreigners for returns on assets they own in the United States.

Though many economists and policymakers agree that a persistently high current account deficit, or worse, a growing one, could prove worrisome, there is much debate about what the likely path back toward balance will look like. Some argue that foreign investors' willingness to finance the deficit may shift abruptly, which would disrupt the U.S. economy (Valderrama 2006). Others think that the current situation is simply a result of market forces and that the return to balance will be gradual and orderly.

To disentangle the two points of view, it is important to consider the factors that may explain the current elevated level of the current account deficit. These include: the "saving glut," which characterizes the high saving rates observed in developing countries (particularly in Asia) that have pushed international interest rates lower, depressed U.S. saving, increased expenditures, and fueled borrowing from abroad; the depressed values of some foreign currencies relative to the dollar that have made U.S. imports relatively cheap, encouraged domestic expenditures, and thereby increased the trade and current account deficits; and the "twin deficits" story, wherein the current account deficit is a result of the growing U.S. budget deficit, which has reduced public saving and increased borrowing from abroad.

There is, however, another factor to consider, which so far has received relatively little attention in the press and in policy circles—the increase in the rate of growth in U.S. labor productivity since 1996, when the current account deficit was only about 1% of GDP. This *Letter* reviews the current facts about the current account deficit and its determinants, and describes the channels through which it is affected by an increase in trend labor productivity growth.

Figure 1
Current account deficit and trade balance



Decomposing the U.S. current account

There is more than one way to look at the current account. For example, using national account identities, the current account can be viewed as the difference between U.S. gross saving (public and private) and investment. Figure 2 shows how these two factors have evolved since 1980 (each as a fraction of GDP). Between 1991 and 1995 the investment rate increased faster than the saving rate, causing rising current account deficits. However, since 1996 most of the expansion in the deficit can be accounted for by a large drop in the gross saving rate.

Another way to look at the U.S. current account deficit is to examine its counterpart, that is, the cur-

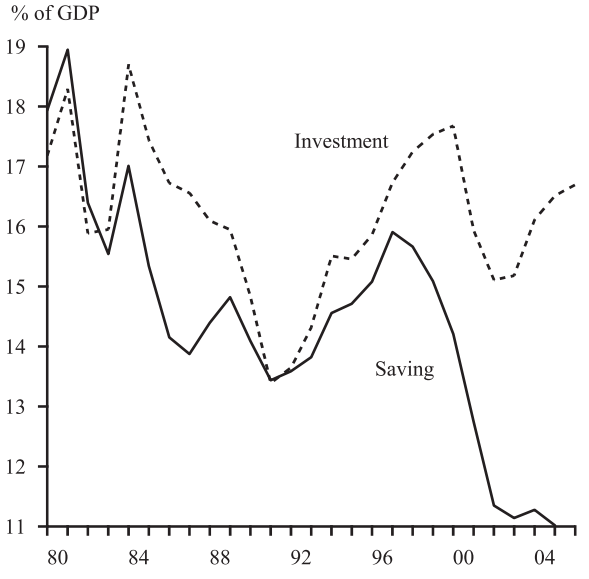
CSIP NOTES *CSIP Notes* appears on an occasional basis. It is prepared under the auspices of the Center for the Study of Innovation and Productivity within the FRBSF's Economic Research Department.

rent account surplus of the rest of the world. During the last decade, investment in Europe, Japan, and many developing countries in Asia has been low, leading to a greater current account surplus in the rest of the world and to a higher current account deficit in the United States.

U.S. labor productivity acceleration and the current account deficit

After 15 years of tepid performance, U.S. labor productivity growth began accelerating in 1996 to nearly twice the earlier pace, and it has averaged 2.7% per year ever since. The source of this acceleration has been associated with improvements in technology occurring as a result of the IT (information technology) revolution as well as improvements in business processes, inventory management, and retailing. It is also well known that, among the other G-7 industrial countries (Canada, Japan, France, Germany, Italy, and the United Kingdom), the United States is the only one to have experienced this higher trend rate so far.

Figure 2
Saving and investment rates



Note: Data on gross saving not available for 2006.

Some economists have begun to ask whether this productivity acceleration could have contributed to the burgeoning current account deficit. Viewing the current account through the lens of the saving-investment decomposition is a particularly useful way to answer this question. Accelerating productivity growth could affect the current account because it may both increase the investment rate and lower the saving rate.

Consider a two-country world where productivity growth accelerates in the domestic economy but not in the foreign one. Since domestic workers are expected to be more productive, each unit of capital they use will also be more productive. A productivity acceleration thus raises the investment rate, because investors, both domestic and foreign, want to take advantage of the higher rate of return to domestic capital.

When domestic firms increase their investment, they seek to borrow to finance it. If the increase in desired borrowing could be supplied from domestic saving, then the current account would be unchanged. However, domestic saving itself is likely to be depressed by the labor productivity acceleration. An increase in labor productivity growth not only tends to raise the return on capital, but it also tends to raise the wages of the more productive workers, thus increasing income. Because individuals know that their incomes will be higher and will grow at a faster rate, they will want to increase their expenditures immediately. Since income will be higher tomorrow than it is today, desired expenditures will increase by more than income, depressing the saving rate, leaving insufficient domestic funds from which domestic firms can borrow. Therefore, to increase their investment, domestic firms will borrow from abroad, and the current account will move into deficit. When foreign residents increase their investment in domestic firms, this, too will move the current account into deficit.

The impact of the increased income growth on lifetime income and saving itself can be significant. Suppose that before the productivity acceleration, income grew at the same rate as labor productivity, 1.5%; then, it would take income approximately 45 years to double. Now suppose that income growth increased to 3%; that implies that income would double in approximately 23 years. Even if income were not to increase at the same rate as labor productivity, it is likely that the productivity acceleration would produce a sizeable increase in lifetime income and that this increase can account for a large fraction of the saving rate decline and the increase in the current account deficit observed since 1995.

Ferguson (2005), then Vice Chairman of the Federal Reserve Board, stated that, based on results obtained using an economic forecasting model of the Board, it was likely that the increase in U.S. productivity growth was one of the two most important factors behind the existing current account deficit. The other factor he cited was the low level of investment expenditures in foreign countries.

Why has it taken the current account so long to adjust?

Economic theory would suggest that most of the adjustment of the current account should happen when the acceleration in productivity growth occurs, particularly because the saving rate should respond immediately. So, it is natural to ask why the adjustment is still ongoing, ten years later.

There are several possible explanations. One is that savers, or potential savers, did not immediately recognize the increase in the trend growth rate of labor productivity. Edge, Laubach, and Williams (2004) point out that this trend is hard to measure since yearly changes in productivity data are very volatile. Therefore, they argue, individuals incorporate new information slowly as they learn about changes in the underlying growth rate. If this argument holds, then it would suggest a muted initial response to the acceleration of consumption, saving, and investment and an extension of it for many years. In turn, this learning would mute and extend the current account response.

Another explanation for the slow response of the current account deficit is that there are many barriers and frictions in the economy that slow the incorporation of new productive processes into the economy. It takes time to find the most productive task for workers, to build new plants, and to redesign business processes to take advantage of the increased productivity, so investment cannot quickly adjust to take advantage of the higher rate of return. Thus, economic output will also take time to fully incorporate the new processes, dampening the response of the saving rate. Consequently, if saving and investment adjust only gradually, so will the current account.

How may the current account return to balance?

Understanding how the current account deficit reached its current elevated level is useful in understanding how it may return to balance. If productivity growth played a large role in explaining the current deficit, then future changes in productivity growth will most likely be important for the evolution of the current account.

If the productivity acceleration is permanent, then, as income increases, the saving rate will also improve. This is because individuals will already have taken advantage of the increase in their lifetime income by borrowing early on and will eventually start to pay back their loans. This will tend to bring the current account into surplus smoothly. Similarly, if individuals expect the trend growth rate of labor productivity to return to its old level slowly, the saving rate will increase (perhaps somewhat faster than in the case of a permanent change) and, again, the current account will smoothly turn to balance.

However, if the trend productivity growth rate unexpectedly decreases, the adjustment will be much faster, because individuals will have taken on too much debt. In that case, consumption may even drop quickly to bring up the saving rate and shrink the current account deficit. Such rapid adjustments in the current account have been associated with economic slowdowns in many developing and industrialized countries.

Conclusions

The U.S. current account deficit has grown rapidly, particularly since 1996. At the same time, the U.S. labor productivity growth rate has almost doubled. This productivity acceleration can potentially account for a large fraction of the current account increase through its impact on saving and investment. It will be important for economists and policymakers to study the role of productivity to give them a better understanding of the current situation and how the current account may return to balance.

Diego Valderrama
Economist

References

[URLs accessed March 2007.]

Edge, Rochelle M., Thomas Laubach, and John C. Williams. 2004. "Learning and Shifts in Long-Run Productivity Growth." FRBSF Working Paper 2004-04 (March). http://www.frbsf.org/publications/economics/papers/2004/wp04-04bk.pdf

Ferguson, Roger W. 2005. "U.S. Current Account Deficit: Causes and Consequences." Remarks to the Economics Club of the University of North Carolina at Chapel Hill, Chapel Hill, North Carolina. April 20, 2005. http://www.federalreserve.gov/boarddocs/speeches/2005/20050420/default.htm

Valderrama, Diego. 2006. "What Are the Risks to the United States of a Current Account Reversal?" *FRBSF Economic Letter* 2006-29 (October 27) http://www.frbsf.org/publications/economics/letter/2006/el2006-29.html

ECONOMIC RESEARCH

FEDERAL RESERVE BANK

OF SAN FRANCISCO

P.O. Box 7702
San Francisco, CA 94120
Address Service Requested

**PRESORTED
STANDARD MAIL
U.S. POSTAGE
PAID
PERMIT NO. 752
San Francisco, Calif.**

Printed on recycled paper
with soybean inks

Index to Recent Issues of *FRBSF Economic Letter*

DATE	NUMBER	TITLE	AUTHOR
9/29	06-25	Health Insurance Costs and Declining Coverage	Buchmueller/Valletta
10/6	06-26	Safe and Sound Banking, 20 Years Later	Kwan
10/13	06-27	Inflation Persistence in an Era of Well-Anchored Inflation Expectations	Williams
10/20	06-28	Did Quantitative Easing by the Bank of Japan "Work"?	Spiegel
10/27	06-29	What Are the Risks to the United States of a Current Account Reversal?	Valderrama
11/3	06-30	The Rise in Homeownership	Doms/Motika
11/17	06-31	Interest Rates, Carry Trades, and Exchange Rate Movements	Cavallo
11/24	06-32	Is a Recession Imminent?	Fernald/Trehan
12/1	06-33-34	Economic Inequality in the United States	Yellen
12/8	06-35	The Mystery of Falling State Corporate Income Taxes	Wilson
12/15	06-36	The Geographic Scope of Small Business Lending: Evidence...	Laderman
12/22	06-37	Will Moderating Growth Reduce Inflation?	Lansing
12/29	06-38	Mortgage Innovation and Consumer Choice	Krainer
1/5	07-01	Concentrations in Commercial Real Estate Lending	Lopez
1/19	07-02	Disentangling the Wealth Effect: Some International Evidence	Sierminska/Takhtamanova
1/26	07-03	Monetary Policy Inertia and Recent Fed Actions	Rudebusch
2/9	07-04	2006 Annual Pacific Basin Conference: Summary	Glick
3/2	07-05	Financial Innovations and the Real Economy: Conference...	Doms/Fernald/Lopez
3/9	07-06	Update on China: A Monetary Policymaker's Report	Yellen
3/16	07-07	Prospects for China's Corporate Bond Market	Hale

Opinions expressed in the *Economic Letter* do not necessarily reflect the views of the management of the Federal Reserve Bank of San Francisco or of the Board of Governors of the Federal Reserve System. This publication is edited by Judith Goff, with the assistance of Anita Todd. Permission to reprint portions of articles or whole articles must be obtained in writing. Permission to photocopy is unrestricted. Please send editorial comments and requests for subscriptions, back copies, address changes, and reprint permission to: Public Information Department, Federal Reserve Bank of San Francisco, P.O. Box 7702, San Francisco, CA 94120, phone (415) 974-2163, fax (415) 974-3341, e-mail sf.pubs@sf.frb.org. **The *Economic Letter* and other publications and information are available on our website, http://www.frbsf.org.**