CHAPTER 5

SUGGESTED ANSWERS TO CHAPTER 5 QUESTIONS

1. In a freely floating exchange rate system, if the current account is running a deficit, what are the consequences for the nation's balance on capital account and its overall balance of payments?

**ANSWER.** In a freely floating exchange rate system, the nation's balance of payments must always be zero. Consequently, if the current account is running a deficit, the capital account must be running a surplus of the same size. Overall, international payments will still be in balance.

2.a. As the value of the U.S. dollar rises, what is likely to happen to the U.S. balance on current account? Explain.

**ANSWER.** As the dollar rises in value, other things being equal, U.S. goods and services become relatively more expensive in foreign currency terms, while foreign goods and services become relatively less expensive in dollar terms. The result is a smaller surplus or larger deficit on the current account. Of course, this conclusion could be reversed if the reason for the rise in the real value of the dollar was a significant increase in U.S. productivity, which would facilitate exports. However, other things do not remain equal. In fact, exchange rates equate currency supplies and demands. They do not determine the distribution of these currency flows between trade flows (the current-account balance) and capital flows (the financial-account balance). This view of exchange rates predicts that there is no simple relation between the exchange rate and the current-account balance. Trade deficits do not cause currency depreciation, nor does currency depreciation by itself help reduce a trade deficit. Both exchange rate changes and trade balances are determined by more fundamental economic factors. These more fundamental factors are a nation's savings and investment decisions.

b. What is likely to happen to the value of the dollar as the U.S. current-account deficit increases? Explain.

**ANSWER.** It all depends on what is driving the increase in the U.S. current-account deficit. If the deficit increases because the U.S. economy is growing strongly, then the dollar is likely to rise in value as foreign capital comes in to take advantage of growth opportunities. On the other hand, if the current-account deficit rises because the government budget deficit is increasing, then the value of the dollar is likely to decline because of the adverse implications of a budget deficit for future economic growth. The current-account deficit could also be increasing because the exchange rate is set at too high a level. If so, then the dollar’s future prospects would be dim as well. Similarly, if the U.S. current-account deficit is rising because foreign central banks are intervening to hold down the values of their currencies, then the U.S. dollar should fall sooner or later.

c. A current-account surplus is not always a sign of health; a current-account deficit is not always a sign of weakness. Comment.

**ANSWER.** A current-account surplus represents an excess of domestic savings over domestic investment. This excess savings could reflect a lack of domestic investment opportunities. For example, Japan's current-account surplus has grown since 1990, reflecting a prolonged economic slump and relatively poor domestic growth opportunities. Similarly, the Asian crisis that began in the summer of 1997 forced the various Asian nations to slow down their growth and led to outflows of capital. The flip side of a capital outflow, of course, is a current-account surplus. At the same time, countries growing rapidly are likely to face current-account deficits, as economic growth generates domestic investment opportunities that can't all be financed through domestic savings. In other words, the faster a nation grows relative to other nations, the more likely it is to have a current-account deficit; conversely, slow economic growth is more likely to lead to a current-account surplus.
3. Suppose Lufthansa buys $400 million worth of Boeing jets in 2010 and is financed by the U.S. Eximbank with a five-year loan that has no principal or interest payments due until 2011. What is the net impact of this sale on the U.S. current account, capital account, and overall balance of payments for 2010?

**Answer.** In 2010, the sale of Boeing 747s is recorded on the U.S. balance of payments as a $400 million merchandise export matched by a capital outflow of $400 million to finance the planes. This appears as a $400 million plus on the U.S. current account, a $400 million minus on the U.S. capital account, and a zero impact on the overall balance of payments for 2010. As the loan is repaid, the interest payments will show up as inflows on the services account and principal repayments will appear as inflows on the capital account.

4.a. What happens to Mexico's ability to repay its foreign loans if the United States restricts imports of Mexican agricultural produce?

**Answer.** A repayment of Mexico's foreign loans is equivalent to an export of capital from Mexico. In order for Mexico to run a capital-account deficit, it must run a current-account surplus. Anything that reduces Mexico's ability to export also reduces its ability to repay its debts. In effect, keeping out Mexican goods while demanding repayment is equivalent to firing a worker and then demanding that he repay all the money he has borrowed from the company. Without a job, he cannot repay the money.

b. Suppose that Brazil starts welcoming foreign investment with open arms. How is this likely to affect the value of the Brazilian real? The Brazilian current-account balance?

**Answer.** The increased demand for Brazilian assets brought about by the new Brazilian investment policy will cause the real to appreciate. This will reduce the Brazilian current-account balance. Another way to address this question is to recognize that the capital inflow must be matched by a reduced Brazilian current-account balance.

5. China’s overall saving rate is now nearly 50% of GDP, the highest in the world. China’s domestic investment rate, at 43%, is also high, but not as high as its saving rate. What do these facts imply about China’s current-account balance?

**Answer.** According to Equation 5.5, if a nation's saving exceeds its domestic investment, that nation will run a current-account surplus equal to its net saving surplus. Given the figures presented in this question, China should run a current-account surplus equal to 7% of GDP, the difference between its saving and domestic investment.

6. According to popular opinion, U.S. trade deficits indicate any or all of the following: a lack of U.S. competitiveness owing to low productivity or low-quality products and/or lower wages, superior technology, and unfair trade practices by foreign countries. Which of these factors is likely to underlie the persistent U.S. trade deficits? Explain.

**Answer.** None of these factors underlie the persistent U.S. trade deficits. For example, Ireland is handicapped even more than the U.S. by these factors but nonetheless runs a trade surplus. Similarly, Latin American nations ran trade surpluses during the 1980s, when they were basket cases. The U.S. trade deficits reflect the U.S. savings deficit, period.

7. During the 1990s, Mexico and Argentina went from economic pariahs with huge foreign debts to countries posting strong economic growth and welcoming foreign investment. What would you expect these changes to do to their current-account balances?

**Answer.** One should expect their current-account balances to swing from surplus to deficit. During the 1980s, both Mexico and Argentina ran capital-account deficits, as capital fled from their dismal prospects. As their prospects changed for the better in the 1990s, capital flowed back in. The result was a capital-account surplus. Given that the current-account balance is the negative of the capital-account balance, we would expect an initial current-account deficit changing to a surplus.
8. Suppose that the trade imbalances of the 2000s largely disappear during the next decade. What is likely to happen to the huge global capital flows of the 2000s? What is the link between the trade imbalances and the global movement of capital?

**ANSWER.** The flip side of a trade imbalance is an offsetting flow of capital. To the extent that trade imbalances are reduced, the international flows of capital will be reduced accordingly. Of course, even without trade imbalances there will still be international capital flows as investors seek to diversify their portfolios internationally and as companies try to take advantage of foreign investment opportunities. In fact, as the U.S. current-account deficit and Japanese current-account surplus have shrunk significantly, capital flows have diminished very sharply: Both Japanese capital exports and U.S. capital imports have declined.

9. In the early 1990s, Japan underwent a recession that brought about a prolonged slump in consumer spending and capital investment (it was estimated that in 1994 only 65 percent of Japan's manufacturing was being used). At the same time, the U.S. economy emerged from its recession and began expanding rapidly. Under these circumstances, what would you predict would happen to the U.S. trade deficit with Japan?

**ANSWER.** In line with the answer to question 17, the U.S. trade deficit with Japan should rise. First of all, a growing U.S. economy will import more goods and services at the same time that a weak Japanese economy will reduce its imports (since imports are positively related to GNP). Second, the slump in Japanese consumer spending is equivalent to a rise in savings. The combination of increased Japanese savings and falling Japanese investment will boost Japan's current-account surplus (which equals Japanese savings - Japanese investment).

10. According to the *World Competitiveness Report 1994*, with freer markets, Third World nations are now able to attract capital and technology from the advanced nations. As a result, they can achieve productivity close to Western levels, while paying low wages. Hence, the low-wage Third World nations will run huge trade surpluses, creating either large-scale unemployment or sharply falling wages in the advanced nations. Comment on this apocalyptic scenario.

**ANSWER.** Despite the persuasiveness of this vision of the future, it makes no economic sense. The reason lies in the basic national income accounting identity presented by Equation 4.5 in the chapter:

\[
\text{Savings} - \text{Investment} = \text{Exports} - \text{Imports}
\]

The World Competitiveness Report says that capital will flow from Western nations to low-wage nations, enabling the latter nations to invest more than their domestic savings by relying on foreign capital to make up the difference. So for these economies, the left side of the equation is negative. At the same time, the report asserts that low-wage nations will export more than they import, making the right hand side of the equation positive. Obviously, both conditions cannot hold simultaneously and still satisfy Equation 4.5. According to Equation 4.5, if low-wage nations generate large trade surpluses it must be because they are exporting large quantities of capital to Western nations. This is an unlikely scenario.

The obvious response to the concern over low-wage competition and trade deficits is that as capital and technology flow to Third World countries, their wage rates will rise along with their productivity. As their incomes rise with their productivity, local workers will buy more Western goods and services. At the same time, the low-wage nations must import capital and materials to apply the new technology they are acquiring. As a result, they will not run large trade surpluses; rather they will run trade deficits as the counterpart to their capital surpluses. Put another way, Equation 4.5 tells us that a nation that runs a capital account surplus must run a current account deficit. A good discussion of the economic illiteracy displayed by supposedly well-educated elites and policy intellectuals in the area of international trade and the balance of payments is provided by Paul Krugman, "The Illusion of Conflict in International Trade," *Peace Economics, Peace Science and Public Policy*, Vol. 2, No. 2, 1995, pp. 9-18.
ADDITIONAL CHAPTER 5 QUESTIONS AND ANSWERS

1. How does a trade deficit affect the current-account balance?

**Answer.** There is no necessary relation between a trade account deficit and the balance on current account because the current account includes both the trade account and the service account. The current account could show a deficit, a surplus, or a zero balance, depending on what happens to the balance on the service account.

2. On which balance-of-payments account does tourism show up?

**Answer.** The services account.

3. Suppose the United States expropriates all foreign holdings of American assets. What will happen to the U.S. current-account deficit? What will likely happen to U.S. savings and investment? Why?

**Answer.** If all foreign holdings of American assets are expropriated, the inflow of foreign capital to the U.S. will cease and the U.S. capital account will be zero. This means that the U.S. current account must also be zero. In effect, foreigners will export to the United States an amount just equal in value to what they are willing to import. The microeconomic adjustment mechanism that will just balance exports and imports works as follows.

The cessation of foreign capital inflows, by reducing the supply of available capital, will raise real domestic interest rates. Higher interest rates will stimulate more savings, since the opportunity cost of consumption rises with the real interest rate, and cause domestic investment to fall, since fewer projects will have positive NPVs. The outcome will be a balance between savings and investment and the elimination of the excess domestic spending that caused the current account deficit in the first place.

4. In order for Brazil to service its foreign debts without borrowing more money, what must be true of its trade balance?

**Answer.** Brazil must run a trade surplus sufficient to service its debts. This means that the trade surplus must be large enough to pay back the principal of its debts plus interest.

5. Suppose the United States imposes import restrictions on Japanese steel. What is likely to happen to the U.S. current-account deficit? What else is likely to happen?

**Answer.** Nothing will happen to the U.S. current account deficit, unless the import restrictions cause a change in savings or investment behavior. Absent these changes, which are unlikely, reduced U.S. imports of Japanese steel will lower the U.S. demand for yen, which will lead to a rise in the dollar's value. The appreciating dollar will make U.S. exports less competitive and other foreign imports more attractive. The net result is that a reduction in U.S. imports of Japanese steel is balanced by reduced U.S. exports of goods and services and increased U.S. non-steel imports.

6. Suppose that the trade imbalances of the 1990s largely disappear during the 2000s. What is likely to happen to the huge global capital flows of the 1980s? What is the link between the trade imbalances and the global movement of capital?

**Answer.** The flip side of a trade imbalance is an offsetting flow of capital. To the extent that trade imbalances are reduced, the international flows of capital will be reduced accordingly. Of course, even without trade imbalances there will still be international capital flows as investors seek to diversify their portfolios internationally and as companies try to take advantage of foreign investment opportunities. In fact, as the U.S. current-account deficit and Japanese current-account surplus have shrunk significantly, capital flows have diminished very sharply: Both Japanese capital exports and U.S. capital imports have declined.

7. In 1965, about 34% of all adult workers were under the age of 34, compared with almost 47% by 1980. Meanwhile, the share of the workforce between 35 years and 59 years shrank from about 60% to 49%. What impact might this dramatic shift in the age distribution of the U.S. workforce have had on the U.S. current-
account balance over this 15-year period? (Hint: Consider the difference in savings behavior between younger and older workers.)

**ANSWER.** According to the life-cycle theory of consumer spending, consumption today is based not on current income but rather is based on an individual's expected lifetime earnings. In the United States, workers generally enter the labor market between the ages of 18 and 22 and retire from regular employment in their mid-60s. Their average earnings vary dramatically over this time. Weekly earnings soar during the first 10 years of an individual's work life, such that workers in their mid-30s earn roughly twice as much per week as those in their early 20s. Weekly earnings remain relatively constant until workers enter their 60s, at which time their earnings decline as they start retiring. Thus, a worker's earnings potential depends crucially upon age. Young workers have a large lifetime earnings potential relative to their current earnings because (a) they have a long expected work life, and (b) they expect substantial wage increases as their experience in the workplace grows. However, spending patterns do not typically follow the earnings stream, as consumers attempt to maintain a more even standard of living relative to their income over time. They do this by borrowing against their expected future earnings (e.g., taking out a mortgage to buy a home). Thus, younger workers tend to have high levels of spending and debt relative to their current income, while middle-aged workers tend to spend less and save more for their retirement and to repay their previous indebtedness.

An extreme shift in the composition of the work force toward young workers, as happened in the United States between 1965 and 1980, should lead to an increase in a nation's desired consumption relative to its income, as the younger workers attempt to borrow and spend against their expected future earnings. The result will be a fall in the current-account balance, offset by an increase in the capital-account balance. As the American work force ages, and its lifetime earnings potential falls relative to current income, the life-cycle theory predicts that the rate of personal savings will rise and foreign capital inflows will fall. Consistent with these predictions, the rate of personal savings has escalated recently and the trade deficit is falling.

8. In 1990, Japan's Ministry of International Trade and Investment (MITI) proposed that firms be given a tax credit equal to 5% of the value of its increased imports. The purpose of this tax subsidy is to encourage Japanese imports of foreign products and thereby reduce Japan's persistent trade surplus. At the same time, the Japanese government announced that it will reduce its budget deficit during the coming year.

a. What are the likely consequences of the tax subsidy plan on Japan's trade balance, the value of the yen, and the competitiveness of Japanese firms?

**ANSWER.** The tax subsidy plan by itself should lead to an increase in imports and consumption since it subsidizes the purchase of foreign goods. (This plan would have the same effect even if it subsidized Japanese consumption of Japanese goods.) At the same time, by boosting the demand for foreign goods, it will reduce the value of the Japanese yen, thereby stimulating Japanese exports. The net effect of this plan will be to reduce the Japanese current-account surplus to the extent that it stimulates Japanese consumption and reduces Japanese saving. This is another illustration of the basic accounting identity that a nation's current account surplus reflects a shortfall in domestic spending.

b. What are the likely consequences of a lower Japanese budget deficit on Japan's trade balance?

**ANSWER.** A lower Japanese budget deficit, by reducing Japanese dissaving and thereby boosting Japanese saving, should increase the Japanese current-account surplus. The net impact on the current-account balance of the two policies combined is uncertain, but they act in opposite directions.

9. Currently, social security is minimal in Japan. Suppose Japan institutes a comprehensive social security system. How is this policy switch likely to affect Japan's trade surplus?

**ANSWER.** The existence of a comprehensive social security system will reduce the incentive for Japanese to save for their retirement. As the Japanese save less, Japan's capital outflow will diminish. Since trade surplus is the mirror image of the capital account deficit, this policy switch will reduce Japan's trade surplus. In effect, the Japanese will consume more foreign goods as well as some of the domestically-produced goods that would otherwise be exported.
10. During 1992, Japan entered a recession. However, at the same time, its current-account surplus hit a record. Is there a contradiction between Japan's large trade surplus and a weak national economy? Explain.

**Answer.** A Japanese recession will reduce the attractiveness of investing in Japan. The basic accounting identity says that a nation's current-account surplus equals the excess of domestic saving over domestic investment. Hence, any reduction in Japanese investment, relative to Japanese saving, will boost Japan's current-account surplus. Thus, there is no contradiction between Japan's large trade surplus and its weak national economy.

11. What will strong economic growth do for the U.S. balance on current account? How about a U.S. recession?

**Answer.** The answer here is the flip side of the answer to the previous question. Strong U.S. economic growth will boost the attractiveness of investing in the United States, raising investment relative to saving and increasing the current-account deficit. A U.S. recession should have a positive impact on the U.S. trade account. For example, during the 1980s, when investors stayed away from Latin America because of its poor economic prospects, Latin America ran persistent trade surpluses. When Latin American prospects picked up, because of fundamental changes in government policies, the flow of investment capital into Latin America turned its trade surpluses into trade deficits.

12. In the early 1990s, interest rates worldwide fell. As a net debtor nation, how should this affect the U.S. current-account balance?

**Answer.** One component of the U.S. current-account balance is interest received from foreigners less interest paid to foreigners. To the extent that the U.S. pays out more in interest than it receives, a decline in interest rates will result in a smaller U.S. current-account deficit.

13. "The U.S. trade deficit is a consequence of the unwillingness of the current generation of American taxpayers to pay fully for the goods and services they want from government." Comment.

**Answer.** There is some truth to this statement. If people demand more from government than they are willing to pay in taxes, the net result will be a government budget deficit. This budget deficit, in turn, will absorb domestic savings that would otherwise be available to finance domestic investment. If the budget deficit is large enough, the result will be a net savings/investment deficit that causes a current-account deficit. However, the budget deficit is not the only factor driving the U.S. current-account deficit. Indeed, even as the federal budget deficit is shrinking, the U.S. current-account deficit is growing. The driver is strong U.S. growth that is generating both more tax revenue, which is shrinking the federal deficit, and more domestic investment opportunities, which are being partially financed with foreign capital.

14. The devastating earthquake that hit Kobe, Japan on January 17, 1995 was estimated to cause about $100 billion in damage to the Japanese economy. What is the likely effect of this earthquake on Japan's 1995 current account? On its capital account? Explain.

**Answer.** The Kobe quake caused an increase in Japanese investment to replace the assets destroyed in the quake. Other things being equal, increasing Japan's domestic investment will reduce its current-account surplus (which equals Japanese savings - Japanese investment). The increase in Japanese investment will also redirect Japanese savings from foreign investment to domestic investment, thereby reducing its capital-account deficit (which is the converse of its current-account surplus). The net result, all else being equal, should be a reduction in Japan's current-account surplus.

15. In 1990, Germany's current-account surplus exceeded $50 billion. However, it is estimated that the reunification process will require that Germany invest several hundred billion dollars in its eastern states over the coming decade.
a. What implications does this huge investment have for Germany's current-account balance in the future? Explain.

**Answer.** Unless German savings rise in line with the increase in German domestic investment, balance-of-payment arithmetic tells us that Germany's current-account surplus must fall. If domestic investment rises enough, Germany's current-account surplus will become a deficit. As of early 1991, Germany's current-account surplus had become a deficit for the first time since 1985. The current-account deficit is attributable to a jump in import demand, thanks to the brisk demand for Western products in eastern Germany, and the sizable growth in domestic demand that crowded out exports.

b. How should the Deutsche mark's value change to facilitate the necessary shift in Germany's economy?

**Answer.** Other things being equal (e.g., Germany doesn't ease monetary policy to help finance its growing budget deficit), the growth in domestic investment opportunities will boost the DM's value. The rise in the value of the DM will help generate the additional capital needed to finance the rebuilding of eastern Germany by reducing German exports and increasing German imports. Again, as of early 1991, the Deutsche mark had risen sharply against the dollar.


a. Why might the stock market have fallen on such a remark? Trace the causal links.

**Answer.** The drop in demand for U.S. Treasuries, should it occur, will lead to higher real U.S. interest rates and a higher discount rate applied to the valuation of future corporate cash flows. The result will be a lower PV of future corporate cash flows and a lower value placed on securities that claim portions of those future cash flows, such as stocks.

b. How much substance is there to the possibility that the Japanese might sell off their U.S. investments? Explain.

**Answer.** None. The Japanese threat to pull money out of the United States—a capital outflow—is equivalent to a threat that Japan will run a bilateral current-account deficit with the United States. Although we can't directly assess the former threat, we can assess the latter one. It is inconceivable under current circumstances that Japan will either dramatically curb its exports to the United States or sharply boost its imports from the United States.

**SUGGESTED SOLUTIONS TO CHAPTER 5 PROBLEMS**

1. How would each of the following transactions show up on the U.S. balance of payments accounts?


**Answer.** This will show up as a net unilateral transfer abroad, which is a deficit on the services account.

b. Sale overseas of 125,000 Elvis Presley CDs.

**Answer.** This will show up as a merchandise export.

c. Tuition receipts of $3 billion received by American universities from foreign students.

**Answer.** This will show up as an export of U.S. services.

d. Payment of $1 million to U.S. consultants A.D. Little by a Mexican company.

**Answer.** This will show up as an export of U.S. services.
e. Sale of a $100 million Eurobond issue in London by IBM.

**Answer.** This will show up as an import of capital. If IBM uses the money to invest overseas, this import will be offset by an equal export of capital.

f. Investment of $25 million by Ford to build a parts plant in Argentina.

**Answer.** This will show up as an export of capital.

g. Payment of $45 million in dividends to U.S. citizens from foreign companies.

**Answer.** This will show up as an export of services (for the use of capital), which is a surplus on the services account.

2. Set up the double-entry accounts showing the appropriate debits and credits associated with the following transactions:

a. ConAgra, a U.S. agribusiness, exports $80 million of soybeans to China and receives payment in the form of a check drawn on a U.S. bank.

**Answer.** A credit is recorded for the increase in U.S. exports and a debit is recorded to reflect a decrease in liabilities to a foreigner associated with the check drawn on a U.S. bank:

<table>
<thead>
<tr>
<th>Credit</th>
<th>Debit</th>
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<tbody>
<tr>
<td>U.S. exports</td>
<td>$80,000,000</td>
</tr>
<tr>
<td>Private liabilities to foreigners</td>
<td>$80,000,000</td>
</tr>
</tbody>
</table>

b. The U.S. government provides refugee assistance to Somalia in the form of corn valued at $1 million.

**Answer.** This transaction appears as a credit to U.S. exports and a debit to the account called unilateral transfers:

<table>
<thead>
<tr>
<th>Credit</th>
<th>Debit</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. exports</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Unilateral transfer</td>
<td>$1,000,000</td>
</tr>
</tbody>
</table>

c. Dow Chemical invests $500 million in a chemical plant in Germany financed by issuing bonds in London.

**Answer.** A debit is recorded to reflect the increase in U.S. investment abroad (the acquisition of foreign assets) and a credit is recorded for the inflow of foreign capital used to finance that investment:

<table>
<thead>
<tr>
<th>Credit</th>
<th>Debit</th>
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<tbody>
<tr>
<td>Private foreign assets</td>
<td>$500,000,000</td>
</tr>
<tr>
<td>Private liabilities to foreigners</td>
<td>$500,000,000</td>
</tr>
</tbody>
</table>

d. General Motors pays $5 million in dividends to foreign residents, who choose to hold the dividends in the form of bank deposits in New York.

**Answer.** A debit is recorded for the importation of services (the use of foreign capital) and a credit is recorded to reflect the increase in liabilities (the bank deposit) to a foreigner, which is a source of funds:
9

e. The Bank of Japan buys up one billion dollars in the foreign exchange market to hold down the value of the yen and uses these dollars to buy U.S. Treasury bonds.

**ANSWER.** A debit is recorded to the U.S. private asset account to reflect the purchase of $1 billion worth of yen and a credit is recorded to the U.S. capital account to reflect the Bank of Japan's purchase of Treasury bonds.

<table>
<thead>
<tr>
<th>Credit</th>
<th>Debit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private foreign assets</td>
<td>$1,000,000,000</td>
</tr>
<tr>
<td>Foreign official assets</td>
<td>$1,000,000,000</td>
</tr>
</tbody>
</table>

f. CEMEX, a Mexican company, sells $2 million worth of cement to a Texas company and deposits the check in a bank in Dallas.

**ANSWER.** A debit is recorded for the import of cement and a credit is recorded for CEMEX's U.S. bank deposit, which represents an increase in liabilities to a foreigner.

<table>
<thead>
<tr>
<th>Credit</th>
<th>Debit</th>
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<tbody>
<tr>
<td>U.S. imports</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>Private liabilities to foreigners</td>
<td>$2,000,000</td>
</tr>
</tbody>
</table>

3. During the year, Japan had a current-account surplus of $98 billion and a financial-account deficit, aside from the change in its foreign-exchange reserves, of $67 billion.

a. Assuming the preceding data are measured with precision, what can you conclude about the change in Japan's foreign exchange reserves during the year?

**ANSWER.** The sum of the current-account and financial-account balances, aside from the change in official reserves, or $31 billion, must equal the official-reserves balance. Since this figure is positive, it indicates that Japanese official reserves increased by $31 billion, which is a deficit in the official reserves account. This analysis assumes the capital-account balance is zero.

b. What is the gap between Japan's national expenditure and its national income?

**ANSWER.** The current-account balance equals the difference between national income and national expenditure. In Japan's case, this identity means the income-expenditure gap is $98 billion; that is, Japan's national income exceeds its spending by the equivalent of $98 billion.
c. What is the gap between Japan's savings and its domestic investment?

**Answer.** Since national savings-domestic investment equals national income - national expenditure, the answer here is the same as the answer to part b.

d. What was Japan's net foreign investment for the year?

**Answer.** Japan's net foreign investment equals national savings minus domestic investment, or $98 billion.

e. Suppose the Japanese government's budget ran a $22 billion surplus during the year. What can you conclude about Japan's private savings-investment balance for the year?

**Answer.** The sum of the private savings-investment balance and the public sector surplus or deficit must equal the national savings-investment balance. With a government surplus of $22 billion and an overall savings-investment balance of $98 billion, the private sector savings-investment balance must equal $76 billion.

4. The following transactions (expressed in U.S. $ billions) take place during a year. Calculate the U.S. merchandise-trade, current-account, capital-account, and financial-account balances.

a. The United States exports $300 of goods and receives payment in the form of foreign demand deposits abroad.

b. The United States imports $225 of goods and pays for them by drawing down its foreign demand deposits.

c. The United States pays $15 to foreigners in dividends drawn on U.S. demand deposits here.


e. Americans buy foreign stocks with $60, using foreign demand deposits held abroad.

f. The U.S. government sells $45 in gold for foreign demand deposits abroad.

g. In a currency support operation, the U.S. government uses its foreign demand deposits to purchase $8 from private foreigners in the United States.

**Answer.** U.S. balance of payments accounts

<table>
<thead>
<tr>
<th>Exports</th>
<th>Imports</th>
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<tbody>
<tr>
<td>a. merchandise: $300 in goods and services</td>
<td>b. $225 in goods</td>
</tr>
<tr>
<td></td>
<td>c. 15 payment of dividends</td>
</tr>
<tr>
<td></td>
<td>d. 30 in tourist services</td>
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</tbody>
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**Balance on current account: + $30**

**Capital Outflows**

| a. $300 increase in foreign deposits |
| b. $225 decrease in foreign demand deposits |
| e. 15 increase in foreign-owned U.S. demand deposits |
| g. 8 decrease in foreign-owned U.S. demand deposits |
| f. 45 in gold sales |
| d. 30 increase in foreign-owned travelers checks drawn on U.S. banks |
| e. 60 decrease in foreign demand deposits |
| f. 45 increase in foreign demand deposits |
| g. 8 decrease in foreign demand deposits |

**Balance on financial account: -$30**

There are no capital-account transactions.
5. During the Reagan era, 1981-1988, the U.S. current account moved from a tiny surplus to a large deficit. The following table provides U.S. macroeconomic data for that period.

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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PRIVATE SAVINGS</td>
<td>500</td>
<td>586</td>
<td>617</td>
<td>641</td>
<td>743</td>
<td>736</td>
<td>721</td>
<td>731</td>
<td>802</td>
</tr>
<tr>
<td>PRIVATE INVESTMENT</td>
<td>468</td>
<td>558</td>
<td>503</td>
<td>547</td>
<td>719</td>
<td>715</td>
<td>718</td>
<td>749</td>
<td>794</td>
</tr>
<tr>
<td>CURRENT-ACCOUNT BALANCE</td>
<td>2</td>
<td>5</td>
<td>-11</td>
<td>-45</td>
<td>-100</td>
<td>-125</td>
<td>-151</td>
<td>-167</td>
<td>-129</td>
</tr>
</tbody>
</table>

a. Based on these data, to what extent would you attribute the changes in the U.S. current-account balance to a decline in the U.S. private savings-investment balance?

**Answer.** In 1980, U.S. private savings exceeded private investment by $32 billion. By 1988, this figure had fallen to $8 billion, a change of $24 billion. Over the same period, the U.S. current-account balance went from a surplus of $2 billion to a deficit of $129 billion, a change of $131 billion. Clearly, the change in the U.S. current-account balance is only minimally attributable to the change in the U.S. private savings-investment balance.

b. To what extent would you attribute the changes in the U.S. current-account balance to an increase in the U.S. government budget deficit?

**Answer.** Over the period 1980-1988, the U.S. current-account balance tracked the U.S. government budget deficit much more closely than did the U.S. private savings-investment balance. This relationship can be seen in the following chart, which is based solely on the data presented in the previous table.

![Chart](image.png)

Based on these data, what was the excess of national spending over national income during this period?

**Answer.** Using the identity national income - national expenditure = balance on current account, we can answer this question by summing the current-account balance over this nine-year period. The sum is -$721 billion, indicating that over this period, the United States spent $721 billion more than it earned.
ADDITIONAL CHAPTER 5 PROBLEMS AND SOLUTIONS

1. Suppose Patagonia has a government surplus of $10 billion. At the same time, private investment in Patagonia exceeds private savings by $15 billion. What can you conclude about Patagonia's balance on current account?

**ANSWER.** The current-account balance is the sum of net public sector savings (government revenues - government spending) plus net private savings (private savings - private investment). In the case of Patagonia, the first component is +$10 billion and the second component is -$15 billion. The sum of these two savings figures is -$5 billion. Since this net figure is negative, Patagonia must have a current-account deficit of $5 billion.

2. In 1998, China’s current account had a surplus of $29.3 billion, its capital account had a zero balance, its financial account aside from official reserves had a deficit of $6.3 billion, and its official reserves increased by $6.2 billion.

What do these figures tell you about China’s errors and omissions?

**ANSWER.** Absent errors and omissions, the sum of the current-account, capital-account, financial-account aside from official reserves, and its official-reserves balances should be zero. Given that an increase in a nation's official reserves shows up as a debit item (because the purchase of gold and other reserve assets is equivalent to importing these assets), the sum of these three accounts is $16.3 billion (29.3 - 6.3 - 6.2). Errors and omissions, therefore, equal -$16.3 billion (the balancing item to a positive figure for the three balances is a negative figure).

b. What might account for these errors and omissions?

**ANSWER.** This negative figure reflects a mysterious outflow of funds. Chinese nationals could be smuggling funds out of China to protect themselves against political risk or companies could be removing funds from China without informing the authorities. Chinese government restrictions on transferring funds overseas would account for the failure to inform the authorities.

3. Ruritania is calculating its balance of payments for the year. As usual, its data are perfectly accurate. All of the transactions for the year are listed below (in Rur$ millions). Fill in the correct number for each balance-of-payments account a through j.

a. Ruritania received weapons worth $200 from the United States under its military aid program; no payment is necessary.

b. A Ruritanian firm exported $400 of cloth and received an IOU from the foreign importer.

c. A Ruritanian resident paid $10 in interest on a loan from a foreigner; the check was drawn on a domestic Ruritanian bank.

d. Foreign tourists visited Ruritania and spent $100 in traveler's checks drawn on foreign banks.

e. The Ruritanian central bank sold $60 in gold to a foreign government and received U.S. Treasury bills in return.

f. A foreign central bank deposited $120 in a private domestic Ruritanian bank and paid with a check drawn on a private bank in the United States.

**Exports**

a. goods

b. services

**Imports**

c. goods

d. services

e. unilateral transfers

**Ruritanian assets abroad**

f. privately owned

g. officially owned

Fill in the correct number for each balance-of-payments account for items a through j.
Foreign assets in Ruritania
  h. privately owned
  i. officially owned
  j. current account

**ANSWER.** Ruritanian balance of payments accounts are as follows:

Exports
  a. Goods: $400
  b. Services: 100 (tourism)
  c. Unilateral transfers: 200 (military aid)

Imports
  d. Goods: 200 (military equipment)
  e. Services: 10 (interest)

Ruritanian assets abroad
  f. privately owned: $400 (IOU)
     100 (travelers checks)
     120 (U.S. demand deposit)
  g. officially owned: 60 (U.S. Treasury bills)
                   -60 (gold sales)

Foreign assets in Ruritania
  h. privately owned: $10 (check)
  i. officially owned: 120 (foreign central bank)
  j. current account: +$490

4. Select a country and undertake an analysis of that country's balance of payments for 8 to 12 years, subject to availability of data. The analysis must include examinations (presentation of statistical data with discussion) of the trade balance, current-account balance, capital-account balance, basic balance, and overall balance. Your report should also address the following issues:

a. What accounts for swings in these various balances over time?

b. What is the relationship between shifts in the current-account balance and changes in savings and investment? Include an examination of government budget deficits and surpluses, explaining how they relate to the savings-investment and current-account balances.

**ANSWER.** There is no set answer to this project. The key is to make sure the student knows what he or she is doing and understands what the different data mean. Professor Donald T. Buck, who suggested this project, reports that "You’re encouraging instructors to require a comprehensive course paper on a selected country employing the material in Chapter 4, from my experience, would greatly assist students in developing their analytical skills."

5. For the country selected in additional problem 4, analyze the exchange rate against the dollar during the same period.

a. Is there any observable relationship between the balance-of-payments accounts and the exchange rate?

b. Provide a possible explanation for your observations in (a) above.

**ANSWER.** Again, there is no set answer to this project, but it should provide an indication of the student’s learning.