1. Patterns of Trade, International Accounts, and Trade Theory

Learning Objectives

- Become familiar with common terminology relevant to international trade and exchange.
- Learn essential features of U.S. trade patterns, and in general, how to summarize the international trading situation of any country.
- Understand the broad issues addressed by theories of international trade, and how economists have historically addressed these issues.

Readings

Paul Krugman and Maruice Obstfeld, International Economics, Theory and Policy, 8th ed. (2009). Chapter 1, "Introduction", Chapter 2, "World Trade: An Overview", and Chapter 12, "National Income Accounting and the Balance of Payments".

Outline

1. In an *open economy*, one in which a country can both trade and borrow or lend with the rest of the world, exports and imports do not have to be balanced. A country's *balance of payments* is an accounting statement that summarizes the trading and borrowing/lending activities of a country [Table 1].

    a. The *current account* summarizes a country's exports and imports. By definition, the current account measures the difference between what a country produces and what it consumes. The current account is not precisely equivalent to a country's *trade balance*, although in practice the two terms are often used interchangeably.

    b. The *capital account* summarizes a country's borrowing and lending. By definition, surpluses or deficits in a country's current account are offset by surpluses or deficits in a country's capital account.

    A country's *international investment position* may also be summarized on a separate accounting statement.

2. In addition to the balance of payments, descriptions of a country's trading position should also include lists of key trading partner countries and top categories of exports and imports [Tables 2 and 3].

3. An exchange rate is the price of one country's currency in terms of another country's currency. In theory, changes in a country's exchange rate may affect its balance of payments.

    a. Ceteris paribus, a *depreciation* of a country's currency makes its exports cheaper and its imports more expensive, while an *appreciation* of a country's currency makes its exports more expensive and its imports cheaper [Figure 1].

b. In practice (and in the short run), changes in exchange rates often do not correspond with changes in a country's balance of payments in the ways predicted by the figure above [See Figures 2 and 3].

4. Some key terms relevant to trade theory and trade policy:

   a. *Free trade* refers to a trading regime with no restrictions or barriers on the movement of goods, services, and perhaps factors of production.

   b. *Autarky* is the term used by economists to describe the antithesis of free trade – a situation in which a country is self sufficient and does not trade with other countries.

   c. *Trade liberalization* refers broadly to a process of opening up an economy to free trade.

   d. *Protectionism* refers broadly to policies inhibit free trade and that tend to shield domestic agents from the full effects of international trade.

5. International trade theory employs formal models to analyze the causes and consequences of trade.

   a. Modern trade theory considers two main *causes* of international trade:

      1) Differences in technology or resources. Generally, these explanations focus on the principle of *comparative advantage*. The models in Krugman and Obstfeld's chapters 3 through 5 focus on this explanation.

      2) Market structures and imperfections that create *economies of scale*. Krugman and Obstfeld's chapter 6 focuses on this explanation.

   b. As for the *consequences* of trade, it generates *gains* and *distributional effects*.

      1) *Gains from trade* arise because of the benefits of exchange and the benefits of specialization.

         a) The *gains from trade theorem* deals with gains from exchange, and states that if in the absence of trade the relative prices of two commodities differ between two countries, both countries can gain by exchanging commodities at any price ratio that lies intermediate between the relative prices before trade.

         b) *Gains from specialization* arise when producers concentrate on what they do best – when they produce according to comparative advantage.

      2) *Distributional effects of trade* may relate to the distribution of gains *between countries* or the distribution of gains *within countries*.

         a) The distribution of gains from trade between countries is influence by the *terms of trade* – the price of a country's exports divided by the price of its imports.

         b) The distribution of gains from trade within a country is often the source and/or cause of opposition to trade liberalization.

Table 1: U.S. Balance of Payments, 2003

Current Account	
Exports of goods and services and income receipts	**1,314,888**
Exports of goods and services	1,020,503
Goods, balance of payments basis	713,122
Services	307,381
Income receipts	294,385
Imports of goods and services and income payments	**-1,778,117**
Imports of goods and services	-1,517,011
Goods, balance of payments basis	-1,260,674
Services	-256,337
Income payments	-261,106
Unilateral current transfers, net	**-67,439**
Capital and financial account	
Capital account	
Capital account transactions, net	**-3,079**
Financial account	
U.S.-owned assets abroad, net (increase/financial outflow (-))	**-283,414**
U.S. official reserve assets, net	1,523
U.S. Government assets, other than official reserve assets, net	537
U.S. private assets, net	-285,474
Foreign-owned assets in the United States, net (increase/financial inflow (+))	**829,173**
Foreign official assets in the United States, net	248,573
Other foreign assets in the United States, net	580,600
Statistical discrepancy (sum of above items with sign reversed)	**-12,012**
Summary	
Balance on goods	**-547,552**
Balance on services	**51,044**
Balance on goods and services	**-496,508**
Balance on current account	**-530,668**

Source: U.S. Bureau of Economic Analysis, http://www.bea.doc.gov/

Table 2: Key U.S. Trading Partners, 2003

	Exports	Imports	Balance
Total	723,846	1,259,397	-535,551
Europe	172,013	284,549	-112,536
E.U.	150,549	244,811	-94,262
Non-E.U. Western Europe	14,350	21,412	-7,062
Non-E.U. Eastern Eurpoe	7,114	18,325	-11,211
Americas	319,266	441,113	-121,847
Canada	169,770	224,166	-54,396
Mexico	97,457	138,073	-40,616
Others	52,039	78,874	-26,835
Asia	206,631	492,503	-285,872
Japan	52,064	118,029	-65,965
S. Korea	24,099	36,963	-12,864
China	28,419	152,379	-123,960
Hong Kong	13,542	8,850	4,692
Singapore	16,576	15,158	1,418
Malaysia	10,921	25,438	-14,517
Others	61,010	135,686	-74,676
Middle East	19,365	41,477	-22,112
Saudi Arabia	4,596	18,069	-13,473
UAE	3,510	1,129	2,381
Kuwait	1,509	2,277	-768
Iraq	316	4574	-4,258
Israel	6,878	12,770	-5,892
Others	2,556	2,658	-102
Australia & Oceania	15,251	9,196	6,055
Africa	10,685	32,036	-21,351

Source: U.S. International Trade Administration, http://www.ita.doc.gov/td/industry/otea/

Table 3: Major Categories of U.S. Exports and Imports, 2003

	Exports				Imports			
	Category	Value	%	Cum. %	Category	Value	%	Cum. %
	Total Exports	723,846			**Total Imports**	1,259,397		
1	**Electrical Mach., & Appliances**	85,910	11.9%	11.9%	**Motor Vehicles**	172,578	13.7%	13.7%
2	**Motor Vehicles**	63,130	8.7%	20.6%	**Petroleum, Petroleum Products**	129,600	10.3%	24.0%
3	**Transport Equipment**	42,510	5.9%	26.5%	**Electrical Mach., & Appliances**	82,545	6.6%	30.5%
4	**Office Machines And ADP equip.**	41,054	5.7%	32.1%	**Office Machines And ADP equip.**	80,826	6.4%	37.0%
5	**Misc. Manufactured Articles**	34,621	4.8%	36.9%	**Telecommunications Equipment**	71,137	5.6%	42.6%
6	**Power Generating Machinery**	33,642	4.6%	41.6%	**Articles Of Apparel and Clothing**	68,162	5.4%	48.0%
7	**General Industrial Machry**	32,183	4.4%	46.0%	**Misc. Manufactured Articles**	64,401	5.1%	53.1%
8	**Professional Scientific Instruments**	30,977	4.3%	50.3%	**General Industrial Machry**	38,467	3.1%	56.2%
9	**Machinery Specialized**	25,000	3.5%	53.8%	**Special Transactions**	33,622	2.7%	58.9%
10	**Telecommunications Equipment**	23,706	3.3%	57.0%	**Organic Chemicals**	32,876	2.6%	61.5%
11	**Organic Chemicals**	20,451	2.8%	59.9%	**Power Generating Machinery**	32,485	2.6%	64.1%
12	**Med. And Pharmaceutical Products**	19,209	2.7%	62.5%	**Med. And Pharmaceutical Products**	31,516	2.5%	66.6%
13	**Low Value Shipments**	16,519	2.3%	64.8%	**Nonmetallic Mineral**	26,947	2.1%	68.7%
14	**Plastics In Primary Form**	15,128	2.1%	66.9%	**Manufactures Of Metals**	24,978	2.0%	70.7%
15	**Manufactures Of Metals**	14,172	2.0%	68.8%	**Furniture & Bedding**	24,356	1.9%	72.6%

Source: U.S. International Trade Administration, http://www.ita.doc.gov/td/industry/otea/

Figure 1: Theoretical Influence of Exchange Rate on Current Account

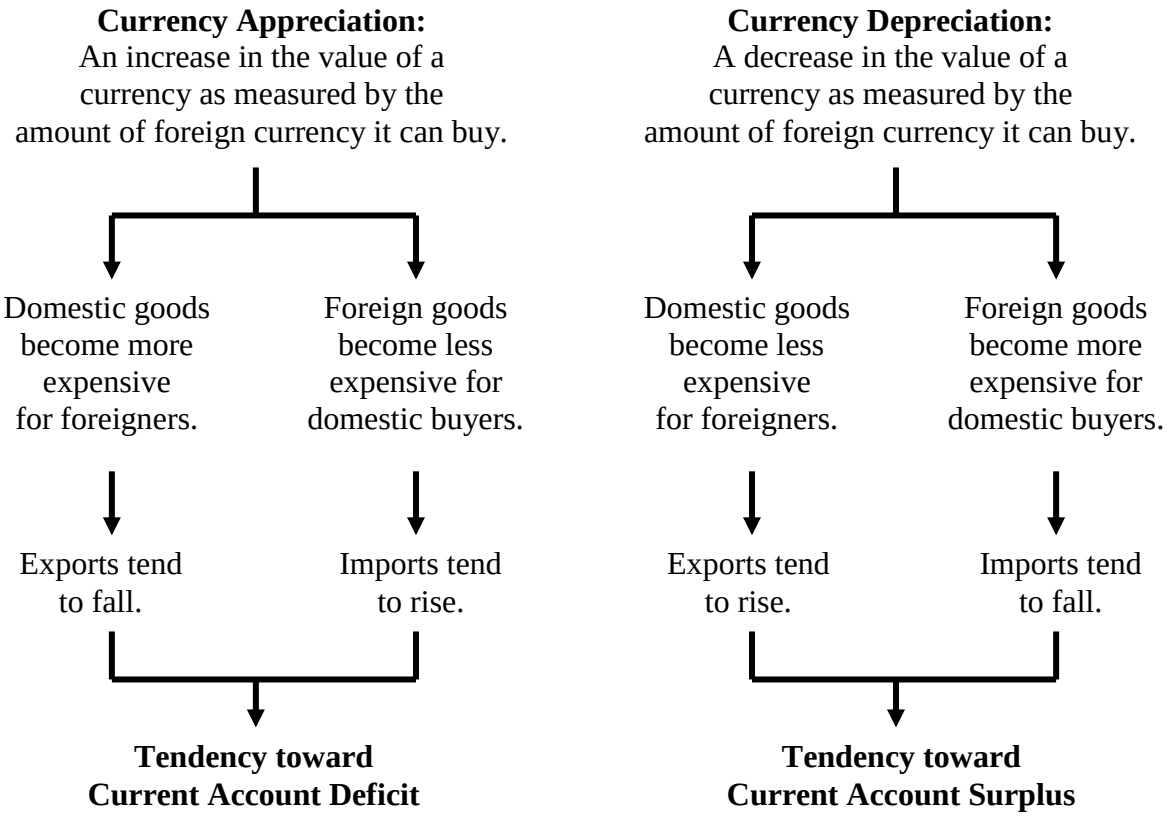
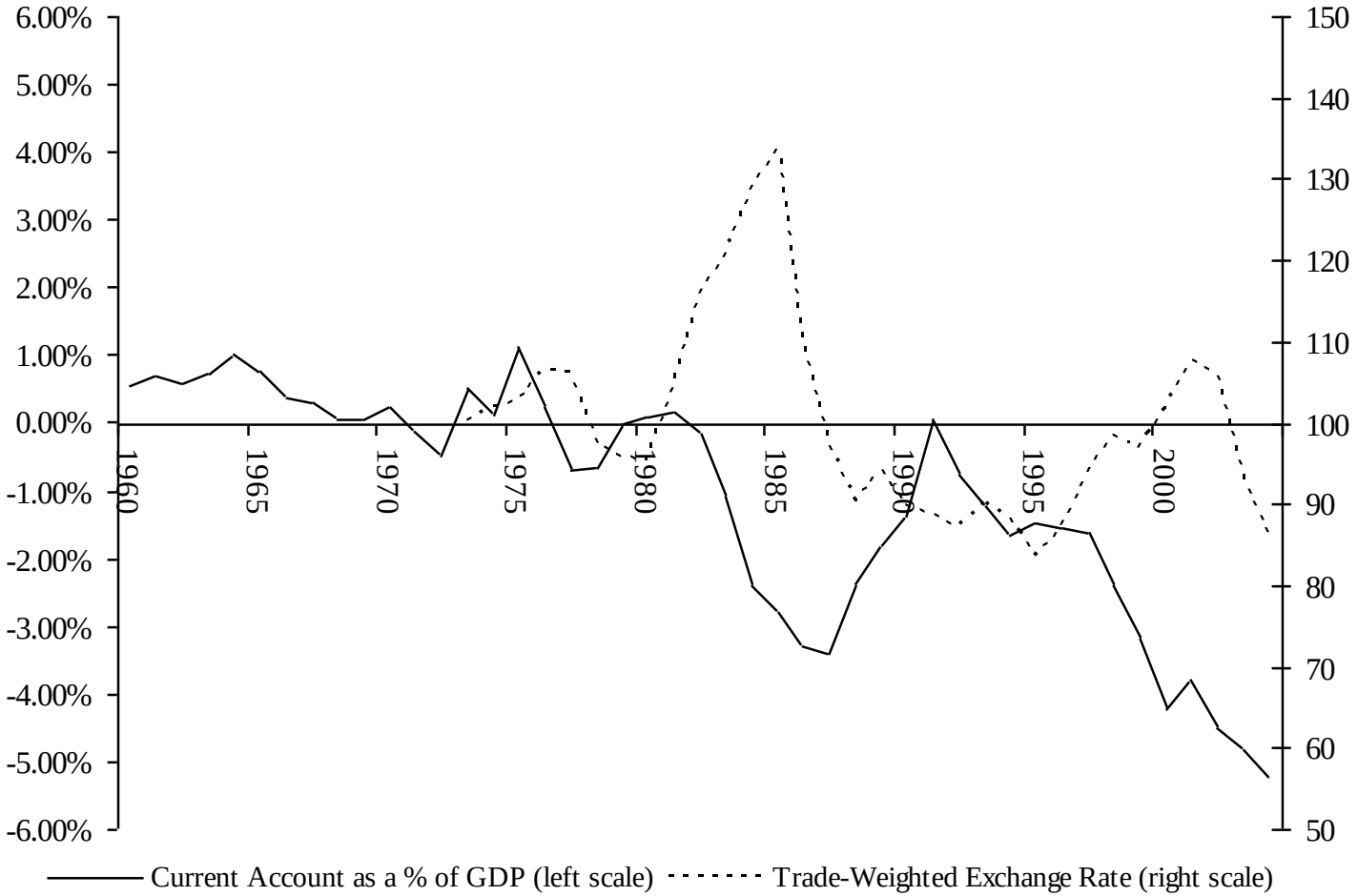


Figure 2: Euro/$ and Yen/Dollar Exchange Rates
1999 to Present

Figure 3: U.S. Exchange Rate and Current Account Balance as a % of GDP
1960 to Present



Assignment 1

Discussion Questions

1. In the 1980s (and to a certain degree again today) many people recommended restrictions on imports as a means of reducing the U.S. current account deficit. How would higher U.S. barriers to imports affect its private saving, domestic investment, and government deficit? Do you agree that import restrictions would necessarily reduce a current account deficit?

2. Can you think of reasons why a government might be concerned about a large current account deficit or surplus? Why might a government be concerned about its official settlements balance?

Problem Set

1. Krugman and Obstfeld, chapter 12, #3.

2. Krugman and Obstfeld, chapter 12, #5.

3. If the current dollar-euro exchange rate ($/€) is 1.10, and it changes to 0.90 …

   a. Is this an appreciation or depreciation of the dollar against the euro?

   b. What does theory predict the effect of this change will be on the U.S. current account – a movement *toward deficit* or a movement *toward surplus*?

   c. Name one group in the U.S. that will be pleased with this change in the exchange rate.

   d. Name one group in the U.S. that will be unhappy with this change in the exchange rate.

4. Consider this table, which presents information on costs per unit of output for motorcycles and clocks in the United States and Germany:

	United States	Germany
Motorcycles	$1,500	€2,000
Clocks	$15	€25

   a. Define the upper and lower bounds on the terms of trade between these countries, expressing prices in terms of 1 motorcycle = _____ clocks.

   b. What is Germany's export good?

   c. What is the United State's export good?

   d. If the dollar-euro exchange rate is 1.10 ($1.10=€1), what is the end-user price of Germany's export good?

   e. If the dollar-euro exchange rate is 1.10 ($1.10=€1), what is the end-user price of the United State's export good?

f. If the dollar depreciates so that the dollar-euro exchange rate is 1.25 ($1.25=€1), what is the end-user price of Germany's export good?

g. If the dollar depreciates so that the dollar-euro exchange rate is 1.25 ($1.25=€1), what is the end-user price of the United State's export good?

h. Using the initial dollar-euro exchange rate of 1.10 ($1.10=€1) as a base period (and assuming these are the only goods traded), calculate the U.S. terms of trade after the dollar depreciates to $1.25=€1.