32 **A Macroeconomic Theory of the Open Economy**

PRINCIPLES OF

ECONOMICS

FOURTH EDITION

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Premium PowerPoint® Slides
by Ron Cronovich
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In this chapter, look for the answers to these questions:

- In an open economy, what determines the real interest rate? The real exchange rate?
- How are the markets for loanable funds and foreign-currency exchange connected?
- How do government budget deficits affect the exchange rate and trade balance?
- How do other policies or events affect the interest rate, exchange rate, and trade balance?

Introduction

- The previous chapter explained the basic concepts and vocabulary of the open economy: net exports (*NX*), net capital outflow (*NCO*), and exchange rates.
- This chapter ties these concepts together into a theory of the open economy.
- We will use this theory to see how govt policies and various events affect the trade balance, exchange rate, and capital flows.
- We start with the loanable funds market…

The Market for Loanable Funds

- An identity from the preceding chapter:

$$S = I + NCO$$

Saving — Domestic investment — Net capital outflow

- Supply of loanable funds = saving.
- A dollar of saving can be used to finance
  -
  -
- So, demand for loanable funds =

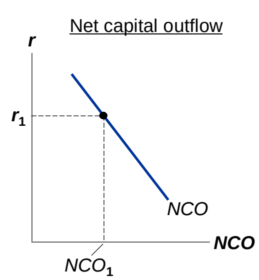
The Market for Loanable Funds

- Recall:
  - ***S*** depends positively on the real interest rate, ***r***.
  - ***I*** depends negatively on ***r***.
- What about *NCO*?

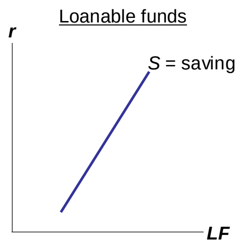
How NCO Depends on the Real Interest Rate

The real interest rate, ***r***, is the real return on domestic assets.

A fall in ***r***



The Loanable Funds Market Diagram



Both ***I*** and *NCO* depend negatively on ***r***, so the *D* curve is downward-sloping.

ACTIVE LEARNING 1: Budget deficits and capital flows

- Suppose the government runs a budget deficit (previously, the budget was balanced).
- Use the appropriate diagrams to determine the effects on the real interest rate and net capital outflow.

ACTIVE LEARNING 1: Answers

The Market for Foreign-Currency Exchange

- Another identity from the preceding chapter:

$$NCO = NX$$

Net capital outflow — Net exports

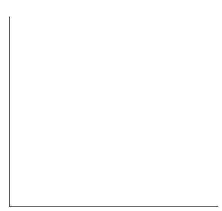
- In the market for foreign-currency exchange,

The Market for Foreign-Currency Exchange

- Recall:
  The U.S. real exchange rate (***E***) measures
  the quantity of foreign goods & services
  that trade for one unit of U.S. goods & services.
  - ***E*** is the real value of a dollar in the market for foreign-currency exchange.

The Market for Foreign-Currency Exchange

An increase in ***E*** makes U.S. goods more expensive to foreigners,



FYI: Disentangling Supply and Demand

When a U.S. resident buys imported goods, does the transaction affect supply or demand in the foreign exchange market? Two views:

1. The person needs to sell her dollars to obtain the foreign currency she needs to buy the imports.

2. The increase in imports reduces ***NX***, which we think of as the demand for dollars. (So, ***NX*** is really the net demand for dollars.)

Both views are equivalent. For our purposes, it's more convenient to use the second.

FYI: Disentangling Supply and Demand

When a foreigner buys a U.S. asset, does the transaction affect supply or demand in the foreign exchange market? Two views:

1. The foreigner needs dollars in order to purchase the U.S. asset.

2. The transaction reduces *NCO*, which we think of as the supply of dollars. (So, ***NCO*** is really the net supply of dollars.)

Again, both views are equivalent. We will use the second.

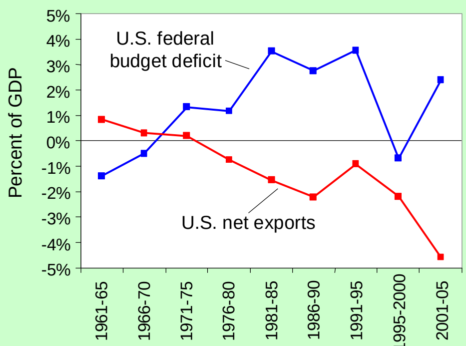
ACTIVE LEARNING 2: The budget deficit, exchange rate, and NX

- Initially, the government budget is balanced and trade is balanced (***NX*** = 0).
- Suppose the government runs a budget deficit. As we saw earlier, ***r*** rises and *NCO* falls.
- How does the budget deficit affect the U.S. real exchange rate? The balance of trade?

ACTIVE LEARNING 2:
Answers

15

The "Twin Deficits"



The Effects of a Budget Deficit: Summary

- national saving falls
- the real interest rate rises

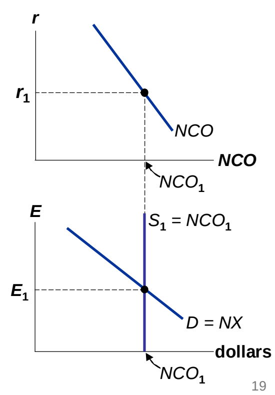
The Effects of a Budget Deficit: Summary

- One other effect:
- Due to many years of budget and trade deficits,

International investment position of the U.S. at end of 2005	
Value of U.S.-owned foreign assets	$11.1 trillion
Value of foreign-owned U.S. assets	$13.6 trillion
U.S.' net debt to the rest of the world	$2.5 trillion

The Connection Between Interest Rates and Exchange Rates

Anything that increases ***r***



ACTIVE LEARNING 3: Investment incentives

- Suppose the government provides new tax incentives to encourage investment.
- Use the appropriate diagrams to determine how this policy would affect:
  - the real interest rate
  - net capital outflow
  - the real exchange rate
  - net exports

ACTIVE LEARNING 3:
Answers

21

Budget Deficit vs. Investment Incentives

- A tax incentive for investment has similar effects as a budget deficit:
- But one important difference:
  - Investment tax incentive
  - Budget deficit

Trade Policy

- **Trade policy**:
- Examples:
  - **Tariff**
  - **Import quota**
  - **"Voluntary export restrictions"**

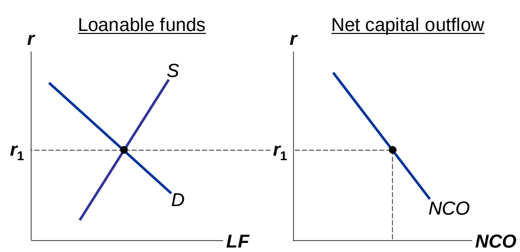
Trade Policy

- Common reasons for policies to restrict imports:

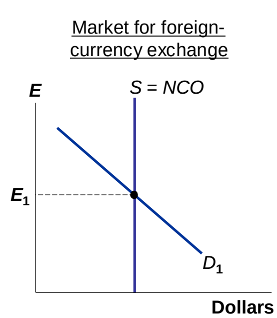
- Do such trade policies accomplish these goals?
- Let's use our model to analyze the effects of an import quota on cars from Japan, designed to save jobs in the U.S. auto industry.

Analysis of a Quota on Cars from Japan

An import quota



Analysis of a Quota on Cars from Japan



Analysis of a Quota on Cars from Japan, *cont.*

What happens to ***NX***?

- § If ***E*** could remain at E_1, ***NX*** would rise, and the quantity of dollars demanded would rise.
- § But the import quota does not affect ***NCO***,
- § Since ***NX*** must equal ***NCO***,
- § *Hence, the policy of restricting auto imports from Japan*

Analysis of a Quota on Cars from Japan, *cont.*

Does the policy save jobs?

The quota reduces imports of Japanese autos.

But

Political Instability and Capital Flight

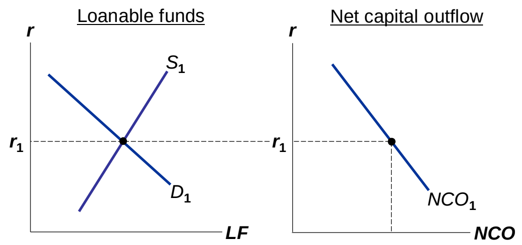
§

- People worried about the safety of Mexican assets they owned.
- People sold many of these assets, pulled their capital out of Mexico.

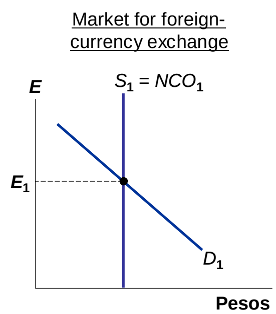
§ **Capital flight**:

§ We analyze this using our model, but from the prospective of Mexico, not the U.S.

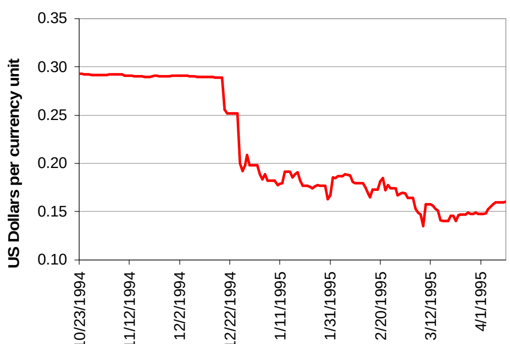
Capital Flight from Mexico

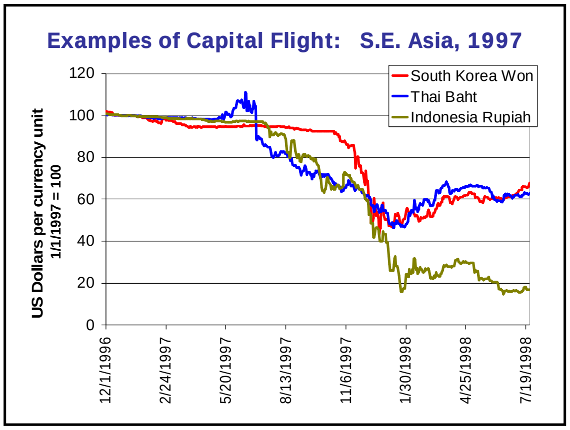


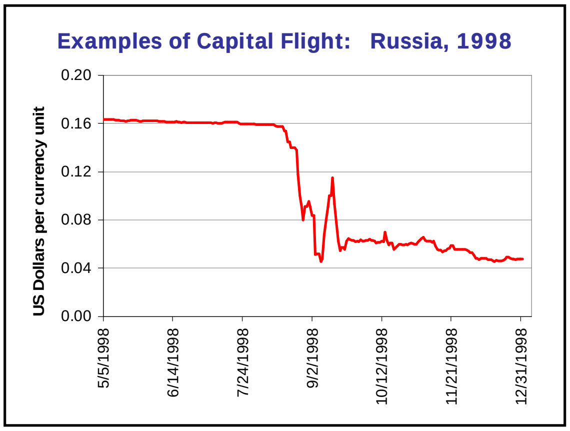
Capital Flight from Mexico

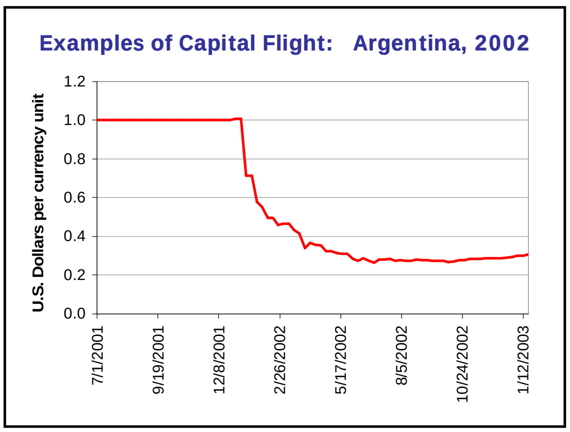


Examples of Capital Flight: Mexico, 1994




Examples of Capital Flight: S.E. Asia, 1997
US Dollars per currency unit 1/1/1997 = 100
South Korea Won
Thai Baht
Indonesia Rupiah
0
20
40
60
80
100
120
12/1/1996
2/24/1997
5/20/1997
8/13/1997
11/6/1997
1/30/1998
4/25/1998
7/19/1998


Examples of Capital Flight: Russia, 1998
US Dollars per currency unit
0.00
0.04
0.08
0.12
0.16
0.20
5/5/1998
6/14/1998
7/24/1998
9/2/1998
10/12/1998
11/21/1998
12/31/1998


Examples of Capital Flight: Argentina, 2002
U.S. Dollars per currency unit
0.0
0.2
0.4
0.6
0.8
1.0
1.2
7/1/2001
9/19/2001
12/8/2001
2/26/2002
5/17/2002
8/5/2002
10/24/2002
1/12/2003

CONCLUSION

§ The U.S. economy is becoming increasingly open:

- Trade in g&s is rising relative to GDP.
- Increasingly, people hold international assets in their portfolios and firms finance investment with foreign capital.

CONCLUSION

§ Yet, we should be careful not to blame our problems on the international economy.

§ When politicians and commentators discuss international trade and finance, the lessons of this and the preceding chapter can help separate myth from reality.