International Payment Flows and Economic Policy in a Global World

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International Financial System Law Class Three 08/29/02

This Class will help you understand:

- How international flows are measured
- Why International Imbalances arise
- The effects of economic policies on interest rates, income, the balance of payments and exchange rates under fixed and flexible exchange rate regimes
Accounting for International Flows: the Balance of Payments

What is the Balance of Payments?

- The Balance of Payments records the flow of payments between “residents” of one country and the rest of the world during a given time period.
- Provides a summary of international transactions in goods, services, income, fixed and financial assets over a period of time.
Why do we care?

- Components may provide information on competitiveness
- May have implications for currency movements
- One component of the B of P, the current account, is monitored as a “warning signal” for future currency crises

Balance of Payments Accounting:

- Credits/Debits
  - Credit (+) gives rise to a receipt from the rest of the world
    - e.g. U.S. would experience a credit in B of P if it exported computers, or sold shares of Microsoft to Japanese resident
  - Debit (-) gives rise to a payment to the rest of the world
    - e.g. U.S. would experience a debit if it imported CD players, or bought shares of Nestles stock

Follows Double-bookkeeping system so that B of P = 0
What is a “resident” for Balance of Payments Accounting?

*Residency is defined by location, not the ownership, of the entity*

e.g. U.S. operations of Ford Motor Company would be classified as US “residents”
Also, Toyota operations located in the U.S. would be classified US “residents”

Hence, the sale of parts from a U.S. company in the U.S. to a U.S. subsidiary of Toyota would not be included in Balance of Payments statistics

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**Balance of Payment Components**

**The Current Account (CA):** Comprised of

- **Merchandise Trade Balance (MTB)**
  
  = exports - imports of tangible goods

- **Balance on Services (SB)**
  
  = exports - imports of services, including as Legal, consulting, engineering services, royalties, insurance, shipping fees, tourist spending

- **Income Balance (IB)**
  
  = Payment of interest, dividends, and other income on investments

- **Net Unilateral Transfers (NT)**
  
  = Gifts, foreign aid, etc.
The Capital Account Balance (KA)
Measures Investment flows:
= U.S. sales of assets – U.S. purchases of assets

Includes direct investment in real assets, portfolio investment in financial assets, derivatives, bank deposits

Net Errors and Omissions
Reflects errors and misrecorded transactions
Note:
CA + KA + errors = the Official Settlement Balance

Official Reserve Assets
Records central bank asset transactions in foreign currency, gold, Special Drawing Rights (SDRs)
<table>
<thead>
<tr>
<th>Account</th>
<th>2001 ($billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Account</td>
<td>-417.44</td>
</tr>
<tr>
<td>MTB</td>
<td>-423.67</td>
</tr>
<tr>
<td>SB</td>
<td>75.85</td>
</tr>
<tr>
<td>IB</td>
<td>-19.10</td>
</tr>
<tr>
<td>NT</td>
<td>-50.52</td>
</tr>
<tr>
<td>Overall Capital Account</td>
<td>461.52</td>
</tr>
<tr>
<td>Errors &amp; Omissions</td>
<td>-39.15</td>
</tr>
<tr>
<td>Official Reserves</td>
<td>-4.93</td>
</tr>
</tbody>
</table>

**The Balance of Payments Identity**

Assume measurement errors are zero:

Under fixed exchange rates:

\[ CA + KA + OR = 0 \]
\[ CA + KA = - OR \]
e.g.

Suppose CA+KA < 0, then there is an official settlement balance deficit

→ Indicates overall excess demand for foreign exchange, excess supply of domestic currency

→ If exchange rates do not adjust, then Central bank must sell foreign exchange from its Official Reserves, buy domestic currency

→ Net sale of foreign exchange is a credit
  → OR balance > 0

→ Absent exchange rate changes, a country's international payment gap must be accommodated with government official reserve transactions

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**When do current account deficits pose an economic risk?**

E.g.:

Current account balances as a % of GDP

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>-2.47</td>
<td>-3.57</td>
<td>-4.37</td>
</tr>
<tr>
<td>Argentina</td>
<td>-4.88</td>
<td>-1.34</td>
<td>-3.2</td>
</tr>
</tbody>
</table>
The Causes and Implications of International Imbalances

The Macroeconomics of the Current Account

Domestic Product = All purchases of domestic product

where:

Y = Domestic Product
C = Consumption of goods & services
I = investment purchases of capital goods
G = Government purchases of goods & services
X = Exports of goods & services
M = Imports of goods & services
Using the national income identity:

\[ Y = C + I + G + X - M \]
\[ X-M = Y - (C + I + G) \]

So, \( Y < C+I+G \rightarrow X-M < 0 \)
Hence, current account deficits arise when domestic demand > domestic supply

Another Representation:

\[ X - M = Y - (C+I+G) + T - T \]
\[ X-M = (Y - T - C) - I + (T-G) \]
\[ X - M = S^p - I + (T-G) \]
\[ = S^p - [ I + (G-T)] \]

Hence, if \( S^p < I + (G-T) \rightarrow X-M < 0 \)
That is,

If supply of savings < demand for savings, will borrow from abroad (net capital inflow)

Net capital inflow $\rightarrow$ KA surplus $\rightarrow$ CA deficit

e.g. if foreigners view US as attractive place to invest, they may be willing to slow their consumption (and increase savings) in order to invest in US. Strong demand for US assets increases the value of the dollar, which means imports are cheaper to US residents and net imports rise

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When is net borrowing from abroad "bad"?

If net borrowing goes to finance investment in productive assets, then country could repay foreign loans in the future

If net borrowing goes to finance current consumption, then will be difficult to produce enough to repay loans in future
**Longer-run implications of current account deficits:**

Persistent Current Account Deficits imply persistent capital account surpluses

→ Net liabilities to foreigners rise

If Liabilities > Assets, then country becomes a “net debtor” nation

e.g. Net International Investment Position of U.S. in 2000 = -$2,287.45 b.

Problem: debt service becomes an increasing portion of income

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**How can a Current Account Deficit reversed?**

- Increased productivity increase output and increases exports

- Foreigners become reluctant to invest in US:
  - Depreciation of dollar
    - depreciation can increase the competitiveness of exports, can reduce demand for imports
  - Higher interest rates
    - Reduces income, which in turn reduces demand for imports
Balancing Multiple Goals:

Policy-Making in an Open Economy

Policy Objectives:

- **Internal Balance:**
  - Full Employment
  - Price Stability

- **External Balance**
  - Avoidance of persistent deficits or surpluses in the Official Settlements Balance (CA + KA)
A Simple Model:
The Mundell-Fleming Model

- Provides a framework for analyzing policy decisions in an open economy
- Assumptions:
  - prices are “sticky” in the short-run
  - country is a small, open economy
  - Perfect capital mobility
  - country’s borrowing and lending do not affect world interest rate ($r^*$)

Some Preliminary Concepts:

- Goods Market Equilibrium (the IS Curve):
  \[ Y = C + I + G + X - M \]
  where:
  - $C$ is positively related to $Y$ (income)
  - $I$ is negatively related to interest rates ($i$)
  - $X - M$ is negatively related to the exchange rate $e$ (FX/domestic)
Money Market Equilibrium: (LM Curve)

money supply $= M^S$

$= m^* \text{ Monetary Base}$

$= m^*(DA + IR)$

where $m =$ money multiplier
DA = domestic assets (e.g. T-bills)
IR = International Reserves (foreign currency, gold, SDRs)

money demand (in real terms) $= M^d(i,Y)$

$M^d$ is negatively related to $i$: Higher interest rates increase the opportunity cost of holding cash, so that demand for money falls

$M^d$ is positively related to $Y$: Higher income leads to higher demand for money, so money demand rises

**Equilibrium**: $M^S = P^* M^d(i,Y)$
Also assume open capital markets so that:

\[ r = r^* \]

I.e., a country’s real interest rate is determined in world, not domestic, capital markets

Floating Exchange Rates Case:

1) Effect of Monetary Policy:

- Suppose Country wishes to use expansionary monetary policy boost economic growth
- Central Bank uses open market operations: buy T-bills (↑DA) means banks have more to lend
- Bank Deposits increase, and money supply rises: \( m^*(DA + IR) \) rises
Increased money supply puts downward pressure on country’s interest rate, \( i \)
- Capital outflows occur, preventing fall in \( i \)
- Capital outflows lead to depreciation of country’s exchange rate
- Depreciation of exchange rate improves competitiveness of exports
- Net exports rise, Income rises

**Model predicts that monetary policy in an economy with flexible exchange rates will be effective:** monetary expansion leads to higher GDP in short-run

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**The Effect of Monetary Expansion Under Flexible Exchange Rates**

![Graph showing the effect of monetary expansion under flexible exchange rates. The graph illustrates the shifts in the LM curve from LM1 to LM2, and the corresponding impact on the IS curve showing Y.](image)
Floating Exchange Rate Case:

2) The Effect of Fiscal Policy:

- Suppose Government increases spending or reduces taxes
- Increased Government spending requires increased borrowing, putting upward pressure on country’s interest rate
- Upward pressure on interest rates attracts foreign capital
- Country’s exchange rate appreciates
- Also, higher government spending raises income, which in turn increases imports
- Combining exchange rate and income effect, net exports fall
- The fall in net exports offsets the increase in income due to higher government spending

Model Predicts that Fiscal Policy in a country with flexible exchange rates will not be
Policy Conclusions under Floating Exchange Rates:

Monetary policy can be effective in altering income; fiscal policy cannot.
Fixed Exchange Rate Case:

1. Effect of Monetary Expansion

- Suppose Country wishes to use expansionary monetary policy boost economic growth
- Increased money supply puts downward pressure on country’s interest rate, i
- Downward pressure on interest rates leads to capital outflows

- Capital outflows put pressure on exchange rate to depreciate
- Since exchange rate is fixed, Central Bank must prevent depreciation by buying its currency and selling foreign currency
- Sale of foreign currency reduces International Reserves
- Fall in International Reserves reduces monetary base
- \[ DA = IR \] so that change in monetary base, and hence in money supply is zero
Model’s Prediction about the effects of monetary policy in a country with fixed exchange rates:

Monetary policy in a small, open economy with fixed exchange rates is ineffective.

Hence, a small, open economy cannot pursue its own monetary policy if it also chooses to fix its exchange rate.

Effect of Monetary Expansion Under Fixed Exchange Rates

![Diagram showing IS-LM model under fixed exchange rates]

Fixed exchange rate
**Fixed Exchange Rates Case:**

2. **Effect of Fiscal Policy**
   - Government attempts to stimulate domestic spending by increasing spending or reducing taxes
   - Higher spending puts pressure on interest rates to rise
   - Capital inflows, current account falls
   - Pressure on exchange rate to appreciate
   - To prevent appreciation, Central Bank must sell domestic currency and buy foreign currency

   - If Central Bank buys foreign currency, then International Reserves rise
   - Since Money Supply = m(DA+IR), country’s money supply also rises
   - Result: fiscal expansion causes monetary expansion, and income rises

**Model’s prediction:** fiscal policy is effective in altering a country’s income under fixed exchange rates
Modifications to Mundell-Fleming:

- If capital market restrictions imply that capital is not perfectly mobile
  - Policies will have effects on interest rates
- If Prices are not “sticky”
  - Policies will affect prices
### Policy Dilemmas for Countries with Fixed Exchange Rates

<table>
<thead>
<tr>
<th>Current Account Surplus</th>
<th>Current Account Deficit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unemployment</strong></td>
<td><strong>Inflation</strong></td>
</tr>
<tr>
<td>Expansionary Policy</td>
<td>??</td>
</tr>
<tr>
<td>??</td>
<td>Contractionary Policy</td>
</tr>
</tbody>
</table>

### The Problem Areas:

- If have high inflation but a surplus, then contractionary monetary policy to address high inflation could lead to higher current account surplus.
- If have unemployment and a deficit, expansionary policy could worsen the deficit.
Fixed vs. Flexible Exchange Rates?

- Advantages of Floating:
  - independent monetary policy
  - exchange rate movements can help achieve external balance
  - country does not need to defend a fixed rate against speculative attacks

- Disadvantages of Floating:
  - Variability of Exchange Rates increases uncertainty
  - fixed exchange rate may provide monetary discipline and an “inflation anchor”