The Foreign Exchange Market

- Role of the foreign exchange markets
- Foreign exchange (FX) basics
  - Terminology
  - Types of contracts
- Organization and institutional features
  - Actors - brokers, dealers
  - Segments - Interbank (wholesale), retail
  - Tracking a deal
  - Activities - Hedging, speculation, arbitrage, market making
- Dimensions of the FX
  - By location, contract type, currency of denomination
Role of Foreign Exchange Markets

✧ Member nations of the International Monetary Fund
  » 182 in 1998, up from 156 in 1991
  » With few exceptions, each nation issues its own national money (why?) and controls its value (why?)
  » Exceptions: EMU (11 nations, one money); Panama (US$); former French colonies (French franc).

✧ In commodity trade between US and Japan
  » US (Japanese) exporters do not usually accept yen (US$)

✧ Main roles of the FX market
  » Medium of exchange - facilitate trade in goods and services
  » Medium of exchange - facilitate purchase/sale of securities
  » Medium to re-denominate and manage currency risk in stock asset or liability positions
Foreign Exchange Contracts (1 of 2)

Spot contract

- An exchange of two currencies for “immediate delivery”
- A binding commitment
- Quoting conventions:
  - Direct terms (American terms): US$/foreign currency
  - Indirect terms (European terms): foreign currency/US$

Foreign exchange swap

- Simultaneous borrowing and lending of short-term bank balances in two currencies, for example
  - Bank A borrows $10 million from Bank B for 1-month
  - Bank B borrows $10 million worth of £ from Bank A for 1-month
- Used to “construct” forward contracts and manage risks
Foreign Exchange Contracts (2 of 2)

» Forward contract
  » Agreement made today for obligatory exchange at specified time in future: 1, 2, 3, 6, 12 months from today
  » No exchange of funds on agreement day, or at any time until settlement date
  » Example:
    ◆ On 11/15/99 buy £1,000,000 1-month forward at $1.60/ £
    ◆ On settlement date 12/15/99 when spot pound is $1.55
      – Take delivery of £1,000,000, pay out $1,600,000
      – “Cash settle”, pay $50,000 to cancel obligation
  » Quoting conventions
    ◆ Outright
    ◆ % premium or discount relative to spot
FX Terminology: Appreciation and Depreciation

Because every exchange rate involves two currencies

» Appreciation of the US$ against £ ⇔ Depreciation of £ against US$
» Depreciation of the US$ against £ ⇔ Appreciation of £ against US$

Examples

» Change from 1.50 $/£ to 1.75 $/£ ⇒ Appreciation of £ against US$
» Change from 1.50 $/£ to 1.25 $/£ ⇒ Depreciation of £ against US$

Exact percentage measures depend on the base rate

» $x\%$ depreciation of the Mexican peso ⇒ $x\%$ more pesos to buy $1$
  ◆ from 4 MP/$ to 8 MP/$ ⇒ 100% depreciation of the peso
» $y\%$ appreciation of the US$ ⇒ $y\%$ fewer dollar to buy 1 peso
  ◆ from $0.25/MP$ to $0.125/MP$ ⇒ 50% appreciation of the US$
Structure of the Foreign Exchange Market

The Interbank FX Market

Chase Bank Dealer

Barclays Bank

Credit Lyonnais

Bank of Tokyo

Deutsche Bank Dealer

Hong Kong Shanghai Bank

J.P. Morgan
Structure of the Foreign Exchange Market

The Retail and Interbank FX Market

General Motors
General Electric
Microsoft
Motorola

Chase Bank Dealer

Deutsche Bank Dealer

Broker

Prof. Levich
C45.0001, Economics of IB
Chapter 16, p. 7
Growth in Global FX Trading

Billions US$ per day

- 1989: 590
- 1992: 820
- 1995: 1,190
- 1998: 1,500
Based on April 1998 BIS survey of trading in 43 countries
Final estimate of global FX trading:
$1.5 trillion/day
Percentage Share of Trading by Currency of Denomination
Source: April 1998 BIS Survey

Note: Percentage shares sum to 200% because two currencies are involved in each transaction.
Daily Volume of Trading by Contract Type

- Spot
- Outright Forward
- FX Swap

Prof. Levich
C45.0001, Economics of IB
Chapter 16, p. 12
### Daily Trading Statistics for an Actual Spot DM Interbank Dealer

<table>
<thead>
<tr>
<th></th>
<th>Direct Transactions</th>
<th>Brokered Transactions</th>
<th>Total Transactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Transactions</td>
<td>190</td>
<td>77</td>
<td>267</td>
</tr>
<tr>
<td>Value of Transactions</td>
<td>$0.8 billion</td>
<td>$0.4 billion</td>
<td>$1.2 billion</td>
</tr>
<tr>
<td>Median Transaction Size</td>
<td>$3.0 million</td>
<td>$4.0 million</td>
<td>na</td>
</tr>
<tr>
<td>Median Spread Size</td>
<td>DM 0.0003</td>
<td>na</td>
<td>na</td>
</tr>
</tbody>
</table>

Note: The above figures are daily averages for a single trader in the spot DM interbank market for the period Monday, August 3, 1992 - Friday, August 7, 1992.

Net Trading Positions, August 3 - August 7, 1992
for DM/US$ Spot Trader (in US$ Millions)

Transactions in Chronological Order, by Day of the Week

Monday  Tuesday  Wednesday  Thursday  Friday