Corporate Uses and Abuses of Currency Options

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Forwards vs Futures vs Options

- Good credit: Forward usually best
- Sometimes, Money Market Hedge better
  - Perfect market: same (covered int. arb.)
  - Imperfect market: MMH may be better
- Credit problem: Futures
  - But: limited and standardized
  - Requires margin and daily settlement
- Uncertain future cash flows:
  - Liquid instrument (futures/forwards to assure flexibility)
  - Options sometimes advisable
Using Currency Options

Known cash flows + option hedge = naked option
- Hedging a known position
- Covered call writing
- Hedging with “cheap options”
- Hedging with “free options”
- Hedging contingent risk
- Options receive favorable accounting treatment

Using Currency Options: 1. Hedging a Known Position

- Example: Buy a Swiss franc put to hedge a royalty payment to be received from Switzerland

<table>
<thead>
<tr>
<th>Gain or Loss</th>
<th>Value of Swiss franc</th>
</tr>
</thead>
<tbody>
<tr>
<td>+0</td>
<td></td>
</tr>
<tr>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

Gain or Loss

Value of Swiss franc
Combining Options

Gain or Loss
Value of Swiss franc

Long a currency
Plus: Buy a put
Net effect: Like buying a call

Put-Call Parity

Gain or Loss
Value of Swiss franc

Sell a Call
Plus: Buy a put
Net effect: Short the currency
**Don’t Kid Yourself**

Option combinations:
- **Owe currency**
  - + buy call = Buy put
- **Own currency**
  - + buy put = Buy call

**Using Currency Options:**

2. **Covered Call Writing**

- ICI proposes...
Using Currency Options:
3. Hedging with “Cheap Options”

- Example: Buy an out-of-the-money put to hedge a Swiss franc receivable
- Question: When should a firm buy ATM options?
- Answer: When the firm’s view of volatility exceeds that of the market

What Influences Option Prices?

- Forward relative to strike
- Time to expiration
- Volatility
- Interest rate

- Currency collar or range forward
- Eg Exposure is obligation to pay for Japanese imports in 60 days

Case Study: “Options Trip”

$10 million

$30 million
Using Currency Options:  
5. Hedging Contingent Risk  

- Example 1: T.I bidding to supply chips to Saudi Arabia  
- Example 2: ABB lobbying to win high-speed rail contract in Florida  

- Problem: Wrong contingency  
- Solution: Event-contingent options

6. Using Options to get Hedge Accounting Treatment  

- Pfizer, the US drug company, uses forwards to hedge short-term foreign-currency payables and receivables  
- Pfizer uses long-dated options, as far out as 2 years, to hedge anticipated sales. This gets expensive!  
- Reason: GAAP would treat forwards used to hedge future, uncertain, sales as speculative, to be marked-to-market.
When Should Companies use Options to Hedge?

- Hedge natural exposure
  - Example: Reeves sells printing blankets with fixed local-currency prices in Europe
- Hedge against extreme events that threaten the company's business.
  - Example: GE could buy deep out-of-the-money options on yen.

When Use Options to Take a View?

- View on direction
- View on volatility

<table>
<thead>
<tr>
<th>Direction: Volatility</th>
<th>Currency rising</th>
<th>Currency falling</th>
<th>No trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volatility increasing</td>
<td>Buy call</td>
<td>Buy put</td>
<td>Buy straddle</td>
</tr>
<tr>
<td>Volatility falling</td>
<td>Sell put</td>
<td>Sell call</td>
<td>Sell straddle</td>
</tr>
<tr>
<td>No trend in volatility</td>
<td>Buy forward</td>
<td>Sell forward</td>
<td>Arbitrage</td>
</tr>
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</table>
**Why Use Currency Options?**

- Protect against downside risk
- Earn income from covered option writing
- Buy “cheap options”
- Buy “free options”
- Hedge event-contingent risk
- View on both volatility and direction
- Hedge against financial distress

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**Which Instrument?**

<table>
<thead>
<tr>
<th>Identifiable exposure</th>
<th>Debt, swaps, forward contracts</th>
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<tbody>
<tr>
<td>Uncertain exposure</td>
<td>Instruments with flexibility, such as forwards and futures</td>
</tr>
<tr>
<td>Exposure that threatens financial distress</td>
<td>Deep-out-of-the-money options</td>
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</table>
A Hedging Roadmap

Motivations for Hedge

Driven by company views
Volatility: options, Direction: forwards, debt
Market risk remains

Driven by company needs
Company has economic exposure
Forwards, swaps or debt

Company has natural hedge
No need for hedging

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