Chapter 21

INTERNATIONAL BUSINESS FINANCE

With the adoption of flexible exchange rates in 1973, international capital markets have become more completely integrated. This chapter discusses portfolio selection of international equities, and how international diversification lowers total risk of portfolios. Particular attention is paid to the diversification implications of Asian stocks, other emerging markets, and Latin American securities. The US equity selection model developed and estimated in Chapter 14 is used to rank global (ex-US) securities, and produces statistically significant information coefficients and excess returns. An investor owns foreign stocks because their inclusion into portfolios produces higher Sharpe ratios than using only domestic securities. Global and (domestic) US securities may produce portfolios of higher returns for a given level of risk.

1. CURRENCY EXCHANGE RATES

One of the additional risks affecting the returns on foreign investment is the possible movement of the exchange rate. The following data would be of interest to a US investor on August 26, 2003:

- $1 US = .635 £ (Pound)
- $1 US = 117.3 ¥ (Yen)
- $1 US = .917 € (Euro)
- $1 US = $1.399 C (Canadian)

What do these exchange rates mean? Let us take a trivial, but interesting example. A US investor can ride the subway in New York City for $2.00. The US investor can make a business trip to Montreal, Canada, and ride the subway for $2.50 C (Canadian). Which ride is more expensive? The $2.50 Canadian subway ride in Montreal costs the US investor $1.788 US ($2.50 x .715, or 1/$1.399). The Canadian subway system is cheaper (and cleaner) than the US system, despite its seemingly higher cost. Let’s take another example. I can purchase a Honda Odyssey minivan for $25,000 in the US. If the Honda minivan is priced at $35,000 C, should our US investor take his cheaper subway ride and buy the vehicle in Montreal? The $35,000 C car would cost the US investor $25,025 US in Montreal. The US investor should pay the $25,000 domestic cost. If the Honda Odyssey cost 3,500,000 Yen in Tokyo, should the investor purchase the
vehicle in Japan? The 3,500,000 Yen cost represents a price of $29,750 US (3,500,000 x .0085, or 1/117.3). The US investor should purchase his Japanese car in the US, rather than Canada or Japan.

A more traditional key cross currency rates matrix is normally presented as the following on June 22, 2005:

<table>
<thead>
<tr>
<th>Currency</th>
<th>USD</th>
<th>EUR</th>
<th>JPY</th>
<th>GBP</th>
<th>CAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>USD</td>
<td>.....</td>
<td>1.2128</td>
<td>.00919</td>
<td>1.8218</td>
<td>.8100</td>
</tr>
<tr>
<td>EUR</td>
<td>.8254</td>
<td>.....</td>
<td>.00757</td>
<td>1.5021</td>
<td>.6679</td>
</tr>
<tr>
<td>JPY</td>
<td>108.86</td>
<td>132.03</td>
<td>.....</td>
<td>198.33</td>
<td>88.185</td>
</tr>
<tr>
<td>CAD</td>
<td>1.2345</td>
<td>1.4972</td>
<td>1.1340</td>
<td>2.2490</td>
<td>.....</td>
</tr>
<tr>
<td>AUD</td>
<td>1.2841</td>
<td>1.5574</td>
<td>1.1795</td>
<td>2.3394</td>
<td>1.0402</td>
</tr>
</tbody>
</table>

where USD=US Dollar,
EUR=Euro,
JPY=Japanese Yen,
GBP=British Pound,
CAD=Canadian Dollar.

Source: Bloomberg, L.P.

The US dollar fell from 117.3 yen in 2003 to only 108.86 yen in 2005. The US continued to run persistent balance of trade deficits that led to its continued currency depreciation. The US dollar depreciated versus the Euro, falling from 0.917 in 2003 to only 0.8254 in 2005.¹

Economists have long held that in the flexible exchange rate regime in which we live, that the purchasing power of currencies should be equated by changing currency rates. That is, if a basket of commodities is cheaper in the US than in Europe, then US exports should rise, US imports fall, and the US dollar should rise (appreciate) such that the purchasing power of the US dollar and Euro are equal. The purchasing power parity theory (PPPT), put forth by Cassel (1916), holds that:

\[
dE_x = \frac{P_{US_1}/P_{US_0}}{P_{e_1}/P_{e_0}}
\]

where \(dE_x\) = change in exchange rate,
\(P_{US_1}\) = domestic (US) price level at time 1,
\(P_{US_0}\) = domestic (US) price level at time 0,
\(P_{e_1}\) = Foreign (Euro) price level at time 1,
\(P_{e_0}\) = Foreign (Euro) price level at time 0.

The PPPT holds that the rate of change in exchange rates equals the rate of change in price levels, which, of course, equals the relative ratios of inflation rates. See Yeager (1976) for a complete PPPT analysis.