QUESTIONS

1. Exhibit 13.11 presents a listing of major national stock market indexes as displayed daily in the print edition of the *Financial Times*. At [www.ft.com](http://www.ft.com) you can find an online tracking of these national stock market indexes that shows performance over the last five trading days. Go to this website and compare the performance for several stock market indexes from various regions of the world. How does the performance compare? What do you think accounts for differences?

Answer: This question is designed to provide an intuitive understanding of the benefits from international diversification of equity portfolios. Over different time periods, different market forces will affect each national market in unique ways. Some markets will have yielded a positive return and others a negative return. Consequently, since all markets will not have moved in unison, i.e., are not perfectly correlated, international diversification provides volatility reduction to the portfolio investor.

2. As an investor, what factors would you consider before investing in the emerging stock market of a developing country?

Answer: An investor in emerging market stocks needs to be concerned with the depth of the market and the market’s liquidity. Depth of the market refers to the opportunities to invest in the country. One measure of the depth of the market is the concentration ratio of a country’s stock market. The concentration ratio frequently is calculated to show the market value of the ten largest stock traded as a fraction of the total market capitalization of all equities traded. The higher the concentration ratio, the less deep is the market. That is, most value is concentrated in only a few companies. While this does not necessarily imply that the largest stocks in the emerging market are not good investments, it does, however, suggest that there are few opportunities for investment in that country and that proper diversification *within* the country may be difficult. In terms of liquidity, an investor would be wise to examine the market turnover ratio of the country’s stock market. High market turnover suggests that the market is liquid, or that there are opportunities for purchasing or selling the stock quickly at close to the current market price. This is important because liquidity means you can get in or out of a stock position...
quickly without spending more than you intended on purchase or receiving less than you expected on sale.

3. Compare and contrast the various types of secondary market trading structures.

Answer: There are two basic types of secondary market trading structures: dealer and agency. In a dealer market, the dealer serves as market maker for the security, holding an inventory of the security. The dealer buys at his bid price and sells at his asked price from this inventory. All public trades go through the dealer. In an agency market, public trades go through the agent who matches it with another public trade. Both dealer and agency markets can be continuous trade markets, but non-continuous markets tend to be only agency markets. Over-the-counter trading, specialist markets, and automated markets are types of continuous market trading systems. Call markets and crowd trading are each types of non-continuous trading market systems. Continuous trading systems are desirable for actively traded issues, whereas call markets and crowd trading offer advantages for smaller markets with many thinly traded issues because they mitigate the possibility of sparse order flow over short time periods.

4. Discuss any benefits you can think of for a company to (a) cross-list its equity shares on more than one national exchange, and (b) to source new equity capital from foreign investors as well as domestic investors.

Answer: A MNC that has a product market presence or manufacturing facilities in several countries may cross-list its shares on the exchanges of these same countries because there is typically investor demand for the shares of companies that are known within a country. Additionally, a company may cross-list its shares on foreign exchanges to broaden its investor base and therefore to increase the demand for its stock. An increase in demand will generally increase the stock price and improve its market liquidity. A broader investor base may also mitigate the possibility of a hostile takeover. Additional, cross-listing a company’s shares establishes name recognition and thus facilitates sourcing new equity capital in these foreign capital markets.
5. Why might it be easier for an investor desiring to diversify his portfolio internationally to buy depository receipts rather than the actual shares of the company?

Answer: A depository receipt can be purchased on the investor’s domestic exchange. It represents a package of the underlying foreign security that is priced in the investor's local currency and in a trading range that is typical for the investor’s marketplace. The investor can purchase a depository receipt directly from his domestic broker, rather than having to deal with an overseas broker and the necessity of obtaining foreign funds to make the foreign stock purchase. Additionally, dividends are received in the local currency rather than in foreign funds that would need to be converted into the local currency.

6. Why do you think the empirical studies about factors affecting equity returns basically showed that domestic factors were more important than international factors, and, secondly, that industrial membership of a firm was of little importance in forecasting the international correlation structure of a set of international stocks?

Answer: While national security markets have become more integrated in recent years, there is still a tremendous amount of segmentation that brings about the benefit to be derived from international diversification of financial assets. Monetary and fiscal policies differ among countries because of different economic circumstances. The economic policies of a country directly affect the securities traded in the country, and they will behave differently than securities traded in another country with other economic policies being implemented. Hence, it is not surprising that domestic factors are found to be more important than international factors in affecting security returns. Similarly, industrial activity within a country is also affected by the economic policies of the country; thus firms in the same industry group, but from different countries, will not necessarily behave the same in all countries, nor should we expect the securities issued by these firms to behave alike.
PROBLEMS

1. On the Milan bourse, Fiat stock closed at EUR14.67 per share on Tuesday, February 26, 2008. Fiat trades as and ADR on the NYSE. One underlying Fiat share equals one ADR. On February 26, the $/EUR spot exchange rate was $1.4889/EUR1.00.

   a. At this exchange rate, what is the no-arbitrage U.S. dollar price of one ADR?

   b. By comparison, Fiat ADRs closed at $21.94. Do you think an arbitrage opportunity exists?

Solution:

   a. The no-arbitrage ADR U.S. dollar price is: EUR14.67 x $1.4889 = $21.84.

   b. It is unlikely that an arbitrage opportunity exists after transaction costs. Additionally the slight difference in prices is likely accounted for by a difference in information contained in prices since the ADR market in New York closed several hours after the Milan bourse.

2. If Fiat ADRs were trading at $24 when the underlying shares were trading in Milan at EUR5.84, what could you do to earn a trading profit? Use the information in problem 1, above, to help you and assume that transaction costs are negligible.

Solution: As the solution to problem 1 shows, the no-arbitrage ADR U.S. dollar price is $21.84. If Fiat ADRs were trading at $24, a wise investor might sell short the relatively overvalued ADRs. Since the ADRs are a derivative security, one would expect the ADRs to decrease in price from $24 to $21.84. Assuming this happens, the position could be liquidated for a profit of $24 - $21.84 = $2.16 per ADR.
MINI CASE: SAN PICO’S NEW STOCK EXCHANGE

San Pico is a rapidly growing Latin American developing country. The country is blessed with miles of scenic beaches that have attracted tourists by the thousands in recent years to new resort hotels financed by joint ventures of San Pico businessmen and moneymen from the Middle East, Japan, and the United States. Additionally, San Pico has good natural harbors that are conducive for receiving imported merchandise from abroad and exporting merchandise produced in San Pico and other surrounding countries that lack access to the sea. Because of these advantages, many new businesses are being started in San Pico.

Presently, stock is traded in a cramped building in La Cobijio, the nation’s capital. Admittedly, the San Pico Stock Exchange system is rather archaic. Twice a day an official of the exchange will call out the name of each of the 43 companies whose stock trades on the exchange. Brokers wanting to buy or sell shares for their clients then attempt to make a trade with one another. This crowd trading system has worked well for over one hundred years, but the government desires to replace it with a new modern system that will allow greater and more frequent opportunities for trading in each company, and will allow for trading the shares of the many new start-up companies that are expected to trade in the secondary market. Additionally, the government administration is rapidly privatizing many state-owned businesses in an attempt to foster their efficiency, obtain foreign exchange from the sale, and convert the country to a more capitalist economy. The government believes that it could conduct this privatization faster and perhaps at more attractive prices if it had a modern stock exchange facility where the shares of the newly privatized companies will eventually trade.

You are an expert in the operation of secondary stock markets and have been retained as a consultant to the San Pico Stock Exchange to offer your expertise in modernizing the stock market. What would you advise?
Suggested Solution to San Pico’s New Stock Exchange

Most new and renovated stock exchanges are being established these days as either a partially or fully automated trading system. A fully automated system is especially beneficial for a small to medium size country in which there is only moderate trading in most issues. Such a system that deserves special note is the continuous National Integrated Market system of New Zealand. This system is fully computerized and does not require a physical structure. Essentially, all buyers and sellers of a stock enter through their broker into the computer system the number of shares they desire to buy or sell and their required transaction price. The system is updated constantly as new purchase or sale orders are entered into the system. The computer constantly searches for a match between buyer and seller, and when one is found a transaction takes place. This type of system would likely serve San Pico’s needs very well. There is existing technology to implement, the bugs have been worked out in other countries, and it would satisfy all the demands of the San Pico government and easily accommodate growth in market activity.