CHAPTER 10
THE EUROBOND MARKET

Chapter Overview

The chapter begins with the definition of Eurobond, as compared with domestic bonds and foreign bonds. It presents a historical overview of the Eurobond market and links it with data on the growth of issuing activity. Next, it reviews the regulatory and institutional characteristics of the Eurobond market and contrast them with those in traditional onshore bond markets. Then it describes the process of issuing a Eurobond and suggests how the market has responded to the pressures that arise from operating in a largely unregulated environment. The chapter also offers empirical evidence on the pricing of Eurobonds, making use of several case studies. The final two sections review the policy issues that confront both private enterprises and public policy makers when domestic, foreign, and Eurobond markets are all active simultaneously but with different elements of regulation.

Chapter Outline

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Summary
Supplementary Notes

International Bond Markets

1. Foreign Bonds

Bonds that are issued by foreign borrowers in a nation's domestic capital market, underwritten by a national banking syndicate in accordance with the securities laws of the market country, and are in most cases denominated in the nation's domestic currency.

Yankee bonds: foreign bonds issued in the U.S.
Samurai bonds: foreign bonds issued in Japan
Bulldog bonds: foreign bonds issued in London
Rembrandt bonds: foreign bonds issued in the Netherlands

Yankee bonds:
   Must be registered -- meeting disclosure requirements
   Borrowers with AAA credit ratings
   Coupons usually paid semiannually

2. Eurobonds

Bonds denominated in a particular currency that are usually issued simultaneously in the capital markets of several nations. They differ from foreign bonds in that most nations do not have preoffering registration or disclosure requirements for eurobond issues.

Features:
   Bearer bonds -- anonymous investors ==> avoid taxes?
   Interest tax free (in case of withholding tax, interest up)

Straight bonds:
   fixed interest rate at periodic intervals, usually annually.

Floating-rate notes (FRNs):
   rollover pricing
   payment usually six months
   interest stated in terms of a spread over some reference rate -- usually LIBOR

Zero-coupon bonds:
   discount securities, sold either at a fraction of face value and redeemed at face value, or sold at face value and redeemed at a premium

Convertible bonds:
can be exchanged for some other type of asset: stock, gold, oil, other bonds

=> bond with options

**Mortgage-backed eurobonds:**
backed by pool of mortgages, or other bonds
Institutions which would otherwise be excluded from eurobond market can get access

**Dual-currency bonds:**
purchased in one currency, coupon or principal paid in a second currency

=> bond with forward contract
Answers to end-of-chapter questions

1. What are the most distinctive features of a Eurobond in comparison to a traditional onshore bond?

The most distinctive features of Eurobonds in comparison with traditional onshore bonds are those that reflect the regulatory differences between the two markets. No regulatory body oversees the issuance of Eurobonds. Disclosure requirements are determined by market practices rather than an official agency. Eurobonds issues are not hampered by queuing restrictions. Eurobonds are in bearer rather than registered format. Withholding taxes are not imposed on Eurobond coupon payments, as they often were (and still are) for many traditional registered bonds.

2. What is a samurai bond? What is a bulldog bond?

A samurai bond is a Japanese yen-denominated bond issued in the Japanese bond market by a non-Japanese firm. A bulldog bond is a £-denominated bond issued in the U.K. bond market by a non-U.K. firm. Both samurai and bulldog bonds are examples of foreign bonds.

3. Describe how US regulations in the 1960s and 1970s played a role in the development of the Eurobond market.

Several U.S. regulations assisted the development of the Eurobond market. The Interest Rate Equalization Tax (1963) raised the cost for foreign borrowers to issue in the U.S. bond market. As a result, these borrowers arranged US$ bond issues in Europe. The Voluntary Foreign Credit Restraint Program (1965) tried to limit the transfer of funds from the U.S. capital market to the foreign affiliates of U.S. firms. This regulation gave U.S. firms an incentive to borrow offshore to fund their foreign operations. The Office of Foreign Direct Investment (1970) made these voluntary restraints mandatory.

4. What is the difference between public offerings and private placements? How does the distinction play a role in the Eurobond market?

A public offering is a securities issue sold to the general public. A private placement is a securities issue sold directly to a small group of professional or institutional investors. Because the public offering is sold to large numbers of retail investors, rules regarding information disclosure for investor protection have evolved in every country. Because a private placement is sold to professional investors and not publicly advertised, market regulators in many countries have adopted more flexible disclosure requirements and selling rules. Since Eurobonds are offered for sale as private placements, they avoid much of the costly regulatory requirements associated with public offerings.

5. Give a brief explanation of Rule 144a. Compare and contrast the Rule 144a market with the Eurobond market.
Rule 144a is a U.S. SEC rule adopted in April 1990 that permits large institutional investors to purchase securities (on the basis of market-determined information disclosures) and then to re-sell them in the future to another large, qualified institutional investor. Rules 144a takes the U.S. private placement market and, in effect, adds liquidity to it.

6. Discuss the factors an issuer must consider before deciding between a Eurobond issue or a domestic bond issue?

An issuer must weigh financial costs, issuance costs, speed, and other factors to decide between a Eurobond and a domestic bond issue. Usually financial costs in the Eurobond market are lower and the speed is faster. Issuance costs (the underwriters spread) are often greater in the Eurobond market, but subject to greater competition and downward pressure. An issuer may prefer the U.S. market if the deal is especially large, although the Eurobond market also can handle large issues. Foreign currency denominated issues are more common in the Eurobond market. An issuer may want to issue in several markets over the span of several years in order to keep a presence and diversify funding risks should the issuer saturate a particular market.

7. What is underwriting risk? Who bears the underwriting risk in the case of a bought deal?

Underwriting risk reflects the possibility that an underwriter will not be able to sell an issue of bonds at the expected price or at a price that covers his costs. In the case of a bought deal, the underwriter bears the entire underwriting risk. In a $100 million bond issue with 2% fees, the underwriter expects to raise $100 million and is committed to transfer $98 million of the proceeds to the issuing firm. If the bonds are not received well in the market, the underwriter will have to lower the price to $99, $98, or $97 million (or lower) in order to clear his supply. The underwriter faces the risk that the bond issue will not earn its targeted $2, and may even produce a loss for the underwriter.

8. How could the variable-price re-offering method of Eurobond underwriting lead to "stuffing" of retail investors' accounts?

With variable-price re-offering, the underwriter is free to charge a different price to different buyers of the same bond issue. One buyer may pay $100; another may pay $97. Uninformed buyers are more likely to pay the higher price (and be victims of "stuffing") while informed investors pay a lower price for the same bond.

9. What role has the gray market played in the Eurobond market?

The gray market allows information about the market price of the bond, on a when-issued basis, to reach the public. Thus if a bond issue is announced at par ($100) and the gray market price is $97, retail investors and members of the underwriting syndicate will suspect that the bond is over-priced. A higher interest rate or smaller bond issue will be considered. The reverse will happen if the bond trades at a premium to par in the gray market.
10. Is competition greater in the Eurobond market or in the US domestic bond market? Explain why or why not.

Competition is probably greater in the Eurobond market than in the U.S. domestic bond market. The reasons are that entry into the Eurobond underwriting business is easier. Concentration ratios show that Eurobond underwriting is spread across a larger number of players than U.S. domestic bond underwriting.


The Eurobond market and the domestic U.S. bond market show signs of both integration and the lack of integration. Consider the issue of U.S. Treasury Notes targeted to the Eurobond market. These notes were issued at 32 basis points less than the yield on a comparable domestic U.S. Treasury issue. If these bonds had been identical in all respects, this pricing difference would have indicated a lack of market integration. However, the targeted Eurobond issues were bearer securities while the domestic U.S. Treasury instruments were registered securities. The 32 basis point difference could reflect the value of secrecy to Eurobond investors. The Treasury brought three more Eurobond issues to the market, until the interest rate gap between the Eurobond market and the domestic market was closed. Equilibrium in this case was brought about by the bond supplier, even though the initial demand conditions led to a differential pricing.

12. Suppose that firm ABC has issued seven-year straight US$ bonds in both the Eurobond market and the US domestic market. Would you expect that the yield-to-maturity on the two bonds are identical?

If the bonds are identical, the yields on the two bonds should also be identical. Institutional differences could play a role, however. The firm may find that since Eurobonds are in bearer form, and some investors value secrecy, the price of the Eurobond is higher and its yield to maturity is lower. If the firm has issued many Eurobonds, the market may be saturated, leading to a lower price and a higher yield to maturity. In equilibrium, the firm should issue bonds so as to equalize the yield in the two markets.

13. How did the EC approach the issue of regulation of international financial markets across the area? What impact might the EC approach have on the Eurobond market?

The European Community (EC) plan calls for a minimal amount of regulation shared by all EC countries, complete freedom to offer financial services throughout the EC, and home country control over all activities supervised by firms headquartered in the home country. These rules imply mutual recognition across EC countries and a single passport to conduct business in financial services around the EC. A sticking point in negotiations has been the differences in national rules on withholding taxes, and disclosure of interest and dividend payments to tax authorities. Luxembourg is the only EC country with neither withholding
taxes nor reporting to tax authorities. A change in these provisions could undermine a distinctive advantage for the Eurobond market.

14. What role have taxes played in the development of the Eurobond market?

Eurobonds were never subject to withholding taxes on coupon payments. And since Eurobonds are in bearer form and companies do not disclose their interest payments to tax authorities, individuals may find it easy to evade taxation on Eurobond interest. Note that tax evasion is illegal. In this environment, issuers could issuer bonds at lower cost since individuals were willing to sacrifice yield in exchange for secrecy.

Answers to end-of-chapter exercises

1. Suppose IBM is issuing $100 million in 7-year Eurobonds priced at U.S. Treasury minus 25 basis points. There is great demand for the issue and you are willing to bid 102 for 10% of the issue.

   a. If you actually get your bid executed, how much will you pay for the bond?
   
   b. A year later, the IBM Eurobonds are traded on the Luxembourg Exchange at 105. What is the value of your investment? What is your capital gain (loss)?
   
   c. You decide to sell the bond at the above price to pursue other opportunities. What amount of withholding taxes are you required to pay?

SOLUTIONS:
2. Suppose Credit Suisse First Boston (CSFB) is the sole lead manager in a $100 million bought deal for the World Bank. CSFB decides to price the seven-year issue at par to yield 8%.

a. What will be CSFB’s position if the Fed decides to increase short-term interest rates by 50 basis points during the offering period?

b. Instead of the Fed move described in a above, suppose that international trade talks break down leading to a depreciation of the dollar on currency markets. What will be CSFB’s position in this case?

c. Calculate the gain or loss for CSFB if the seven-year Eurobond rate rises to 8.25% on the offering day. (Note: Eurobonds pay interest only once each year.)

d. Suppose CSFB collects 2% in fees for lead managing the issue. Again, calculate the overall gain or loss for CSFB if the seven-year Eurobond rate rises to 8.25% on the offering day.

e. (Optional) How could CSFB hedge the risks described in (a) and (b)?

SOLUTIONS:

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\text{\$987.09} = \sum_{t=1}^{7} \frac{80}{1.0825^t} + \frac{1000}{1.0825^7}
\]
3. Suppose Mobil Oil Company is able to issue $500 million worth (face value) of 10-year, zero-coupon Eurobonds at a yield of 8%.

   a. How much capital would Mobil raise with this issue? (Assume that there are no underwriting fees.)

   b. At the same time, suppose that 10-year, stripped zero-coupon US Treasury bonds were traded at a yield of 8.25%. Describe how Mobil could arbitrage between the US market and the Eurobond market. Calculate Mobil's profit from this arbitrage transaction.

   c. When does Mobil earn the profit you calculated in (b)?

   SOLUTIONS:

   a. Proceeds from the Eurobond issue: $1,000/(1+.08)^{10} = 463.19 per bond, or 46.319% of par, or $231,595,000 for the entire issue.

   b. Cost of US Treasury bonds is: $1,000/(1+.0825)^{10} = 452.61, or 45.261% of par, or $226,305,000 for $500,000,000 in face value. Net profit to Mobil is 1.058% of par. And total profit is $5,290,000

   c. The profit is earned on the issue day. Mobil raises $231,595,000 and spends $226,305,000 on the issue day.

4. Suppose two similar seven-year maturity bonds are issued at par, one in the US domestic market and the second in the Eurodollar bond market. Underwriting fees are 2.5% in the US and 1% in the Eurobond market.

   a. If the US domestic bond has an initial yield of 10%, what is the effective spread between lending and borrowing rates in this market?

   b. If the Eurodollar bond has an initial yield of 10.5%, what is the effective spread between lending and borrowing rates in this market?

   c. Suppose that the US bond is subject to a withholding tax of 20% on interests paid. What yield would an investor accept on the Eurobond issue to make him indifferent between the two issues?

   SOLUTIONS:

   a. In the US bond market, after underwriting fees, the firm raises $975 for a $1,000 US domestic bond issued at par. The firm repays $10 per year for six years and $1010 in
year seven for a yield-to-maturity of 10.52%. The investor earns 10.0% yield-to-maturity for a 7-year bond. The spread is 0.52%.

b. In the Eurodollar bond market, after underwriting fees, the firm gets $990 for a $1,000 US domestic bond issued at par. The firm repays $10.50 per year for six years and $1050 in year seven for a yield-to-maturity of 10.71%. The investor earns 10.50% yield-to-maturity for a 7-year bond. The spread is 0.21%.

c. An investor will accept a lower yield in the Eurobond market if he/she does not pay the withholding tax. An 8% yield in the Eurobond market (taken as an after-tax rate) is equivalent to a 10% yield in the US bond market, on a before tax basis and subject to 20% withholding.