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Markets for Corporate Debt Securities 1/

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Abstract

This paper surveys markets for corporate debt securities in the major industrial countries and the international markets. The discussion includes a comparison of the sizes of the markets for various products, as well as the key operational, institutional, and legal features of primary and secondary markets. Although there are some signs that debt markets may be emphasized in the future by some countries, it remains true that North American debt markets are the most active and liquid in the world. The international debt markets are, however, growing in importance. The paper also investigates some of the reasons for the underdevelopment of domestic bond markets and the consequences of firms shifting their debt financing needs from banks to securities markets.

JEL Classification Numbers:
E44, G15, G32

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Contents

Contents

Text Tables:

Summary

This paper surveys markets for corporate debt securities--bonds, commercial paper, and medium-term notes--in the major industrial countries, some smaller industrial countries, and the international markets, namely, the Euromarket and regional markets. The survey includes a detailed comparison of the sizes of the markets for various debt securities, as well as the key operational, institutional, and legal features of primary and secondary debt securities markets. The discussion emphasizes the link between the legal and regulatory frameworks in each market and the characteristics of the market, especially the amount of activity in primary markets and the liquidity of secondary markets.

Although there are significant signs that corporate debt securities markets may be emphasized more in the future by some countries as arenas to provide financing to domestic firms, the North American debt markets are by far the most active and liquid in the world. In fact, most other markets for domestic corporate debt securities are plagued by lack of issuance in primary markets and illiquidity in secondary markets. The stifling of these debt markets can be traced to a combination of restrictive regulation, which has limited issuance activity, and a significant difference in investor preferences for debt securities in many countries outside North America. However, it should be noted that both of these features have begun to change by varying degrees in several countries in recent years, and domestic debt markets and the international markets reflect these changes through increased issuance and trading.

The international debt markets--especially the Euromarket--have been rapidly growing in importance, as well-known issuers from all countries are increasingly turning to these markets. An important reason for the growth of international markets has been the lack of domestic debt securities markets in most countries outside North America, as well as the attractive features of these "offshore" markets. Most important, the international markets offer access to the widest investor base and have an appealing regulatory environment.

The paper studies the reasons that bond markets specifically are prone to illiquidity in secondary markets, as well as the options that are available to correct this deficiency. In addition, the study examines the economic consequences of firms shifting their debt-financing needs from banks to securities markets--a development that is gaining momentum in industrial and developing countries.

I. Introduction

Firms finance investment activities with internal and external funds. Whereas the source of internal funds is straightforward--retained earnings--there are a variety of methods available to raise funds externally--bonds, loans, equity. The decision as to which of these should be used by a particular firm presents some difficult issues because the options are generally not perfect substitutes and, indeed, may even be complementary. On the one hand, it is well-known in the academic literature that internal funds are generally less expensive than external funds owing to factors such as information asymmetries between borrowers and lenders, the direct costs of arranging financing, and so on. This therefore provides a coherent explanation for the fact that internal funds supply a large proportion of the financing needs of non-financial firms across a wide range of countries. On the other hand, while the existing literature does suggest factors that may make one type of external finance more favorable than another, the usage of bonds or equity or bank financing varies greatly across countries. Most striking in this respect is that some countries (e.g. Japan, Germany) have historically relied heavily on bank loans while others have instead turned to the bond market (e.g. the United States, Canada).

At the firm level, the costs and benefits of bank loans versus bond issues are most likely attributable to regulations, the degree of development of corporate bond markets (e.g. liquidity, infrastructure), and the legal implications of the instruments (e.g. corporate governance). This is so since the intrinsic properties of bank loans and bond issues are largely independent of geography or culture per se. For instance, in countries in which much external financing is facilitated by bank loans, the costs of issuing bonds may be relatively high due to an underdeveloped corporate bond market, withholding taxes on interest income, delays associated with requesting permission from regulators to issue bonds, and so on.

At the aggregate level, the costs and benefits associated with debt that is heavily tilted toward bank loans or to bonds can be quite different. For instance, with highly developed corporate bond markets, the loan book of banks is likely to be both thinner and more risky, and this has implications for the transmission mechanism of monetary policy. On the other side of the ledger, if banks ration credit at some phases of the business cycle, the consequences for the macroeconomy of banks tightening their loan books may be buffered if corporate debt securities markets are more developed.

This paper is divided into five sections. Sections 2-4 contain a detailed discussion of important features of domestic corporate debt markets in the major industrial countries and (less thoroughly) several other countries as well as the rapidly developing international market for corporate debt securities. Emphasized in this first main part of the paper is the influence of regulations on the nature of corporate debt across a range of countries, both from a historical perspective and in light of recent developments. Further, this part of the paper also emphasizes cross-

country differences in the infrastructure of domestic (and international) corporate bond markets with the aim of providing some insight into the influences governing their evolution. The aim of section 5 of the paper is to propose and discuss some key problems with the operation of domestic and international corporate debt markets. The two key problems that are discussed are the reasons that underlie the almost ubiquitous illiquidity of secondary corporate bond markets and, second, the policy consequences of the shift by firms to raising funds in securities markets and increasingly, in international markets.

II. Overview of Corporate Debt Markets

1. The financing of business

Non-financial firms often have available a variety of methods to raise funds in order to finance the activities of the firm. One can first distinguish between internal funds and external funds. While internal funds are associated with retained earnings, external funds can be obtained in a number of distinct ways. For the purpose of this paper, it is useful to categorize them into two groups: debt and equity. It should be recognized that these categories may not be mutually exclusive because funds may be raised by issuing a security that has features of both.

Before turning to corporate debt markets in different countries, it is helpful to discuss briefly the role of alternative sources of finance for non-financial private businesses across a sample of countries. It is well known that inquiries of this type present a host of difficult questions about appropriate statistics and differences in accounting and reporting standards across countries. The brief discussion here is intended only to provide a general backdrop for the subsequent analysis of corporate debt markets.

Drawing on recent studies of the financing of business over the past two decades suggests some very general conclusions. 1/ First, on average over the 1970s and 1980s, internal funds are by far the most important source of funds for non-financial firms in the largest industrial countries. Specifically, measured by gross sources of funds, internal funds account for about 50-70 percent of total funds raised by firms in the United Kingdom, the United States, Germany, and Canada, and possibly somewhat less in Japan and France--about 40 percent in each. 2/ Second, over the past two decades bank financing accounted for the largest percentage of funds raised in Japan (about 40 percent over this period), about half as much (as

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1/ See, for example, Borio (1990a), Corbett and Jenkinson (1994), and Frankel and Montgomery (1991), and Rajan and Zingales (1994).

2/ The numbers reported here and below do not add to 100 percent because the discussion does not include trade credit, direct investment, and residual sources.

a percentage) in the United Kingdom, Germany and France, and less in the United States and Canada. Third, over this period equity issues account for the largest source of funds in the United Kingdom, France and Canada (about 7-8 percent), about half as much or less in Japan, even less in Germany, with the least amount of funds raised through equity issues in the U.S. Fourth, over this period the United States by far accounts for the largest reliance on corporate bond issues (about 13 percent), followed by Canada (about 8 percent), Japan (about 3-4 percent), the United Kingdom and France (about 2 percent), and Germany (about 1 percent).

These numbers do indicate some distinct differences across countries in the methods used by firms to raise funds over the past two decades. However, since these generalizations are drawn from time-averaged data, they mask some important recent developments in the methods used by firms in some countries to raise funds externally. For instance, the widespread deregulation in the financial services industry and the privatization efforts in many countries are generally believed to have been important for the use of securities market financing in recent years. We shall study below the recent patterns in the financing of business for a number of industrial countries paying particular attention to the role of bond issuance. Next, however, we discuss some of the main corporate debt instruments available to firms to raise funds.

2. Corporate debt instruments

Although the types of debt finance that are available to firms differ to some degree across countries and across time, one can distinguish at least three general instruments that are used to varying degrees in domestic and international corporate debt markets: (1) short-term notes (including commercial paper (CP)) and medium-term notes (MTN), (2) bank loans, and (3) bonds.

CP is a short-term, unsecured, promissory note issued in the open market, usually in bearer form and usually at a discount from face value. 1/ Traditionally the issuance of CP by non-financial firms has been used as a close substitute for bank borrowing mainly by a relatively small

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1/ CP may pay coupons. In Norway, CP is issued at par and pays coupons. Even in the long-established U.S. and Canadian CP markets, coupons are possible but uncommon. See Alworth and Borio (1993) for a survey of domestic and Euro CP (ECP) markets.

number of large corporations with high credit ratings. 1/ In some countries (e.g. the United States and Japan), this is attributable to the regulatory framework rather than to an appetite for high-quality paper (as in the Euromarkets). The impact of regulation on issuance is studied in section 3 below. Euro commercial paper (ECP) differs from domestically issued CP only in that it is issued and placed outside the jurisdiction of the currency of denomination.

When a firm borrows by issuing short-term paper it runs the risk that it may not be able to sell future paper, especially if market conditions change. To eliminate this risk, a firm can establish a "note issuance facility" (NIF). A NIF is a contract between a borrower and a group of banks in which the banks underwrite the issuer's notes which ensures that the borrower can issue notes over a designated future time period. NIF's are typically associated with the Euro markets and are often referred to as "Euronotes". 2/

Merrill Lynch pioneered the MTN market in 1981 to bridge the gap between CP and corporate bonds in the U.S. domestic corporate debt market. Most MTN's are non-callable, unsecured, senior debt securities with fixed coupons and relatively high credit ratings. However, recently more exotic--called "structured"--MTN's have been issued with increasing frequency. MTN's are currently issued in many domestic debt markets and there is a very active Euro MTN (EMTN) market. MTN's are usually continuously offered to investors over a period of time by an agent of the issuer acting as a dealer for the MTN "program". From a given MTN program, investors can select issues from a variety of maturity bands from 9 months to 30 years or more, although most issues have maturities in the range of 1-10 years (Crabbe (1993)). That is, in contrast to most other debt securities, the

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1/ Although over one thousand issuers may be active in the largest CP markets, the share of the market accounted for by the largest issuers tends to be very large. Alworth and Borio (1993) report that less than 15 percent of issuers in nearly all countries account for over half of total issues. In some cases, such as Japan and Spain, the top five issuers account for over half of all outstanding CP. Even in the U.S. where there are 1700 issuers (including financial and non-financial firms), five percent of the issuers account for over half the outstanding CP.

2/ There is some abuse of terminology here because some other securities are also referred to as Euronotes--namely, ECP and MTN's.

characteristics of MTN's are largely investor-driven. 1/ The interest rate on MTN's may be either flexible or fixed. Typically, a firm will announce a MTN program which allows for the issue of notes over a specified period of time, which total at most the announced figure, and the choice of the maturity of the notes is made on an ongoing basis. Most issuers of MTN's have a high credit rating, although (like CP) the market for MTN's has recently opened to lower-quality issuers that attach letters of credit or collateral ("asset-backed").

A second type of debt finance is bank loans. While a one-on-one bank loan to a firm is unambiguous, so-called "syndicated credits" have been a popular source of financing for many corporate customers. A syndicated credit is essentially a corporate loan from a group of banks. These debts typically are senior to bonds, notes, and paper in the event that a firm cannot meet all its obligations to creditors. The interest rate on a syndicated bank loan floats by periodically re-setting it to some base rate (such as LIBOR). The maturity of loans tends to be shorter than that of bonds. While bank loans are typically viewed as a non-traded asset, in some countries (principally the United States and to a lesser degree the United Kingdom) bank loans can be sold by either the "method of assignment", in which all of the rights of the loan are transferred, or a "participation", in which the rights are not transferred.

The third general type of corporate debt finance is a bond issue. Corporate bonds may be structured as either public issues or private issues. There are a number of important differences between these two structures (apart from regulatory differences which are discussed below), but loosely put private issues are often preferred by somewhat smaller corporations and also generally have a lower credit rating. Private issues in fact share many features with bank loans including an explicit credit evaluation and closer monitoring of the issuer by the lenders. 2/ Smith and Warner (1979) found that private placements of bonds had more restrictive covenants

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1/ Traditional distinctions between bonds and MTN's are that the latter are not underwritten, are continuously offered, and secondary markets are illiquid. However, because shelf registration of bonds allows continuous offerings, some bonds have recently acquired many of these same characteristics that had traditionally distinguished MTN's from bonds. On the other side of the ledger, MTN's have increasingly looked more like bonds because underwritten MTN's have become more common, secondary markets for MTN's have become more liquid, maturities of MTN's have become similar to standard bond maturities, and it is relatively common for MTN's to be issued in large discreet offerings rather than continuously over a period of time. In effect, in many cases the only feature of some MTN issues that distinguishes them from bonds is that they are registered under the SEC's MTN shelf-registration system. For details, see Cooper (1994) and Crabbe (1993).

2/ See Carey et al. (1993) for details of the U.S. private placement corporate bond market.

than public bond issues. The United States has a very large private issue market accounting for approximately 40 percent of all non-financial corporate bond issues in the past decade.

The promises of a corporate bond issuer and the rights of investors are often, but not always, detailed in contracts called "bond indentures". Typically, a corporate trustee is brought in to handle the indenture and safeguard the interests of bondholders. A bond's indenture sets out three important aspects: maturity, security, and provisions for retirement. Indentures and trustees are used widely in some countries (e.g. the United States and Japan) but are less common in other markets (e.g. the Euromarket). Most corporate bonds are "bullet bonds"--they run for a term of years and then become due and payable. Corporate bond issues generally have maturities ranging from 5 years out to thirty years, although they could be as short as a year. In practice, most bond issues are in the 3-10 year maturity range, although this often depends on both the country in which the bonds are issued as well as economic circumstances.

Either real property (using a mortgage) or personal property may be pledged as security beyond the general credit standing of the issuer. A "debenture bond" is not secured by a specific pledge of property although it may have a claim just due to general bondholder privileges. Subordinated debentures have junior claim. Most corporate issues have a call provision allowing the issuer an option to buy back all or part of the issue prior to maturity. Finally, corporate bonds are either "straights" or "equity-linked". The former provide only interest payments between their issue date and maturity date, while the latter also contain the option to convert the bonds into some other security (typically debt or equity). The two kinds of equity-linked bonds are convertibles and bonds with warrants attached. If the bond pays coupons (i.e. it is not a "zero-coupon bond"), these coupon payments may be either fixed or set periodically as a function of some reference variable, such as LIBOR. Bonds with fluctuating coupon payments are called floating rate notes (FRN).

There are at least two factors that may make it difficult to distinguish between a bond issue and a syndicated loan. First, if a small number of investors purchase all of the bond issue with no intention of selling prior to maturity, the issue is effectively a loan. For example, the underwriting syndicate for a bond issue may (and sometimes does) simply park the issue on their books. 1/ Second, the fact that a secondary market for loans exists in some countries (notably the United States and, to

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1/ It is reported (see International Financing Review (1994e)) that it is especially hard to distinguish between a bond issue and a loan in the Asian markets. Indeed, the decision to launch a deal as a loan or a bond is often made very late in the process of putting together financing for the firm. Because of the beneficial effect of a high ranking in the so-called "league tables" (which is essentially a list of the top bond underwriters) there is a bias toward naming any debt issue as a bond issue.

a significantly lesser degree, the United Kingdom) further blurs the line distinguishing these two types of financing.

For a firm located in any country, three corporate debt markets can be identified, although some of these may not be developed or accessible (either due to regulation or to credit standing) to all firms in all countries. These three markets are the domestic, foreign, and international (Euro and dragon) debt markets. 1/ The domestic corporate debt market includes loans from domestic banks, and notes and bonds issued in the domestic market and purchased largely by domestic investors. The foreign corporate debt markets include loans from a bank in a foreign country and the issue of notes and bonds in a foreign country. Euro debt markets include loans from an international syndicate of banks and issues of bonds or notes arranged by an international syndicate of securities firms and marketed internationally. Dragon debt is similar except that it is marketed (and in the case of bonds, listed on local stock exchanges) in a set of southeast Asian countries.

Although the distinctions between these three types of debt markets have become increasingly blurred in recent years (see Chester (1991), Benzie (1992), Clarke (1990)), Eurobonds and Euronotes have some distinguishing features. Key features of the Eurobond markets are that: (1) they are underwritten by an international syndicate 2/, (2) at issuance they are offered to investors in many countries, (3) they are issued outside of the jurisdiction of any single country, (4) they are almost always in unregistered (or bearer) form, and (5) interest payments are not subject to withholding tax. 3/ Eurobonds are also typically unsecured, but they do generally contain a "negative pledge" (i.e. a statement that the issuer will not subsequently issue senior debt) and may contain credit enhancements such as guarantees (see Clarke (1990)). Although they are typically registered on a national stock exchange (usually Luxembourg or London) the bulk of all secondary trading is in the over-the-counter (OTC) market. The reason they are listed at all is because some investors (e.g. pension funds in some countries) are restricted to hold only listed securities. These bonds may also be denominated in a wide variety of currencies, although the U.S.

1/ The foreign bond markets often have colorful names. For example, bonds issued by foreign firms in the United States are called yankee bonds, in Japan they are called samurai bonds, in the U.K. they are called bulldog bonds, in Canada they are called Canadians, and in Spain they are called matadors.

2/ Notes traditionally were not underwritten but rather are sold by investment banks on a "best efforts" basis (see section 3.a. below). Recently, however, an increasing proportion of notes are underwritten (see Crabbe (1993)).

3/ "Where the tax authority of the country of origin of the issuer imposes withholding tax on payments of interest to non-residents, the borrower issues through a finance or special-purpose subsidiary incorporated in a third country which does not levy withholding tax." (Clarke (p.3,1990))

dollar, Japanese yen, and German deutsche mark are the principal currencies (see Chester (1991), Benzie (1992), Clarke (1990)).

3. The size of corporate debt markets

In the United States, it is well known that firms have relied extensively on securities issues to raise funds, and this is in part responsible for the well-developed domestic markets for both equity and bonds. Gross issues of equity fell in the 1980s due in large part to significant equity repurchases, but equity issuance has rebounded in recent years (Table 1). The issuance of bonds on the domestic market by U.S. firms has been considerably larger than equity issuance. The growth rate of bond issuance is however smaller than that of equity issuance. International bond issuance has been much smaller than domestic issuance. Notice also the large magnitude of offshore syndicated credits obtained by U.S. firms in recent years. 1/

As discussed more fully below, in 1990 the Securities and Exchange Commission (SEC) implemented Rule 144A which effectively opened the U.S. market to the issuance of securities without having to satisfy SEC registration requirements. The only drawback was that the securities could only be held and traded amongst "qualified institutional investors", which in practice are institutional investors. It is interesting to gauge the size of the public bond markets versus the 144A market. From April 1990 through December 1993, foreign firms have issued $18.06 billion in the 144A market and U.S. firms have issued $58.58 billion (Securities and Exchange Commission (1994)). Convertible bond issuance in the 144A market accounts for 32.7 percent of all convertible bond issuance in the United States, but only 4.84 percent of straight bonds. By comparison, 144A issues of common equity account for 1.91 percent of total common equity issuance in the United States.

The CP market in the U.S. is the oldest and the largest in the world. However, its share of the world market has fallen significantly in recent years, owing to the development of many other domestic CP markets as well as the ECP market. 2/ These data (Table 1) are outstanding amounts of CP; gross issues would be several times larger than this because the average maturity of U.S. CP is less than two months. For instance, with an average maturity at issue of 45 days, gross issues would be roughly eight times CP outstanding. Further, the "size" of the entire CP market is much larger than Table 1 shows because financial corporations (not included in the tables) issue roughly three to four times the quantity of paper that is issued by non-financial firms. In recent years, issuance in the U.S. CP

1/ Note that the tables do not include international issues of notes (CP and FRN's).

2/ As recently as 1986, the U.S. CP market accounted for 90 percent of total CP outstanding. This share had fallen to 60 percent of outstanding CP in 1992 (Alworth and Borio (1993)).

Table 1. United States: Gross Bond Issues

(In billions of U.S. dollars)

	Domestic Market				International Market	
	Equity	Commercial Paper 1/	Bonds	Medium Term Notes	Bonds	Bank Credit 2/
1980	19.60	28.00	...	0.00	...	3.20
1981	20.90	42.70	...	0.00	...	12.00
1982	23.80	37.60	...	0.00	...	5.70
1983	36.90	36.80	...	0.03	...	3.00
1984	12.90	58.50	...	0.36	...	3.10
1985	19.30	72.20	...	1.31	...	1.60
1986	31.20	62.90	...	3.10	23.69	2.50
1987	28.10	73.80	153.00	2.82	14.21	11.60
1988	14.70	85.70	169.70	8.44	14.55	24.30
1989	14.40	107.10	158.30	7.71	11.58	46.80
1990	13.50	116.90	150.50	16.68	9.10	13.50
1991	49.20	98.50	169.70	26.15	19.49	17.00
1992	53.00	107.10	207.90	23.61	15.01	82.70
1993	68.40	117.80	235.80	...	20.84	79.30

Sources: Federal Reserve Board, Flow of Funds Accounts; OECD, Financial Statistics Monthly; the Bank for International Settlements; Crabbe (1993); IMF, International Financial Statistics; staff estimates.

Note: ... means not available or not yet available.

1/ Amounts outstanding.
2/ Announced syndicated credits.

market by foreign entities has accelerated and in 1992 accounted for 15 percent of the total outstanding stock of CP. To put this in perspective, the foreign component of the U.S. CP market is about the same size as the entire ECP market, and not much smaller than the domestic CP market in Japan or all the domestic markets in Europe put together.

The MTN market in the United States has become increasingly important. The domestic MTN market in the United States had outstanding issues in 1992 of $223 billion, of which $67.6 billion was issued by non-financial firms (Crabbe (1993)). To put this in perspective, the EMTN market had outstanding issues of $50 billion (for all issuers) in the same year, and all foreign domestic markets had outstanding issues of $10 billion. Clearly, the U.S. market is by far the largest MTN market in the world, although MTN markets in other countries (e.g. France) have been reported to have increased significantly in importance in recent years.

It is interesting to study the dynamics of the balance sheets of non-financial corporations (Table 2). Equity has fallen continuously as a percentage of total liabilities, whereas bonds have increased continuously. The proportion of liabilities accounted for by bank loans has also increased throughout the period, although less dramatically than bonds. The explanation for this is probably the important role of banks in so-called "highly-leveraged transactions". For example, banks provided around $100 billion of funds for leveraged buyouts alone in the 1980s (see Borio (1990b)).

In the United Kingdom, gross equity issues have been erratic, due in large part to privatization programs (Table 3). Although there is clearly some trend growth in gross equity issuance by U.K. companies, there were large issues in the mid 1980s as well as more recently. The U.K. CP market is also fairly active, although care must be taken because the figures refer to gross issues. The domestic bond market has become increasingly less important in the United Kingdom, and U.K. firms have instead chosen to issue bonds in international markets. Indeed, the offshore bond issues and loans obtained by U.K. firms are substantial, each being larger than equity issues in most recent years. In light of the advantages of Eurobonds over domestic sterling issues (discussed below), the domestic market has essentially merged with the Euromarket. 1/

Studying the aggregate balance sheet for U.K. non-financial firms reveals that equity has been almost constant as a percentage of total liabilities (Table 4). In contrast, bonds increased primarily in the mid 1980s and have grown only slowly since then. Also, loans fell dramatically in the mid 1980s, mirroring the increase in bonds, but have regained some ground since then.

1/ In addition, U.K. firms are also important issuers in the United States--the yankee market.

Table 2. United States: Liabilities of Non-Financial Enterprises 1/

(In billions of U.S. dollars)

	Equity	Bonds	Bank Loans	Other Liabilities
1980	3,048.30	456.60	234.80	715.10
Percent	68.43	10.25	5.27	16.05
1981	3,391.10	513.90	276.80	784.40
Percent	68.28	10.35	5.57	15.79
1982	3,539.00	553.80	338.10	766.30
Percent	68.09	10.66	6.51	14.74
1983	3,607.50	595.30	365.80	844.60
Percent	66.64	11.00	6.76	15.60
1984	3,690.60	688.40	437.40	929.20
Percent	64.23	11.98	7.61	16.17
1985	3,755.30	805.80	476.40	994.00
Percent	62.26	13.36	7.90	16.48
1986	3,783.50	913.50	545.20	1,102.60
Percent	59.63	14.40	8.59	17.38
1987	3,866.90	1,006.60	557.60	1,279.80
Percent	57.62	15.00	8.31	19.07
1988	4,012.40	1,121.90	615.60	1,432.80
Percent	55.86	15.62	8.57	19.95
1989	4,125.40	1,219.50	674.00	1,559.60
Percent	54.44	16.09	8.89	20.58
1990	4,088.50	1,269.30	721.30	1,620.10
Percent	53.10	16.49	9.37	21.04
1991	3,888.10	1,322.70	661.30	1,636.80
Percent	51.78	17.62	8.81	21.80
1992	3,646.40	1,395.70	655.60	1,679.30
Percent	49.43	18.92	8.89	22.76

Source: OECD, Financial Statistics (Part III).

1/ The item "Bonds" includes short-term bills and bonds plus long-term bonds. The item "Loans" includes short- and long-term bank loans.

Table 3. United Kingdom: Gross Bond Issues

(In billions of U.S. dollars)

	Domestic Market			International Market	
	Equity	Commercial Paper	Bonds	Bonds 1/	Bank Credit 1/
1980	2.08	0.00	0.20	...	0.60
1981	3.34	0.00	0.12	...	0.90
1982	1.80	0.00	1.20	...	1.00
1983	2.83	0.00	0.22	...	0.10
1984	1.59	0.00	0.02	...	1.60
1985	4.40	0.00	0.04	...	0.30
1986	7.51	...	0.25	4.62	0.80
1987	22.06	...	0.31	6.15	29.50
1988	7.89	50.98	0.53	6.53	33.80
1989	7.69	63.82	1.13	5.50	25.90
1990	5.69	76.73	0.02	7.83	28.30
1991	16.84	56.64	0.00	11.83	14.00
1992	8.63	42.31	0.00	9.15	16.30
1993	18.46	35.14	0.00	10.30	14.60

Sources: OECD, Financial Statistics Monthly; the Bank for International Settlements; IMF, International Financial Statistics; staff estimates.

Note: ... means not available or not yet available.

1/ Announced syndicated credits or bond issues.

Table 4. United Kingdom: Liabilities of Non-Financial Enterprises 1/

(In billions of pound sterling)

	Equity	Bonds	Bank Loans	Other Liabilities
1980	100.17	...	...	...
Percent	...	...	...	...
1981	113.95	...	...	...
Percent	...	...	...	...
1982	122.38	...	...	...
Percent	...	...	...	...
1983	141.74	6.37	49.18	106.11
Percent	46.72	2.10	16.21	34.97
1984	161.39	9.53	55.84	120.29
Percent	46.50	2.75	16.09	34.66
1985	168.87	10.98	51.10	124.34
Percent	47.53	3.09	14.38	35.00
1986	182.22	37.18	36.36	153.64
Percent	44.51	9.08	8.88	37.53
1987	207.78	43.77	36.62	176.59
Percent	44.71	9.42	7.88	38.00
1988	242.61	52.18	47.94	201.65
Percent	44.57	9.59	8.81	37.04
1989	281.17	65.16	71.71	248.26
Percent	42.20	9.78	10.76	37.26
1990	338.65	82.30	84.19	276.56
Percent	43.32	10.53	10.77	35.38
1991	...	...	...	...
Percent	...	...	...	...
1992	...	...	...	...
Percent	...	...	...	...

Source: OECD, Financial Statistics (Part III).

1/ The item "Bonds" includes short-term bills and bonds plus long-term bonds. The item "Loans" includes short- and long-term bank loans.

In Germany, issuing equity has been an important source of funds, with the largest amount of issuance occurring in the 1990s (Table 5). The activity in the CP market is impressive in light of the fact that it opened in the early 1990s. This sharp trend might be expected to continue in light of the fact that money market mutual funds have recently been introduced in Germany. The international and domestic bond markets have been unimportant for German firms. The aggregate balance sheet reveals similar patterns (Table 6). Notable here is that equity financing has increased somewhat as a percentage of liabilities, as has "other liabilities", which may be attributable to a decrease in the importance of loans for German firms. It should be noted, however, that any displacement of bank loans was not due to an increase in bond issuance.

In France, equity issues have taken off especially since the mid 1980s, although again privatization is an important factor in these numbers (Table 7). Bond issues too have shown some increase and it is interesting to note that offshore markets have been more important than the domestic bond market in recent years. International bank credit has also been tapped as an important source of funds for French firms in recent years. The share of total liabilities accounted for by equity has increased dramatically since the mid 1980s, with the contraction in loans mirroring this (Table 8). The proportion of liabilities accounted for by bonds is still very small in France.

In Japan, there were significant equity issues in the late 1980s, and an equally dramatic decrease in recent years (Table 9 and Table 10). The CP market in Japan is the second largest in the world, an impressive size given that it opened only recently. 1/ The issuance of bonds in Japan has been phenomenal, especially since 1987 or so: in several years it exceeded that in the United States on a per-capita (or relative to GDP) basis. Expressed as a percentage of GDP, the outstanding amount of Japanese corporate bonds is roughly comparable to the United States. However, it should be recognized that a significant portion of these bonds are issued offshore--in recent years offshore issuance has been about half as large as domestic issuance. Moreover, about half of the bond issues in the latter half of the 1980s were equity-linked bonds (Horiuchi (1994)). Since 1990, the issue of straight bonds has increased steadily accounting for about 80 percent of issuance in 1993 (Horiuchi (1994)). 2/ Further, a very substantial

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1/ However, Alworth and Borio (1993) report that the growth period of the Japanese CP market ended in 1990. Since then, net redemptions have been positive.

2/ Horiuchi (1994) attributes the surge in equity-related bonds in Japan in the 1980's by large well-established companies to a combination of regulatory influences and imperfections with corporate governance.

Table 5. Germany: Gross Bond Issues

(In billions of U.S. dollars)

	Domestic Market			International Market	
	Equity	Commercial Paper	Bonds	Bonds Bonds 1/	Bank Credit 1/
1980	3.16	0.00	0.01	...	0.00
1981	1.66	0.00	0.01	...	0.10
1982	1.97	0.00	0.05	...	0.00
1983	2.59	0.00	0.02	...	0.00
1984	1.69	0.00	0.21	...	0.00
1985	2.78	0.00	0.25	...	0.00
1986	6.00	0.00	0.31	0.00	0.10
1987	5.16	0.00	0.21	0.08	0.10
1988	3.21	0.00	0.02	0.12	0.00
1989	7.60	0.00	0.21	0.14	2.40
1990	12.33	0.00	0.00	0.34	4.00
1991	6.10	...	0.49	0.40	1.40
1992	8.43	81.85	0.00	0.31	2.10
1993	8.73	76.96	0.29	0.52	2.90

Sources: Deutsche Bundesbank, Kapital Markt Statistik; OECD, Financial Statistics Monthly; the Bank for International Settlements; IMF, International Financial Statistics; staff estimates.

Note: ... means not available or not yet available.

1/ Announced syndicated credits or bond issues.

Table 6. Germany: Liabilities of Non-Financial Enterprises 1/

(In billions of deutsche marks)

	Equity	Bonds	Bank Loans	Other Liabilities
1980	599.60	4.56	...	1,145.64
Percent	34.27	0.26	...	65.47
1981	620.70	3.59	...	1,210.41
Percent	33.83	0.20	...	65.97
1982	644.30	2.96	...	1,216.14
Percent	34.58	0.16	...	65.26
1983	689.00	2.37	...	1,257.73
Percent	35.35	0.12	...	64.53
1984	746.80	2.16	...	1,314.64
Percent	36.19	0.10	...	63.71
1985	782.00	2.39	...	1,341.71
Percent	36.78	0.11	...	63.11
1986	825.10	2.58	...	1,342.92
Percent	38.01	0.12	...	61.87
1987	819.40	2.52	...	1,232.58
Percent	39.88	0.12	...	59.99
1988	852.00	2.42	...	1,311.08
Percent	39.34	0.11	...	60.54
1989	918.30	2.67	...	1,431.23
Percent	39.04	0.11	...	60.85
1990	893.20	2.60	...	1,650.67
Percent	35.08	0.10	...	64.82
1991	1,065.90	11.34	...	1,714.16
Percent	38.19	0.41	...	61.41
1992	1,110.50	19.44	...	1,750.06
Percent	38.56	0.68	...	60.77

Source: OECD, Financial Statistics (Part III); Deutsche Bundesbank, Kapital Markt Statistik.

1/ The item "Bonds" includes short-term bills and bonds plus long-term bonds. The item "Other Liabilities" includes bank loans.

Table 7. France: Gross Bond Issues

(In billions of U.S. dollars)

	Domestic Market			International Market	
	Equity	Commercial Paper	Bonds	Bonds 1/	Bank Credit 1/
1980	3.70	0.00	3.40	...	1.10
1981	5.24	0.00	2.28	...	5.40
1982	4.58	0.00	4.54	...	0.80
1983	5.86	0.00	3.94	...	0.20
1984	5.44	0.00	3.54	...	1.40
1985	7.45	...	3.74	...	0.10
1986	15.68	...	6.08	4.86	3.00
1987	23.70	...	5.09	2.10	6.00
1988	23.51	...	8.62	5.68	9.70
1989	33.62	...	6.93	4.30	4.70
1990	36.47	...	9.83	6.34	8.70
1991	38.63	...	9.21	6.62	5.80
1992	40.83	0.83	7.42	10.32	5.10
1993	36.45	2.17	8.66	12.02	4.90

Sources: OECD, Financial Statistics Monthly; the Bank for International Settlements; IMF, International Financial Statistics; Banque de France, Bulletin de la Banque de France: Supplement Satistiques, First Quarter 1994; staff estimates.

Note: ... means not available or not yet available.

1/ Announced syndicated credits or bond issues.

Table 8. France: Liabilities of Non-Financial Enterprises

(In billions of French francs)

	Equity	Bonds 1/	Bank Loans	Other Liabilities
1980	...	...	...	...
Percent	...	...	...	...
1981	95.03	2.51	87.39	125.24
Percent	30.64	0.81	28.17	40.38
1982	87.83	4.13	94.87	130.39
Percent	27.69	1.30	29.91	41.10
1983	96.55	4.50	102.83	148.97
Percent	27.36	1.28	29.14	42.22
1984	110.17	4.28	115.62	158.62
Percent	28.34	1.10	29.75	40.81
1985	165.07	8.40	213.83	346.12
Percent	22.51	1.15	29.16	47.19
1986	186.51	6.87	216.96	340.49
Percent	24.84	0.91	28.90	45.35
1987	232.95	6.74	186.56	360.20
Percent	29.62	0.86	23.72	45.80
1988	289.10	14.97	169.12	376.81
Percent	34.01	1.76	19.90	44.33
1989	352.99	12.16	168.80	413.87
Percent	37.24	1.28	17.81	43.67
1990	390.99	11.03	173.81	438.35
Percent	38.55	1.09	17.14	43.22
1991	426.50	13.93	169.08	434.96
Percent	40.83	1.33	16.19	41.64
1992	456.50	11.77	170.75	439.67
Percent	42.32	1.09	15.83	40.76

Source: OECD, Financial Statistics (Part III).

1/ Includes only long-term bonds.

Table 9. Japan: Gross Bond Issues

(In billions of U.S. dollars)

	Domestic Market			International Market	
Equity		Commercial Paper	Bonds	Bonds 1/	Bank Credit 1/
1980	6.36	0.00	8.71	...	0.10
1981	9.58	0.00	11.85	...	0.00
1982	8.21	0.00	11.15	...	0.10
1983	6.58	0.00	14.66	...	0.00
1984	9.39	0.00	20.61	...	0.20
1985	8.46	0.00	26.05	...	0.00
1986	13.08	0.00	45.92	22.39	0.20
1987	28.52	0.00	75.00	32.64	0.00
1988	40.77	0.00	101.69	37.90	1.70
1989	73.37	...	137.43	77.37	0.40
1990	30.65	510.07	72.33	37.06	2.30
1991	9.47	557.36	101.17	56.63	0.00
1992	...	687.38	83.72	44.29	1.10
1993	36.45	733.75	100.63	47.92	1.30

Sources: OECD, Financial Statistics Monthly; the Bank for International Settlements; IMF, International Financial Statistics; staff estimates.

Note: ... means not available or not yet available.

1/ Announced syndicated credits or bond issues.

Table 10. Japan: Liabilities of Non-Financial Enterprises 1/

(In billions of yen)

	Equity	Bonds 1/	Bank Loans 2/	Other Liabilities 2/
1980	87,044.00	11,105.00	203,426.00	234,311.00
Percent	16.24	2.07	37.96	43.72
1981	96,780.00	12,043.00	224,000.00	251,827.00
Percent	16.55	2.06	38.31	43.07
1982	100,725.00	13,186.00	238,429.00	254,399.00
Percent	16.60	2.17	39.30	41.93
1983	108,529.00	14,530.00	249,310.00	261,681.00
Percent	17.12	2.29	39.32	41.27
1984	118,619.00	16,435.00	268,591.00	280,245.00
Percent	17.34	2.40	39.27	40.98
1985	137,415.00	22,892.00	288,613.00	292,203.00
Percent	18.51	3.09	38.96	39..44
1986	150,200.00	26,395.00	316,222.00	290,645.00
Percent	19.17	3.37	40.36	37.10
1987	165,409.00	30,700.00	362,311.00	328,306.00
Percent	18.65	3.46	40.86	37.02
1988	191,374.00	37,382.00	393,608.00	371,552.00
Percent	19.25	3.76	39.60	37.38
1989	216,476.00	47,281.00	413,121.00	415,154.00
Percent	19.82	4.33	37.83	38.02
1990	235,358.00	50,845.00	447,635.00	443,901.00
Percent	19.98	4.32	38.01	37.69
1991	249,034.00	55,623.00	471,666.00	460,739.00
Percent	20.13	4.50	38.13	37.24
1992	257,554.00	55,765.00	488,473.00	466,953.00
Percent	20.30	4.40	38.50	36.80

Source: OECD, Financial Statistics (Part III).

1/ Includes only long-term bonds.
2/ Announced syndicated credits or bond issues.

proportion of bond issues in the 1980s is associated with electric utilities and NTT. Japanese firms have obtained virtually no loans offshore.

Comparing the use of the international markets versus the domestic markets for bonds in the G-5 countries reveals that the Japanese have relied on the international market much more extensively than other countries, with Japanese firms' offshore issuance accounting for about half as much as domestic issues. 1/ They have issued well over twice the amount of bonds internationally as U.S. firms. Firms in France and the United Kingdom have accessed the international market to a considerable extent especially when measured relative to GDP. Interestingly, German firms have virtually no activity in the international bond market. But with the exception of Germany, being an exception, the use of the international debt market by other G5 countries as a source of funds has grown continuously. 2/

Consider some smaller industrial countries--Spain, Denmark, Belgium, the Netherlands, and Canada. Roughly put, equity has increased both in terms of gross issues and in terms of the percentage of total liabilities (Tables 11-20). This fact is of course much more pronounced (and lumpy) in those countries that have engaged in large-scale privatization programs. For this set of smaller industrial countries, Canada has the most active corporate bond market. Indeed, it ranks among the largest corporate bond markets in the world. In the Netherlands and, to a lesser extent, Spain and Belgium, bond issuance has been an important source of funds even compared to some of the larger countries discussed above. However, bond issuance by

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1/ The "international markets" includes both genuinely international deals (e.g. Euro and dragon) as well as foreign ones (e.g. yankee, samurai, bulldog, Canadian, and matador markets). It might be noted that the international market is dominated by the Euromarkets. The dragon market is very small relative to any developed bond market, with gross issues by all issuers (sovereigns, supranationals, corporates, financial institutions) in 1993 amounting to $2.99 billion, with similar activity in 1994 (Euromoney (1994a)). A small fraction of these totals are accounted for by non-financial corporations. Moreover, most of the issuance as well as a significant portion of the investor base stems from Western Europe.

2/ Another way of looking at the size of the euromarkets is to look at the number of users of those markets. Davis and Mayer (1991) present annual data for 1972-1989 on the number of U.K. and U.S. non-financial corporate issuers in the Eurobond and Euroloan markets. As for syndicated loans, the number of U.S. firms accessing this market each year averaged 14 each year in the 1970s and averaged over 34 in the 1980s. The corresponding numbers for the U.K. are 12 and 24. These averages mask the fact that the number of firms accessing these markets rose sharply beginning in the late 1980's, amounting to over 50 per year in both countries. As for the Eurobond markets, there were an average of 26 U.S. (14 U.K.) firms issuing Eurobonds in the 1970's but 130 (31 in the U.K.) in the 1980's. Again, the number of firms issuing in the market tended to increase sharply in the late 1980's.

Table 11. Spain: Gross Bond Issues

(In billions of U.S. dollars)

	Domestic Market			International Market	
	Equity	Commercial Paper	Bonds	Bonds 1/	Bank Credit 1/
1980	1.01	...	1.61	...	5.30
1981	0.99	...	1.46	...	2.60
1982	0.75	...	1.99	...	0.80
1983	0.70	...	1.31	...	2.20
1984	0.77	...	2.21	...	1.40
1985	1.17	...	2.00	...	0.90
1986	1.23	...	2.92	1.06	1.10
1987	2.68	...	1.32	0.56	0.50
1988	2.32	34.68	5.22	1.08	1.60
1989	1.59	84.31	2.28	0.00	0.90
1990	3.51	52.79	2.12	0.03	1.80
1991	3.86	40.65	2.69	0.00	2.90
1992	5.53	23.23	2.48	0.22	3.60
1993	2.86	6.90	2.68	0.17	5.10

Sources: OECD, Financial Statistics Monthly; the Bank for International Settlements; IMF, International Financial Statistics; staff estimates.

Note: ... means not available or not yet available.

1/ Announced syndicated credits or bond issues.

Table 12. Spain: Liabilities of Non-Financial Enterprises 1/

(In billions of pesetas)

	Equity	Bonds	Bank Loans	Other Liabilities
1980	...	...	...	...
Percent	...	...	...	...
1981	...	...	...	...
Percent	...	...	...	...
1982	...	...	...	...
Percent	...	...	...	...
1983	...	...	...	...
Percent	...	...	...	...
1984	...	...	...	...
Percent	...	...	...	...
1985	5,822.00	1,061.00	4,615.00	3,439.00
Percent	38.98	7.10	30.90	23.02
1986	6,340.00	1,280.00	4,839.00	4,225.00
Percent	38.00	7.67	29.00	25.32
1987	6,718.00	1,457.00	4,660.00	4,789.00
Percent	38.12	8.27	26.44	27.17
1988	7,411.00	1,347.00	4,654.00	5,171.00
Percent	39.88	7.25	25.04	27.83
1989	8,260.00	1,358.00	4,464.00	5,691.00
Percent	41.77	6.87	22.58	28.78
1990	9,275.00	1,273.00	4,634.00	6,451.00
Percent	42.87	5.88	21.42	29.82
1991	9,044.00	1,286.00	3,983.00	7,192.00
Percent	42.06	5.98	18.52	33.44
1992	8,817.00	1,393.00	4,378.00	6,818.00
Percent	41.19	6.51	20.45	31.85

Source: OECD, Financial Statistics (Part III).

1/ The item "Bonds" includes short-term bills and bonds plus long-term bonds. The item "Loans" includes short- and long-term bank loans.

Table 13. Denmark: Gross Bond Issues

(In billions of U.S. dollars)

	Domestic Market			International Market	
	Equity	Commercial Paper	Bonds	Bonds 1/	Bank Credit 1/
1980	0.57	...	0.00	...	0.70
1981	...	...	0.01	...	0.40
1982	...	...	0.00	...	0.30
1983	...	...	0.07	...	0.00
1984	...	...	0.01	...	0.10
1985	...	...	0.01	...	0.10
1986	...	...	0.00	0.28	0.10
1987	...	...	0.00	0.62	0.40
1988	...	...	0.00	0.61	0.90
1989	..	..	0.00	0.42	0.30
1990	...	...	0.06	0.83	0.70
1991	0.44	...	...	0.41	0.70
1992	...	...	...	0.19	0.00
1993	...	...	...	1.00	0.10

Sources: OECD, Financial Statistics Monthly; the Bank for International Settlements; IMF, International Financial Statistics; and staff estimates.

Note: ... means not available or not yet available.

1/ Announced syndicated credits or bond issues.

Table 14. Denmark: Liabilities of Non-Financial Enterprises 1/

(In billions of kroner)

	Equity	Bonds	Bank Loans	Other Liabilities
1980	33.06	...	...	57.52
Percent	36.50	...	...	63.50
1981	36.18	...	...	63.73
Percent	36.21	...	...	63.79
1982	40.14	...	...	68.74
Percent	36.86	...	...	63.14
1983	51.41	...	...	74.62
Percent	40.79	...	...	59.21
1984	62.02	...	...	83.46
Percent	42.63	...	...	57.37
1985	71.02	...	...	96.79
Percent	42.32	...	...	57.68
1986	76.01	...	...	104.54
Percent	42.10	...	...	57.90
1987	79.18	...	...	110.02
Percent	41.85	...	...	58.15
1988	85.83	...	...	118.61
Percent	41.98	...	...	58.02
1989	91.41	...	...	125.76
Percent	42.09	...	...	57.91
1990	95.83	...	...	133.15
Percent	41.85	...	...	58.15
1991	101.63	...	...	139.62
Percent	42.13	...	...	57.87
1992	108.85	...	...	138.85
Percent	43.95	...	...	56.05

Source: OECD, Financial Statistics (Part III).

1/ The item "Other Liabilities" includes all non-equity liabilites.

Table 15. Belgium: Gross Bond Issues

(In billions of U.S. dollars)

	Domestic Market			International Market	
	Equity	Commercial Paper	Bonds	Bonds 1/	Bank Credit 1/
1980	7.68	...	2.31	...	0.00
1981	7.24	...	6.74	...	0.00
1982	13.20	...	0.72	...	0.00
1983	26.35	...	3.17	...	0.00
1984	8.88	...	0.48	...	0.00
1985	11.14	...	0.75	...	0.10
1986	18.29	...	0.62	0.31	0.00
1987	33.62	...	2.49	0.44	0.00
1988	...	...	0.89	0.21	0.80
1989	...	...	1.09	0.14	0.10
1990	...	...	0.48	0.10	0.30
1991	...	...	...	0.01	0.40
1992	...	...	...	0.00	0.40
1993	...	...	...	0.00	0.10

Sources: OECD, Financial Statistics Monthly; the Bank for International Settlements; IMF, International Financial Statistics; and staff estimates.

Note: ... means not available or not yet available.

1/ Announced syndicated credits or bond issues.

Table 16. Belgium: Liabilities of Non-Financial Enterprises 1/

(In billions of Belgian francs)

	Equity	Bonds	Bank Loans	Other Liabilities
1980	1,065.00	182.00	1,011.00	1,655.00
Percent	27.22	4.65	25.84	42.29
1981	1,091.00	189.00	1,054.00	1,845.00
Percent	26.11	4.52	25.22	44.15
1982	1,359.00	203.00	1,123.00	2,072.00
Percent	28.57	4.27	23.61	43.56
1983	1,555.00	203.00	1,119.00	2,176.00
Percent	30.77	4.02	22.15	43.06
1984	1,930.00	379.00	1,197.00	2,415.00
Percent	32.60	6.40	20.22	40.79
1985	2,176.00	362.00	1,250.00	2,564.00
Percent	34.26	5.70	19.68	40.37
1986	2,370.00	307.00	1,243.00	2,639.00
Percent	36.13	4.68	18.95	40.23
1987	2,548.00	274.00	1,342.00	2,775.00
Percent	36.72	3.95	19.34	39.99
1988	2,941.00	262.00	1,545.00	3,277.00
Percent	36.65	3.26	19.25	40.83
1989	3,486.00	224.00	1,884.00	3,288.00
Percent	39.25	2.52	21.21	37.02
1990	4,066.00	198.00	2,187.00	4,385.00
Percent	37.62	1.83	20.23	40.32
1991	4,543.00	172.00	2,224.00	4,811.00
Percent	38.66	1.46	18.93	40.94
1992	4,813.00	190.00	2,220.00	5,021.00
Percent	39.31	1.55	18.13	41.01

Source: OECD, Financial Statistics (Part III).

1/ The item "Bonds" includes short-term bills and bonds plus long-term bonds. The item "Loans" includes short- and long-term bank loans.

Table 17. Netherlands: Gross Bond Issues

(In billions of U.S. dollars)

	Domestic Market			International Market	
	Equity	Commercial Paper	Bonds	Bonds 1/	Bank Credit 1/
1980	0.04	0.00	0.02	...	0.40
1981	0.04	0.00	0.00	...	0.20
1982	0.03	0.00	0.03	...	0.60
1983	0.28	0.00	0.03	...	0.00
1984	0.27	0.00	0.10	...	0.00
1985	0.17	0.00	0.36	...	0.10
1986	0.53	...	0.33	5.40	0.10
1987	0.21	...	0.66	5.05	1.20
1988	0.38	...	1.21	9.45	1.40
1989	0.63	...	0.65	6.80	2.60
1990	0.15	...	1.46	9.94	2.90
1991	0.34	...	0.93	10.23	1.30
1992	0.25	...	0.62	6.67	0.80
1993	...	...	...	9.04	1.10

Sources: OECD, Financial Statistics Monthly; the Bank for International Settlements; IMF, International Financial Statistics; and staff estimates.

Note: ... means not available or not yet available.

1/ Announced syndicated credits or bond issues.

Table 18. Netherlands: Liabilities of Non-Financial Enterprises

(In billions of guilders)

	Equity	Bonds 1/	Bank Loans	Other Liabilities
1980	83.99	4.46	30.78	77.91
Percent	42.60	2.26	15.61	39.52
1981	89.36	4.20	33.52	83.30
Percent	42.48	2.00	15.93	39.59
1982	90.33	2.78	34.45	82.86
Percent	42.93	1.32	16.37	39.37
1983	93.89	2.55	33.12	90.25
Percent	42.71	1.16	15.07	41.06
1984	106.62	2.33	30.15	104.36
Percent	43.79	0.96	12.39	42.87
1985	112.13	2.99	30.68	114.37
Percent	43.10	1.15	11.79	43.96
1986	117.95	3.24	31.37	110.77
Percent	44.79	1.23	11.91	42.06
1987	121.54	4.16	36.28	111.60
Percent	44.43	1.52	13.26	40.79
1988	132.97	5.04	38.33	123.21
Percent	44.39	1.68	12.80	41.13
1989	150.40	5.02	40.60	140.77
Percent	44.66	1.49	12.05	41.80
1990	160.69	6.39	43.50	154.86
Percent	43.97	1.75	11.90	42.38
1991	180.90	12.26	53.62	159.58
Percent	44.52	3.02	13.20	39.27
1992	...	...	...	...
Percent	...	...	...	...

Source: OECD, Financial Statistics (Part III).

1/ Includes only long-term bonds.

Table 19. Canada: Gross Bond Issues

(In billions of U.S. dollars)

	Domestic Market			International Market	
	Equity	Commercial Paper 1/	Bonds	Bonds 2/	Bank Credit 2/
1980	4.06	1.60	1.68	...	3.60
1981	5.25	2.10	1.45	...	4.80
1982	3.33	1.91	1.00	...	1.20
1983	7.16	2.57	2.08	...	0.20
1984	4.78	3.16	2.20	...	0.30
1985	6.42	2.81	2.81	...	0.00
1986	8.31	2.62	2.97	4.29	0.30
1987	7.70	3.34	16.88	2.98	1.80
1988	4.18	6.47	3.26	2.93	4.20
1989	9.06	8.74	4.47	2.86	5.80
1990	7.26	10.58	4.25	2.09	10.50
1991	...	12.12	...	3.94	2.90
1992	...	12.50	...	5.78	3.40
1993	...	11.65	...	4.70	5.30

Sources: Bank of Canada Review (Spring 1994); OECD, Financial Statistics Monthly; the Bank for International Settlements; IMF, International Financial Statistics; and staff estimates.

Note: ... means not available or not yet available.

1/ Amounts outstanding.
2/ Announced syndicated credits or bond issues.

Table 20. Canada: Liabilities of Non-Financial Enterprises 1/

(In billions of Canadian dollars)

	Equity	Bonds	Bank Loans	Other Liabilities
1980	292.76	28.68	96.82	127.39
Percent	53.65	5.26	17.74	23.35
1981	322.73	37.69	130.48	146.94
Percent	50.60	5.91	20.46	23.04
1982	340.57	42.15	134.02	155.59
Percent	50.66	6.27	19.93	23.14
1983	364.56	44.68	125.46	161.82
Percent	52.34	6.42	18.01	23.23
1984	391.04	48.71	136.19	174.84
Percent	52.08	6.49	18.14	23.29
1985	420.32	51.19	144.21	181.23
Percent	52.74	6.42	18.10	22.74
1986	446.20	55.25	142.70	199.75
Percent	52.87	6.55	16.91	23.67
1987	484.78	59.06	152.05	214.84
Percent	53.23	6.48	16.70	23.59
1988	530.91	64.04	167.96	239.06
Percent	52.99	6.39	16.76	23.86
1989	565.88	70.93	191.51	257.44
Percent	52.12	6.53	17.64	23.71
1990	583.69	73.96	208.87	265.36
Percent	51.57	6.53	18.45	23.44
1991	559.64	82.26	217.86	270.83
Percent	49.50	7.28	19.27	23.95
1992	566.57	89.31	231.35	270.85
Percent	48.92	7.71	19.98	23.39

Source: OECD, Financial Statistics (Part III).

1/ The item "Bonds" includes short-term bills and bonds plus long-term bonds. The item "Loans" includes short- and long-term bank loans.

Dutch firms appears to have been largely in the international markets up to 1992, and equity issuance appears to have displaced bonds to some degree in Belgium. 1/ In Denmark, it appears that equity and banks provide much corporate finance.

4. Issuers and purchasers of corporate debt securities

As a general rule of thumb, the bond, CP, and MTN markets have increasingly become dominated on the demand side by institutional investors --i.e. insurance companies, pension funds, mutual funds, foundations and endowments, trusts, etc. However, there is also considerable cross-country variation in the importance of institutions and retail investors. At one end of the spectrum, the U.S. and Canadian corporate debt securities markets are dominated by institutions. The importance of banks and near banks has been on the decline in North America for some time, but they have been important players in Western Europe, Japan, and the newer markets in Latin America and Southeast Asia.

In the United Kingdom and Germany the major investors in domestically issued corporate bonds are domestic insurance companies and pension funds and, in the case of Germany, banks too are key players (European Bond Commission (1993)). However, in both cases the domestic markets are very small, with much of the issuance by domestic firms taking place in the Euromarket and to a lesser extent in the U.S. domestic market. Investment in the U.K. and German domestic corporate bond markets has been limited by the unattractiveness (relative to Eurobonds) of the withholding tax on coupon payments (see section III below). A withholding tax is also unappealing for issuers, not only because it potentially reduces the investor base, but also because it is regarded by issuers as a nuisance.

Individuals have been an important source of demand in the French and (more recently) the German bond markets, although the relative importance of the retail investor base has started to decline as mutual funds and pension funds have institutionalized retail market activity. For instance, in the French corporate bond market, 56.8 percent of outstanding bonds in 1980 were held by individuals and this had fallen to 37.9 percent in 1991 (European Bond Commission (1993)). At the same time the importance of institutional investors has virtually mirrored this behavior, rising from 32.8 percent to 49.6 percent over the same period, reflecting the institutionalization of portfolio management.

As in the German case, Japanese banks and near banks have been an important source of funds for the corporate bond market. However, the share of bonds held by banks has fallen considerably in Japan as well. 2/ In

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1/ It is reported that domestic bond issuance in the Netherlands has increased significantly since 1992.

2/ The data in what follows is drawn from The Bond Underwriters Association of Japan (1994).

1984, banks purchased almost 20 percent of new issues of corporate straight bonds. This share fell to a low of 2.1 percent in 1991, but rebounded somewhat in 1993 to 6.3 percent. It is interesting to note that the share of convertibles bought by banks has remained relatively constant over the past decade, and currently about 10 percent of new issues are purchased by banks. Non-bank financial institutions have also held a fairly constant share of convertibles, but in contrast to banks the share of straights purchased by non-bank financial institutions has increased five-fold over the past decade and in 1993 29 percent of primary market issues were purchased by non-bank financial institutions. The change in purchases of new issues of corporate straight bonds by individuals has shown the most dramatic change dropping from 57.5 percent in 1984 to 7.3 percent in 1993. However, like banks this decreasing share of total demand has not been reflected in convertibles.

In the U.S. corporate bond market, mutual funds and foreigners have increased significantly their holdings while direct holdings by households and pension fund holdings have decreased. In 1993, households held 3.7 percent of the outstanding amount of corporate bonds, insurance companies 37.8 percent, pension funds 22.7 percent, mutual funds 8.5 percent, and foreigners 12.6 percent. 1/ Holdings by mutual funds have increased five-fold since 1980, while foreign holdings have almost doubled over the same period. Household direct ownership has decreased by almost 50 percent over this period.

With regard to the types of issuers in corporate debt markets, it is true that these markets are not easily accessible to lesser-known names. The reason for this is well known: measuring creditworthiness (and thus determining a reasonable borrowing rate) as well as monitoring the actions of borrowers may be more difficult and costly with a diffuse pool of borrowers, and thus bank lending might be preferred for lesser-known names or firms with low credit ratings. However, in the United States the market for sub-investment grade bonds is very well developed and this increases accessibility to corporate debt markets because it provides an alternative to bank financing for all but very small firms. 2/

1/ Flow of Funds, Board of Governors of the Federal Reserve System.

2/ Relative to notes and bonds that are senior to sub-investment grade (or "junk") bonds, junk bonds attract a premium of between 2 and 7 percent to compensate for their subordinated and unsecured status.

The importance of junk bonds to the financing of a particular class of firms has been very significant in the United States. 1/ The General Accounting Office (1988) reports that from 1982 to 1987 there were 920 publicly traded, non-convertible, (financial and non-financial) corporate issues (by 622 firms) and 586 convertible issues (by 581 firms) with a speculative rating. The dollar value of total issuance during this period was $108.2 billion of non-convertible issues and $28.1 billion of convertibles. The following two years saw and additional $57.5 billion of issuance activity. 2/ At least 80 percent of the issuers over this period were non-financial corporations.

Junk bond issuance faded in 1990 with only $2.7 billion in gross issues, but the market took off again beginning in 1991. In 1991, junk bond issuance increased to $14.6 billion, more than tripled to a record-setting $46.18 in 1992, and reached a staggering $77.91 billion in 1993 (Securities and Exchange Commission (1994)).

The importance of the high-yield bond market as a substitute for bank financing is reflected in the fact that as the U.S. domestic market grew, the average credit rating fell. In effect, the size of the market attracted additional issuers of low credit rating. Moreover, the widely-held belief that junk bonds are used largely for acquisition finance is erroneous. The General Accounting Office (1988) found that barely a quarter of the total amount raised with junk bonds in the 1980s was used for acquisition purposes. The most important use of funds was "general corporate purposes".

The reason that markets for low-rated corporate paper do not exist in other countries is attributable to a combination of regulation--they are prohibited in Japan for example and frowned upon in many European markets--the underdeveloped state of many domestic corporate bond markets, and a general disinterest on the part of investors in low-grade bonds. In Europe, for instance, there is a general view that if investors wish to establish a risky position in a firm, the equity market is the appropriate conduit. As discussed below, while the Eurobond markets are highly developed and have at times seen issues of junk bonds from U.S. entities, investors in the Euromarkets typically prefer fairly low-risk securities relative to investors in the United States corporate bond market. It follows that,

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1/ The market for sub-investment grade bonds in the United States has an investor base that is similar to the market for all corporate bonds (discussed above). The investor pool is dominated by mutual funds (30 percent), insurance companies (25 percent), pension funds (12 percent), and retail investors (10 percent). However, in contrast to the market for investment grade bonds, the high-yield market is dominated by domestic investors--about 97 percent of high-yield debt is held domestically (Financial Times (1994)). The lack of interest by foreigners in high-yield debt securities seems to reflect a fundamental difference in investor tastes between North America and other countries.

2/ Securities Data Company.

outside of the United States, firms with lower credit ratings and that are not well known outside their own country, have not had the option of raising funds through bond issues. However, some recent innovations in structuring bond issues have opened some bond markets to a wider range of firms, although the underdeveloped state of many domestic markets remains a hindrance to accessibility to all but a few firms.

The Rule 144A market in the United States provides an avenue for firms to issue debt securities (albeit only to institutional investors) without having to comply with the registration requirements of U.S. securities law. This market is discussed in more detail in section III below, but some characteristics of it are of interest here. First, the 144A market has increasingly been an important source of funds for non-investment grade bond issuers as well as for unrated firms, both domestic and foreign (Securities and Exchange Commission (1994)). In fact, since the market opened in April 1990, Rule 144A placements of investment-grade bonds have totalled $36.23 billion. Junk bond placements by domestic firms have totalled $18.28 billion, and foreign firms have issued $3.16 billion of junk bonds in the 144A markets, and there was a further $8 billion of unrated debt issued by foreign firms and U.S. firms, split equally. Relative to the public junk bond market, 144A junk bond issues in 1993 were roughly one quarter as large as public issues of junk bonds in the United States. The second key feature of the 144A market is that purchasers of 144A debt securities are restricted to be "qualified institutional buyers" (see section III below). In practice, investment companies and insurance companies are by far the key players in the 144A market (Securities and Exchange Commission (1994)), just as they are in other bond markets.

Successful issuance in the Eurobond and Euronote markets has been limited to corporate issuers with well-known names and usually (but not always) with high credit ratings. In fact, successful issuance in these markets requires foremost that the firm be well known; the credit rating is secondary, although this does not mean it is unimportant (see Euromoney (1994b)). Issues backed by strong credit but have a low public image have in the past encountered a poor reception and performed poorly in the secondary Euromarket (Clarke (1990)). On the other hand, "household names" have been able to obtain more favorable rates at times in the Euromarkets than in domestic markets (notably the U.S. market). An important exception to the importance of the issuer's name is an asset-backed issue, which relies almost entirely on the credit rating rather than on public image. One other notable feature of the Euromarkets is that the investor base is

largely retail-based. 1/ This stands in sharp contrast to most domestic markets which are dominated by institutional investors.

Alworth and Borio (1993) and Corporate Finance (1991,1993) document the types of investors that hold CP in all the large CP markets as well as several others. However, it is not possible to distinguish between investors in CP issued by financial and non-financial firms, although because CP markets are dominated by highly creditworthy issuers it is unlikely that this distinction would have any effect on the investor base. In the ECP market, about half of the outstanding paper is held by institutional investors (trusts, funds, insurance companies), 15-25 percent by non-financial companies, 10 percent by financial institutions, and much of the remaining held by supranationals and central banks. In the U.S. domestic market, about 60 percent of CP is held by institutional investors, about 10 percent by non-financial companies, about 6 percent by banks, and about 20 percent by individuals. 2/ The relatively large holdings by institutional investors in the United States include about 30 percent by money market mutual funds, up from 0.8 percent in 1975. Over the same period, holdings by non-financial companies have fallen from almost 30 percent to just over 9 percent. In France, most of the CP is held by institutional investors and banks, and the importance of institutional investors has also accelerated while holdings of non-financial companies has dwindled. In the United Kingdom, institutional investors and non-financial companies hold almost 90 percent of the CP. In Japan, non-financial companies are estimated to hold over half of the CP, 16 percent is held by institutional investors, and about 10 percent by banks.

5. Innovations and developments in corporate debt financing

Prior to 1970 the vast majority of bonds issued by corporates, financials, and the public sector were straight bonds possibly with a call feature. Bonds and notes have become increasingly sophisticated and currently include features such as: convertibility and exchangeability options, attachments (such as warrants), enhancements (such as letters of credit, claims on pools of assets, third-party guarantees, and back-up facilities), and contingent payment features (such as floating-rate coupons, partly-paid bonds, junk bonds, and others). At the same time, fundamental changes in the role and activities of financial intermediaries have blurred

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1/ U.S. and Japanese firms have been important issuers in the Euromarkets. Although some well-known European firms have successfully issued in the international bond and note markets, European firms have in general been held back by weaker disclosure policies than U.S. firms and a general reluctance to comply with the relatively stringent disclosure and accounting standards demanded by the international markets (see Euromoney (1994b)).

2/ In recent years banks have held over 20 percent of CP, but much of this reflects holdings associated with trust accounts.

the distinction between bank loans on the one hand and bonds and notes on the other hand.

There are currently active markets for many variants of straight bonds issued in the United States and the international bond markets. Some of these variations allow for convertibility into the issuer's debt or equity, exchangeability into the securities of some other firm, periodic ("sinking fund") or delayed repayment of a portion of the principal ("partly paid bonds"), or an indexed coupon rate (FRN's). FRN's are very popular in periods when interest rates are quite volatile and this explains much of the surge in issuance during 1994 of these securities (see e.g. Bank for International Settlements (p.11-12, 1994)). In practice, the coupon yield on FRN's (which is paid, say, every six months) is reset every 3 or 6 months to some base rate plus or minus a premium reflecting the creditworthiness of the issuer. 1/ Variations on the baseline FRN--"structured FRN's"--include changing the structure to a fixed-income base (FRN convertibles and drop-lock FRN's), resetting the coupon yield more frequently but not the payment period (mismatch FRN's and variable floating rate notes--VRN's), and combinations of FRN's and derivatives such as capped FRN's (contains an interest rate cap) and minimax FRN's (includes a collar).

The combination of the international investor clientele in the Euromarkets and its "offshore" status, have meant that the Eurobond markets are highly innovative markets. Although the preponderance of issues are straights issued by generally high-quality entities on an unsecured basis, the market is also home to zero-coupon issues, deferred-coupon issues, step-up issues, and dual-currency issues (which pay coupons in one currency and principal in another). Nonetheless, it is true that the United States corporate bond market is the largest and the most innovative in the world. Many standard structures in Euromarkets and elsewhere were originated in the U.S.

Securitization is a recent innovation pioneered in the U.S. debt markets. The word "securitization" has broad meaning and includes, on the one hand, "asset-backed securities" (ABS) and "mortgage-backed securities" (MBS), and on the other hand, the packaging of historically non-tradeable assets into securitized claims. 2/ Both types of securitization have had profound effects on corporate finance. For example, the securitization of bank loans has eliminated the difference between bank financing and some types of bond issues. Specifically, as commercial and industrial loans in the United States are at present not marketed publicly but can (and are) traded among banks, they are very similar to private placements of

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1/ Base rates used often are LIBOR or LIBID for sterling issues, PIBOR or PIBID for franc issues, and so on.

2/ In the United States, asset-backed corporate debt issues have grown steadily from close to zero in 1984 to gross issuance of $59.3 billion in 1993. Mortgage-backed corporate debt issues have risen steadily from $0.5 billion in 1980 to $420.9 billion in 1993 (Securities Data Company).

bonds. 1/ Sales of non-financial corporate loans in the United States have grown from $50 billion per quarter in 1986 to almost $300 billion per quarter in the late 1980s, but have subsequently declined to $100 billion in the early 1990s (see Demsetz (1993)). While loan selling is much more widespread in America than in Western Europe or the Pacific Rim countries, it is beginning to take hold in many countries including developing countries. 2/ Development of markets for distressed (or "junk") loans has proven to be especially beneficial for initiating quickly changes in balance sheets of financial firms in the United States and the United Kingdom, but have not developed in other countries largely because of legal or accounting impediments. 3/

Public issues of notes and bonds have historically only been possible for large corporations. This reflects a number of factors, including costs of public issuance, credit rating, and how well-known the issuer is. However, securitization through issuance of ABS's or through other innovations has expanded the range of firms (both in terms of size and financial standing) that can access bond and note markets. Specifically, backing an issue with assets or future cash flow effectively "pumps up" the credit rating of an issue and has enabled a new class of firms to access

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1/ Further, as pools of other types of loans (e.g. student loans) have been marketed publicly, the distinction between bank loans and public issues of bonds is also fading.

2/ For example, there are various impediments to loan selling in Japan. First, selling loans requires the consent of the borrower and the strength of the bank-client relationship in Japan has significantly limited the willingness of banks to request consent. Second, there are no procedures under existing Japanese accounting standards to account for present value based transactions which therefore hampers the securitization of loan portfolios. A common practice in the U.S. is to sell loans without transferring the title, but this is not possible in Japan because the accounting system does not recognize present-value based sales. The one avenue that does exist in Japan to transfer (only) non-performing loans is the Cooperative Credit Purchasing Corporation established in 1991 by the banks themselves, although this is essentially a vehicle to capture tax benefits on making provisions.

3/ Data on the size of these markets is hard to come by. Some estimates put secondary market turnover of distressed loans in 1993 in the United States at about $6 billion and in the United Kingdom at about $4 billion (see The Economist (1994a)).

domestic and international note markets. 1/ The securitization of corporate receivables and asset pools has led to a new form of secured bond and paper issuance that has very different effects on a firm's balance sheet (see Corporate Finance (1994)). Most of the industrial countries now permit some form of these types of securitization, although many restrict activities and often to a considerable extent. 2/

III. Primary Bond Markets: Institutional Features and Regulatory Considerations

1. General issuance techniques

While the process associated with a bank loan is relatively straightforward, the issuance of debt securities is more complicated. Although there are circumstances in which some corporate issuers do not require outside assistance with a debt issue (some examples are provided below), issuing corporate securities typically involves investment banks in one or both of the following activities: (1) advising the issuer on the terms and timing of the offering and (2) underwriting the issue either on a "firm commitment basis"--the price is guaranteed by the underwriter--or a "best efforts" arrangement--roughly put, the price is that which the market will bear.

There may be up to three layers between the issuer and the final investors. The first layer is the managing group, comprised of a syndicate of firms with one (or more) being the lead manager (the "bookrunner"). The second layer is the underwriters, who perform an insurance function to the managing group by agreeing to buy the issues at a set price if they cannot be sold for a higher price in the market at the time of issue. The third

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1/ A "guarantee" is a traditional device either to facilitate access to bond markets for firms that would otherwise have difficulty accessing the market or else to reduce the cost of the issue by a well-known firm. Guarantees are legal pledges by a third party to a bond issue to cover the obligations of the issuer in the event of default. Guarantees are relatively common in the Eurobond markets where the issuer is an overseas subsidiary whose size and strength is insufficient to support an unsecured bond issue or else simply that it is advantageous for the issuer to enhance the credit rating of the issue through a third-party guarantee (see Clarke (1990)). A guarantee may be provided either by a parent company or by a financial institution with an international reputation. For instance, lesser-known Japanese firms launched many Eurobond issues with guarantees of major international Japanese banks.

2/ For instance, since July 1993 Japanese firms have been permitted to issue asset-backed CP in Japan but only if the issues have A-1 or A-2 credit ratings. See Kavanagh et al. (1992) for a discussion of the U.S. market for asset-backed CP. For a recent cross-country survey of securitization see International Financial Law Review (1993).

layer is the selling group who market the securities. Often the same firms perform more than one of these three functions. The price is only fixed at the end of the selling period, which generates some uncertainty for the issuer.

The above so-called "traditional syndication" can be contrasted with some variations of it that are used to varying degrees in different markets. One variation is the so-called "bought deal". The bought deal was first introduced in the Eurobond market in 1981 when the investment bank CS First Boston bought from GMAC a $100 million issue without having lined up a syndicate. Bought deals are now the principal method of issuing corporate debt in the Euromarkets (Davis (1992)). In the case of a bought deal, the underwriter either has pre-sold the issue or "shops" it to other investment banks after purchase. The advantage of the bought deal to the issuer is that it transfers selling price risk from the issuer to the intermediary. A further advantage is that it can facilitate quick issuance of securities, such as in the United States where it can be used in conjunction with the shelf registration rule (discussed below). The drawbacks are that the capital required to purchase an entire issue may be substantial and that the risk of re-selling the issue may not be shared.

In the case of both the traditional syndication and the bought deal there can be a lack of discipline over the price at which members of the syndicate sell the issue. As Davis (p.116,1992) points out, "As a result of intense competition, bonds are often sold at a discount to attract investors (the "reallowance") or else banks would sell their bonds in the grey market (a market for bonds on which the issue price or syndicate allocations has not been determined, where quotes are set in relation to the unknown final price), which may oblige the lead manager to buy the bonds back in order to support the price." Because of this unpleasant possibility (from the bookrunner's perspective), the U.S. corporate bond market has long used the so-called "fixed price reoffer" technique. This "technique" is effectively a collusion device that prevents sellers in the primary market from undercutting each other: banks in the syndicate have a contractual obligation not to sell for less than an agreed-upon price until issuance is complete. Because of the appeal of this technique from the perspective of the investment banks, it has been adopted in the corporate bond markets in France (in 1991), it is now widely used in the Euromarkets, and has very recently been introduced (by American investment banks) in the Japanese domestic corporate bond market.

A second, much less-widely used method of issuing debt securities, is to auction them. In this case, the issuer announces the terms of the issue and interested parties submit bids for the entire issue or for specified amounts (a Dutch Auction). The advantage of an auction is that it eliminates the costs of underwriting, but on the other side of the ledger there is no obligation by some investment banks to make a secondary market in the issue. Moreover, this form of issuing securities is likely only practical for issuers that issue frequently and in large amounts--hence its widespread use for the issuance of government debt obligations.

Rather than structuring an issue as a "public" sale, one can alternatively directly (or "privately") place corporate debt securities, again typically with the aid of an investment bank. Private offerings typically have less stringent issuance requirements than do public issues, but the set of possible investors can be much smaller (usually restricted to institutional investors) which tends to raise the cost of funds.

The issuance of shorter term debt securities may be accomplished differently than by the methods above. Notably, CP is typically placed either directly ("direct paper") or via a dealer ("dealer-placed paper"). In the former case the issuer also performs the role of the intermediary by lining up investors. The vast majority of direct paper is placed by financial corporations, and is widely used only in the United States. 1/ Only Japan (of the major industrial countries) prohibits direct placements of CP. Dealer-placed paper is generally underwritten on a best-efforts basis. Additional variations are the note issuance facility (NIF) and the revolving underwriting facility (RUF). Both of these are mechanisms to issue bonds continuously rather than discretely. Wit the exception of Japan, CP is issued in the major industrial countries primarily through a "CP program". Since CP issues are often "rolled over", to protect the issuer from risk of not being able to roll over its CP, in many countries CP issues are backed by implicit (e.g. Germany) or explicit (e.g. Canada and the United States) bank credit lines in exchange for a commitment fee. In fact, in Canada and the United States almost all CP is backed by bank credit lines and this is being done increasingly in the Euro markets as well as the domestic CP markets in Europe.

2. Supervision, regulation, and issuance

In the United States surveillance and regulation of securities issued in the country is the responsibility of the Securities and Exchange Commission with a mandate provided by the Securities Act of 1933. Issuance of corporate bonds in the United States is facilitated by the aid of investment banks as well as by other financial institutions that provide investment banking services. The Glass-Steagall Act substantially restricts the underwriting activities of commercial banks. However, investment banking services can be provided by commercial banks through a so-called "Section 20 subsidiary", which is a separately capitalized unit authorized by the Federal Reserve (beginning in 1986) to conduct the underwriting and

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1/ The percentage of CP that is direct placed in the U.S. market has fallen from well over half of all domestic CP issues as recently as 1988 to around to 30-40 percent in recent years (see Alworth and Borio (1993), Corporate Finance (1993)).

distribution of corporate bonds. 1/ Even if a commercial bank has a Section 20 subsidiary, there are restrictions on underwriting activities. Most importantly, Section 20 subsidiaries can only engage in these activities so long as they do not account for more than 10 percent of total revenues. 2/

For public issues of bonds in the United States, the key regulation is the issuer's filing of a registration statement with the SEC. The registration is divided into two parts: (1) the prospectus which is distributed to the public as an offering of securities and (2) supplemental (largely technical) information which is not distributed to the public but can be viewed at the SEC. 3/ The issuer's executives, accountants, and the underwriters are legally liable for false or misleading statements contained in the registration statement. The filing of the registration statement is followed by the "waiting period" during which the SEC reviews the statement and requests that deficiencies in it be corrected. Once corrected, the registration is declared "effective". During the waiting period, the SEC does allow underwriters to issue a preliminary prospectus--called a "red herring"--although the securities cannot be sold and no written orders can be accepted.

The shelf registration system--SEC Rule 415--implemented in 1982 effectively enables qualified issuers to avoid the waiting period. Under this rule, qualified issuers may file a single registration document indicating the intent to sell a certain amount of a certain class of securities at one or more times within the next two years. To qualify, the securities must essentially be investment grade. The appeal of this rule--

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1/ Section 20 units may underwrite and distribute so-called "ineligible" securities. Ineligible securities are those that the Glass-Steagall Act does not specifically authorize banks to underwrite, and includes municipal revenue bonds, obligations secured by residential mortgages, consumer receivable-related securities, debt securities and equities. Eligible securities include U.S. government securities and general obligation municipals.

2/ Each bank must apply for Section 20 powers, and these powers are typically granted in stages. The first stage is short-term instruments, asset-backed, and revenue municipal bonds; the second stage is corporate debt, with equity powers available once the Federal Reserve Board is fully comfortable with the institution's securities skills and capital base. Section 20 powers have also been the vehicle used by foreign banks that acquire U.S. securities firms to continue activities that otherwise would require closure as a result of the acquisition.

3/ The registration statement must include the nature of the business of the issuer, key provisions or features of the security, the nature of the investment risks associated with the security, and the background of the management (as detailed in SEC Regulation S-K and SEC Securities Act Release No. 6384, March 3, 1982). Financial statements, certified by an independent public accountant, must also be included (SEC Regulation S-X).

which led to it being implemented in a number of other countries--is that it allows quick issuance in light of favorable market developments. 1/

There are only three circumstances in which new issues of debt securities are exempt from the Securities Act of 1933: (1) intrastate offerings, (2) an issue of $1 million or less, and (3) "transactions by an issuer not involving any public offering". This third circumstance defines a "private placement". The appeal of a private placement of bonds is the less stringent regulatory requirements. Regulation D (1982) sets forth the guidelines that determine if an issue is qualified as a private placement. Loosely, the guidelines are that the issue must not be offered for sale through any form of general advertising or general solicitation that would prevail for public offerings. The guidelines also require that the sale is restricted to "sophisticated investors". 2/ The issuer must supply much of the same information to the SEC with the prospectus replaced by a private placement memorandum which is not subject to SEC review. In effect, the registration process is avoided almost entirely.

Prior to 1990 buyers of privately placed debt securities in the United States were required to hold the securities for at least two years. The effect of this regulation was that it greatly reduced liquidity of the securities and therefore the cost of funds raised by private placements. Private placements were considered to be an "expensive" form of bond issuance. In April 1990, SEC Rule 144A eliminated the two-year holding period by allowing large institutions to trade the securities amongst themselves. 3/ This rule has added considerable stimulus to the private-placement market, especially from foreign firms because it has allowed access to the U.S. bond market without having to incur the costs associated with SEC registration and GAAP accounting requirements.

The Tax Equity and Fiscal Responsibility Act (Tefra) of 1982 requires that debt securities issued in the United States be in a registered form in order to prevent evasion of U.S. income tax. Note that this is a completely different notion of registration than SEC registration--the latter is registration of the issue prior to issuance whereas Tefra relates to the registration of the bondholder each time they are sold. So as to ensure domestic firms are not at a competitive disadvantage, Eurobond offerings are exempt from the scope of Tefra, regardless of the issuer, provided: (1) the issue is intended to be issued to non-residents only, (2) the issue pays

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1/ MTN's are registered with the SEC under Rule 415.

2/ A "sophisticated investor" is defined by the SEC to be an investor with a net worth of $1 million or an annual income of at least $200,000 (single person) or $300,000 (couple) and an expectation that this income will continue for the current year.

3/ A "large institution" is one with $100 million or more of holdings in that security.

interest outside of the United States only, and (3) the bonds carry a "Tefra legend" which states that the holder is subject to U.S. tax laws. 1/

There are various provisions in the 1933 Act that exempt CP from SEC registration. First, section 3(a)(3) of the 1933 Act exempts public issues of CP from registration so long as the maturity does not exceed 270 days, it is not a public offering, and the proceeds are used to finance "current transactions". The maturity requirement in part explains the observation that maturities of CP are rarely longer than 270 days, and in fact much CP in the United States is in the range of 30-50 days. But a chief reason for the short maturity of U.S. CP is that to be eligible as collateral for discount-window borrowing by banks, CP cannot have a maturity exceeding 90 days. Thus, issuing paper with a short maturity reduces its cost of issue. Second, section 3(a)(2) of the 1933 Act provides an alternative route to avoid SEC registration for public issues of CP. In this case, CP issued or guaranteed by a bank--for non-financial firms this is usually paper backed by a bank's letter of credit ("LOC paper")--is not only exempt from registration requirements, but in addition need not comply with the "current transactions" stipulation or the 270 day maturity limit on Section 3(a)(3) paper. Third, section 4(2) of the Act stipulates that paper that does not meet either section 3(a)(3) or 3(a)(2) can be issued as a private placement to "accredited investors" and are not subject to the restrictions of the section 3 terms. U.S. corporations with lower credit ratings have been able to access the domestic CP market by enhancing the credit rating of their paper either by issuing LOC paper or by backing the paper with high-quality assets--"asset-backed paper".

The corporate bond market in Japan is regulated by the Japanese Ministry of Finance (MOF) operating largely through the Securities and Exchange Surveillance Committee. The mandate of the MOF is provided by the Securities and Exchange Law (SEL) of 1947 and its subsequent amendments, as well as various other laws including the Commercial Code, the Secured Bond Trust Act, and the Act on the Registration of Corporate Bonds. Article 65 of the SEL separates banking and securities activities in Japan, much as the Glass-Steagall Act does in the United States. However, in Japan too this distinction has become increasingly blurred as some long-term credit banks (July 1993) and some commercial banks (October 1994) have been granted the right to engage in securities business through subsidiaries. At present, these subsidiaries are permitted to underwrite and trade straight bonds and to underwrite convertible and warrant bonds.

1/ Two prominent features of Eurobonds are that they are in bearer form and are free of withholding tax, whereas bonds issued in the U.S. are in registered form and are subject to withholding. Recently, some prominent U.S. issuers (quasi-governmental agencies) have been denied access (by the international clearer Cedel) to the Euromarkets because they attempted to issue Eurobonds that are in registered form and subject to withholding.

Corporate bonds issued in Japan are typically in registered form and may be either public issues underwritten by securities firms or privately placed; bought deals have been permitted in Japan since June 1986 (see Osugi (1990)). The private placement market is subject to less stringent regulation than public issues and has been an important entrance to the bond market for smaller firms. However, with financial institutions being important purchasers of private placements these are very similar to bank loans. The inability to trade private placements has been an impediment to the development of the private-placement market, mirroring the experience in the United States prior to the implementation of the SEC's Rule 144A. Nonetheless, because of an underdeveloped secondary market for public bond issues (see below), private placements may have been more heavily utilized in Japan.

Disclosure is central to the regulation of Japanese primary securities markets. The formal requirements set out in the SEL parallel closely the requirements discussed above for SEC registration in the United States. In short, all public issues of corporate bonds in excess of Y500 million require the filing of a securities registration statement with the MOF pursuant to the provisions of the SEL (Article 4). 1/ An amendment to the SEL in May 1988 contains a provision authorizing companies with outstanding securities that meet certain requirements to simply refer to their securities reports regarding corporate information when filing registration documents--"the reference method" (see Japan Securities Research Institute (1994)). At the same time a shelf registration system was implemented which has improved issuance flexibility (e.g. continuously offered programs are now possible).

There are provisions in the SEL for anti-fraud, insider trading, and other investor protection stipulations (such as a "5 percent rule", tender offer rules, etc.). While it is believed that the enforcement of many of these investor-protection regulations was limited (see e.g. Prowse (1994)), recent experience suggests that the MOF is enforcing insider trading laws which currently allow for a prison term of up to 6 months and a small fine (Y0.5 million) for convictions. There have been three insider-trading investigations since the Securities and Exchange Surveillance Commission was created in 1992, and has recently filed its first insider trading charges.

In November 1987, the Japanese MOF approved the issuance of CP by Japanese corporations in the domestic market with a maturity of between 2

1/ The disclosure requirements parallel those in the United States, including information about the offering as well as the business of the issuer and its financial situation, and which must be audited by an independent certified public accountant. In addition, the issuer's registration documents are available for public inspection at the MOF, the stock exchanges, the Japan Securities Dealers Association, and the issuing company for a certain period of time. Issuers must also provide a prospectus to investors.

weeks and 9 months. 1/ However, the only permitted issuers are corporations with a CP credit rating of A-1 or A-2. Moreover, since directly-placed paper is not permitted in Japan, CP must be issued through "authorized distributors" (securities firms and banks) and additionally may only be sold to institutional investors (financial institutions and corporations); sale to individual investors is prohibited. CP in Japan is legally not a bond and until very recently was not recognized under the SEL as a security. Because of the special legal status of CP, banks dominate the primary market in CP, underwriting the vast majority of the paper issued. In addition, owing to its special legal status, CP is also subject to less stringent regulation than bond issuance. 2/ Noteworthy is that the issuing conditions are much weaker which has enabled quick issuance.

Until very recently, the corporate bond market in Japan was underdeveloped owing to the stringent regulations governing the issuance of bonds. Until 1987 the chief regulating body for straight bonds was the Bond Issue Arrangement Committee (BIAC) which developed out of the 1930s with the support of the MOF. The heart of the BIAC was eight private banks, headed by the Industrial Bank of Japan. In essence the MOF regulated the bond market through the BIAC. Not surprisingly the BIAC developed a set of bond issuance conditions that were very favorable to the banks themselves, although quite unfavorable for the development of the domestic corporate bond market. A similar structure was in place for equity-linked bonds, but with securities firms playing the role that banks played (in the BIAC) in the straight bond market. Again, issuance conditions were very strict. A cornerstone of the bond issuance criteria was collateralization--the first uncollateralized bond was not issued in Japan until 1979.

The effect on the corporate bond market of the restrictive issuance criteria was significant. Because the bond issuance regulations required that only fully secured bonds could be issued, and only "trustee banks" were permitted to manage the relevant collateral (in exchange for a handsome fee), in effect bank loans provided the only source of external debt finance for most Japanese firms. The very limited number of issuers were very large companies, mainly electric utilities and NTT. Of course, restrictions on issuance of corporate debt securities could only be successful if access was restricted to issuing in external markets. Historically, the Foreign Exchange Law accomplished precisely this until it was weakened beginning in 1980. There have also been a wide variety of other regulations designed to prevent the issuance of bonds by Japanese firms both domestically and in foreign markets (see below).

1/ A few months after this reform, the MOF approved the issuance of yen-denominated CP in Japan by non-Japanese entities--so-called "samurai CP".

2/ The fact that CP was not considered a security until very recently meant that it was not subject to the securities transactions tax (see below). However, the stamp tax did apply, thus narrowing the tax advantage of bonds.

Stimulus to bond issuance as a financing tool for Japanese enterprises has been provided by a very large number of regulatory changes over the past decade or so. Some of the key regulatory changes to the corporate bond markets include the permission to issue bonds in foreign markets without explicit government approval (although not without restrictions on issuance), the issuance of unsecured bonds, the lifting of ceilings on bond issues by any firm, the lowering of the minimum required credit rating to BBB (in a sequence of steps with the latest in 1993), and the deregulation of commission fees. 1/ Deregulation of foreign exchange transactions including derivative instruments such as forward rate agreements and swaps have also contributed to the growth of securitized debt markets in Japan quite recently (see Osugi (1990), Takeda and Turner (1992), and Risk Magazine (1994)). The implementation of the "proposal method" to replace the BIAC's practice of dictating the terms and conditions of a prospective bond issue has also been instrumental to the development of the Japanese corporate bond market. 2/

Despite the deregulation of the domestic and offshore yen-denominated markets for corporate bonds, the bond market in Japan still has several problems that impede its development. This is reflected in the fact that between 1982 and 1991 almost half of the bond issues by Japanese corporations were issued in international markets. This desire by Japanese firms to issue abroad is especially striking given the regulatory disincentives to do so. There are numerous reasons for the underdeveloped state of the domestic bond market. One reason is the very narrow eligibility guidelines and high collateral requirements, although these have been relaxed considerably in recent years (see below). A second reason is the "commission bank system", whereby trustee fees are fixed and identical for all borrowers, and are much higher than for foreign bond issues. Even though underwriting fees are competitive relative to the Euromarkets (e.g. Takeda and Turner (1992)), the trustee fees in the domestic market are large enough that total issuing costs in Japan are generally well above those in the Euromarkets (e.g. Economist (1994b)). Moreover, until very recently there was little variation in the underwriting syndicates--the Big Four securities firms (along with some smaller firms) provided underwriting services for all issues in Japan (see Nikkei Weekly (1994b)). This apparent lack of competition in the investment banking services required for bond issuance may have limited the attractiveness of the domestic market.

1/ The credit rating requirement for issuance of yen-denominated bonds by resident and non-resident firms was lowered to BBB as of March 1995. Note that this requirement precludes the development of a junk bond market. It has been reported that the minimum rating requirement is to be dropped completely in the Spring of 1995.

2/ The proposal method allows firms to solicit proposals from underwriters on the terms and conditions and the associated fees rather than having these dictated by the bond issuance committee.

A third reason for the underdeveloped domestic bond market is that, in common with many domestic markets, disclosure requirements tend to be more burdensome for domestic than for external issues. A fourth reason is that the derivatives markets in Japan are still less developed than some other markets (notably the United States and Euromarkets) and this may have hampered the development of corporate bond markets. 1/ Only very recently have banks been permitted to engage in some derivatives dealing activities--namely, forward rate and forward exchange agreements. Since estimates put the majority of Euroyen issues being swapped into other currencies (Morgan Stanley (1991)) this points to the a very large demand for derivatives products which may be leading issuers to move to offshore markets where derivatives markets are more developed. A fifth reason is that financial covenant clauses required in Japan for bond issues are purported to be much stricter than in other countries. A sixth reason is that the development of the primary bond market in Japan is stymied by the underdeveloped state of the secondary market. This issue is addressed in detail in the next section of the paper. A seventh reason is taxation. On the one hand, withholding taxes on interest payments to both domestic residents and foreigners (so long as the paying agent is in Japan) limit the attractiveness of Japanese bonds to investors. On the other hand, Japan levies a transaction tax on securities trades.

A final problem with the Japanese bond market is that deficiencies with the credit-rating system in Japan have plagued the primary and secondary markets for debt securities. Specifically, the tendency to concentrate credit ratings of firms at the upper end of the rating range has created an adverse selection problem in the primary debt market which in turn has made Japanese debt issues unattractive to foreigners (see also section 3.c. below). To illustrate, despite the 90-day lock-up period on Euroyen corporate debt issues, it is believed (e.g. Salomon Brothers (1994)) that at least 90 percent of these bonds end up in Japanese investors' hands. However, there are signs that the market is becoming more risk-sensitive. 2/ But genuinely risky bonds are still rare--only one BBB rated issue has been issued in the Japanese bond market.

Regulation of securities markets in Germany has changed considerably in recent years as the adoption of various financial market directives for EC membership has narrowed the gap between regulatory requirements in EC member countries. However, historically supervision and regulation in the German financial markets has generally been much weaker than in many other countries (United States, Canada, United Kingdom, Japan). Germany's universal bank system permits banks--under section 1(1) of the Banking Act--

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1/ This view is presented in, for example, Risk Magazine (1994) and The Economist (1994c). One roadblock to expansion of these markets is the accounting system which, for example, does not recognize netting of offsetting common counterparty positions.

2/ As a crude barometer, The Economist (1994b) reports that Moody's Tokyo office has doubled its staff since 1992.

to underwrite and manage securities issues freely. The Big Three German universal banks--Deutsche Bank, Dresdner Bank, and Commerzbank--dominate the issuance of deutsche mark (DM) debt and equity issues which are often largely placed in-house with retail banking clients. Although disclosure regulations in Germany are widely known to be less stringent than the United States and the United Kingdom (e.g. Prowse (1994)), there is some recent indication that they are being toughened (see Deutsche Bundesbank (1992)) in line with the EC directives on financial market regulation and supervision. The recent establishment of a securities watchdog, the Bundesaufsichtsamt fuer Wertpapierwesen (BHW), also testifies to this increased concern with investor protection. However, historically the regulation of primary markets for corporate bonds was so strictly regulated that the German corporate bond markets have been (and still are) negligible.

Germany is one of a small number of countries--some others are Switzerland and the Netherlands--in which most domestic bonds are bearer bonds. Moreover, most registered bonds are bank bonds. 1/ Until 1992, issuance of corporate bonds required that the bonds be listed on one of the German stock exchanges. The disclosure requirements associated with exchange listing have traditionally been the chief disclosure requirement for deutsche mark denominated corporate bond issues.

There is both an international and a domestic sector of the corporate bond market in Germany, although Germany presents somewhat of an unusual case in that both are located in Frankfurt. 2/ That is, the Euro DM bond market is located almost entirely in Frankfurt. 3/ This has the implication that there is really no meaningful distinction between traditional foreign issues in Germany and Euro DM issues. Of course, Eurobond issues denominated in DM's have features common typical of Eurobonds--i.e. bearer bonds, international syndicated, cleared through Euroclear and Cedel, marketed internationally--but otherwise there is no distinction.

Supervision and regulation of German securities markets is provided by: (1) the German Securities Prospectus Law, (2) the Bundesbank owing to its oversight of capital markets generally, (3) the German Stock Exchange Law, and soon (4) the new securities watchdog (BHW) mentioned above. Until very recently, the requirements for a bond issue in the domestic market were so onerous that it was widely accepted that this option was a much more expensive method of raising funds than simply getting a bank loan. This is

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1/ Registered bonds are not listed on the stock exchange, but rather are allocated to the "regulated market" and traded purely OTC. They are held largely by institutional investors, particularly insurance companies and pension funds.

2/ The issue of foreign currency denominated bonds by German firms was prohibited until 1990.

3/ As discussed below, the Swiss franc Euromarket is also unique in that it too is located largely in Switzerland.

most clearly seen by noting that at the end of 1991, there were four outstanding domestic issues of corporate bonds amounting to DM3.2 billion (European Bond Commission (1993)). Compare this with the roughly $1 trillion outstanding in the United States. 1/

Until recently, the requirements for a corporate bond issue by a German corporation were contained in sections 795 and 808a of the German Civil Code. Key regulations included a minimum maturity of 5 years prior to 1984, which was lowered to 2 years in 1984 and is still in effect currently for domestic firms, 2/ and advance permission from the Ministry of Finance for each bond issue. This permission process was the key impediment to corporate bond issues because permission was so time intensive that it severely impeded the ability to issue when market developments were good, and thus firms were largely dissuaded from applying to issue bonds to begin with.

At various times the taxation of interest income provided a strong disincentive for German non-financial corporations to issue bonds. For instance, in 1989 a 10 percent withholding tax was put in place on interest income received on domestically issued DM bonds. This caused corporations to issue of bonds through subsidiaries located outside of Germany. These developments were instrumental in the German authorities abolishing this tax after only six months, although they have recently put in place a new withholding tax as discussed below.

Regarding short-term notes, the commercial paper market prior to 1991 was non-existent because of the regulatory burden caused by the requirements stated in the Civil Code as well as that there was a stock exchange turnover tax of 6 percent applied to all purchases of securities forming part of an issue regardless of maturity. While this tax was detrimental to the issue of all securities in Germany, it weighed especially hard on short-maturity issues. The combination of the tax and the lengthy permission requirements prevented the market from opening.

Against this historical background, authorities' concern about the DM bond market locating outside of Germany--an important concern of the Bundesbank--was instrumental in a number of significant reforms to the regulation of German bond markets in recent years. Most significantly, Sections 795 and 808a of the Civil Code were repealed on December 31, 1990 and the stock exchange turnover tax was also removed at the same time. These developments significantly reduced the impediments to the issue of

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1/ These numbers differ from those reported in Table 2 as the latter include short-term notes.

2/ Up to June 1989, the Bundesbank prohibited DM Eurobonds with maturities less than 5 years for public offerings, or less than 3 years for private placements. In July 1989, this requirement was reduced to 2 years, and was eliminated subsequently.

bonds and CP. 1/ The door has also been recently opened to innovations such as continuously offered issues through shelf registrations.

The restrictions on DM bond issuance by non-financial firms domestically and in Euromarkets are the same since both markets are located in Frankfurt. An important regulation from the perspective of investment bankers and also possibly issuers, is that a DM-denominated bond issue must be lead-managed by a bank incorporated in Germany and the issue must be launched in Germany. A German based subsidiary of a foreign bank can lead manage the issue if equal treatment is given to German subsidiaries in that country. This requirement is central to why the Euro DM primary market is located in Frankfurt. To maintain a sharp distinction between the money market and the bond markets, the Bundesbank has relied on the previously mentioned minimum maturity regulation for bonds which at present is two years for domestic bonds and Euro bonds issued by non-bank firms. The Bundesbank also requires that details of the issue be provided to the Bundesbank in advance of the launch day. Public bond issues listed on a stock exchange (required until 1992) were subject to the regulations of German Stock Exchange Law, including a prospectus and legal liability to the issuer and possibly the lead manager for false information. This prospectus has historically been the backbone of the disclosure requirements in Germany, although recently disclosure requirements have shifted from stock exchange listing requirements to ones patterned after the U.S.'s SEC requirements. Very recently Germany passed legislation that complied with the 1989 EC directive on insider trading, making it the last EC government to comply with the directive. The insider trading bill provides for up to five years in prison (as well as sets up the BHW discussed above). This directive makes insider trading a criminal offence, expands disclosure requirements on company shareholdings, and lowers the ownership threshold to 5 percent when disclosure is required.

The CP market in Germany has been severely constrained by the Bundesbank's wish to control very closely the German money market. Money market funds have only very recently been permitted (August 1994). 2/ The issuance of CP by German firms has been permitted since January 1991 and, beginning in August 1992, foreign (non-bank) firms could issue in the German CP market. Most CP issued in Germany is privately placed on a best-efforts basis usually by a financial institution, that must be located in Germany. German CP is permitted to have an original maturity from 7 days to 2 years

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1/ The fact that money market funds were recently legalized (effective August 1, 1994) may provide additional stimulus to the CP market.

2/ In the first four months that money market mutual funds were permitted, DM 13.5 billion had been deposited in them.

less a day. 1/ A rating is not required and most CP issues are not rated, largely because they are well known firms.

In the United Kingdom, the Big Bang in 1986 had wide-ranging implications for the provision and regulation of financial services. In particular, The Financial Services Act (FSA) has enormous scope, although it is quite general in its regulatory provisions. For instance, although disclosure is central to the FSA, it prescribes simply a "general duty of disclosure" to apply to any foreign or domestic firms that wish to issue debt or equity whether or not they are to be traded on a secondary exchange. The Securities and Investment Board (SIB) is responsible for implementing securities market regulation, principally by delegating responsibilities to self-regulating organizations (SRO's). 2/ The SRO that monitors and regulates the firms that issue and deal in corporate securities is The Securities and Futures Authority (SFA).

London has long been a major center for bond issuance not least because it is home to much of the Eurobond primary and secondary markets (see section 3.c. below). Although it has been suggested (e.g. European Bond Commission (1993)) that the U.K. authorities have promoted bond issuance as a means to finance business activities, as discussed above U.K. firms have tended to rely quite strongly on the banking system and equity issuance for external funding needs.

Since at least 1984 the domestic sterling corporate bond market has largely been used by firms that have difficulty accessing the Euromarkets, and this is one reason its size has declined rapidly. A second reason for the decline of the domestic sterling market has been a lack of credit ratings in the United Kingdom--indeed, in all of Europe. A third reason is that key domestic institutional investors (namely, insurance companies) favor longer-dated securities in line with their liability structure, and a general preference for equity over debt. Fourth, bond covenants are more demanding in the domestic market than in the Euromarket. Fifth, U.K. firms that issue in the Euromarkets have suggested that the set of investors in the domestic market is too small and spreads over LIBOR are uncompetitive. Cheaper funding in sterling could be obtained in the Euromarkets, even if that meant issuance in a different currency which was then swapped into sterling. Finally, the international clearance and settlement systems (Euroclear and Cedel) are superior to the domestic system (see section 4).

1/ An information memorandum forms the backbone of the disclosure requirements for CP issues, and must provide a short description of the issuer and the salient details of the program. This memorandum together with the most recent annual report and interim report of the issuer are provided to investors.

2/ The SIB does directly regulate some retail segments of the securities industry.

The differences between domestic and Eurosterling bonds are that domestic bonds are registered securities, they are usually listed on the London Stock Exchange and require a published prospectus, they are largely marketed to domestic residents, and they pay interest net of U.K. income tax in many cases. 1/ In addition, Eurosterling bonds cannot be sold to "nonprofessional" investors. Eurosterling issues have at times been considerably less expensive to issue--at times during the 1980s yields on short-dated Eurosterling bonds fell below yields on gilt-edged bonds of similar maturity (Harrington (1992)). In common with Germany, the U.K. authorities insist on all Eurosterling issues being lead-managed from the United Kingdom. Also noteworthy is that domestic bonds in the United Kingdom were restricted prior to 1989 (see below) to have a maturity of no less than 5 years. 2/

A change in English law came into effect in April 1986 making sterling CP possible for the first time. The first issue was launched on May 20, 1986. As is common in domestic (and Euro) CP markets, sterling CP is in bearer form and payments are gross of tax. The disclosure requirements are limited to an information memorandum which is produced largely as marketing information for dealers to circulate to investors. Designed in compliance with the Companies Act 1985 and the FSA, the notes are sold to "professional investors". However, there are relatively strict conditions on issuance. The Bank of England issued a notice in March 1989 detailing the conditions under which a firm may issue sterling CP: for non-financial companies (whether located in the UK or not) they are required to have net assets of BP25 million, and the firm must either have its equity or bonds listed on the ISE in London or else they must be traded on the Unlisted Securities Market in London or have satisfied the conditions necessary for listing on the exchange (see Corporate Finance (1991) for details). Alternatively, a firm may issue sterling CP if the paper is guaranteed by an institution authorized by the Banking Act 1987, or by a firm that satisfies the net worth and listing criteria listed above.

The minimum permitted maturity for sterling CP is 7 days and originally the paper could not have a maturity exceeding 364 days. The market received stimulus on January 11 1990 when the Bank of England--the principal regulator of the sterling CP market--further deregulated the sterling CP

1/ Eurosterling issues are not subject to withholding tax in general, but all domestic bonds are subject to withholding. Registered corporate bulldog issues are subject to withholding except to overseas investors. Bulldog issues in bearer form are subject to withholding only if a U.K. paying agent is used.

2/ The bulldog market--the issue of bonds domestically in the U.K. by foreign firms--was created in 1980. In contrast to domestic U.K. bonds, bulldog issues may be bearer bonds and may also permit international investors to receive interest gross of tax, although this is generally not the case. However, the bulldog market too has been largely displaced by the Eurosterling markets in recent years.

market: the maximum maturity was extended to five years (previously it was one year), with paper between one and five years designated medium term notes (MTN's), and issues are permitted to be denominated in any currency. Most CP is backed by back-up credit lines and over 95 percent of issues have a top credit rating (corporate Finance (1993)).

Both domestic and foreign firms issue sterling CP, although some of these issues occur through a ECP program with a sterling arm to it. Ratings of paper are very important in the London CP market, in part due to a well-publicized default in October 1990. The vast majority of new sterling CP is rated (by Moody's or Standard and Poor's)--at least 90 percent according to Temperton (1992). Direct dealing in sterling CP is rare and most paper is dealer placed (Corporate Finance (1991)). Usually a program--rather than an "issue"--is put in place as has become common with many other countries.

The sterling CP market has not grown at the same pace as other domestic European CP markets. For example, the French CP market, started at roughly the same time is many times larger than the sterling market (Temperton (1992)). There are a number of possible reasons that the market's development has been hampered. First, as for disclosure, while it is true that an information memorandum/prospectus is required with annual update, it is not often clear what type of credit support exists for some sterling CP programs (Temperton (1992)). For example, the extent to which a parent company is responsible for the CP of the subsidiary is reported to be unclear to potential investors. Second, there may be inadequate availability of historical information on interest rates on CP which may make issuance more difficult (Temperton (1992)). Third, although sterling CP is often of higher quality than bank bills, the Bank of England does not regard CP as eligible for central bank discounting. This has been suggested as a major reason the market has not developed (Temperton (1992)). Fourth, the issuance conditions are much stricter than for ECP (Euromoney (1992)) and thus the Euromarkets may be displacing the domestic sterling market just as they are for bonds. Finally, the market has been stunted by the demand side--there is a limited domestic demand for sterling CP.

In France, regulatory oversight of the domestic corporate debt market is provided by the Counseil des Bourses de Valeurs (established in 1988-9), the COB (Commission des Operations de Bourse), and the French Treasury. The COB is the principal securities market watchdog and was given greatly expanded powers for ensuring investor protection and orderly financial markets under the 1989 Law on Security and Transparency in Financial Markets. There is no single body of law or uniform code that governs primary and secondary markets in France. Rather, there are a number of laws that, patched together, provide the legal underpinning for supervision and regulation of the French capital markets (see International Financial Law Review (1993b)). Moreover, the implementation of EC directives governing financial markets have narrowed the differences between the supervision and regulation of French financial markets and those in other EC member states.

The domestic bond market in France is dominated by the debt of the public sector and financial institutions. Industrial and commercial issues accounted for close to 11 percent of outstanding issues in 1991, although some "specialized credit institutions" are included in that number (European Bond Commission (1993)). In recent years many of the larger corporate and financial issuers based in France have shifted into the Euromarket in order to reach a wider investor base and achieve a more extensive placement (European Bond Commission (1993)). The French corporate sector has always been a key issuer in the Euro French franc market, and only since 1989 have non-corporate issuers tapped into this market. 1/ Despite the appeal of the Eurobond markets to French corporate issuers, it is reported that in 1994 the French authorities tried to promote domestic markets over the Euromarket by reducing access to the latter (see International Financing Review (1994b,1994f)).

A French firm that wishes to issue bonds publicly must have a capital of at least Ffr1.5 million, have been in existence for at least two years, and have audited financial accounts for the past two years (see International Financial Law Review (1993b)). Although bonds may be either in bearer or registered form, although with the dematerialization of certificates in the 1980s ownership is in book entry form. An issuer is required to file a prospectus with the COB and the CBV, although this can be avoided for private placements. 2/ This prospectus must contain information set out in COB Regulation 88-04 (as amended to conform to EC directives), and it is generally believed that the amount of information required is less than in the United States or the United Kingdom (see International Financial Law Review (1993b)). Moreover, in line with EC directives, non-French firms that satisfy home country regulations do not need to file a prospectus, and Regulation 88-04 (as amended by Regulation 90-01) provides for shelf registration along the same lines as Rule 415 in the United States (International Financial Law Review (1993b)). On July 1, 1993, the COB shortened and simplified considerably the lengthy process required for issuance of corporate bonds. In effect, the new issuance procedure allows issuers that have submitted prospectuses that satisfy the conditions of the bond standards committee to immediately issue bonds, although at this point only to large investors and the new scheme applies only to straight bonds. As mentioned above, the procedure for issuing Euro French franc bonds has been cumbersome owing to a delayed permission process (Benzie (1992)). Specifically, the Committee of the Euro French franc market--which is comprised of major French banks and, as of January 1, 1994, foreign banks, as well as the Treasury--meets once a month and sets the issuance calendar for the month. The terms of the issue must be governed by French law and the principal paying agent must be located in France.

1/ Banks were prohibited from issuing in the Euromarket prior to 1989.

2/ Securities are public issues if: distributed to 300 or more persons, placed through financial institutions, advertised in the French media, or placed by way of customer solicitation (see International Financial Law Review (1993b)).

The method of traditional syndication is the predominant method for the issuance of corporate debt securities in the domestic market in France. Private placements are rarely used in the domestic French market (European Bond Commission (1993)). Prior to 1992, the minimum permitted maturity for bonds issued was 7 years, but the French Treasury has recently decided to reduce this to 5 years with a reduction to 3 years to follow in 12 months time. There are currently two taxes that can be considered as withholding taxes. In addition to a traditional withholding tax, most fixed-income instruments are subject to a flat tax. Since November 1984, all bonds are registered in the account of a financial intermediary chosen by the owner of such bonds, either in a current bearer account with SIVOCAM (the central French depository) or in an administered registered account.

The French CP (billet de tresorerie) market opened in December 1985 as part of the deregulation of the French financial system. It has grown steadily, and in the early 1990s was the largest domestic CP market in Europe (Corporate Finance (1991)). French CP is in bearer form and has a maturity not less than 10 days and not more than seven years at issue, although since February 1992 any note exceeding one year is defined as a MTN and is therefore subject to the French MTN regulations. In practice, average maturities range form 20 to 40 days as in many other countries (Corporate Finance (1991,1993)). Secondary market activity in French CP is not significant with most paper held to maturity. Issues denominated in ecus and U.S. dollars have been permitted since August 1989, and this regulation was weakened in February 1992 to permit denomination in any currency. Issuers must have been in existence for two years, have published two audited annual reports, and have a minimum paid-in capital of Ffr1.5 million These restrictions are relaxed if a guarantee is provided by a firm which does meet the above requirements. Since February 1992 the issuance has been simplified by eliminating the requirement to get a COB "visa" to run a program. Now, rated issuers need only notify the Banque de France two weeks prior to issuance and non-rated issuers must report to the COB on a regular basis. Non-residents have been permitted to set up programs since February 1, 1991. In contrast to the U.S. market where a significant amount of CP is directly placed by the issuers, direct placements are not developed in France and banks typically distribute (or retain) the paper. Back-up lines are often used.

Recently there has been a great deal of interest in some of the fast-growing <u>developing Asian countries</u>--China, South Korea, Malaysia, Indonesia, the Philippines, Thailand, and Singapore--with respect to establishing corporate bond markets in order to facilitate the financing of business and to meet the region's massive infrastructure needs. Because of the very limited development of corporate debt markets in these countries, there has been very heavy reliance on bank financing. In turn, upward pressure on the loan-to-deposit ratio increases financing costs. Although corporate bond issuance has increased markedly very recently in some of these countries, most of the issuance has occurred in the offshore (mostly the

Euroconvertible) bond markets, which limits the range of firms that are able to access bond markets.

The impediments to the issuance of corporate debt securities in the domestic emerging Asian markets include underdeveloped secondary markets, the lack of credit ratings, inadequate clearance and settlement, and underdeveloped markets for lending securities (Montagnon (1994), Oxford Analytica (1994a,b,c)). 1/ One strategy has been to develop the government bond market (despite budget surpluses in many of these countries) with the idea being that this will facilitate the development of a market for corporate issues. While this may be beneficial in that it provides information about benchmark yields in which to gauge the pricing of corporate debt securities, it must also be recognized that there is no guarantee that even a very liquid government bond market will aid the development of a corporate bond market. Care must be taken in developing the market infrastructure (trading mechanisms, clearance and settlement systems) for the corporate bond market to function efficiently alongside government debt markets.

Much of the Eurobond market is located in London. 2/ Chester (1991) and Benzie (1992) put Eurobond issuance managed out of London at 65 percent of all issues, with nearly all Eurodollar and Euroyen issues being located in London. As discussed below, a substantial amount of secondary market turnover in Eurobonds is also located in London. Eurobonds are launched in any of a large number of currencies, although the U.S. dollar, the Japanese yen, the German Deutsche mark, and the Swiss franc, account for a significant proportion of issues. Issuance in the "benchmark" currencies is a combination of increasing returns in the issuance and trading technologies for a given currency along with the fact that they are the key reserve currencies. Despite the popularity of a small number of currencies for denomination of bonds upon issuance, the fact is that the swap markets for Eurobonds are highly developed so that an investor can (and often does) swap the issue into another currency. Indeed, the highly developed nature of the swap markets for Eurobonds is one chief reason that many domestic bond markets fall into disuse beside the Euromarkets. A notable exception is the U.S. domestic bond market in which domestic swap markets are also highly

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1/ Because many international investors are not permitted to invest in unrated debt securities the lack of credit ratings may restrict significantly the ability to issue debt securities. It should be noted that credit rating agencies have recently been established in Malaysia and Thailand (Oxford Analytica (1994b)).

2/ However, close to 40 percent of the underwriting of Eurobonds in 1993 was done by U.S. investment banks (Salomon Brothers (1994)). Japanese institutions accounted for about half of the activity as their U.S. counterparts in 1993 (but accounted for twice the activity of their U.S. counterparts in 1989). The vast majority of the remaining business was performed by European global institutions, accounting for about 40 percent in 1993.

developed. Even relative to the U.S. domestic bond market, the Euro markets have been reported to offer substantial savings to issuers: possibly up to 0.3 percent over the domestic U.S. market (see Benzie (1992) for references).

The bought deal has been the most popular method of Eurobond issuance since the early 1980s. Some estimates place private placements in the Eurobond market at about 10 percent of total issues (Clarke (1990)). Most of the investors in the case of private placements are major institutions with significant portfolios to manage--notable investors in recent years have been Japanese investors including life insurance companies and the Post Office. The number of "issuing houses" varies but has been about 25 in recent years. Although issuing houses of many nationalities may participate in an issue, issuing houses consider borrowers of their country of origin as their preserve (Clarke (1990)), especially in the case of Japan. At the very least, an issue in a particular currency almost always has members from that country in the underwriting syndicate. Much of the explanation for this seems to be the notion that home-country institutions have better contacts with investors in that country.

An interesting issue is the factors that affect a firm's decision to issue on the international markets (Euro or dragon or even foreign-country placed debt) or the domestic market. As a rule of thumb, the international markets are not conducive to bond issues by smaller (lesser-known) companies. This is because the investor clientele in international markets is typically very concerned with credit rating <u>and</u> how well known the firm is, and choose instead to focus more on the currency decision for their portfolios than the yield. Further, investment banking firms that are active in international markets would likely not be interested in marketing a small issue in global markets. For those firms which do face the decision of whether to issue on the international markets, the desirable characteristics are: (1) the range of currencies, (2) the depth of the investor base, (3) the choice of underwriters, and (4) the generally lighter regulatory burden. A recent poll of issuers in international markets (see International Financial Review (1993a)), showed that 87 percent of respondents viewed the choice of currencies available as the most obvious and favorite feature of the international markets. The choice of underwriters was considered very important by 54 percent of respondents. As for regulation, 54 percent of corporate issuers emphasized the desirability of the lower regulatory burden on these markets. This is especially interesting when it is contrasted with the fact that only 6 percent of sovereign, supranational, and state-owned non-banking borrowers valued the light regulatory environment. In addition, there was a clear continental difference in the value of lighter regulation for corporate issuers on the international markets: 33 percent of respondents from Europe found the Euromarkets superior in terms of regulation, with only 18 percent in North America, but 56 percent from Asia, and 38 percent from the rest of the world.

The Eurodollar bond market has been the backbone of the Eurobond markets, although the dollar's use has recently been declining in terms of the percentage of new issues that are denominated in dollars. The Eurodollar bond market is based almost entirely outside the United States and is the principal unregulated bond market worldwide. There is no restriction on amount, maturity, form, interest base, denomination, or status of Eurodollar bonds. 1/ Eurodollar bonds are usually listed on either the London or Luxembourg stock exchanges, although as mentioned above listing is primarily for the purpose of the issue meeting conditions that certain institutional investors' are required to meet, rather than for the purpose of facilitating trading of the bonds. London is the leading center for Eurodollar bond issues, although they may be launched from practically anywhere. However, as newly issued Eurobonds typically do not comply with U.S. fiscal (Tefra) and SEC registration requirements, they cannot be sold in the United States until a "seasoning period" has passed. The seasoning period is currently 40 days, down from 90 days in April 1990. Eurobonds sold into the United States are typically structured as private placements and thus must conform to the SEC's conditions for private placements (discussed above) and they must also be in registered (rather than bearer) form to comply with U.S. fiscal legislation (Tefra). 2/

The primary market for Eurosterling, Euro French franc, and Euro-DM bonds has been liberalized significantly in recent years. A notable remaining restriction is that authorities insist that Euro bonds denominated in their country's currency be managed by a firm located in their country. Such a restriction is very common in the Euro markets, with a notable exception being the United States. Also, as discussed above, the French authorities have recently restricted access to the Euromarkets by French firms in the hope that it will foster the development of domestic securities markets.

Placement of Eurobonds into the United Kingdom is governed by the FSA of 1986 and the Companies Act of 1985. This legislation essentially treats these securities as fit for professional investors only, and thus entails less stringent disclosure requirements in the Offering Circular than for a domestic issue. However, it also implies that issues may be distributed only to professional houses.

1/ One other "currency" which is just as unregulated as the eurodollar bond market is the Euro-ecu bond market.

2/ Research by the World Bank revealed that a large amount of bonds held internationally were in fact in registered form (including U.S. Treasury debt), which prompted (in 1989) the first eurobond issue registered as a public issue with the SEC--the so-called "global bond". Because such a structure is not practical for the size of issues by most corporations, this structure is currently used primarily by supranationals and sovereigns.

The Japanese MOF requires that all Euro or dragon issues by Japanese corporations must have a rating of BBB or better. 1/ Until very recently, not only was this rating requirement stricter, but there was in addition a restriction on minimum net assets (see International Financing Review (1994d)). The Japanese authorities also place some restrictions on the management of new issues: lead managers (which must either be Tokyo based or have an office in Tokyo) must file powers of attorney and a mandate from the issuer with the MOF. There is also a lock-up period of 90 days on the sale of corporate Eurobonds into Japan. 2/ Beyond this restriction for non-Japanese firms, the primary market in Euro and dragon bonds denominated in yen is as unregulated as the Euro dollar market.

An interesting situation is the Euro Swiss Franc bond market. In fact, there is no such market. The only Swiss Franc bond market is the domestic market. Since the Swiss authorities require that issues in Swiss Francs be launched by a lead manager domiciled in Switzerland or Liechtenstein, 3/ the Big Three Swiss securities firms dominate the market. Nonetheless, the Swiss Franc market is an important international bond market because of the desirability of the currency and the presence of important financial institutions in the Swiss market. The importance to issuers of being able to tap the Swiss domestic bond market is most clearly reflected by the fact that the market has not only remained in Switzerland but has flourished there despite there being a stamp duty of 0.3 percent on all securities transactions including those in the primary market.

Abstracting from the currency-specific regulations discussed above, the primary market in Eurobonds functions very efficiently and in an orderly fashion in part because there are some rules governing conduct in the market. These rules are those of the International Primary Markets Association (IPMA), and SRO established in 1984 as a voluntary organization of some 50 issuing houses to promote standards in the primary market in Eurobonds in documentation, communication, information disclosure and syndication practice. Over 90 percent of the practices conform to the IPMA guidelines (Clarke (1990)).

Since 1978 there has been an active grey market in Eurobonds which operates between the launch date and the closing date of the offering, often a period of 2-5 weeks. The grey market has contributed greatly to the efficiency of the Eurobond market in large part because of the price-

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1/ The same credit rating restriction applies to all samurai issues. It has been reported that all credit rating minimum requirements in both the domestic and offshore markets is to be lifted in the Spring of 1995.

2/ The lock-up period was recently eliminated for sovereign and supranational issues of Eurobonds, but not for corporate issues. However, it has been reported that the lock-up period on foreign corporate issuers is to be lifted in the Spring of 1995.

3/ It is reported (see International Financing Review (1994a)) that these rules may be weakened soon by the Swiss National Bank.

discovery services of a grey market. Settlements in the grey market occur on the payment (or closing) date of the issue, thus allowing for a possibly great deal of speculation because of the long closing period. During the grey market period the lead manager assumes a role as market maker. After the closing date this market is the chief secondary market. An important function of the lead manager in the grey market is to stabilize the price. The fact that other firms in the syndicate were able to take advantage of the lead manager in the grey market was instrumental in the widespread adoption of the fixed-price reoffer system--adopted from the U.S. domestic bond markets.

The ECP market began in the early 1970s when U.S. investment banks introduced off-shore short-term promissory notes issued by U.S. corporations. The market has grown steadily and, in 1992, the ECP market accounted for about 10 percent of the worldwide CP market (Alworth and Borio (1993)). The U.S. dollar is the principal currency of denomination but, as is the case for Eurobonds, the usage of the yen and deutsche mark have increased. The importance of a credit rating in the ECP market too has accelerated in recent years in light of some well-publicized defaults in 1989-1990.

The maturity of ECP is often much longer than that found in some domestic markets (notably the United States but also possibly the United Kingdom). Average maturity in the United States is about 40 days whereas it is about 90-180 days in the ECP market (Chester (1991)). 1/ In part this may be due to de facto relatively tight restrictions on maximum maturity in some domestic CP markets (e.g. in the United States). Noteworthy is that ECP is often not backed by unused bank lines. ECP is almost always dealer-placed. An interesting difference between ECP and domestic CP markets is that there is an active secondary market in ECP which appears to be attributable in large part to arbitrage related investment in ECP in contrast to the largely buy-and-hold investments in domestic CP markets. In fact, the ECP market has become a derivative-linked market (see Euromoney (1992)).

3. Rating systems

Rating of corporate debt securities both prior to issuance and after issuance is common in many bond markets, but has certainly been used most widely in the United States and Canada. Moody's Investor Services and Standard and Poor's rate all taxable securities sold in the domestic market registered with the SEC, whether or not they are compensated by the issuer for the rating. In most other countries, however, there are large numbers of securities that are not rated. Some countries make widespread use of purely domestic rating agencies (e.g. Japan, Thailand, Malaysia), but the two dominant American rating firms--Moody's and Standard and Poor's--have

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1/ The maturity of CP in European domestic markets also tends to be considerably longer than in the U.S. market

subsidiaries with large market shares in many countries. 1/ Prior to the 1970s, rating agencies received their revenues by selling their ratings to investors. This changed in the early 1970s when some firms (notably Penn Central) defaulted on large CP issues in the United States. It is now standard for rating agencies to charge the issuer a fee for a rating. 2/

The rating systems are slightly different across agencies, but the most common format for bonds is Standard and Poor's in which the top grade is denoted AAA, with other "investment grade" bonds being AA, A, and BBB. 3/ Grades below than BBB (BB, B, and the C and D grades) are regarded as speculative (or "junk") bonds and are ineligible to be held in the portfolios of some institutional investors such as pension funds and insurance companies. MTN's are rated using the same system as for corporate bonds. Because CP is of shorter maturity and is issued by higher-quality firms, the ratings system is much narrower. For instance, Standard and Poor's uses the categories A-1 to A-3 to rate U.S. CP, although there are also ratings of B and C for speculative paper and paper in default.

In 1991, 89 percent of the Eurobond issues rated were AA or better (Salomon Brothers (1991)). Of 494 Eurobond issues in 1991, only three (amounting to 0.3 percent of total new issue volume) were rated below investment grade (Salomon Brothers (1991)). Nonetheless, there have been periods in which junk bond activity in the Euromarkets has been more intense. In 1990, for example, 81 U.S. firms issued bonds with speculative credit ratings. It should be noted, however, that just the issuance of junk bonds on the Euromarkets is largely an American phenomenon--there are very few European corporates with single A rating or weaker that issue on the Euromarkets.

In Japan, there are a number of active rating agencies including subsidiaries of the American firms, Moody's and Standard and Poor's, as well as four Japanese rating agencies. Prior to April 1988 corporate straight bonds were rated into four categories, AA, A, BB, and B, and the issuing terms of the bond were fixed according to the credit rating. This was changed in April 1988 so that issuing terms could be independent of the credit rating (see Japan Securities Research Institute (1994)). While it is noteworthy that deregulation of the Japanese corporate bond markets has put considerably more weight on the regulatory role of credit ratings and less on characteristics such as minimum net assets, it is also the case that there are striking inconsistencies between the ratings assigned to Japanese

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1/ For instance, in the past decade Moody's and Standard and Poor's have opened offices in Tokyo, London, Paris, Frankfurt, and a number of other countries and rate well over 1,000 non-U.S. issuers (see Cantor and Packer (1994)).

2/ See Cantor and Packer (1994) for details.

3/ Standard and Poor uses + and - to further refine these ratings. Moody's uses integers to refine these categories.

firms by Japanese rating agencies and non-Japanese ones. 1/ Japanese rating agencies apparently rate consistently higher than non-Japanese rating agencies (see International Financing Review (1994d)). The explanation for this is that Japanese rating agencies pay attention to off-balance sheet issues such as "invisible assets" and "relationships with banks" and so on.

Almost all CP in the United States, Canada, the United Kingdom, and Japan is rated, and ratings are widespread in the Euro markets (see Alworth and Borio (1993), Corporate Finance (1991,1993)). Ratings are also widely used in France (about 67 percent of outstanding in 1992 according to Corporate Finance (1993)) and Germany, but are rare elsewhere. Increased usage is in part (e.g. United States, France, Japan) due to regulatory requirements, but it is also due to a general increase in the demand for credit information in light of a series of defaults in a number of CP markets beginning in the early 1970s in the U.S. market. A fact that holds true in all countries is that the share of (rated) CP rated below the top two categories is very small or zero, and, in fact, the preponderance of paper in all countries is rated the highest possible. For example, in the United States well over 95 percent of all issues are rated in the top two categories and 80-90 percent in the top category. Moreover, as discussed below, there has been a shift upward in the average rating over the past two decades. The "junk paper" sector in the United States is small as a percentage of outstanding, ranging from 0-3 percent in recent years. Further, since 1983 less than 1 percent of MTN's issued in the United States have been rated below investment grade at the time of issuance (Crabbe (1993)).

As explained above, the various exemptions in the 1933 Securities Act provide much flexibility for the issuance of CP in the United States. It might appear puzzling, therefore, that there is such a high concentration of paper with the top credit rating. The explanation for this is a combination of the tastes of investors in money markets and the influence of regulation. Rule 2a-7 of the Investment Company Act empowers the SEC to govern mutual funds. In April 1991 Rule 2a-7 was amended to limit the amount of Tier 1 and Tier 2 paper purchased by a money market fund. Tier 1 paper is defined as having the top short-term ratings from two recognized rating agencies (e.g. both a P-1 and an A-1 rating if Standard and Poor's and Moody's rate the paper), whereas Tier 2 paper is all other paper (including paper with split ratings). The amended Rule 2a-7 requires that money market funds cannot have more than 5 percent of assets in tier 2 paper and only 1 percent of assets in any one issuer rated tier 2. In addition, only five percent of assets may be in any one issuer. Since money market mutual funds are the largest investors in the domestic CP market in the United States, this amendment has created a market that is heavily tilted towards a demand for top-rated paper--only 1-2 percent of all paper has a rating less than tier 2 (Corporate Finance (1993)).

1/ For instance, as mentioned previously there is a BBB minimum rating for eurobond issuance by Japanese companies and for all samurai issues.

IV. Secondary Markets: Institutional Features and Regulatory Considerations

1. Secondary market microstructure

In both international and domestic bond markets, it is common for bond issues to be listed on an exchange but with much of the trading occurring off the trading floor, in the OTC market. For instance, Eurobonds are typically listed in London or Luxembourg but virtually all trading occurs in the OTC market. In the United States, there are over 2000 bond issues listed on the NYSE, but trading in the OTC market dwarfs exchange-trading of bonds. This is also true of the domestic bond markets in Japan, United Kingdom, and Germany. Looking ahead, the chief reason for the tendency for bond market trading to concentrate in the OTC market is that the wide diversity in bond characteristics and the sheer number of bond issues outstanding means that trading in most issues is thin, and thus a dealership trading system has important merits.

OTC bond markets may have any number of dealers in a bond issue, but in practice the number of dealers is roughly proportional to the trading volume of the issue. Issues with a large amount of trading may have ten or more dealers whereas lightly traded bonds may have only one dealer. Moreover, the more heavily traded the bond issue, the narrower are bid-ask spreads and the more informative are price quotes from dealers. Issues that are very liquid and heavily traded usually have a large degree of inter-dealer trading, which may be facilitated with the help of inter-dealer brokers (IDB's), as in the Eurobond markets. IDB's provide anonymity to dealers by providing price quotations, the size of trade that the quote is good for, and post-transaction information.

The pricing of corporate debt securities is often expressed in terms of the yield spread over the relevant government bond (i.e. same currency, same maturity) or possibly over (or under) an interbank funds rate (e.g. LIBOR). The convention in Eurodollar markets, for example, is to quote Eurobonds versus "on-the-run" Treasuries. If the benchmark bond does not exist in the relevant maturity, the practice is to quote versus the "interpolated" yield curve--an average of the yields on the two on-the-run Treasuries flanking the Eurobond's maturity (see Salomon Brothers (1991)). This same methodology is used for Eurobonds in other currencies. The spreads of course vary widely--from a few basis points over government bond yields to several hundred basis points--depending on the credit rating and reputation of the issuer.

2. Regulation and secondary markets

In the United States, the NYSE, AMEX and the OTC markets are the markets where corporate bonds are traded. Although there are more corporate bond issues listed on the NYSE than there are stocks, relatively little trading of bonds actually occurs on the exchange floor. The U.S. OTC market

is the principal secondary market for corporate debt securities registered in the United States, but the NYSE does serve two important services for the secondary bond market. First, the NYSE requires that member firms execute customer orders for nine bonds or fewer on the floor of the exchange unless a better price can be obtained off the floor. 1/ Second, the "Automated Bond System" provides quotes on all listed issues to broker-dealer firms that subscribe to the service. Clearance for corporate debt securities is through the Depository Trust Corporation (DTC) with settlement generally at in five business days (T+5bd).

A bond is not "listed" on the OTC market, nor is there any information published about the prices at which bonds trade or the volume of trading. Any dealer can make a market for a bond without having to be a member of an exchange or even the chief OTC trade group, the NASD. In practice, the U.S. domestic corporate bond market is centered around a dozen or so large dealer firms located in New York City that make wholesale markets in large numbers of bond issues. Bond issues may have bid-ask quotes displayed by dealers on the NASDAQ computer display system of NASD members.

Although the U.S. corporate bond market is by far the largest and most developed in the world, it is nonetheless reported to be very fragmented and information is difficult to obtain for many bond issues. 2/ The chief problem with the United States domestic debt market is probably that there is too little public reporting of completed transactions in corporate bonds poor information on bid and ask prices for some outstanding issues. This problem is not unique to the United States, however, and is undoubtedly a product of having a market with a large number of possible characteristics (maturities, coupons, convertibility, exchangeability, callable, puttable, etc.) and a large number of issues, many of which are quite small.

The secondary markets for CP and MTN's in all domestic markets are quite illiquid, and most activity in the secondary market is associated with liquidity trading. The dealers of the CP issue (or the issuer in the case of a direct placement) will usually act as a market maker for any liquidity trading. The chief reason for the lack of secondary market activity is that these securities are bought often with the intention to hold them to maturity. The United States probably has the least active secondary market in CP, with many European CP markets showing considerably more trading. In Japan, there is an extremely active secondary market in CP owing to its use in repos (mainly by banks). For example, secondary market turnover in Japan was 30 times gross issuance in 1990 (see Alworth and Borio (1993)). Although MTN's often have maturities of greater than a year, the reason that many of these securities are held to maturity is because of their very nature--they are tailor-made for investors and thus are much less likely to be traded after purchase.

1/ It is standard in the U.S. bond market to refer to a "bond" as $1000 face value.

2/ The following draws on Fabozzi et al. (1991).

In Japan, the secondary corporate bond markets have historically been very underdeveloped. No doubt that some of the success of the Euroyen market over the samurai market is attributable to an underdeveloped secondary market for domestic bonds (see Osugi (1990)). Almost all trading in corporate straight bonds occurs in the OTC market, although it must be emphasized that trading is limited (see Nikkei Weekly (1993) and section IV.3 below). In contrast, all trades of Y30 million or less in equity-linked bonds must be executed on the stock exchange and turnover of these securities is much greater. The OTC market is comprised of securities firms and (very recently) some banks that act as dealers in corporate bonds. Traditionally, a source of illiquidity in the secondary market was that bonds from different issuers were routinely issued at exactly the same price and yield, regardless of the credit rating. This meant that investors simply did not trade as they were unsure of what a bond was actually worth.

In addition to the problem with the credit ratings system in Japan, there are three further factors that have impeded the development of the secondary corporate bond market. First, there is not an active "grey market" to provide price discovery services to investors during the issuance period. Second, the traditional method of issuing securities was to issue the bonds at a high price (used in order to win the bid for the underwriting contract) and then subsequently lower the price until the issue was sold. The problem with this is that investors are often unsure of the price to begin with and there is no active grey market. The recent introduction of the fixed-price re-offer technique adopted from the U.S. bond market means that the bonds must be sold for no less than the specified price until a specified date. This enables investors to have some confidence in the price they are paying for the bond during the issuance period, and allows there to be a grey market for the bonds as in the Euromarkets and the U.S. market.

Both the municipalities and corporate bond issuers in Japan have recently included foreign underwriters in their syndicates on the condition that they make markets in the bonds. This has helped to boost turnover in these markets (see The Economist 1994b), but the turnover rate of U.S. corporate bonds is almost seven times greater than in Japan (see section IV.3 below). To become liquid, it has been argued (see Nikkei Weekly (1993,1994a) and The Economist (1994b)) that Japan needs a centralized settlement system as well as the dematerialization of bonds. In effect, bonds traded now must be hand delivered to one of the over 100 banks that act as registration agents and payment occurs well before delivery, thus introducing significant settlement risk (see Nikkei Weekly (1993,1994a)). An important roadblock to this type of reform is that banks' monopoly on registering bonds would be undermined (The Economist (1994b), Nikkei Weekly (1994a)). Further, as mentioned above, the presence of a transactions tax on bond trading as well as withholding taxes has hampered the secondary markets.

In Germany, the lead manager of a DM bond issue is generally responsible for making a market in that security. While it is true that

German (and Euro-DM) corporate bonds are listed on one of the German exchanges, most secondary market transactions in bonds are done OTC, with a very large proportion of them being interbank trades. In contrast, public sector bonds trade actively on the exchanges. Clearance and settlement of DM domestic bonds is facilitated through the book-entry depository and clearer the Deutscher Kassenverein AG (DKV). Settlement is variable depending on the transaction.

Secondary market surveillance and regulation in Germany has only very recently been strengthened to more closely resemble the U.S.'s SEC. The Financial Market Promotion Act (passed in the Summer of 1994) brings German law into line with all European Union market directives and creates an SEC-type regulatory body, the BHW as discussed above. The new watchdog tops a three-tiered surveillance system that includes state market commissions and the disciplinary bodies of the various exchanges. BHW has the legal backing to impose stiff penalties, including up to five years in prison for insider trading, which only recently has been made a crime in Germany.

The recent abolition of various securities trading taxes in Germany should provide the secondary bond market with some stimulus. Specifically, the securities transfer tax was abolished on January 1, 1991 and the stamp duty was abolished one year later (Deutsche Bundesbank (1992)). On the other side of the ledger, in 1993 a 35 percent withholding tax on interest income was applied to domestic residents and for "curb" (i.e. OTC) transactions foreign investors face a 30 percent withholding tax (see Deutsche Bundesbank (1994)). In addition, there is a so-called "industry tax" that funds community activities, which applies to both income and capital. Indeed, a sizable fraction of German government bonds and Euro-DM bonds are traded externally (mainly in London). For instance, despite the fact that the Euro DM market is located in Frankfurt, estimates place around 30 percent of secondary market activity in London before the tax came into effect (Davis (1992)).

In the United Kingdom, the Financial Services Act of 1986 provides for oversight of the operation of secondary markets in securities. Central to the disclosure regulation is that insider trading is a crime in the United Kingdom, as stipulated in the 1985 Company Securities Act, subsequently amended and extended by the FSA of 1986. Prior to the Big Bang, domestic bonds were traded on the stock exchange in a manner similar to government bonds--by means of jobbers and brokers. Gilt-edged market makers (GEMM's) now comprise the backbone of trading in gilt-edged securities and are allowed to deal in non-gilt fixed-income securities, although they are not permitted to deal in equities or equity-linked debt. Secondary trading in corporate bonds is done in the same manner as for Eurobonds--primarily OTC with relatively little trading on the stock exchange. Some market makers in Eurobonds deal as well in domestic and/or bulldog issues. Domestic equity-linked debt is traded by specialized convertible desks which are located in many London-based security houses.

Until very recently, settlement in England has been paper based and very time consuming. On the Stock Exchange clearance and settlement was done on a single day six days after a two-week account period. As of July 1994, however, the settlement of domestic securities traded in London started its move to the CREST computerized system which begins with T+10d rolling settlement, to be reduced to T+5 in June 1995 (Bank of England (1994)). Although the CREST system is used for only some equities initially, it is thought that the CREST system will be used for all securities transactions in the not too distant future. The government has abolished the 0.5 percent stamp duty in line with the change in settlement systems.

In France, the CAC system enables continuous trading and has replaced the traditional fixing of prices for bonds. The CAC system, developed after the CATS system in Toronto, has been in place since 1986, but French bonds were added only in 1988. Specialists on this market provide additional liquidity. Further, repo markets were inaugurated with the pension livree in 1989. On December 31, 1993, the transaction tax on stock exchange trades was abandoned for foreigners, but remains for residents. Clearance and settlement is facilitated by the Saturne (for CP and MTN's) and RELIT (for bonds) systems. The Saturne (Bank of France) system also has an in-house depository, with settlement typically being on the trade day. The RELIT system is linked with the depository SIVOCAM with settlement occurring at T+3bd.

The oversight and regulation of Eurobond markets is done by an SRO, the International Securities Market Association (ISMA)--formerly the Association of International Bond Dealers (AIDB)--established in 1969 by 150 banks active in the market. Recently, the organization opened offices in London to acquire status as an investment exchange under the U.K.'s FSA. Prior to the FSA, the ISMA regulated the secondary Eurobond markets purely on a voluntary basis. However, under the terms of the FSA, the SIB appointed the ISMA as the SRO for London Euromarkets and the ISMA is now considered to be a Designated Overseas Investment Exchange.

In response to the clearing problems in Euromarkets in the early years of its operation, the clearing system Euroclear was installed in 1968 by Morgan Guaranty to provide book-entry clearing for its members. Cedel was established in 1970 to offer similar services. Both clearing systems are primarily to clear Eurobonds, although short-dated paper (ECP) may clear through these systems as well. 1/ The settlement is T+7d by book-entry, and the securities are largely held in depositories to the order of the clearing systems. The depositories are usually banks which also act as paying agents for the issue. In June 1994 the ISMA voted to move to T+2bd settlement for all international securities market transactions effective

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1/ A wide range of international transactions in non-euro securities (including domestic and dragon securities) are cleared through Euroclear and Cedel.

June 1, 1995. The "Ace system" provides a bridge between the two clearing systems. The clearing systems offer other services such as bond lending for short sales.

A substantial amount of secondary market turnover in Eurobonds is handled by London-based dealers. Indeed, in recent years approximately 75 percent of all dealers reporting prices daily or weekly to ISMA have been located in London (Davis (1992)). Some estimates place total turnover on the London-based Eurobond markets at about 60 to 70 percent of total turnover in Eurobonds (Clarke (1990), Bank for International Settlements (1993)), including 75 percent of all secondary market activity in Eurodollar bonds, 30 percent of straight Euro-DM bonds, and 80-90 percent of Euro-DM FRN's (Davis (1992)). In fact, several German banks have set up units in London largely to trade Euro-DM bonds, initially to avoid the turnover tax in Germany prior to 1991. The fact that much of the secondary market turnover in dollar Eurobonds and yen Eurobonds occurs in London is undoubtedly attributable in no small part to the 40-day lock-up for the United States and the 90 day lock-up for Japan. The secondary market for Eurobonds denominated in Swiss francs is somewhat of an anomaly in that almost all of this trading is done in the Swiss market, largely because that is where the investor clientele is for those bonds (see Davis (1992)). This is true despite there being a transaction tax in Switzerland, as discussed above.

The core of the Eurobond secondary market is formed by banks acting as reporting dealers as well as some IDB's. The latter only became part of the market since 1978 in response to a need for greater anonymity for inter-dealer trades. Access to the IDB's screens is one of the chief privileges of being recognized as a reporting dealer by the ISMA. Benzie (1992) raises the question of whether it is harmful for the transparency of the market that IDB's can only deal with reporting dealers. Section 900 of the ISMA's rulebook sets out the obligations of reporting dealers. A register is maintained by the committee of reporting dealers listing those securities houses which are prepared to make a market in a selection of bonds (Benzie (1992)).

The systems Trax and ACE provide information on transactions in Eurobond markets. All reporting dealers, IDB's, and all firms who carry on investment business in the United Kingdom must use Trax under ISMA rules (as dictated by the FSA).

3. Liquidity

Secondary markets in many domestic and Eurobonds are very illiquid owing to the small size of most issues. Liquid markets are limited to a relatively small number of issues outstanding at any time. A significant proportion of bonds are held to maturity and this contributes to the illiquidity of secondary markets. Moreover, senior market makers may actually make markets in 500 to 2,000 issues in the larger bond markets, and owing to resource constraints it is simply not worth their while to make

markets in additional (smaller) issues (Clarke (1990)). Moreover, because of the relative lack of regulation over the practices of dealers in both domestic and Euromarkets, many "market makers" may actually be "fairweather" trading houses, which means that they only make markets when the market is attractive to do so (Clarke (1990)). In addition, the simple fact that dealing spreads widen, often by a factor of two to four times, when markets become more volatile tends to suck liquidity from the market when it is most important. While large corporate issues are the most liquid in the U.S. domestic market, liquid issues in the Euromarket are largely those issued by sovereigns or supranationals (Benzie (1992)). The bid-ask spread on very liquid Eurobonds is in the range 0.1 percent to 0.5 percent, somewhat higher for liquid U.S. corporate bonds, and illiquid issues in domestic or Euro markets may exhibit spreads 1-2 percent or more (Benzie (1992)). 1/ Contrast this with U.S. Treasury obligations which have a spread of 0.03-0.12 percent, and European government bonds with spreads in the range 0.05-0.35 percent depending on the country.

As discussed above, the clearance and settlement system for (non-exchange traded) corporate bonds in Japan has been identified as being a key impediment to the development of the domestic corporate bond market. To see if this in fact an important issue, consider the amount of secondary market trading in corporate bonds in Japan. Define the "turnover ratio" as the ratio of the nominal value of a particular class of bonds that change hands over a period of time to the outstanding nominal value of that class of bonds. Table 21 shows the turnover ratios for various classes of corporate bonds. It is evident that non-convertible bonds have far lower turnover than convertible bonds in Japan. One reason for this is that convertibles are traded largely on the stock exchange and trade more frequently than those traded in the underdeveloped OTC market. 2/

To put these numbers in perspective, it is interesting to note that turnover of Japanese Government Bonds (JGB's) for the year ending in March 1994 was 8.05, roughly sixteen times the turnover of all corporate bonds during the same period. However, because trading volume in government securities markets is often high because of liquidity trading, borrowing and lending operations, and so on, this comparison may be unfair. A fair comparison is with other corporate bond markets. In the Euromarkets, the turnover ratio of corporate bonds (Table 21) in 1993 was 2.6, about five

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1/ The Republic of Argentina Series L bond was the most actively traded international bond in 1993 (by a factor of three), and spreads were typically 0.25 percent. At the other end of the spectrum, dealing spreads on illiquid loan paper, such as Ecuador's, were as much as 6 percent in 1993 (Muehring (1994)).

2/ Samurai bonds have an even lower turnover--0.298 in the year ending in March 1994.

Table 21. Turnover in Selected Corporate Bond Markets

	Japan					Eurobonds 1/		United States 1/	
		Turnover Ratio							
	Nominal Turnover 2/	Straight Bonds	Convertible Bonds	Non-Financial Issuers	Financial Issuers	Nominal Turnover	Turnover Ratio	Nominal Turnover	Turnover Ratio
1990	530.29	0.43	1.61	1.02	0.66	1,305.36	1.23	1,962.00	2.03
1991	418.88	0.41	0.77	0.52	0.51	1,939.89	1.65	2,916.00	2.67
1992	441.08	0.39	0.77	0.49	0.47	2,462.17	2.19	4,108.00	3.25
1993	559.43	0.34	1.12	0.65	0.44	3,046.34	2.60	5,767.00	4.11

Sources: Japan Bond Underwriters Association; BIS; Euroclear

Notes: All nominal values are in billions of U.S. dollars. Turnover is the dollar value of purchases in the secondary market.

1/ Includes both financial and non-financial issuers.
2/ For the financial year ending in March of the subsequent year.

times that in the Japanese corporate bond market. 1/ Further, turnover of corporate bonds in the United States is almost seven times greater than in Japan (Table 21). It follows that secondary market for corporate bonds in Japan may indeed have some serious liquidity problems.

V. Interpretation, Analysis, and Policy Implications

1. Liquidity in secondary markets

Since much of the worldwide trading in bonds is done OTC, the liquidity of secondary markets hinges on the willingness of market makers to deal and hold positions in an issue. In many government bond markets, authorized market makers are in fact obligated (and often compensated with some privileges) by the respective treasury to make a market in the government's bonds. This is also true of stock exchanges which use market makers such as the NYSE; in that case, specialists are required under the rules of the stock exchange to make a "fair and orderly market" in the securities for which they are responsible. A significant problem for many corporate bond markets both domestically and internationally is that market makers have insufficient responsibility to make markets regardless of market developments. This may work well when the market in an issue is favorable for the dealers, but works very poorly in other circumstances--precisely those in which a market maker is most useful. It is probably much too simplistic, however, to conclude that the solution is regulation on dealers in these markets, since the source of the problem is likely much more tilted towards the nature of the market itself as discussed next.

The fundamental problem of illiquidity of many corporate bond issues is attributable to two things: (1) large (and thus liquid) issues are increasingly made in the Euromarkets which drains from the fundamental liquidity of domestic markets and (2) with there being a very large number of bond issues all with different characteristics there may be too much diversity for the markets to be liquid. The fact that international bond markets drain liquidity form domestic markets means that this second issue has become increasingly important. For instance, for a given credit rating, there can be scores of bonds that differ in terms of their maturities, coupons, convertibility features, currencies, and so on. Contrast this with the practice of many central governments of establishing "benchmark" bond issues so as to boost liquidity and thus presumably lower the yield. There is a clear tradeoff here however. On the one hand, concentrating bonds into a very narrow group of issues means enhanced liquidity in bonds of that

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1/ In fact, this is an understatement because the turnover numbers reported in Table 21 do not reflect transactions cleared through Cedel. The extent of this understatement is not large as the proportion of bonds cleared through Cedel represents only a small percentage of total turnover. Cedel does not separate out corporate bonds in compiling their turnover statistics.

group which is beneficial to both buyers and sellers. One shred of evidence eon this is that the issues in the main currencies have become very institutionalized and along with that has come better developed secondary markets for the "benchmark" currencies. 1/ On the other hand, if lenders and borrowers are heterogeneous then they may have different tastes for bonds, which suggests it might be beneficial to have a wide variety of bond issues with possibly very different characteristics.

The optimal arrangement presumably depends on the relative importance of these two factors. There has been surprisingly little work directed at the behavior of the liquidity premium associated with establishing benchmark bond structures. On the other hand, the MTN market has established somewhat of a niche which testifies indirectly to the need for tailored securities. To conjecture, it may be desirable for the purposes of ensuring a liquid market to structure the market around a small number of benchmark bond structures and a MTN market. However, to ensure the smooth functioning of the market regulators must ensure that market makers have some responsibilities to the market in exchange for market making privileges.

2. Direct versus indirect debt financing and cyclical fluctuations

If bank credit and direct credit are perfect substitutes then the issue of cross-country differences in the degree of development of corporate debt markets is of no relevance to macroeconomic performance. The benefit to having the option of issuing debt securities directly has positive value only if the relative costs of issuing debt securities and obtaining bank loans is not constant. That is, if the banking system contracts the supply of credit either by rationing or by simply raising the loan interest rate schedule, a debt security market is beneficial to macroeconomic activity only if the cost of issuing debt securities does not rise by an equal amount.

There is a great deal of research underpinning the idea that bank financing and debt securities market financing serve important and distinct purposes. A central theme of the research into the economics of financial markets under asymmetric information is that bank financing is especially beneficial to borrowers which have a significant amount of private information (for surveys see Bhattacharya and Thakor (1993), Gertler (1988), and Bernanke (1993)). 2/ Moreover, this benefit is especially potent for borrowers with weak balance sheets: The lower is the ratio of collateralizable firm assets to financing requirements, the greater the

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1/ Gale (1992) and Pagano (1989a,b) show formally how these types of coordination problems can lead to illiquid securities markets.

2/ Direct placements of debt securities are very close substitutes for bank loans because the set of lenders in both cases is small, the free-rider problem associated with monitoring is limited, and the terms of the financing tend to be considerably more similar than are typical publicly issued bonds and bank loans (e.g. see Smith and Warner (1979)).

potential divergence between the interests of the lenders and the borrower (see Bernanke and Gertler (1989,1990), Greenwald and Stiglitz (1988), Calomiris and Hubbard (1990), and Smith (1995)). The key advantage of bank financing is that, by virtue of there being a small set of lenders, the lenders will reap much of the benefit associated both with examining the creditworthiness of the potential borrower as well as closely monitor the use of funds once a loan is made. Further, once the bank-client relationship is established over time it generates information rents that can be shared between the two parties.

The upshot of much of the recent research into the financing of firms' investment activities is that firms can be categorized into two groups. The first group are called bank-dependent borrowers. This set of firms would face substantial costs associated with issuing debt securities for a number of reasons. First, if informational asymmetries between lenders and borrowers are substantial, the duplication of monitoring costs or a free rider problem in monitoring (see Diamond (1984)) may make this source of funding expensive relative to banks: Banks deal with both of these potential problems stemming from informational asymmetries in an efficient manner (again, see Diamond (1984)). Second, if there are decreasing costs associated with underwriting and placing a public issue of debt securities, a smaller firm may find these costs are larger than the spread between the bank loan interest rate and the comparable corporate bond interest rate. It is well known that an important set of the bank dependent borrowers is comprised of small firms. As noted above, recent research also suggests that firms with weaker balance sheets (e.g. low collateralizable assets, weak cash flow) may also be important customers of banks and infrequent issuers of debt securities.

The second group of borrowers are those that can access debt securities markets at borrowing costs that are, at least at times, below the costs of bank credit. It is important to recognize that recent research (discussed above) does not suggest that firms that are not classified as "bank dependent" rarely obtain bank financing. The crucial distinction is that if bank credit costs are high, bank dependent borrowers have effectively no alternative source of funds whereas other firms can, and in many countries, clearly do access capital markets directly. The types of firms in this latter group is the complement of the set of bank dependent borrowers--large firms with strong balance sheets or high cash flow.

Although there exists a substantial literature that stresses the unique features of banks and securities markets, from a macroeconomic perspective the interesting question is really whether there is any causal link between the degree of development of corporate debt securities markets and macroeconomic activity (notably, investment and output). This is not an easy question to answer; it raises questions about the mechanism transmitting shocks in monetary and real variables to important macroeconomic variables such as consumption, investment, and output. In what follows, I shall outline the two prominent hypotheses, which are not

mutually independent, about the role of bank and non-bank financing in this transmission mechanism.

The two hypotheses that have received a great deal of attention in the literature recently which point to the role of the bank and non-bank sources of financing in the transmission of shocks to the economy are the so-called "credit view" and the "financial accelerator view". The credit view (see Bernanke (1993) for a recent discussion) stresses that monetary policy affects the economy chiefly through its direct impact on the balance sheet of banks which arises because of legal reserve requirements and an inability of banks to instantly offset monetary policy shocks due to an elastic supply of deposit funds. The idea is an old one: An open market sale of bonds (say) shrinks cash reserves which causes banks to contract their loan books. This may occur either through quantity rationing or simply by an increase in the loan interest rate. Firms that are able to access capital markets directly can buffer the reduced supply of bank loans by turning to capital markets, but bank-dependent firms have no alternative source of funds. It is this group of firms that bears the brunt of a monetary tightening.

The "financial accelerator view" (see Gertler and Gilcrist (1993) for a recent discussion) is not independent of the credit view in its predictions. Indeed, since the financial accelerator simply suggests that any shock which worsens firms' balance sheets will add further force to the initial shock (for reasons discussed above), the two hypotheses may work in unison. Moreover, with its emphasis on the state of firm balance sheets, it too places much of the emphasis on bank-dependent firms in the impact of a shock. Despite the parallels in the two hypotheses, as discussed next the two views also provide a frame of reference for thinking about the consequences for the financial sector propagation of shocks to the macroeconomy across different degrees of development of corporate debt securities markets.

As a starting point, consider a situation in which there is no debt securities market so that debt financing must be obtained form the banking system. In this environment, all firms are bank dependent, although the dependency here stems from the lack of development of the securities markets rather than the inability to access the securities markets at reasonable costs. Consider some possible shocks to this economy, and how this key feature of the financial sector affects the way the shock works its way through the economy.

As a first example, a real shock (say an adverse technological shock) that impacts directly on firms (rather than a first-round effect through the financial system) will worsen firms' balance sheets according to the financial accelerator view. If this is the case, then as a first approximation it might be argued that the financially fragile bank-dependent firms (typically the smaller firms with weak cash flow or low collateralizable assets) are most affected, at least initially. This is so because it is this group of firms for which the firms' balance sheets are in a critical range such that there is an inverse association between the

health of a firm's balance sheet and its cost of financing. Large firms with strong cash flow may have some deterioration in their balance sheets, but because their balance sheets are strong enough they can withstand shocks of the magnitude associated with a typical business cycle without having to pay higher financing costs. 1/

If in fact only the financially fragile firms are directly affected by the real shock described above, then it might be concluded that the development of corporate debt securities markets should not be an important priority: Developed securities markets are largely inaccessible by these firms to begin with, and thus capital markets are a very imperfect substitute for bank financing. However, the case can also be made that even shocks of this type can impact financially healthy firms to a greater extent when capital market access is limited. For example, Smith's (1995) analysis shows that direct financing imposes discipline on the loan interest rates that banks can charge any type of firm. If there are very limited alternatives to bank financing, an adverse real shock such as that described above can increase loan interest rates by a significant amount for all types of firms. This, therefore, works to temper the conclusion reached above: The development of capital markets may well be beneficial even if the shocks do not directly impact on the banking sector or on some firms balance sheets.

As a second example, consider a monetary shock (say a monetary tightening). The traditional textbook Keynesian story--popularly referred to as the "money view"--stresses liquidity preference adjustments which change the interest rate and might be expected to affect all firms roughly equally. According to this view, the degree of bond market infrastructure is not really an issue. The credit view, however, would imply a tightening of bank loan books either through rationing or through interest rate increases (or both). Since all firms are dependent on banks for financing (by assumption), the fact that the financially healthier firms do not have the option of accessing debt securities markets would tend to exacerbate the extent of the contractionary blow. In this case too, debt securities markets would act as a buffer to monetary shocks.

Next suppose that there is a well developed debt securities market (along with a banking system). As mentioned above, the impact of the real shock on the economy may be buffered if there are alternative sources of financing. If the shock works to increase the cost of funds for all types of borrowers, it can be expected to induce a shift in the demand for funds from the banking sector to the securities markets (Smith (1995)). Further, if the credit view is correct, a monetary policy shock most surely is buffered by the existence of developed debt securities markets since firms that are not bank dependent can mitigate the impact of a bank "credit

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1/ Hoshi et al. (1991) show that firms with weak ties to large Japanese have investment patterns that are more sensitive to balance sheet variables than it is for firms that have strong ties.

crunch" by shifting financing to securities markets. Moreover, as these firms shift financing, this tends to offset the blow of the credit tightening on smaller bank-dependent firms.

The relevant empirical evidence (for recent studies see Gertler and Gilcrist (1993,1994), Bernanke et al. (1994), Kashyap et al. (1994), Hoshi et al. (1991,1993)) suggests several generalizations. First, monetary policy shocks have a disproportionately large impact on small firms. To give an indication, Bernanke et al. (1994) estimates that small manufacturing firms are responsible for one-third of the cyclical variation in the manufacturing sector in the United States during periods of monetary tightening. Second, balance sheet variables seem to be very important for the investment patterns of firms, which lends support to the financial accelerator theory. However, generalizing in this way is problematic since virtually all of the empirical work focusses on the U.S. economy, which happens to have the largest and most developed debt securities markets in the world. In short, the effect of policy shocks on financially healthy firms in other countries with less developed debt securities markets may be much different than in the United States. This is an interesting issue for future research. 1/

In light of the above discussion, a reasonable conclusion is that increased access to capital markets is beneficial in the sense that it provides alternatives to the banking system for firms to raise funds and thus may mitigate the impact of shocks on the economy. An implication is that, ceteris paribus, cyclical fluctuations should be less pronounced in countries that have more developed capital markets. However, it should also be recognized that, to the extent that the credit view is (believed to be) valid, providing alternatives to bank financing will detract from the potency of monetary policy. This is true since firms can buffer to some degree the effect of monetary policy shocks on the banking sector by shifting financing to securities. The drawback is that smaller firms and firms with weaker balance sheets will bear even more of the brunt of monetary policy in economies with more developed capital markets, and thus one might expect the bankruptcy rate to be higher with more developed capital markets.

1/ Hoshi et al. (1993) examine the types of firms that shifted from bank financing to bond market financing in Japan over the past decade, alongside deregulation. They find that the firms that moved are characterized by high net worth.

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