

The Impact of SEC Rule 144A on Corporate Debt Issuance by International Firms

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Abstract

In April 1990 the U.S. Securities and Exchange Commission (SEC) approved Rule 144A, a reform that permitted firms to raise capital from “qualified institutional buyers” (QIBs) without requiring registration of the securities and compliance with U.S. GAAP. The rule, while intended to increase capital raising opportunities for all firms, was particularly targeted toward international firms for which the cost of complying with U.S. disclosure standards has been high. We examine the impact of Rule 144A on the borrowing decisions of international firms. *Ceteris paribus*, the debt issued by international issuers in the 144A market tends to be smaller in size, shorter in maturity, of lower credit quality and more likely to originate from emerging market countries than public debt. Investment grade debt offered in the 144A market is associated with significantly higher yield spreads relative to public debt. However, high yield debt is offered at comparable yield spreads between the markets. The results suggest a bifurcation of the markets where high quality firms issue in both markets but face higher yield spreads in the 144A market and low quality firms issue only in the 144A market.

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Companies never say they want to issue in one market versus another today. They come to you and say, "We want the best terms and conditions."'¹

I. Introduction

In April 1990 the U.S. Securities and Exchange Commission (SEC) approved Rule 144A, an initiative that allowed for the immediate resale of private placements among “qualified institutional buyers (QIBs).” Under this ruling, large financial institutions could sell previously acquired private placements without having to register or hold the securities for two years. By lifting the registration requirements for purchasers of 144A securities, the SEC sought to reduce regulatory costs and create a liquid market for these restricted securities. Rule 144A was seen as a particularly important innovation for international issuers. Under 144A, international firms gained access to institutional investors without having to meet the strict disclosure requirements of U.S. public companies. Heretofore, these disclosure requirements were viewed as a major impediment to international issuance in the U.S. capital markets, driving many issuers to off-shore markets.² The primary purpose of this study is to examine the effect of Rule 144A on the borrowing costs and opportunities of international firms in the U.S. capital markets.

While Rule 144A permits issuers to raise debt or equity capital, the total amount of capital raised by debt is nearly eight times the amount of equity raised. In terms of volume, 144A debt raised by domestic and international industrial firms has grown from less than \$1

¹ Thomas Skwarek, head of private placements at J.P. Morgan quoted in “The Amazing Private Placement Market,” *Institutional Investor*, May 1989, p. 199.

² Bhagat and Frost (1986), Blackwell and Kidwell (1988), and Krishnaswami, Spindt and Subramaniam (1999) show that the fixed costs of public issue are larger compared to private placements.

billion in 1991 to close to \$60 billion in 1997. In relatively short order, the 144A debt market has grown to be a significant source of capital for all firms. For international issuers, the volume of 144A debt has grown from \$378 million in 1991 to \$12.1 billion in 1997. More importantly, as a proportion of the total debt issued by international firms, 144A issues have grown from 11 percent of the total debt issued in 1991 to 65 percent in 1997. Hence, over time international issuers have shifted the bulk of their capital raising efforts in the U.S. from the public debt market to the 144A market. Going forward, the 144A market will be a major market for international issuers in the U.S. Despite its emerging importance to international capital raising, this study is the first to examine international issuers' use of the Rule 144A market.³

While Rule 144A was specifically intended to expand the borrowing opportunities of international firms, the waiving of public disclosure requirements and reconciliation of financial statements to U.S. Generally Accepted Accounting Principles (GAAP) have been the most controversial aspects of the initiative. The U.S. investment community is generally less familiar with international issuers and the diversity of international accounting standards can make evaluation of their credit worthiness more difficult. If a lack of disclosure and familiarity subjects firms to higher capital costs (Myers and Majluf 1984; Merton 1987), international issuers could incur higher costs in the 144A market relative to the public debt market. Alternatively, although mandated disclosure is generally less in the 144A market, buyers of 144A debt may not demand a premium for the “gap” in information. Institutional investors or QIBs could possess greater ability than individual investors to value the debt on available

³ Fenn (2000) and Livingston and Zhou (2002) examine the Rule 144A market for U.S. issuers.

information or require creditors to provide the information they desire. Hence, QIBs may not value the safeguard of disclosure to the same degree as individual investors.

From a firm's perspective, the choice to issue in the public or 144A market depends on a number of factors, such as liquidity, disclosure costs, information intensity, and credit quality. High quality international firms are likely to have the option to issue in either market. To continue to observe firms issue in both markets, the total costs of issue should be the same across the two markets in equilibrium. Since the public market encompasses a broader range of buyers it offers more liquidity. Hence, the yield spreads on 144A debt should be higher than public debt to offset the lack of liquidity. Alternatively, the 144A market permits less disclosure, greater speed to market, and lower issue costs through more streamlined placement to a smaller group of buyers.⁴ All else equal, the yield spreads on 144A debt should be higher than public debt to offset the lower issue costs.

Firms with poor credit quality, high information intensity, and other factors suggestive of high risk, may not have the "choice" to issue in the public debt market. For these firms, the 144A market can provide a more efficient means of informing buyers of the merits of the issue. The foregoing suggests a scenario where higher quality firms issue in both markets but face higher yield spreads in the 144A market and lower quality firms issue only in the 144A market. Our empirical findings support such a scenario.

⁴Information on issue costs is generally not available from *Securities Data Corporation* before 1996. We search the *Fitch Investment* database to find the gross spreads of 144A issues but we do not find any information for international issues. For domestic issues, Livingston and Zhou (2002) find that the average gross spread does not differ significantly between 144A issues and public debt issues.

Examining 144A fixed rate debt issues from 1991-1997, we find that 144A debt issues are smaller in size, shorter in maturity, and have lower credit quality than public debt issues by international firms. Specifically, a significantly larger fraction of the 144A issues are high yield and arise from emerging market countries. International issuers are typically not listed on either their home market or a U.S. stock exchange, and therefore not subject to on-going disclosure by the SEC or their home country regulators. Thus, for over 60 percent the international 144A issues, there are limited sources of public information available to judge credit quality. These findings indicate that higher risk claims are financed in the 144A market relative to the public market. In addition, only 63 percent of international 144A issues are rated compared to the near universality of ratings available for public debt offers. Over time more international issues become rated but the number of issuers meeting full disclosure remains largely unchanged. Consequently, international issuers choose to provide information via ratings rather than through public disclosure, suggesting that the stricter disclosure requirements of U.S. markets remain a concern for international issuers.

In terms of cost, for the overall sample of rated issues, the average yield spread in the 144A market is significantly higher relative to the public debt market. For investment grade debt, issue costs in the 144A market average 30 basis points greater than the public market. For high yield debt issues, the yield spreads are lower in the 144A market but not significantly so. Increasingly the 144A market is the market of “choice” for international high yield debt issuers. In 1991-1993 high yield debt amounted to 50 percent of the volume of international Rule 144A issuance, whereas by 1997 it accounted for 91 percent of high yield debt issuance. The near absence of high yield public debt issues in recent years makes cost comparisons between the two

samples less reliable. Further, the high risk, low disclosure profile of many issuers in the high yield 144A debt market argues against their likely public debt issue. Hence, it is not clear that the appropriate benchmark for these 144A issues should be the cost of public debt. Nonetheless, for international issuers without the choice to issue public debt, the 144A market has unambiguously extended their borrowing opportunities.

Similarly all non-rated international debt is issued in the 144A market. These issues represent some 37 percent of the sample and, more so than any other, their characteristics suggest they are unlikely issuers in the public debt market. Consistent with this, we find using predicted yields based on separate regressions of public debt and 144A issues that 77 percent of the time yield spreads would be higher for non-rated issuers if they issued in the public debt market. This evidence suggests that non-rated issues are priced more favorably in the 144A market from the issuer's perspective.

The overall evidence indicates that Rule 144A has enhanced the borrowing opportunities of international issuers. While total debt issuance by international firms has remained a relatively constant portion of the total debt raised in the U.S. markets in recent years, the majority of international issuers now opt to raise debt in the 144A market rather than the public debt market, more so if they issue high yield or non-rated debt. For many, the high risk, low disclosure profile would in all likelihood prevent issuance in the public debt market. Thus, the 144A market provides significant benefits to international firms that have often complained that U.S. disclosure requirements impede their capital raising.

The plan of the paper is as follows. Section 2 discusses the legal and regulatory origins of Rule 144A and discusses the information requirements of 144A offerings. Section 3

describes the sample of international 144A debt issues and examines their characteristics relative to public debt issues. Section 3 also examines the costs and information effects associated with 144A debt in comparison to public debt and domestic U.S. 144A issues. Section 4 gives our conclusions.

II. The Rule 144A Initiative

A. Legislative Origins

Since passage of the Securities Exchange Act of 1933, firms seeking to raise external capital and avoid the registration requirements and oversight of the U. S. Securities and Exchange Commission (SEC) have done so through private placements. The Securities Act of 1933 makes a fundamental distinction between distributions of securities (primary offerings) and transactions in securities. Offerings that involve the distribution and underwriting of securities are viewed as public offerings and require registration. To qualify for an exemption from registration, issuers and purchasers of private placements must meet certain conditions.⁵ Under Section 4(2) and its safe harbor of SEC Regulation D, issuers can qualify for an exemption from registration if they place securities with accredited investors and a limited number of individual investors who intend to hold the securities for investment purposes. Less recognized, however, is that the exemption granted to the issuer does *not* extend to the purchasers of private placements. Because the SEC recognized that financial intermediaries could effectively

⁵ See Carey, et al. (1993) and Cox, Hillman, and Langevoort (1997) for further information and discussion of the issues in this section.

distribute securities through resales of private placements, prior to Rule 144A purchasers of private placements were restricted in their ability to resell them. An institution purchasing private placements could resell them if they subsequently registered the securities or if they could establish that the purchase was motivated for investment purposes. One guide that the SEC has traditionally relied upon to establish “investment intent” is the length of time a purchaser holds a security. Typically, resales of private placements could be sold without registration, if the purchaser held the securities for at least two years.⁶ The net effect of these rules was to significantly inhibit resale opportunities and liquidity for purchasers of private placements.

B. Definition of Qualified Institutional Buyers (QIB)

Rule 144A lifts registration requirements for resales of private placements as long as the security is sold to qualified institutional buyers (QIB).⁷ Under the initiative, the SEC recognized that certain buyers were able to “fend for themselves” in obtaining and processing information

⁶In 1972 the SEC adopted safe harbor rules under Rule 144 that granted an exemption from registration to investors who resell private placements after two years. Outside of Rule 144A, a secondary market sale of a private placement could be achieved without waiting two years through application for registration rights via Section 4 (1-1/2), and via Regulation S, governing off-shore sales. Section 4 (1-1/2) allowed an investor to qualify for an exemption, if the investor could meet the same conditions as the issuer under SEC Regulation D. However, qualification under Section 4 (1-1/2) was an informal market practice and considerable uncertainty surrounded its use. See Cox, Hillman and Langevoort (1997).

⁷Two other events took place in 1990 that also affected the private placement market. In September, the SEC allowed investment banks to treat unregistered issues of investment grade debt as public issues for the purpose of computing capital requirements. Under the new ruling that applied to all private debt securities including 144A, capital requirements dropped to two to nine percent of net capital, depending on the maturity of the claim. Previously, the underwriting of private debt required banks to hold 100% capital against the commitment. In addition, the National Association of Securities Dealers (NASD) established a closed electronic trading system called PORTAL (Private Offerings, Resales and Trading through Automated Linkages) to provide a market for privately traded securities such as 144As.

about an issuer. As a consequence, the QIB market is limited to large financial institutions and other accredited investors. The requirements to qualify as a QIB are as follows:

1. An institution (e.g., an insurance or investment company, or pension plan) that owns or invests at least \$100 million in securities of non-affiliates,
2. A bank or savings and loan (S&L) association that meets condition 1a. and also has an audited net worth of at least \$25 million,
3. A broker or dealer registered under the Exchange Act, acting for its own account or for that of QIBs that own and invest at least \$10 million in securities of non-affiliates, or
4. An entity whose equity holders are all QIBs.⁸

Post enactment of Rule 144A, registration applied only to “public offers,” which were defined to concern individual investors rather than QIBs. Under this interpretation, resales of private placements under Rule 144A no longer involve a public offering, and thus do not require registration. Instead Rule 144A resales to QIBs now constitute transactions which fall outside of the reach of the 1933 Act.

C. Requirements for 144A International Issuers

The easing of resale restrictions was motivated by a belief that institutional investors were able to independently obtain and process information about 144A securities. However, while Rule 144A eliminates certain disclosure requirements, it would be incorrect to say that it requires no disclosure. Generally speaking, Rule 144A requires issuers to provide a brief

⁸ In addition to placing the securities with QIBs, several other conditions must be met. First, a seller must take “reasonable steps” to ensure that the buyer is aware of the fact that the sale is being made under Rule 144A. Second, the securities being offered must not be, when originally issued, of the same class as securities listed on an U.S. national securities exchange. This provision ensures that the issuance

statement of the issuer's business, its products and services, and financial statements (balance sheet, profit and loss, and retained earnings statements) for the preceding two years. The financial statements must be audited to the extent possible, although formal reconciliation to Generally Accepted Accounting Principles (GAAP) is not required. This information requirement does not apply to companies reporting under the Exchange Act of 1934 (as these firms are already subject to SEC disclosure), foreign government issuers, and foreign private issuers that have applied for a home country exemption (Rule 12g3-2(b)) on a voluntary basis.⁹ A home country exemption allows an international firm to fulfill the Rule 144A information requirement by providing an English translation of the financial statements used in its own country. Companies with home market exemptions often are subject to on-going disclosure in their home markets but the level of disclosure is not typically as strict as that required by the U.S.¹⁰ The remainder of firms, not subject to on-going disclosure in their home market or the U.S., must meet the general Rule 144A information requirements outlined above. This latter group is likely to have the least available information and present the greatest challenge to QIBs in judging their quality.

International 144A issues differ in another important respect from domestic 144A issues. Fenn (2000) and Livingston and Zhou (2002) find that over 97 percent of domestic 144A issues are accompanied by simultaneous application for registration rights. This procedure allows debt to be placed immediately in the 144A market and within 60 days the issuer must exchange the

and trading of common stock remains the province of existing stock exchanges.

⁹ The SEC provides a list of international firms that have received a Rule 12g3-2(b) exemption. We cross check this list with our sample and find that only three firms have received such an exemption.

¹⁰ For some international issuers, the most sensitive aspect of U.S. disclosure is the requirement

Rule 144A security with a registered security. Registration of the security permits debt to be subsequently resold to individual investors in addition to QIBs. Registration rights also subject the issuer to on-going SEC disclosure. As a result, Livingston and Zhou (2002) suggest registration rights significantly improve the liquidity of Rule 144A issues by expanding the pool of buyers.¹¹ For international issuers, registration rights involve increased disclosure and the costs of preparing U.S. GAAP financial statements. These costs are likely to be substantially higher for international issuers than for domestic issuers whose financial statements must already comply with U.S. GAAP. Consequently, few international issuers apply for registration rights.

The foregoing discussion leads to several hypotheses about the potential differences in offering yields between 144A and public debt issues. The SEC has argued that full disclosure is in the public's interest and, consistent with this, studies have shown that investors pay higher prices for securities that provide greater information and transparency (e.g., Amihud and Mendelson 1986). Since more 144A debt is exempt from public disclosure, the offering yield could be higher due to a lack of transparency relative to public debt issues. Alternatively, market participants in the 144A market could be able to achieve a satisfactory level of disclosure irrespective of government regulations. The 144A market involves institutional investors, and if QIBs are able to extract equivalent information or possess the capability to adequately judge credit quality on the available information, *ceteris paribus*, there should be no difference in the costs of borrowing between the markets.

that firms provide detailed geographic and industry segment data.

¹¹ Registration rights allow institutions with fiduciary responsibilities (e.g., pension funds) with limits on their purchase of private securities to reclassify them as public securities.

Finally, the debt contracting literature suggests that private lenders can possess an informational advantage over participants in the public debt market. The information advantage a lender enjoys typically stems from its ability to observe inside information about the borrower (e.g., see Carey et al. 1993; and James 1987). This advantage is less likely to occur in the 144A market due to the overlap of buyers for 144A and public debt. Anecdotal evidence suggests that investment banks market both types of debt to a similar list of institutional clients. Thus the purchasing institutions appear to have similar capacities to evaluate 144A and public debt.¹²

Even without an information advantage, some elements of the debt contracting literature could hold in the 144A market. Information intensive claims that typify the private placement market can impose high monitoring costs on a lender, and for such claims private debt can be less costly than public debt. To the extent 144A debt reflects more uncertainty, information-intensity, or other elements of complexity, it can be more cost effective to market these issues to a smaller group of buyers and, hence, lower yields could be associated with Rule 144A debt.

III. Empirical Results

A. Sample Description

The data for this study are obtained from the *Securities Data Corporation (SDC) New Issues* database. We collect all issues of 144A corporate debt from 1991, the first full year following enactment of Rule 144A, through 1997. The sample is limited to industrial issues of long term fixed rate debt, which we define as debt with a maturity of two or more years. This

¹² A survey of CFOs by Bethel and Sirri (1998) finds that 43 percent of 144A offering documents are similar to those used for public issues.

restriction ensures greater consistency in the types of firms and debt we examine.¹³ Our final sample consists of 195 144A issues and 170 public debt issues by international issuers.

International issuers are firms incorporated outside of the U.S.

Table 1 summarizes the use of the 144A market by international firms. International issuers raise a total of \$23.5 billion in 144A debt from 1991-1997. By comparison, they raise \$34.3 billion over the same period in the public debt market. The number of 144A issues by international firms has grown from three in 1991 to 84 in 1997 and the amount of debt has grown from \$378 million in 1991 to \$12.1 billion in 1997. The final two years of the sample show the most pronounced increase in 144A issuance. Overall, the total amount of public debt and 144A debt raised by international issuers (not reported) has remained relatively constant over the sample. In the start-up years of 1991-1993 a total of \$20.3 billion was raised versus \$18.6 billion in 1997. Likewise the total 144A and public debt raised by international firms has remained a fairly constant percentage (14 to 16 percent) of the total debt raised by international and domestic firms since the mid-1990s. Hence, the growth in the volume of international 144A debt has come largely at the expense of public debt.

Another indication of the increased importance of the market is the growth in the number of countries issuing Rule 144A debt. Table 2 reveals that the number of foreign countries issuing in a given year has grown from three to 26 over the sample period. Issuers from Mexico, Brazil, and Canada make the largest number of issues followed by Argentina and the United Kingdom. *Euromoney* country risk ratings are reported for the year of first issuance by the

¹³ Industrial issuers account for 60 percent of the total Rule 144A debt issued. Eighty-four percent of the international issues are fixed rate rather than floating rate debt or serial obligations. This

country.¹⁴ As one can see the country risk measures range from 21 to 99 in Table 2. By comparison the *Euromoney* country risk ratings for the U.S. range from 97 to 99 over the sample. In general, the sample reflects a relatively heavy representation of emerging market countries and hence U.S. investors are exposed to a high degree of country risk from their debt issues.

B. Characteristics of International 144A and Public Debt Issues

To understand the extent of the challenge investors face in judging the quality of 144A debt, we compare the terms and characteristics of 144A debt in relation to public debt. The overall sample of 144A debt has a median offer size of \$100 million and a median maturity of eight years. This is significantly smaller and shorter than the median size (\$200 million) and maturity (10 years) of public debt offers. We next examine characteristics of the debt, such as seniority, security, complexity, ratings, and country risk as indicators of the risk associated with the issue. All else equal, seniority and security typically reduce the risk of a debt claim. The vast majority of 144A debt (93 percent) and public debt (97 percent) is senior in its priority. Debt is defined as secured if it has specific asset backing (e.g., collateralized obligations, leveraged leases, and mortgages.) A significantly larger proportion of 144A issues (27 percent) are secured versus 17 percent for public debt.

Bond ratings are not legally required for debt offers, but virtually 100 percent of the public issues are rated. By comparison only 63 percent of the 144A issues are rated, a statistically significant difference. Forty-one percent of 144A issues are high-yield, defined as

percentage does not differ from domestic issues (83 percent are fixed rate.)

¹⁴*Euromoney* country risk ratings are published annually. Later in the regression the country risk

debt with a Moody's rating less than Baa3 or an equivalent Standard and Poors' rating less than BBB-, compared to 29 percent of public debt issues. Throughout the analysis we use the union of the ratings available from the two credit rating services. Moreover, 59 percent of international 144A issues come from emerging market countries compared to only 13 percent of public debt issues. Emerging market countries have a *Euromoney* country risk rating lower than 85 during the year of the issue. Hence, a large portion of the 144A sample is unrated and from emerging markets. Both factors make judgment of the debt more difficult.

In the bottom portion of Table 2 we examine factors related to disclosure and transparency. While issuers can always voluntarily choose to disclose more information, we focus on the circumstances where by law firms are required to meet SEC standards. Firms are required to comply with SEC public disclosure requirements if they are listed on a U.S. exchange or if they have previously issued registered securities in the U.S. We find that only 21 or 11 percent of international issues are listed on a U.S. stock exchange and therefore meet SEC disclosure requirements. Another forty-three or 22 percent of international issuers are listed on an international stock exchange. While these firms do not generally meet SEC disclosure standards, they have some disclosure requirements imposed by their home country.

Another avenue by which international firms become subject to public disclosure is by issuing securities in the U.S. To ascertain if an international issuer previously issued securities in the U.S., we search the *SDC New Issues* database for any public debt issue made by our sample firms during 1987-1991. This approach could understate the number of issuers because our check of prior issues is limited to debt issues only and to a four year time period. Nine

rating is updated to the year of issuance. Emerging markets have a country risk rating of 85 and below.

international issuers are subject to SEC disclosure based on previous issuance. Combining prior issuance with the stock listing criteria, we find that 66 percent of international firms are not subject to SEC disclosure. Other studies use the public company status code on *SDC* to determine the level of disclosure. Using this criterion, 60 percent of international firms are exempt from SEC disclosure. Since our search of prior issuances is not exhaustive, we rely on the *SDC* code in subsequent analysis, although the results are comparable for both criteria. By either criterion, well over half of 144A issuers are without on-going sources of public information.

The private placement market has traditionally been dominated by information-intensive claims that can impose high due-diligence or monitoring costs on a lender and therefore carry higher yields (e.g., see Carey et al. 1993; and James 1987). Given the growth in the 144A market, it is not clear to what extent 144A debt exhibits the traditional profile of private debt or the “plain-vanilla” profile of public debt claims. Carey et al. (1993) suggests that complex debt is a type of information intensive claim that typifies traditional private debt. Complex debt includes obligations backed by leases, leveraged leases, and equipment trust certificates. Since these claims are also generally secured, complex debt refers to the subset of secured debt that involves complex features. Within secured debt, there is little evidence that complex debt is used to any significant extent. The non-complex nature of the 144A debt is more consistent with the profile of claims in the public debt market than the traditional private placement market (e.g., see Fenn 2000; Carey et al. 1993; and McDaniel 1988.)

Private debt is also characterized by more customization and tailoring of terms and conditions than public debt. To examine customization, we compare the categories of debt that

are offered in the 144A and public debt market. Overall, there are 40 different categories of debt securities issued in the 144A market compared to 24 for public debt, a significant difference. For example, approximately seven percent of public debt is classified as some form of “bonds,” which fall into just two categories either “bonds” or “global bonds.” By comparison, 20 percent of 144A debt is classified as bonds. Within bonds, there are find eight different categories including global bonds, exchangeable bonds, guaranteed bonds, refunding bonds, revenue bonds, sinking fund bonds, subordinated bonds, and senior bonds. Hence, 144A claims are not perfect substitutes for public debt claims. Several features added to the 144A bonds are suggestive of additional security being provided to the lender. These customized features bring more potential buyers for 144A debt and often arise as a by-product of dealing with a small group of buyers.

C. Multivariate Analysis of Issuer Characteristics

As a check on the previous results, we perform a multivariate analysis (not reported) of the differences in 144A and public debt by international issuers using a maximum likelihood probit regression. The dependent variable in the regression is 1 for a 144A issue and is 0 for a public issue. Based on the univariate comparisons, the independent variables are the logarithm of offer size, the logarithm of the number of years to maturity, bond rating, security, a dummy variable equal to 1 if the issue meets SEC disclosure requirements and is 0 otherwise, and a dummy variable equal to 1 if the issuer is from an emerging market and is 0 otherwise. Generally speaking, international 144A issues differ significantly from public issues in that they are smaller, shorter in maturity, have lower credit ratings, and less publicly available information.

International issuers from emerging markets are also more likely to issue in the 144A market. Hence, the multivariate results are consistent with the previously reported univariate results.

Since the 144A market has grown rapidly from its inception in 1990, in Table 4 we examine the characteristics of the 144A debt issues over time. The sample is broken in two periods, 1991-1995 and 1996-1997, since the latter two years in particular reflect large increases in the number and volume of issues. Both the mean and median offer size and maturity have increased over the sample period. However, the most notable difference in the market is the growth in the use of rated debt by international issuers from 33 percent in the early period to 77 percent in the latter period. Even so, it is unlikely that international issuers' use of ratings will ever approach the near universality of domestic issuers. Rating agencies typically find it difficult to rate a borrower higher than the country's sovereign rating, and thus strong credit risks can refrain from being rated. The results also suggest that credit quality has deteriorated as the proportion of high yield debt (less than Baa3 or BBB-) has increased from 45 percent to 69 percent. Interestingly, there has been no increase in the proportion of international issues subject to SEC disclosure over the sample period. Arguably, bond ratings and public disclosure are alternative means to inform investors about the quality of debt. Credit rating agencies do not provide issue ratings unless the firm agrees to on-going credit review over the period the issue is outstanding. Therefore the evidence suggests that international issuers have opted to convey information about debt quality through bond ratings rather than through increased public disclosure which involves higher costs.

D. Rated International Issues: Investment Grade versus High Yield

To draw finer distinctions between international 144A and public debt, we separate rated issues into investment grade and high yield debt in Table 5. At a later point, we examine the differences between rated and non-rated issues. For 144A investment grade issues, many of their features, such as size, maturity, rating, and default premium are similar to public debt issues. One difference of note, however, is that only eight percent of investment grade debt offered in the public debt market is from emerging markets. By contrast, the same variables--size, maturity, rating, and default premium--all differ significantly between high yield 144A and public debt issues. Sixty-five percent of high yield issues originate from emerging market countries and 59 percent of issuers are not subject to SEC disclosure. Consequently, the evidence points to more pronounced differences in the terms and quality of high yield debt, whereas investment grade credit is similar between the markets. As for pricing, in Table 5 we also report univariate yield spreads for investment grade and high yield debt. The offering yield spread is the difference between the yield to maturity on the offer date and that of a U.S. Treasury security issued on the same date with comparable maturity. For investment grade issues, the yield spread for 144A debt is about 30 basis points higher than public debt, a significant difference. No significant difference in yield spreads is observed for high yield debt.

E. Regression Analysis of Borrowing Costs

In Table 6 we investigate the extent to which the 144A market affords international issuers the same borrowing costs as the public debt market after controlling for differences in

issue characteristics. To ensure the greatest control for risk, the analysis in Table 6 is limited to rated issues only. The first column of Table 6 reports cross-sectional regressions of the pooled sample of 144A and public debt issues. The dependent variable is the offering yield spread. Given that there is not a generally accepted view of the determinants of spreads or yields, we estimate regressions similar to those used in Fung and Rudd (1986), Kidwell, Marr, and Thompson (1984), Blackwell and Kidwell (1988), and Fenn (2000). A dummy variable, RULE 144A, equal to 1 if the issue is a 144A issue and 0 otherwise, is included to capture the difference in borrowing costs between the two markets. Following Fenn (2000) we include a time index, TIME INDEX, which is equal to 0 in 1991 and increases by 1 each year thereafter. Because evidence suggests that high yield issuance has increased in both the public and 144A market, we include a dummy variable, HIGH YIELD, equal to 1 for high yield debt and is 0 otherwise, and an interaction term HIGH YIELD x RULE 144A.

Several other variables, such as RATING, SIZE, MATURITY, DISCLOSURE, and EMERGING MARKET, control for the quality and terms of the debt. RATING is an index equal to 1 for issues rated Caa1 or CCC+ and below and that increases by one for each higher credit rating category (e.g., B3 or B-2, B2 or B-3.) EMERGING MARKET is equal to 1 if the *Euromoney* country risk rating is less than 85 in the year of issue, and is 0 otherwise. Friedman and Kuttner (1991) and Blackwell and Kidwell (1988) suggest that movements in the corporate default premium are tied to the underlying strength of the economy and the outlook for debt repayment. DEFAULT PREMIUM is the difference between the *Shearson-Lehman Corporate*

Bond index yield and U.S. Treasury index yield lagged one day relative to the offer date of the issue.¹⁵ The bond index data are from *Datastream, Inc.*

In column 1 a regression of the full sample of rated public and 144A issues is shown. The coefficient of RULE 144A is positive and significant. All else equal, a typical international issuer faces borrowing costs 49 basis points higher on average for rated 144A issues relative to public debt issues. In addition, the coefficient on the time dummy is negative and significant suggesting that yields have declined over time. The spread for high yield debt is approximately 140 basis points higher for the pooled sample. However when high yield is interacted with the Rule 144A dummy, the spread for high yield 144A debt is lower by half (71 basis points) than high yield public debt.

Contrary to expectations there is little evidence to suggest that public disclosure affects the borrowing costs of international issues, as the coefficient of DISCLOSURE is not significant. One possible explanation for this is that the information provided through public disclosure for international issues is not sufficient to alleviate investor concerns and a lack of familiarity remains. Similar to reasons cited in the “home bias” literature (e.g., see Adler 1998; French and Poterba 1991; Tesar and Werner 1995), the lack of familiarity associated with international investments can be a sizeable hurdle to overcome. Likewise, the emerging market variable is insignificant. The other significant variables suggest that lower spreads result from higher ratings and decreases in the default premium.

¹⁵ The *Shearson-Lehman Corporate Bond* index is the measure of interest rates and aggregate credit market conditions used in Kidwell, Marr and Thompson (1984), whereas Fung and Rudd (1986) use a Treasury bond index. Since we find comparable results for both indices and Kidwell, Marr and Thompson (1984) suggest that the Corporate Bond index is more appropriate, we use this index.

We perform a number of sensitivity tests to check the robustness of the results (not reported.) Additional control variables for security and seniority are included but these variables are not significant, in the case of seniority possibly due to its strong collinearity with the 144A dummy (see Table 3.) Different classifications of disclosure, such as whether or not the firm is listed on an exchange produces similar results to the *SDC* public company code. Based on the findings of Livingston and Zhou (2002), we replace the time index variable with individual year dummies but again the results for the Rule 144A dummy are unchanged.¹⁶ Finally, the rating index variable assumes a linear step function with respect to ratings when “jumps” potentially could arise for high yield bonds or other rating categories. Therefore, we estimate an alternative specification that allows for non-linearity by including individual dummy variables for each rating category but it yields similar results to those shown in column 1.

In the remaining two columns of Table 6, we break the analysis into investment grade and high yield issues. The coefficient of the 144A dummy for investment grade debt in column 2 is positive and significant, and consistent in sign and magnitude with the univariate results in Table 5. In contrast to the overall sample of rated issues, the coefficient on EMERGING MARKET is positive and significant, suggesting that emerging market issuers pay an additional 39 basis points on average for investment grade issues. For high yield debt in column 3, the coefficient of the Rule 144A dummy negative but is not significant (p value=0.11). Consequently, the evidence suggests that high-yield claims are priced more favorably from the issuer’s point of view in the 144A market.

¹⁶Fenn (2000) and Livingston and Zhou (2002) also include an interaction term, RULE 144A x TIME INDEX. In contrast to domestic issues, the variable is not significant for international issues.

In the case of high yield debt the regressions reveal a tendency for 144A debt to have lower yields relative to public debt but the difference in yields is not significant. We estimate a number of different regression specifications for high yield debt and in all of them the 144A dummy has a negative but insignificant coefficient. Consistent with this, five of the six international firms that make both a high yield 144A and public debt issue during our sample period pay a lower spread for 144A debt than public debt. Nevertheless, there are several reasons why the regression results should be interpreted with care. The pattern of high yield issues by international firms over time shows that the 144A market is increasingly dominated by high yield debt. Figure 1 plots the proportion of the number of issues of investment grade and high yield debt offered in the 144A market. Early on, few firms issue high yield 144A debt. From 1991-1993, seven of the 30 total high yield issues (23 percent) occur in the 144A market. By contrast in 1997, 53 of the 58 total high yield issues (91 percent) are floated in the 144A market. The same pattern also holds for the volume of issue: in 1991-1993 the 144A market accounts for 29 percent the total volume of high yield debt and this increases to 89 percent in 1997. Hence, the paucity of public debt issues by high yield firms at the end of our sample period reduces the precision of the cost comparisons between public and 144A debt.

Overall, our results suggest that the yield spreads for rated issues in the 144A market are higher on average relative to public debt. The sub-samples reveal, however, that investment grade 144A debt commands a 30 basis point premium over public debt whereas high yield 144A debt sells at a similar cost or slight discount to public debt. What explains the differences? Note in Figure 1 that the 144A market accounts for over thirty percent of the investment grade debt offered in 1997. Thus, high quality issuers continue to raise capital in both markets. Liquidity

may account for the premium associated with investment grade 144A debt. Fenn (2000) documents that domestic 144A issuers seek registration rights to extend the pool of eligible buyers.¹⁷ However, due to the high costs of disclosure, few international issuers apply for registration rights and thus the pool of potential 144A buyers is smaller relative to a public debt issue.

Overtime high-yield issues from emerging market countries have come to dominate the 144A market and this raises the question why international firms gravitate to this market. One factor appears to be that international firms face difficult trade-offs in making public debt offers. Sixty percent of international firms do not meet SEC disclosure requirements, thus for them public debt issues would entail large costs of compliance. As mentioned earlier, only six out of 195 international firms (3 percent) make both a 144A and a public debt issue during the sample period, compared to 65 out of 591 domestic firms (11 percent) that conduct “dual offers.” Hence, international issuers appear to have less “choice” about where they issue. Given this, it is not clear that the benchmark for these 144A issues should be the cost of public debt issues. Especially for international issuers without the choice to issue public debt, the 144A market extends their borrowing opportunities.

We have noted that the low ratings, emerging market status, and a lack of disclosure contribute to a high degree of uncertainty associated with high yield 144A debt. 144A issues also tend to have customized features and are smaller—both features are indicative of attempts to control for higher levels of risk. Given the high uncertainty, there can be efficiencies in

¹⁷Cox (1999) finds that the number of buyers doubles when 144A bonds are exchanged for public bonds following the receipt of registration rights.

informing a smaller group of buyers about the merits of the issue. The large degree of overlap between the buyers of 144A and public debt suggests that it is unlikely that 144A lenders possess an informational advantage over lenders in the public debt market. Rather international firms may be more willing to reveal proprietary information (e.g., see Bhattacharya and Chiesa 1995; and Yosha 1995) or it is more cost effective to convey the high degree of risk to smaller groups of investors than to the broad public market. This course is consistent with the customization of terms seen in 144A offerings. Further, since reputation takes time to develop, Diamond (1989) suggests that firms with short credit histories (in the present case international firms) will choose to use intermediaries instead of borrowing from public markets. These are all reasons why high yield international firms have opted for the 144A market.

F. Non-rated 144A Issues

We now turn to the non-rated issues by international firms. As reported above, 73 issues or 37 percent of the sample is non-rated. These issuers are even less likely to view public debt issue as an option than high yield issuers. Univariate comparisons of issue characteristics and yield spreads for non-rated issues are reported in Table 7. Relative to rated 144A issues, non-rated issues are one-third the size and four years shorter in maturity. Moreover, over 80 percent are from emerging market countries. Consistent with higher risk, the median yield spread is 3.4 percent for non-rated issues, substantially above that of rated 144A claims (2.8 percent.) To determine the possible advantage of a 144A offer for these firms, we estimate separate regressions (using the specification in column 1 of Table 6 but omitting the 144A dummy) for the 144A and the public debt sample of firms. The coefficients of these regressions are then used

to predict the yield spread for the non-rated issues based on their characteristics. Seventy-seven percent of the time the predicted yield spreads using the public debt model are greater than the actual spreads observed for non-rated issues. Also, in 88 percent of the cases, the predicted yield spreads under the 144A model are lower compared to those predicted under the public debt model. Particularly for non-rated firms, the 144A market affords an opportunity to raise capital at more favorable terms relative to the public debt market. Further reinforcing these results, is the fact that 67 percent of non-rated firms would have to incur additional compliance costs in order to make a public debt offer.

G. Comparison of Domestic and International 144A Debt

Given the recency of research on the 144A market, it is not clear whether the previous findings for international 144A debt generalize to domestic 144A debt. In Table 8, we compare yield spreads for domestic 144A and public debt issues. To be consistent with prior work on domestic 144A issues, we include an interaction term, RULE 144A x TIME INDEX, to the specification used in Table 6 (omitting the emerging market dummy.) The results for all rated issues in column 1 indicate that domestic 144A issues are offered at a premium relative to public debt issues, but the premium on 144A issues has declined significantly over time. These results for rated 144A domestic issues are similar those reported for international issues in Table 6.

Fenn (2000) reports for domestic 144A high yield issues a positive and significant coefficient on the Rule 144A dummy of 41 basis points, a significantly negative coefficient for the time index, and a significantly negative coefficient for the interaction term RULE 144A x

TIME INDEX. Qualitatively similar results are shown in column 3.¹⁸ He concludes that over time the premium on Rule 144A debt has disappeared (largely due to the negative coefficient of the interactive term) and thus by 1997, all else equal, there is equivalent pricing for domestic 144A high yield and public debt. Likewise, in column 3 of Table 6 we find no significant difference in yield spreads between the markets for international high yield debt.

One difference that is observed between international and domestic issues relates to disclosure. Rated domestic issues without public disclosure incur significantly higher yield spreads whereas international firms do not. One possible explanation for the contrasting effects is offered by Welch's (1992) cascade theory. Welch (1992) builds a model that explains why underwriters of initial public offerings might issue in segmented markets where investors possess less information and are unlikely to communicate with one another. Under conditions of greater information asymmetry, investors make their purchase decisions based less on their own information and more on the actions of other investors. In this situation, investors exact less of a penalty for being uninformed and underprice less. In the current context, the implication is that to the extent that international firms issue under conditions of greater information asymmetry relative to domestic firms, investors exact less of a penalty for being uninformed. However, one caveat with Welch's explanation is that asymmetric information has never been documented to be as significant for debt issuance as equity issuance.

IV. Conclusions

¹⁸Our coefficient on the Rule 144A dummy is higher but our sample begins in 1991 and his in 1993. Yield spreads in the first two years of the market were considerably higher than in later years.

This article examines the effects of SEC Rule 144A on corporate debt issuance by international firms. The major findings of the paper are:

1. Sixty percent of international firms issuing in the 144A market are not subject to SEC disclosure. Disclosure costs remain a significant impediment to public debt issue by international firms.
2. The 144A market is replacing the public debt market for high yield and non-rated international issues.
3. For rated issues as a whole, the average yield spread in the 144A market is higher relative to the public debt market. This finding also holds for the sub-sample of investment grade debt. For high yield debt, the yield spreads are not significantly different from the public debt market.
4. All non-rated debt, some 37 percent of the sample, is offered in the 144A market. Our analysis suggests that were these issues offered in the public debt market, issuers would face higher costs than they incur in the 144A market.

The increasing attractiveness of the 144A market to international issuers is borne out by the growing volume of issuance in the 144A market compared to public debt market. For instance, in the most recent sample period, 1996-1997, international firms issued two-thirds of the total volume of debt in the 144market compared to the public debt market. This trend is even more pronounced in 1997 where more than 89 percent of the total volume of high yield debt was raised in the 144A market. Since the overall proportion of debt issued by international firms has been relatively steady since the mid-1990s, the evidence suggests that 144A market could soon eclipse the public debt market for international firms.

In addition, the number of different countries issuing in the market has grown from three in 1991 to 36 in 1997. The number of new entrants to the U.S. markets without a prior issue in the U.S. has increased markedly as the volume of 144A issuance has grown large in recent years. The broadening of the 144A market to include such a diverse group of countries is further evidence that the Rule 144A initiative has reduced entry barriers for international firms. After consideration of both the costs and breadth of country participation, we conclude that the Rule 144A initiative has met its intended purpose of improving the capital raising opportunities of international firms in the U.S.

TABLE 1 144A Debt Issues by International Firms over 1991-1997

Year	Number of issues	Number of foreign countries issuing in year	Total amount issued (\$ millions)	Average amount of issue (\$ millions)
1991	3	3	378	126
1992	3	2	260	87
1993	38	12	3,080	81
1994	11	9	1,005	91
1995	8	6	1,911	239
1996	48	23	4,740	99
1997	84	26	12,127	144
Total	195		23,501	

NOTE. — Data for international Rule 144A fixed rate industrial issues with a maturity of two or more years are obtained from the *SDC New Issues* database.

TABLE 2 Countries and Issue Characteristics of 144A Debt Issues by International Firms over 1991-1997

Country	Number of issues	Total amount issued (\$ millions)	Year of first issue from country	<i>Euromoney</i> country risk rating at the time of the first issue
Argentina	15	1,085	1993	50.46
Australia	4	725	1995	90.46
Bahamas	3	475	1993	62.93
Belgium	3	398	1994	93
Bermuda	3	325	1991	61
British Virgin Island	1	11.3	1996	60
Brazil	21	1,961	1993	42.61
Canada	21	2,644	1991	97.14
Cayman	1	15	1996	62
Chile	3	440	1993	68.75
China	2	544	1997	72.81
Colombia	4	366	1993	60.68
Finland	2	600	1997	94.18
France	1	15	1997	94.76
Germany	2	600	1995	96.15
Greece	2	270	1997	77.28
Hong Kong	5	1,250	1993	85.22
India	4	384	1996	63.67
Indonesia	2	185	1993	68.48
Jamaica	2	100	1996	36.8
Japan	1	131	1997	92.15
Malaysia	5	2,000	1993	78.52
Malta	1	113	1994	73.10
Mexico	42	3,592	1991	59.40
Netherlands Antilles	1	135	1996	21.00
Netherlands	6	883	1992	99.08
Norway	4	665	1996	94.97
Philippines	4	100	1994	51.83
Portugal	1	75	1996	80.19
Russia	3	375	1997	50.72
Singapore	1	150	1997	92.66
S. Korea	4	727	1997	78.29
Switzerland	2	129	1997	96.07
Thailand	2	311	1996	77.22
Trinidad	2	45	1994	51.02
United Kingdom	15	1,599	1993	94.72

NOTE. — Data for international fixed rate 144A and public debt issues are obtained from the *SDC New Issues* database.

TABLE 3 Selected Characteristics of 144A Issues and Public Debt Issues by International Firms

	144A Debt (N=195)	Public Debt (N=170)	P value
Offer Size (\$ millions) – mean	121	207	< 0.01
- median	100	200	< 0.01
Years to maturity – mean	9	13	< 0.01
- median	8	10	< 0.01
Quality of debt			
Proportion of senior debt	93%	97%	0.07
Proportion of secured debt	27%	17%	0.03
Proportion of complex debt	0.5%	0%	0.35
Proportion of rated debt	63%	99%	< 0.01
rating < Baa3/BBB- (high yield)	41%	29%	0.01
rating Baa3 – A1	19%	63%	< 0.01
rating >= Aa3	4%	8%	0.08
Proportion emerging market debt	59%	13%	< 0.01
Disclosure			
No required disclosure	60%	0%	< 0.01
Listed on U.S. exchange	11%	20%	0.01
Listed on International exchange	22%	58%	< 0.01

NOTE. — Secured debt is debt that has specific asset backing such as collateralized obligations. Complex debt refers to obligations backed by leases, leveraged leases, and equipment trust certificates. Ratings are from either *Moody's* or equivalent category of *Standard and Poors'*. Emerging market is defined as *Euromoney* country risk rating is less than 85. No required disclosure implies that the firm is not a public company. P values are associated with a difference of means t test and Wilcoxon signed rank test for medians.

TABLE 4 Changes in Characteristics of 144A Issues by International Firms Over Time

	1991-1997 (N=195)	1991-1995 (N=63)	1996-1997 (N=132)	P value
Offer Size (\$ millions)-mean	121	105	128	0.19
-median	100	50	103	< 0.01
Years to maturity – mean	9	8	10	0.08
- median	8	6	10	<0.01
Quality of debt				
Proportion of senior debt	93%	100%	89%	<0.01
Proportion of secured debt	27%	25%	27%	0.78
Proportion of complex debt	0.5%	0%	0.7%	0.49
Proportion of rated debt	63%	33%	77%	<0.01
Investment grade (Baa3/BBB- or higher)	35%	55%	31%	<0.01
High yield (below Baa3/BBB-)	65%	45%	69%	0.15
Proportion emerging market debt	66%	69%	65%	0.43
Disclosure				
No required disclosure	60%	60%	60%	0.59
Listed on U.S. exchange	10%	8%	12%	0.38
Listed on International exchange	22%	21%	23%	0.65

NOTE. — Secured debt is debt that has specific asset backing such as collateralized obligations. Complex debt refers to obligations backed by leases, leveraged leases and equipment trust certificates. Ratings are from *Moody's* or equivalent category of *Standard and Poors'*. Emerging market is defined as *Euromoney* country risk rating is less than 85. No required disclosure implies that the firm is not a public company. P values are associated with a difference of means t test and Wilcoxon signed rank test for medians.

TABLE 5 Characteristics of International Investment Grade and High-Yield 144A Debt and Public Debt Issues

Investment Grade Debt (Baa3 or BBB- and higher)				
	Rule 144A (N=43)	Public debt (N=122)	P value	
Offer Size (\$ Millions) – mean	200	179	0.29	
- median	198	198	0.45	
Years to Maturity – mean	12	12	0.86	
- median	10	10	0.45	
Default Premium – mean	0.64	0.63	0.63	
- median	0.61	0.60	0.21	
Rating (Moody’s or equivalent)	A3	A3	0.94	
Proportion with secured debt	15%	29%	0.05	
Proportion emerging market	45%	8%	<0.01	
Proportion with no disclosure	53%	0%	<0.01	
Offering Yield Spread – mean	1.23%	0.92%	0.01	
- median	0.99%	0.89%	0.01	
High Yield Debt (Ba1 or BB+ and lower)				
	Rule 144A (N=79)	Public debt (N=48)	P value	
Offer Size (\$ Millions) – mean	89	146	<0.01	
- median	59	150	<0.01	
Years to Maturity – mean	8	9	0.05	
- median	9	10	0.03	
Default Premium - mean	0.62	0.59	0.06	
- median	0.60	0.58	0.11	
Rating (Moody’s or equivalent)	B1	Ba3	<0.01	
Proportion with secured debt	20%	25%	0.53	
Proportion emerging market	65%	33%	<0.01	
Proportion with no disclosure	59%	0%	<0.01	
Offering Yield Spread – mean	3.75%	3.81%	0.84	
- median	3.48%	3.60%	0.33	

NOTE. — Rating is an index variable where Caa1 or CCC+ and below is one and each higher category is incremented by one. DEFAULT PREMIUM is the difference between the Shearson Lehman Corporate Bond and Treasury index yield lagged one day relative to the offer date. Secured debt is debt that has specific asset backing such as collateralized obligations. No disclosure implies that the firm is not a public company. Offering Yield Spread is the offering yield to maturity less the yield of a comparable maturity Treasury security on the issue date. P

values are associated with a difference of means t test and Wilcoxon signed rank test for medians.

TABLE 6 Cross-sectional Regressions of Borrowing Costs for International Firms: 144A versus Public Issues

Independent Variables	All Rated Issues	Investment Grade Debt	High Yield Debt
Constant	4.011 (<0.01)	2.813 (<0.01)	5.225 (<0.01)
RULE 144A Dummy	0.491 (<0.01)	0.304 (0.02)	-0.507 (0.11)
TIME INDEX	-0.148 (<0.01)	-0.125 (<0.01)	-0.186 (<0.01)
HIGH YIELD Dummy	1.392 (<0.01)		
HIGH YIELD x RULE 144A	-0.654 (<0.01)		
DISCLOSURE	-0.081 (0.71)	-0.186 (0.40)	-0.008 (-0.97)
RATING	-0.265 (<0.01)	-0.176 (<0.01)	-0.497 (<0.01)
SIZE	-0.134 (0.19)	-0.041 (0.47)	-0.214 (0.13)
MATURITY	0.180 (0.05)	0.276 (<0.01)	-0.107 (0.71)
DEFAULT PREMIUM	0.902 (<0.01)	0.127 (0.35)	4.832 (<0.01)
EMERGING MARKET	0.149 (0.34)	0.388 (<0.01)	0.393 (0.16)
Adj. R squared	0.720	0.494	0.322
N (R144A/Public)	292 (122/170)	165 (43/122)	127 (79/48)

NOTE. — The dependent variable is the offering yield spread. RULE 144A dummy is 1 if the issue is a 144A issue and is 0 otherwise; TIME INDEX is an index equal to 0 in 1991 and increases by one every year thereafter. RULE 144A x TIME INDEX is an interactive term of the Rule 144A dummy and the TIME INDEX. HIGH YIELD is 1 if the issue is rated less than Baa3/BBB- and is 0 otherwise. RULE 144A x HIGH YIELD is an interactive term of the Rule 144A and HIGH YIELD dummies. RATING is an index variable equal to 1 for Caa1 or CCC+ issues and below and increases by one for successively higher rating categories. DISCLOSURE is 1 if the firm meets public disclosure requirements and is 0 else. SIZE is the natural logarithm of issue size in millions of dollars. MATURITY is the natural logarithm of the number of years to maturity. DEFAULT PREMIUM is the difference between the Shearson Lehman Corporate Bond and Treasury index yield lagged one day relative to the offer date of the issue; and EMERGING MARKET is 1 if the *Euromoney* country risk rating is less than 85 and is 0 otherwise. Heteroscedasticity consistent p values are in parentheses.

TABLE 7 Non-rated and Rated 144A Debt Issues by International Issuers

	Non-rated 144A (N=73)	Rated 144A (N=121)	P value
Offering Yield spread - mean	3.28%	2.86%	0.10
- median	3.36%	2.76%	0.04
Offer Size (\$ Millions) - mean	34	112	<0.01
- median	26	124	<0.01
Years to Maturity - mean	6	9	<0.01
- median	6	10	<0.01
Default Premium - mean	0.61	0.62	0.38
- median	0.58	0.60	<0.01
Proportion with senior debt	98%	89%	0.01
Proportion with secured debt	48%	42%	0.06
Proportion emerging markets	81%	58%	<0.01
Proportion with no disclosure	67%	56%	0.13

NOTE. — Secured debt is debt that has specific asset backing such as collateralized obligations. Default Premium is the difference between the Shearson Lehman Corporate Bond and Treasury index yield lagged one day relative to the offer date of the issue. Emerging Market status is based on a *Euromoney* country risk rating less than 85. No disclosure implies that the firm is not a public company. P values are associated with a difference of means t test and Wilcoxon signed rank test for medians.

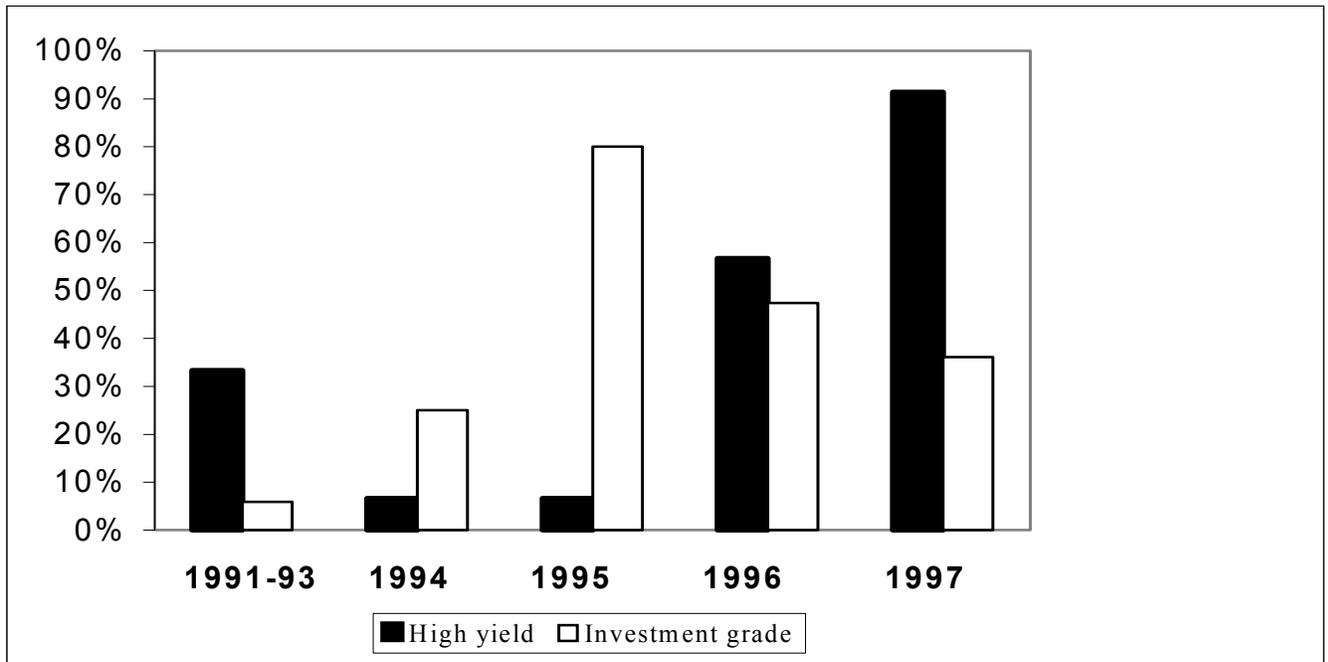
TABLE 8 Cross-sectional Regressions of Borrowing Costs for Domestic (U.S.) 144A and Domestic Public Debt Issues

Independent variables	Domestic U.S issues		
	All Rated Issues	Investment Grade	High Yield
Constant	3.836 (<0.01)	1.995 (<0.01)	8.496 (<0.01)
RULE 144A dummy	0.840 (<0.01)	0.124 (0.58)	1.063 (<0.01)
TIME INDEX	-0.111 (<0.01)	-0.085 (<0.01)	-0.160 (<0.01)
RULE 144A x TIME INDEX	-0.160 (<0.01)	0.033 (0.32)	-0.242 (<0.01)
HIGH YIELD Dummy	1.382 (<0.01)		
HIGH YIELD x RULE 144A	-0.034 (0.78)		
DISCLOSURE	-0.440 (<0.01)	-0.122 (0.47)	-0.118 (0.18)
RATING	-0.226 (<0.01)	-0.123 (<0.01)	-0.603 (<0.01)
SIZE	-0.048 (<0.01)	-0.006 (0.36)	-0.120 (0.07)
MATURITY	0.132 (<0.01)	0.202 (<0.01)	-0.835 (<0.01)
DEFAULT PREMIUM	0.507 (<0.01)	0.359 (<0.01)	1.595 (<0.01)
Adj. R squared	0.793	0.420	0.531
N (144A/Public)	2698 (591/2107)	1660 (113/1547)	1038 (478/560)

NOTE. — The dependent variable is the offering yield spread. RULE 144A dummy is 1 if the issue is a 144A issue and is 0 otherwise; TIME INDEX is an index equal to 0 in 1991 and increases by one every year thereafter. RULE 144A x TIME INDEX is an interactive term of the Rule 144A dummy and the TIME INDEX. HIGH YIELD is 1 if the issue is rated less than Baa3/BBB- and is 0 otherwise. RULE 144A x HIGH YIELD is an interactive term of the Rule 144A and HIGH YIELD dummies. RATING is an index variable equal to 1 for Caa1 or CCC+ issues and below and increases by one for successively higher rating categories. DISCLOSURE is 1 if the firm meets public disclosure requirements and is 0 else. SIZE is the natural logarithm of issue size in millions of dollars. MATURITY is the natural logarithm of the number of years to maturity. DEFAULT PREMIUM is the difference between the Shearson Lehman Corporate Bond and Treasury index yield lagged one day relative to the offer date of the issue; and

EMERGING MARKET is 1 if the *Euromoney* country risk rating is less than 85 and is 0 otherwise. Heteroscedasticity consistent p values are in parentheses.

FIGURE 1 Percentage of the Number of High Yield and Investment Grade Debt Issues Offered in the 144A Market



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