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

“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.’”<sup>1</sup>

### 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 2 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

In 1990, the SEC approved Rule 144A, a reform permitting firms to raise capital from “qualified institutional buyers” without requiring registration of the securities and compliance with U.S.

GAAP. The rule was intended to help international firms reduce the costs of meeting U.S. disclosure standards. We examine the borrowing costs of international issuers in the 144A market. Investment grade 144A debt has significantly higher yield spreads, whereas high-yield 144A debt has yield spreads comparable to public debt. The results suggest a bifurcation of the markets, where high-quality firms issue in both markets but face higher spreads in the 144A market and low-quality firms issue only in the 144A market.

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

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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.<sup>2</sup> 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 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 important, as a proportion of the total debt issued by international firms, 144A issues have grown from 11% of the total debt issued in 1991 to 65% in 1997. Hence, over time, international issuers have shifted the bulk of their capital-raising efforts in the United States from the public debt market to the 144A market. Going forward, the 144A market will be a major market for international issuers in the United States. Despite its emerging importance to international capital raising, this study is the first to examine international issuers' use of the Rule 144A market.<sup>3</sup>

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 creditworthiness 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 information

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 than private placements.

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

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.<sup>4</sup> 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.

Examining 144A fixed-rate debt issues from 1991 to 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 ongoing disclosure by the SEC or their home country regulators. Hence, for over 60% the international 144A issues, limited sources of public information are available to judge credit quality. These findings indicate that higher-risk claims are financed in the 144A market than the public market. In addition, only 63% 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

4. Information on issue costs is generally not available from the Securities Data Corporation before 1996. We searched the Fitch Investment database to find the gross spreads of 144A issues but we did 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.

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% of the volume of international Rule 144A issuance, whereas by 1997, it accounted for 91% 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 nonrated international debt is issued in the 144A market. These issues represent some 37% 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% of the time yield spreads would be higher for nonrated issuers if they issued in the public debt market. This evidence suggests that nonrated 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 nonrated debt. For many, the high-risk, low-disclosure profile in all likelihood would 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 II discusses the legal and regulatory origins of Rule 144A and discusses the information requirements of 144A offerings. Section III describes the sample of international 144A debt issues and examines their characteristics relative to public debt issues. Section III also examines the costs

and information effects associated with 144A debt in comparison to public debt and domestic U.S. 144A issues. Section IV 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.<sup>5</sup> 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 distribute securities through resale 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 on to establish “investment intent” is the length of time a purchaser holds a security. Typically, private placements could be resold without registration, if the purchaser held the securities for at least 2 years.<sup>6</sup> The net effect of these rules was to significantly inhibit resale opportunities and liquidity for purchasers of private placements.

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

6. In 1972, the SEC adopted safe harbor rules under Rule 144 that granted an exemption from registration to investors who resell private placements after 2 years. Outside of Rule 144A, a secondary market sale of a private placement could be achieved without waiting 2 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 et al. (1997).

### *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).<sup>7</sup> Under the initiative, the SEC recognized that certain buyers were able to “fend for themselves” in obtaining and processing information 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 nonaffiliates,
2. A bank or savings and loan (S&L) association that meets condition 1 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 nonaffiliates, or
4. An entity whose equity holders are all QIBs.<sup>8</sup>

Post enactment of Rule 144A, registration applied only to “public offers,” which were defined to concern individual investors rather than QIBs. Under this interpretation, resale 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 that fall outside of 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

7. Two 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.

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



it requires no disclosure. Generally speaking, Rule 144A requires issuers to provide a brief 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 2 years. The financial statements must be audited to the extent possible, although formal reconciliation to generally accepted accounting principles 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.<sup>9</sup> 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 ongoing disclosure in their home markets but the level of disclosure is not typically as strict as that required by the United States.<sup>10</sup> The remainder of firms, not subject to ongoing disclosure in their home market or the United States, must meet the general Rule 144A information requirements outlined previously. 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% 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 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 ongoing 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.<sup>11</sup> 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, fewer international issuers apply for registration rights.

9. The SEC provides a list of international firms that received a Rule 12g3-2(b) exemption. We cross-checked this list with our sample and found 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 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.

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, than 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.

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.<sup>12</sup>

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 collected all issues of 144A corporate debt from 1991, the first full year following enactment of

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



**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 2 or more years are obtained from the SDC New Issues database.

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 2 or more years. This restriction ensures greater consistency in the types of firms and debt we examine.<sup>13</sup> Our final sample consists of 195 144A issues and 170 public debt issues by international issuers. International issuers are firms incorporated outside of the United States.

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 to 1997. By comparison, they raised \$34.3 billion over the same period in the public debt market. The number of 144A issues by international firms has grown from 3 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 2 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 startup 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 (14–16%) 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 3 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

13. Industrial issuers account for 60% of the total Rule 144A debt issued. Of the international issues, 84% are fixed-rate rather than floating-rate debt or serial obligations. This percentage does not differ from domestic issues (83% are fixed rate).

**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	Euromoney 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	93.00
Bermuda	3	325	1991	61.00
British Virgin Islands	1	11	1996	60.00
Brazil	21	1,961	1993	42.61
Canada	21	2,644	1991	97.14
Cayman	1	15	1996	62.00
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	36.80
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
The 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
South 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.

are reported for the year of first issuance by the country.<sup>14</sup> 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 United States range from 97 to 99 over the sample. In general, the sample reflects a relatively heavy representation of emerging market countries and

14. Euromoney country risk ratings are published annually. Later in the regression, the country risk rating is updated to the year of issuance. Emerging markets have a country risk rating of 85 and below.

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

	144A Debt ( <i>N</i> = 195)	Public Debt ( <i>N</i> = 170)	<i>P</i> 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
<b>Quality of debt</b>			
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
<b>Disclosure</b>			
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 Poor's. Emerging market is defined as Euromoney country risk rating 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.

hence U.S. investors are exposed to a high degree of country risk from these 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 in table 3. The overall sample of 144A debt has a median offer size of \$100 million and a median maturity of 8 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%) and public debt (97%) 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%) are secured versus 17% for public debt.

Bond ratings are not legally required for debt offers, but virtually 100% of the public issues are rated. By comparison, only 63% of the 144A issues are rated, a statistically significant difference. Of 144A issues, 41% are high yield, defined as debt with a Moody's rating less

than Baa3 or an equivalent Standard and Poors' rating less than BBB-, compared to 29% of public debt issues. Throughout the analysis, we used the union of the ratings available from the two credit rating services. Moreover, 59% of international 144A issues come from emerging market countries, compared to only 13% 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 3, 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 United States. We find that only 21 or 11% of international issues are listed on a U.S. stock exchange and therefore meet SEC disclosure requirements. Another 43 or 22% 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 United States. To ascertain if an international issuer previously issued securities in the United States, 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 4-year time period. Nine international issuers are subject to SEC disclosure based on previous issuance. Combining prior issuance with the stock listing criteria, we find that 66% 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% 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 ongoing 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 offered in the 144A and public debt market. Overall, 40 different categories of debt securities were issued in the 144A market compared to 24 for public debt, a significant difference. For example, approximately 7% of public debt is classified as some form of "bonds," which fall into just two categories either "bonds" or "global bonds." By comparison, 20% of 144A debt is classified as bonds. Within bonds, we 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 found in 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 0 otherwise, and a dummy variable equal to 1 if the issuer is from an emerging market and 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

**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
<b>Quality of debt</b>				
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
<b>Disclosure</b>				
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 Poor's*. 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.

issues over time. The sample is broken in two periods, 1991–1995 and 1996–1997, since the latter 2 years in particular reflect large increases in the number and volume of issues. Both the mean and median offer size and maturity 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% in the early period to 77% 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 deteriorated as the proportion of high-yield debt (less than Baa3 or BBB-) increased from 45% to 69%. 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 ongoing 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.

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

<b>Panel A. Investment-grade debt (Baa3 or BBB- and higher)</b>			
	Rule 144A ( <i>N</i> = 43)	Public Debt ( <i>N</i> = 122)	<i>P</i> 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
<b>Panel B. High-yield debt (Ba1 or BB+ and lower)</b>			
	Rule 144A ( <i>N</i> = 79)	Public Debt ( <i>N</i> = 48)	<i>P</i> 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 1 and each higher category is incremented by 1. Default premium is the difference between the Shearson Lehman Corporate Bond and Treasury index yield lagged 1 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.

#### *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 nonrated issues. For 144A investment-grade issues, many of the features, such as size, maturity, rating, and default premium, are similar to public debt issues. One difference of note, however, is that only 8% of investment-grade debt offered in the public debt market is from emerging markets. By contrast, all of the same variables—size, maturity, rating, and default premium—differ significantly between



**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	1.392 (<0.01)		
RULE 144A $\times$ HIGH YIELD	-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. <i>R</i> 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 0 otherwise; TIME INDEX is an index equal to 0 in 1991 and increases by 1 every year thereafter. RULE 144A  $\times$  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 0 otherwise. RULE 144A  $\times$  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 1 for successively higher rating categories. DISCLOSURE is 1 if the firm meets public disclosure requirements and 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 1 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 0 otherwise. Heteroscedasticity-consistent *p* values are in parentheses.

high-yield 144A and public debt issues. Of the high-yield issues, 65% originate from emerging market countries and 59% 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. 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 Kidwell, Marr, and Thompson (1984); Fung and Rudd (1986); 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 increased in both the public and 144A market, we include a dummy variable, HIGH YIELD, equal to 1 for high-yield debt and 0 otherwise, and an interaction term  $HIGH\ YIELD \times RULE\ 144A$ .

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 1 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 0 otherwise. Blackwell and Kidwell (1988) and Friedman and Kuttner (1991) 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 1 day relative to the offer date of the issue.<sup>15</sup> 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 than public debt issues. In addition, the coefficient on the time

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 et al. (1984) suggest that the Corporate Bond index is more appropriate, we use this index.

dummy is negative and significant, suggesting that yields 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.

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 results similar 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.<sup>16</sup> 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 nonlinearity by including individual dummy variables for each rating category, but this yields results similar 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 not

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

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.

In the case of high-yield debt, the regressions reveal a tendency for 144A debt to have lower yields than 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. Early on, few firms issued high-yield 144A debt. From 1991–1993, 7 of the 30 total high-yield issues (23%) occurred in the 144A market. By contrast, in 1997, 53 of the 58 total high-yield issues (91%) were floated in the 144A market. The same pattern also holds for the volume of issue: In 1991–1993, the 144A market accounted for 29% of the total volume of high-yield debt, and this increased to 89% 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 than public debt. The subsamples reveal, however, that investment-grade 144A debt commands a 30 basis point premium over public debt, whereas high-yield 144A debt sells at a cost similar or slight discounted to public debt. What explains the differences? The 144A market still accounts for over 30% 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.<sup>17</sup> 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.

Over time, 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

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

requirements; hence, for them, public debt issues entail large costs of compliance. As mentioned earlier, only 6 out of 195 international firms (3%) make both a 144A and a public debt issue during the sample period, compared to 65 out of 591 domestic firms (11%) 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 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. Also, 144A issues tend to have customized features and are smaller—both features indicative of attempts to control for higher levels of risk. Given the high uncertainty, there can be efficiencies in 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. Nonrated 144A Issues*

We now turn to the nonrated issues by international firms. As reported, 73 issues or 37% of the sample is not 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 nonrated issues are reported in table 7. Relative to rated 144A issues, nonrated issues are one-third the size and 4 years shorter in maturity. Moreover, over 80% are from emerging market countries. Consistent with higher risk, the median yield spread is 3.4% for nonrated issues, substantially above that of rated 144A claims (2.8%). 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 from these regressions are then used to predict the yield spread for the nonrated issues based on their characteristics.

**TABLE 7** Nonrated and Rated 144A Debt Issues by International Issuers

	Nonrated 144A ( <i>N</i> = 73)	Rated 144A ( <i>N</i> = 121)	<i>P</i> 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 1 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.

The predicted yield spreads using the public debt model are greater than the actual spreads observed for nonrated issues 77% of the time. Also, in 88% of the cases, the predicted yield spreads under the 144A model are lower than those predicted under the public debt model. Particularly for nonrated firms, the 144A market affords an opportunity to raise capital at more favorable terms than the public debt market. Further reinforcing these results is the fact that 67% of nonrated firms would have to incur additional compliance costs 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  $\times$  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 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

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

Independent Variables	All Rated Issues	Investment Grade	High Yield
Constant	3.836 ( $<0.01$ )	1.995 ( $<0.01$ )	8.496 ( $<0.01$ )
RULE 144A	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 $\times$ TIME INDEX	-0.160 ( $<0.01$ )	0.033 (0.32)	-0.242 ( $<0.01$ )
HIGH YIELD Dummy	1.382 ( $<0.01$ )		
HIGH YIELD $\times$ 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. <i>R</i> 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 is 1 if the issue is a 144A issue and 0 otherwise; TIME INDEX is an index equal to 0 in 1991 and increases by 1 every year thereafter. RULE 144A  $\times$  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 0 otherwise. RULE 144A  $\times$  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 1 for successively higher rating categories. DISCLOSURE is 1 if the firm meets public disclosure requirements and 10 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 1 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 10 otherwise. Heteroscedasticity-consistent *p* values are in parentheses.

significantly negative coefficient for the interaction term RULE 144A  $\times$  TIME INDEX. Qualitatively similar results are shown in column 3.<sup>18</sup> He concludes that, over time, the premium on Rule 144A debt disappeared (largely due to the negative coefficient of the interactive term) and, 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 observed between international and domestic issues relates to disclosure. Rated domestic issues without public disclosure

18. Our coefficient on the Rule 144A dummy is higher but our sample begins in 1991 and his in 1993. Yield spreads in the first 2 years of the market were considerably higher than in later years.



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 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**

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

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 nonrated international issues.
3. For rated issues as a whole, the average yield spread in the 144A market is higher than the public debt market. This finding also holds for the subsample of investment-grade debt. For high-yield debt, the yield spreads are not significantly different from the public debt market.
4. All nonrated debt, some 37% 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 144A market than the public debt market. This trend is even more pronounced in 1997, where more than 89% 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 3 in 1991 to 36 in 1997. The number of new entrants to the U.S. markets without a prior issue in the United States 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 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 United States.

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