Journal of Financial Economics 94 (2009) 1–17

Contents lists available at ScienceDirect

Journal of Financial Economics

journal homepage: www.elsevier.com/locate/jfec

Share issuance and cross-sectional returns: International evidence ☆

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ARTICLE INFO

Article history:
Received 2 November 2007
Received in revised form
10 July 2008
Accepted 15 September 2009
Available online 29 May 2009

JEL classification:
G10
G14
G24

Keywords:
International investment
Return predictability
Share issuance
Market efficiency
International return predictability
Raising capital
Capital structure

ABSTRACT

Share issuance predicts cross-sectional returns in a non-U.S. sample of stocks from 41 different countries. Issuance predictability has greater statistical significance than either size or momentum, and is similar to book-to-market. As in the U.S., the international issuance effect is robust across both small and large firms. Unlike the U.S., the effect is driven more by low returns after share creation rather than positive returns following share repurchases. Issuance return predictability is stronger in countries with greater issuance activity, greater stock market development, and stronger investor protection. The results suggest that the share issuance effect is related to the ease with which firms can issue and repurchase their shares.

1. Introduction

Loughran and Ritter (1995) and Spiess and Affleck-Graves (1995) report long-run negative returns following seasoned-equity offerings (SEOs). This finding has been broadened by the recent studies of Daniel and Titman (2006) and Pontiff and Woodgate (2008), who show that there is a negative cross-sectional relation between aggregate share issuance and the returns of U.S. firms. In this paper, we study the cross-sectional return predictive ability of share issuance in international markets. Our analysis is divided into two parts. In the first part we test whether the issuance effect is present among non-U.S. firms and compare our results to those reported in U.S. studies. In the second part we investigate whether proxies for equity market development, investor protection, and other country characteristics can explain cross-country differences in the issuance effect.

The use of international data enables a better understanding of whether sources of return predictability identified in the U.S. pose challenges to asset pricing, or whether they are statistical artifacts from data-mining.

☆ We thank Brad Barber, David Chapman, Wayne Ferson, Dimitrios Gounopoulos, Mark Huson, Axel Kind, Per Osberg, Lewis Tam, Masahiro Watanabe, seminar participants at Michigan State University, participants at the Asian and Nippon Finance Associations International Conference, the CAF-FIC-SIFR Emerging Markets Finance Conference, the CFS Conference on Asset Management and International Capital Markets, the 2008 European Finance Association Meeting, and the referee, Narasimhan Jegadeesh, for helpful comments. We also thank the Asian and Nippon Finance Associations International Conference for awarding the Pacific-Basin Finance Journal Research Excellence Award in Investment to this paper. McLean is grateful to the Southam/Edmonton Journal Fellowship Award for financial support.

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doi:10.1016/j.jfineco.2008.09.009

Previous research in this vein includes Rouwenhorst (1998) who studies momentum effects in 12 European markets, and Fama and French (1998) who examine non-U.S. value effects. A non-U.S. investigation is particularly important for share issuance, since Pontiff and Woodgate (2008) find that the relation between issuance and returns is insignificant in their pre-1970 sample, suggesting that the issuance effect may be sample specific. Our analysis of non-U.S. firms provides a useful out-of-sample test of the issuance effect.

We use a large sample of firms drawn from 41 non-U.S. countries and examine the existence of an international issuance effect over a 25-year period between 1981 and 2006. Using a net issuance measure that reflects both share issuance and repurchases, we find a significant issuance effect in international markets. Similar to the recent U.S. evidence, international share issuance has strong return-predictive ability. A one standard deviation difference in annual share issuance is associated with a 0.14% difference in subsequent monthly returns in non-U.S. markets, which is about half the magnitude of the post-1970 U.S. findings reported in Pontiff and Woodgate (2008). Issuance predictability is more statistically significant than either size or momentum, and is of the same magnitude as book-to-market. We also find that the issuance effect is robust across both small and large firms, which is consistent with the U.S. findings in Fama and French (2008).

Our findings add insight to the previous long-run return international issuance literature that has focused on specific issuance events such as repurchase announcements (and completions), SEOs, and stock mergers. Broad inference is difficult since each study concentrates on a specific issuance event within a specific country. Moreover, the results produce contradictions. For example, Kang, Kim, and Stulz (1999) find negative long-run abnormal returns following share issuance in Japan, while Marsh (1979) finds positive abnormal returns following share issuance (from rights offerings) in the U.K. Ikenberry, Lakonishok, and Vermaelen (2000) find negative abnormal returns following SEOs in Canada, but statistically insignificant returns following Canadian stock-financed acquisitions. Eckbo and Norli (2005) find statistically insignificant long-run abnormal returns following SEOs in Norway. Ikenberry, Lakonishok, and Vermaelen (2000) find evidence of positive long-run abnormal returns following repurchases in Canada, while Rau and Vermaelen (2002) find the opposite result in the U.K.

In the second part of our analysis we examine cross-country differences in the issuance effect. We consider share issuance activity, stock market development, short sale constraints, buyback restrictions, investor protection laws, and earnings management as potential determinants of the issuance effect across countries. We find that the issuance effect is stronger in countries with greater issuance activity, more developed stock markets, stronger investor protection laws, and less earnings management. Taken in their entirety, the results suggest that the issuance effect is stronger in countries where it is less costly for firms to issue and repurchase shares.

These cross-country results are consistent with market timing, where the benefit of market timing is of second-order importance to other capital structure motives. Firms market time by purchasing and/or selling shares in response to either mispricing (in an inefficient market) or changes in exposure to priced risk (in an efficient market).[1] In more developed markets, issuance costs are lower, enabling firms to frequently issue shares for both primary and market timing reasons. In less developed markets, where share issuance is more costly, the benefits of market timing are exceeded by issuance costs, and share issuance occurs only for primary reasons. This framework implies that share issuance will be both more frequent, and more highly correlated with future returns in well-developed markets. This interpretation is consistent with the U.S. evidence in Pontiff and Woodgate (2008), who show that pre-1970 in the U.S. there was no issuance effect, but that post-1970 there is a strong issuance effect, and that the frequency of issuance activity more than tripled between those periods.

The remainder of the paper is organized as follows. Section 2 discusses data and estimation procedures. Section 3 presents regression results using continuous measures of share issuances, and Section 4 provides results based on issuance portfolios that allow us to study positive and negative share issuance effects separately. Section 5 studies the issuance effect across countries. Section 6 concludes.

2. Data, variables, and estimation

2.1. Data

The data used in this study were obtained from Thomson Datastream. In the first part of the study (Sections 3 and 4) our sample consists of 41 non-U.S. countries, which are listed in Table 1. In the second part of the study (Section 5) we include U.S. firms. We select common stocks listed on each country's major stock exchange(s) from both active and defunct research files of Datastream in order to avoid survivorship bias. We screen the data for coding errors via the methods of Ince and Porter (2006). We winsorize each of the variables within country at the top and bottom 1% to eliminate the effects of outliers. The only variables that we do not winsorize are the non-U.S. holding period returns. With holding period returns we trim our sample within country at the top and bottom 1%, as many of these extreme observations appear to be the result of coding errors.[2]

Due to the availability of firm book values in Datastream, our regression analysis begins in July of 1981 and

[1] Two examples of this in an efficient market context are Sagi, Spiegel, and Watanabe (2008) and Carlson, Fisher, and Giammarino (2006). Sagi et al. develop a model where firm share issuance activity tracks shocks to capital, and in turn, expected returns. In Carlson et al. equity issuance occurs when growth options are converted to assets-in-place, reducing expected returns.

[2] The decision to winsorize or delete extreme non-U.S. holding return observations does not affect the paper's findings. We do not delete or winsorize U.S. holding period returns.

Table 1
Summary statistics for sample countries.

This table provides summary statistics for the 41 countries included in our non-U.S. sample. Columns 2 and 3 list the beginning and ending dates during which each country is included in our regression analysis. The start dates vary because of data availability. The total number of firm-month observations is reported in column 4 and the average number of firm observations per month is reported in column 6. The values of these statistics, represented as percentages of the corresponding total across countries, are given in columns 5 and 7. The average monthly total market capitalization in millions of U.S. dollars is given in column 8, while the percentage that each country's total market capitalization represents of the total is displayed in column 9.

Country	Start date	End date	Total number of firm-month observations	Percentage of total sample (%)	Average number of firm observations per month	Monthly average percentage of sample (%)	Average monthly total market value	Average monthly percentage of total market value (%)
Argentina	03/1995	06/2006	8,966	0.30	66	0.53	37,091	0.52
Australia	07/1981	06/2006	144,422	4.80	481	3.87	134,147	1.88
Austria	12/1990	06/2006	15,181	0.50	81	0.65	34,413	0.48
Belgium	07/1985	06/2006	33,651	1.12	134	1.07	74,678	1.05
Brazil	03/1995	06/2006	60,994	2.03	448	3.61	187,557	2.63
Canada	07/1981	06/2006	227,773	7.57	759	6.11	296,900	4.17
Chile	02/1991	06/2006	29,621	0.98	160	1.29	54,552	0.77
China	08/1994	06/2006	93,869	3.12	656	5.28	236,396	3.32
Czech Republic	09/1995	02/2002	6,235	0.21	80	0.64	9,250	0.13
Denmark	11/1988	06/2006	38,600	1.28	186	1.50	62,903	0.88
Egypt	09/1999	06/2006	6,345	0.21	77	0.62	11,884	0.17
Finland	01/1990	06/2006	18,801	0.63	95	0.77	53,718	0.75
France	07/1981	06/2006	138,177	4.59	461	3.70	461,821	6.48
Germany	07/1981	06/2006	118,308	3.93	394	3.17	421,575	5.91
Greece	08/1989	06/2006	38,143	1.27	188	1.51	41,478	0.58
Hong Kong	07/1981	06/2006	99,190	3.30	331	2.66	174,523	2.45
India	08/1991	06/2006	140,405	4.67	784	6.31	103,984	1.46
Indonesia	04/1992	05/2006	13,573	0.45	116	0.93	29,825	0.42
Ireland	04/1996	08/2002	2,944	0.10	52	0.42	45,062	0.63
Italy	07/1981	06/2006	63,617	2.12	212	1.71	224,708	3.15
Japan	07/1981	06/2006	431,572	14.35	1,439	11.57	1,975,520	27.72
Malaysia	08/1987	06/2006	96,608	3.21	426	3.42	94,907	1.33
Mexico	12/1989	06/2006	23,975	0.80	122	0.98	88,651	1.24
Netherlands	07/1981	06/2006	47,126	1.57	157	1.26	229,012	3.21
New Zealand	08/1989	06/2006	15,524	0.52	76	0.62	16,170	0.23
Norway	08/1983	06/2006	29,844	0.99	109	0.87	33,631	0.47
Pakistan	02/1994	06/2006	28,923	0.96	194	1.56	8,271	0.12
Peru	10/1993	06/2006	17,577	0.58	115	0.92	13,395	0.19
Philippines	07/1991	06/2006	29,598	0.98	164	1.32	27,407	0.38
Poland	02/1999	06/2006	12,185	0.41	137	1.10	25,780	0.36
Portugal	12/1989	06/2006	15,941	0.53	80	0.64	34,106	0.48
Singapore	08/1984	06/2006	44,016	1.46	167	1.35	86,644	1.22
South Africa	07/1981	06/2006	71,552	2.38	239	1.92	99,624	1.40
South Korea	02/1986	06/2006	157,983	5.25	645	5.19	99,469	1.40
Spain	10/1988	06/2006	21,990	0.73	103	0.83	213,147	2.99
Sweden	08/1983	06/2006	56,689	1.89	206	1.66	123,986	1.74
Switzerland	07/1981	06/2006	62,084	2.06	207	1.66	85,779	1.20
Taiwan	10/1990	06/2006	66,624	2.22	354	2.85	210,039	2.95
Thailand	08/1988	06/2006	58,101	1.93	270	2.17	49,264	0.69
Turkey	04/1990	06/2006	31,357	1.04	162	1.30	34,057	0.48
U.K.	07/1981	06/2006	389,164	12.94	1,297	10.43	882,577	12.38
Total			3,007,248	100.00	12,430	100.00	7,127,901	100.00

ends in June of 2006. The start and end dates vary across countries based on each country's data availability (see columns 2 and 3 of Table 1). We use data prior to the listed start dates to construct some of the variables that are described in the following subsection. To be included in our sample, a stock must have sufficient information to generate the issuance measure (explained below), market value of equity, lagged six-month holding period return, and current month's return. Each month we limit our sample to countries that have at least 50 firm observations in that month.

Our final sample consists of 3,007,428 firm-month observations, and is described in Table 1. Japan represents the largest part of our sample, accounting for 14.35% of the total observations and 27.72% of the total market value per month. The U.K. is the second largest and accounts for 12.94% of the total observations and 12.38% of the total market value. The rest of the countries

typically account for <5% of the total observations and market value.

2.2. Variables

Share issuance: The main variable of our interest is the real change in shares outstanding, or the change in the number of shares outstanding adjusted for distribution events such as stock splits and stock dividends. We use the capital adjustment index from Datastream recorded at the end of month t (CAI_t) to calculate the number of real shares outstanding for that month (*Adjusted Shares*$_t$). The *CAI* is the cumulative product of the inverse of the individual-period capital adjustment factor (*AX*) and is analogous to the *Total Factor* of Pontiff and Woodgate (2008):

$$CAI_t = \prod_{i=1}^{t} 1/AXi.$$

Adjusted Shares$_t$ is then given by

$$Adjusted\ Shares_t = Shares\ Outstanding_t / CAI_t.$$

We use *Adjusted Shares* to compute a one-year issuance measure (*ISSUE*) used in Pontiff and Woodgate (2008):

$$ISSUE_{t,t-12} = Ln(Adjusted\ Shares_t) - Ln(Adjusted\ Shares_{t-12}).$$

Size: We calculate the natural logarithm of the June-end U.S.-dollar converted market value of equity from Datastream. This variable, *ME*, is used as a control variable from July of the current year through June of the following year.

Book-to-market: We use the Fama and French (1992) procedure and construct the natural logarithm of the previous fiscal year-end book-to-market ratio, *BM*.[3] The book-to-market ratio is the inverse of the market-to-book value provided by Datastream. To ensure the availability of accounting information, *BM* is used as a control variable from July of the current year through June of the following year.

We follow Pontiff and Woodgate (2008) and create a book-to-market dummy variable, *BM-Dum*. If book value of equity is either missing or negative, then we assign both *BM* and *BM-Dum* values of zero. Otherwise, *BM-Dum* is set to one. The use of *BM-Dum* allows us to include firms with either missing or negative book values of equity without influencing inference of the *BM* slope coefficient.[4]

Momentum: Our momentum measure, *MOM*, is given by the U.S.-dollar buy and hold return over the previous six months. A one-month lag of this variable, $MOM_{t-7,t-1}$, is used to forecast in order to avoid the return effect of bid-ask bounce.

Holding period returns: The dependent variables in some of our regressions are subsequent holding period U.S.-dollar returns.[5] We use data from individual stock return indices to calculate holding period returns. We measure returns over the first month and first year.

2.3. Estimation

We estimate Fama and MacBeth (1973) regressions each month to calculate linear relations between holding period returns and our independent variables. We then report time-series averages of intercepts, slope coefficients, and adjusted R^2s obtained from the cross-sectional regressions. For the annual return regressions, we use the procedure of Pontiff (1996) to calculate t-statistics with autocorrelation-consistent standard errors that correct for the holding period overlap.

Since we want to study the pervasiveness of the issuance effect in international markets, we pool firm observations from the 41 countries into one sample. We estimate each regression both with and without country dummy variables. When the country dummies are included, the regression coefficients provide estimates of the within-country effects. When the dummies are excluded, the coefficients measure the effects across the entire sample.

Henderson, Jegadeesh, and Weisbach (2006) show that countries with large positive share issuances have low subsequent returns. Their results suggest that there is an aggregate issuance effect across countries, but do not tell us whether there is an issuance effect across stocks within each country. The cross-sectional issuance effect in the U.S. is shown by Daniel and Titman (2006) and Pontiff and Woodgate (2008). The use of country dummies in our regression analyses allows us to test whether such a cross-sectional effect exists in international markets.

We also estimate all of our regressions by both equal-weighting and value-weighting each observation. If the results from the two regressions are comparable, then we infer that the issuance effect is similar across both small and large firms in our sample. This investigation is motivated by Fama and French (2008), who find that the issuance effect is pervasive across different size groups in the U.S.

Firms are, on average, larger in more developed markets than in less developed ones, so value-weighting in our sample might just be measuring a developed market effect. Therefore, we implement a third weighting scheme, where we scale each value-weight by the average market value in the firm's country (scaled-weight). The scaled-weight is a within-country value-weight; it allows us to test whether the issuance effect is present in stocks that are large relative to other stocks in the same country.

[3] The fiscal year end for Japan is March, whereas it is December for all other countries.

[4] Of our observations, 32% have either missing or negative book values. We repeated the primary results in this paper using only firms that had positive book values, and both the tenor and significance of the results were unchanged.

[5] We also conducted our analyses using domestic returns and the results were similar.

Table 2
Aggregate summary statistics.

This table reports aggregate summary statistics for one-month and one-year holding period returns, the natural logarithm of the June-end market value (*ME*), the natural logarithm of the previous year's fiscal year-end book-to-market ratio (*BM*), the past six-month stock return (*MOM*), and the one-year change in the number of shares outstanding adjusted for distribution events such as stock splits and stock dividends (*ISSUE*). *ISSUE* is computed over months $t-12$ to t : $ISSUE_{t,t-12} = Ln(Adjusted\ Shares_t) - Ln(Adjusted\ Shares_{t-12})$. The sample is drawn from 41 non-U.S. countries, covers a period between July 1981 and June 2006, and consists of 3,007,248 total firm-month observations.

Variable	Total number of observations	Mean	Standard deviation	25th Percentile	Median	75th Percentile
1-Month return	3,007,248	0.011	0.141	−0.057	0.000	0.063
1st-Year return	2,489,432	0.163	0.652	−0.179	0.055	0.353
ME	3,007,248	4.387	2.125	2.971	4.411	5.808
BM	2,050,489	−0.397	0.915	−0.924	−0.378	0.151
MOM	3,007,248	0.066	0.385	−0.145	0.012	0.204
ISSUE	3,007,248	0.053	0.254	0.000	0.000	0.008

3. Return predictive ability of the continuous issuance measure

3.1. Summary statistics for the continuous issuance measure

Table 2 presents summary statistics for the variables used in our study. We observe that *ISSUE* has a pronounced right skew; it has a mean value of 0.053, which is greater than its 75th percentile value of 0.008. Pontiff and Woodgate (2008) report similar findings for the U.S.; their *ISSUE* measure has a mean of 0.04 and a 75th percentile value of 0.03.[6] These numbers also indicate that the average level of *ISSUE* is similar between U.S. and non-U.S. firms.

3.2. Determinants of international share issuance

We now study how international share issuance is related to firm characteristics. Table 3 reports the results from Fama-MacBeth regressions in which *ISSUE* is regressed on the values of size, book-to-market, and momentum that are available immediately before the *ISSUE*-construction months, as well as on the 12-month lag of *ISSUE* (*LAG-ISSUE*). We estimate six different regression specifications; first using equal-weights, value-weights, and scaled-weights with country dummies and then without country dummies.

In all six regressions, the coefficients on size are both negative and significant, suggesting that large firms issue fewer shares than do small firms. The coefficients on the momentum and lagged issuance measures are positive in all six regressions, and mostly significant. This implies that firms with high past returns and firms that have recently issued shares are likely to issue more shares. These findings are consistent with Pontiff and Woodgate's (2008) U.S. findings.

The book-to-market coefficient is positive in all six regressions, but is significant only in the equal-weighted regression, which uses country dummies. This suggests that high book-to-market firms issue more shares and low book-to-market firms buyback more shares, and that this pattern is more strongly observed among smaller firms, as only the equal-weighted coefficient is significant. This result is in stark contrast to the findings for U.S. firms, among which low book-to-market firms issue more shares

Table 3
Fama-MacBeth regressions of annual share issuance on firm characteristics.

This table reports the results of Fama-MacBeth cross-sectional regressions. The annual share issuance measure (*ISSUE*) is regressed on the following firm-specific variables available immediately before the *ISSUE*-construction months: the natural logarithm of the June-end market value (*ME*), the natural logarithm of the previous year's fiscal year-end book-to-market ratio (*BM*), the past six-month stock return (*MOM*), and the annual share-issuance measure lagged by 12 months (*LAG-ISSUE*). If the book value of equity is either missing or negative, then we assign both *BM* and *BM-Dum* values of zero. Otherwise, *BM-Dum* receives a value of one. *ISSUE* is the real change in the number of shares outstanding, computed over months $t-12$ to t : $ISSUE_{t,t-12} = Ln(Adjusted\ Shares_t) - Ln(Adjusted\ Shares_{t-12})$. We estimate six different regression specifications, using equal-weights, value-weights, or scaled-weights, and by either including or excluding country dummy variables. The scaled-weights are computed by dividing each value-weight by the average market value of the firm's home country. The coefficients and adjusted R^2s are in percentages and are given by the time-series averages of the corresponding statistics obtained from the monthly cross-sectional regressions. *t*-Statistics, corrected for overlapping *ISSUE*-construction periods, are reported in parentheses. Coefficients with a 10% significance level or higher are bolded. The sample is drawn from 41 non-U.S. countries, covers the period between January 1983 and June 2006, and consists of 2,195,155 firm-month observations.

Regression Weighting	(1) Equal	(2) Value	(3) Scaled	(4) Equal	(5) Value	(6) Scaled
Intercept	**9.22** **(11.31)**	**6.55** **(9.81)**	**7.21** **(15.04)**	**8.51** **(11.65)**	**5.70** **(7.34)**	**6.90** **(7.77)**
ME	**−0.79** **(−7.10)**	**−0.48** **(−4.43)**	**−0.59** **(−6.51)**	**−0.98** **(−8.40)**	**−0.50** **(−4.01)**	**−0.66** **(−5.82)**
BM	**0.49** **(2.08)**	1.63 (1.17)	1.78 (1.38)	0.53 (1.42)	1.64 (1.05)	1.82 (1.33)
BM-Dum	−0.11 (−0.24)	1.22 (1.07)	1.62 (1.62)	0.16 (0.45)	1.05 (0.83)	1.55 (1.34)
MOM	**1.30** **(2.87)**	1.04 (1.58)	**0.94** **(1.75)**	**1.35** **(2.80)**	**1.36** **(1.91)**	1.08 (1.59)
LAG-ISSUE	**3.10** **(2.31)**	0.46 (0.31)	1.07 (0.81)	**5.25** **(3.63)**	**3.46** **(2.05)**	**3.25** **(2.35)**
Average adj. R^2	6.90	10.25	10.09	2.42	3.62	3.47
Country dummies	Yes	Yes	Yes	No	No	No

[6] Unless otherwise noted, our comparisons of summary statistics and regression results to those of Pontiff and Woodgate (2008) use their post-1970 study since our sample begins in 1981.

(see Loughran and Ritter, 1995; Baker and Wurgler, 2002; Pontiff and Woodgate, 2008).

The use of country dummies does not have a strong effect on the regression coefficients; economic and statistical significances of the coefficients are mostly similar in the regressions with country dummies and in those without. However, the average R^2 statistics from the regressions with country dummies are more than twice as large as those from the regressions without the dummies. Thus, country of origin explains more of the variation in share issuances than do the individual firm characteristics, which are included in the regressions.

3.3. Share issuance and future returns

We now turn to one of the main focuses of our paper and test whether international share issuance can predict the cross section of stock returns. We conduct our analyses using holding period returns measured over the first month and first year, and with equal-, value-, and scaled-weighted returns.[7]

Panels A and B of Table 4 summarize the results of the regressions in which *ISSUE* is the only explanatory variable along with country dummies (Panel A) and without the dummies (Panel B). The *ISSUE* coefficients are negative and significant in all 12 of the regressions reported in Panels A and B. This indicates that issuance has a significant and persistent ability to predict cross-sectional returns both within country (Panel A) and across countries (Panel B).

The issuance effect is robust to all three weighting schemes, suggesting that the effect is strong in both large and small stocks. Looking across the columns in Panels A and B we see that, for a given holding period, the coefficients and *t*-statistics are similar for each of the three weighting schemes. This is consistent with Fama and French (2008), who find that the issuance effect is present across both large and small stocks in U.S. markets.

A comparison of our results to the U.S. evidence reveals that the economic magnitude of the issuance effect is stronger in the U.S. than in international markets. For example, in Panel A our equal-weighted one-month holding period regression yields an *ISSUE* coefficient estimate of −0.54, implying that a one standard deviation increase (0.25) in issuance leads to a 0.14% decline in the cross section of monthly international returns. From the same regression, which includes only the *ISSUE* variable, Pontiff and Woodgate (2008) find its slope to be −2.23, showing that a one standard deviation increase (0.15) in issuance is associated with a 0.33% decline in the subsequent month's cross-sectional returns in the U.S. A similar comparison made for the one-year holding period also shows that the issuance measure exhibits a stronger economic effect on future returns in the U.S. as compared to non-U.S. countries.

[7] In an earlier version of this paper we also used returns measured over six months, second year, and third year. The results over these horizons are similar to the results for the one-month and one-year horizons, so for the sake of brevity we do not report them.

3.4. The impact of size, book-to-market, and momentum on the share issuance effect

To test the robustness of the international issuance effect, we include size (*ME*), book-to-market (*BM*), and momentum (*MOM*) as control variables in the regressions. We report these results in Panels C and D of Table 4. Controlling for these effects is important since prior studies have shown that they exist in international markets (see Fama and French, 1998; Rouwenhorst, 1998, 1999; Griffin, Ji, and Martin, 2003).

The effects of *ISSUE* are robust to the inclusion of other firm-specific variables. The issuance measure has significant negative coefficients in all 12 regressions reported in Panels C and D, and the effect remains similar in both economic magnitude and statistical significance as compared to the results in Panels A and B. These results are similar to those reported in Pontiff and Woodgate (2008) and Fama and French (2008), who find that the U.S. issuance effect remains pervasive after controlling for other firm characteristics known to affect future returns.

The results in Panels C and D show that the statistical significance of issuance compares favorably to those of other firm-specific variables. The *t*-statistics for the *ISSUE* slopes are, in 11 out of 12 regressions, considerably larger than those for both *ME* and *MOM*, and are comparable to those for *BM* throughout the regressions.

4. Effects of positive and negative share issuances

Fama and French (2008) compare issuance-return predictability based on whether the firm is an issuer or repurchaser, and the magnitude of the respective activity. Fama and French's sample consists of U.S. firms, so, we test whether positive and negative issuances can separately predict returns across non-U.S. firms.

Previous non-U.S. papers in this area study the effects of either SEO or buyback program announcements. As Rau and Vermaelen (2002) and Fama and French (2008) point out, studies, which measure the return-predictability of share issuance *announcements* are not comparable to studies, which measure the return-predictability of share issuance, as shares are issued on different dates than when programs are announced. Most studies that measure announcement effects study returns over a few days around the announcement; hence, the return-predictability measured in these studies has passed by the time the shares are issued. Moreover, an announcement is a binary measure; it does not account for the magnitude of the eventual issuance activity, and the U.S. evidence in Daniel and Titman (2006) and Pontiff and Woodgate (2008) shows that differences in issuance magnitudes are robust predictors of cross-sectional returns. Fama and French (2005) show that in the U.S. SEOs account for only a small portion of total share issuances; hence, our broad measure of share issuance captures many issuance events that the SEO announcement literature misses.

In order to compare the U.S. and non-U.S. evidence, we follow Fama and French (2008) and sort stocks every month into eight groups based on the level of issuance.

Table 4
Fama-MacBeth regressions of holding period returns on share issuance and share issuance with controls.

This table reports the results of Fama-MacBeth regressions both with and without country dummies. The regressions are estimated with equal-weights, value-weights, and scaled-weights, which are value-weights scaled by the average market value within the firm's country. In Panels A and B, holding period returns, measured over the first month and first year, are regressed on the one-year real change in the number of shares outstanding (*ISSUE*). *ISSUE* is computed over months $t-12$ to t : $ISSUE_{t,t-12} = Ln(Adjusted\ Sharest) - Ln(Adjusted\ Shares_{t-12})$. In Panels C and D, holding period returns, measured over the first month and first year, are regressed on the natural logarithm of the June-end market value (*ME*), the natural logarithm of the previous year's fiscal year-end book-to-market ratio (*BM*), the past six-month stock return (*MOM*), and the one-year real change in the number of shares outstanding (*ISSUE*). If book value of equity is either missing or negative, then we assign both *BM* and *BM-Dum* values of zero. Otherwise, *BM-Dum* receives a value of one. The coefficients and adjusted R^2s are in percentages and are given by the time-series averages of the corresponding statistics obtained from the monthly cross-sectional regressions. *t*-Statistics, corrected for overlapping holding periods, are reported in parentheses. Coefficients with a 10% significance level or higher are bolded. The sample is drawn from 41 non-U.S. countries, covers a period between July 1981 and June 2006, and consists of 3,007,248 and 2,489,432 total firm-month observations for the one-month and one-year holding-period regressions.

Regression	(1)	(2)	(3)	(4)	(5)	(6)
Return horizon Weighting	1-Month Equal	1-Month Value	1-Month Scaled	1st-Year Equal	1st-Year Value	1st-Year Scaled
Panel A						
Intercept	**1.13** **(3.87)**	**1.29** **(4.27)**	**1.29** **(4.27)**	**18.06** **(4.36)**	**16.38** **(5.18)**	**16.38** **(5.19)**
ISSUE	**−0.54** **(−7.33)**	**−0.37** **(−3.41)**	**−0.42** **(−4.42)**	**−4.33** **(−5.51)**	**−3.73** **(−3.41)**	**−3.64** **(−4.02)**
Average adj. R^2	19.83	24.29	28.31	22.20	26.52	29.23
Country dummies	Yes	Yes	Yes	Yes	Yes	Yes
Panel B						
Intercept	**1.25** **(5.20)**	**1.05** **(3.86)**	**1.21** **(4.77)**	**17.83** **(4.36)**	**13.60** **(3.29)**	**16.32** **(4.83)**
ISSUE	**−0.66** **(−5.50)**	**−0.47** **(−2.50)**	**−0.53** **(−3.63)**	**−4.59** **(−3.16)**	**−3.82** **(−1.92)**	**−4.55** **(−2.84)**
Average adj. R^2	0.13	0.20	0.17	0.20	0.22	0.22
Country dummies	No	No	No	No	No	No
Panel C						
Intercept	**1.18** **(4.11)**	**0.95** **(2.37)**	**0.88** **(2.63)**	**18.52** **(3.45)**	**14.39** **(3.44)**	**15.19** **(3.51)**
ME	**−0.04** **(−1.83)**	0.02 (0.50)	0.03 (1.01)	**−0.71** **(−2.26)**	0.05 (0.14)	−0.07 (−0.24)
BM	**0.30** **(7.37)**	**0.31** **(4.56)**	**0.32** **(5.80)**	**3.98** **(4.31)**	**3.70** **(4.61)**	**3.91** **(3.91)**
BM-Dum	**0.32** **(6.19)**	**0.32** **(3.29)**	**0.32** **(4.31)**	**4.12** **(4.67)**	**3.74** **(4.11)**	**4.16** **(3.89)**
MOM	**0.88** **(5.10)**	0.44 (1.13)	**0.66** **(2.31)**	**9.78** **(4.17)**	4.76 (1.53)	**6.34** **(2.43)**
ISSUE	**−0.49** **(−6.90)**	**−0.44** **(−4.11)**	**−0.46** **(−4.93)**	**−3.62** **(−5.30)**	**−4.15** **(−3.67)**	**−3.95** **(−4.25)**
Average adj. R^2	20.75	27.76	30.09	23.78	30.42	31.58
Country dummies	Yes	Yes	Yes	Yes	Yes	Yes
Panel D						
Intercept	**1.61** **(6.22)**	**0.85** **(2.30)**	**1.36** **(3.64)**	**24.51** **(4.80)**	**15.18** **(3.85)**	**22.94** **(4.60)**
ME	**−0.11** **(−3.45)**	0.01 (0.21)	−0.04 (−0.94)	**−1.56** **(−4.31)**	−0.23 (−0.61)	**−1.00** **(−2.35)**
BM	**0.31** **(4.14)**	**0.34** **(3.64)**	**0.35** **(4.36)**	**4.33** **(7.00)**	**4.03** **(5.81)**	**4.39** **(7.01)**
BM-Dum	**0.24** **(1.98)**	**0.39** **(3.28)**	**0.30** **(2.60)**	**2.96** **(1.82)**	**4.67** **(4.62)**	**3.95** **(6.52)**
MOM	**0.93** **(3.23)**	0.37 (0.79)	0.60 (1.52)	**8.62** **(2.53)**	3.98 (0.83)	5.74 (1.40)
ISSUE	**−0.62** **(−5.51)**	**−0.52** **(−3.32)**	**−0.62** **(−4.58)**	**−4.39** **(−3.61)**	**−5.27** **(−2.20)**	**−5.87** **(−3.03)**
Average adj. R^2	3.16	7.00	5.12	3.82	7.58	5.94
Country dummies	No	No	No	No	No	No

Like Fama and French (2008), we use all but the smallest quintile stocks in our sample to determine the portfolio breakpoints, although the smallest stocks are also included in the portfolios. *POS*1 through *POS*5 are the quintiles of firms with positive share issuances, with *POS5* consisting of the largest issuers. *NEG*1 and *NEG*2 are the portfolios of firms with negative issuance, with *NEG*1 containing the largest net share repurchasers, with *ISSUE* values below that month's median negative value. Firms with zero issuance are included in the portfolio, *ZERO*.

There is a good deal of variation in the laws concerning buybacks across the countries in our sample (see Table 7), and many of the countries in our sample had changes in their buyback laws during our sample period.[8] The law changes either made buybacks legal for the first time, or made buybacks more feasible from either a tax or regulatory perspective. To test whether buyback restrictions affect the issuance and repurchase effects, we create a second sample, which excludes firm-month observations for which buybacks were either illegal, or unattractive from a tax and/or regulatory perspective. We conduct our analyses in both samples and report the results in Panels A and B of Table 5.

Summary statistics for the portfolios are presented in Table 5. Panel A reports the statistics for the entire sample. The table shows that in an average month, 57.53% of the firms in our sample have *ISSUE* values of zero, while about 7% have negative share issuances, and the remaining 35% have positive share issuances. The smallest three positive-issuance portfolios have negligible values of *ISSUE*; they are 0.13%, 0.97%, and 4.12%. This is similar to the findings in Fama and French (2008), who report values of 0.14%, 0.57%, and 1.48% for the same quintiles with U.S. stocks.

Compared to the U.S., the biggest non-U.S. net issuers and net repurchasers tend to have more extreme changes in their shares outstanding. For the highest quintile of positive issuers we find a mean issuance of 55.89%, compared to Fama and French's (2008) finding in the U.S. of 24.04%. For the lower half of repurchasers we find a mean value of issuance of −19.50%, compared with −5.73% from Fama and French's (2008) study.

Panel B displays the results for the sample, which excludes firm-month observations that have buyback restrictions. We expect the absolute mean-issuance values for the *NEG* portfolios to increase when buybacks become either legal or feasible, and the results in Panel B relative to those in Panel A show this. The results in Panel B also show that the average issuance values for the *POS* portfolios increase when buybacks are allowed. The values for *POS4* and *POS5* portfolios increase from 12.99% and 55.89% in Panel A, to 14.89% and 60.54% in Panel B. One reason for this increase could be market timing; firms are more willing to issue shares if they know that they can buy the shares back later.

Positive and negative share issuances and subsequent returns: In Table 6 we again test whether share issuance can predict returns, only now we replace the *ISSUE* measure with dummy variables that indicate which of the seven share issuance portfolios a firm belongs to. Panel A reports the results for the full sample. Buybacks are usually associated with statistically insignificant negative returns. This is different than the results that Fama and French (2008) obtain with U.S. stocks; they find that negative-issuance portfolios have positive and statistically significant abnormal returns in both large and small stocks, showing that the buyback effect is weaker internationally than it is in the U.S.

At the one-month horizon both the *POS*4 and *POS*5 coefficients are negative and statistically significant under each of the three weighting schemes. This result is stronger than that reported by Fama and French (2008) for U.S. stocks; they find that only the fifth quintile of issuers has negative abnormal returns. The *POS*5 slope from the equal-weighted regression in Panel A is −0.45% and its *t*-statistic is −6.41, suggesting that if a firm is in *POS*5 its expected returns over the subsequent month are lower by 0.45%. Fama and French (2008) find that this group of firms in the U.S. underperforms by 0.27% per

Table 5
Summary statistics for portfolios sorted on annual share issuance.

This table provides summary statistics for portfolios sorted on annual share issuance (*ISSUE*). *ISSUE* is the real change in the number of shares outstanding computed over months $t-12$ to t: $ISSUE_{t,t-12} = Ln(Adjusted\ Shares_t) - Ln(Adjusted\ Shares_{t-12})$. Each month, we follow Fama and French (2008) and use all but the smallest quintile stocks to determine our portfolio breakpoints. The smallest stocks are included in the portfolios. We sort stocks with negative issuance into two portfolios; *NEG*1 is a portfolio for stocks below the negative issuance median and *NEG*2 is for stocks above the negative issuance median. We sort stocks with positive issuance into five quintiles (*POS*1–*POS*5); *POS*1 is for stocks in the lowest positive issuance quintile and *POS*5 is for stocks in the highest issuance quintile. *ZERO* is a portfolio that includes stocks with zero net issuance. The sample is drawn from 41 non-U.S. countries, consists of 3,007,248 total firm-month observations, and is from July of 1981 to June of 2006. Panel A reports results for the entire sample, while Panel B excludes observations for which buybacks were either illegal or unattractive from either a tax or other regulatory perspective.

ISSUE rank portfolio	Average monthly value of *ISSUE* (%)	Average monthly cross-sectional standard deviation of *ISSUE* (%)	Average number of firm observations per month	Average monthly percentage of sample (%)
Panel A				
*NEG*1	−19.50	41.68	376	3.75
*NEG*2	−0.25	0.27	342	3.42
ZERO	0.00	0.00	5,766	57.53
*POS*1	0.13	0.11	659	6.57
*POS*2	0.97	0.43	663	6.61
*POS*3	4.12	1.57	688	6.87
*POS*4	12.99	3.74	721	7.19
*POS*5	55.89	49.14	809	8.07
Panel B				
*NEG*1	−24.19	44.98	265	4.05
*NEG*2	−0.38	0.39	245	3.74
ZERO	0.00	0.00	3,568	54.55
*POS*1	0.15	0.12	453	6.93
*POS*2	1.05	0.48	456	6.98
*POS*3	4.66	1.84	481	7.35
*POS*4	14.89	4.19	508	7.76
*POS*5	60.54	49.49	565	8.64

[8] Buybacks in the U.S. were restricted prior to 1982, so Fama and French's sample, which begins in 1963, also includes observations for which buybacks were restricted.

Table 6
FamaMacBeth regressions of holding period returns on annual share issuance rankings and controls.

This table reports the results of Fama-MacBeth regressions with country dummies. The regressions are estimated with equal-weights, value-weights, and scaled-weights, which are value-weights scaled by the average market value within the firm's country. Holding period returns, measured over the first month and first year, are regressed on the natural logarithm of the June-end market value (*ME*), the natural logarithm of the previous year's fiscal year-end book-to-market ratio (*BM*), the past six-month stock return (*MOM*), and annual-issuance (*ISSUE*) rank dummies. If book value of equity is either missing or negative, then we assign both *BM* and *BM-Dum* values of zero. Otherwise, *BM-Dum* receives a value of one. *ISSUE* is the real change in the number of shares outstanding computed over months $t-12$ to t: $ISSUE_{t,t-12} = Ln(Adjusted\ Shares_t) - Ln(Adjusted\ Shares_{t-12})$. Each month, we follow Fama and French (2008) and use all but the smallest size quintile stocks to determine our portfolio breakpoints. The smallest stocks are included in the portfolios. We sort stocks with negative issuance into two portfolios; *NEG*1 is a portfolio with stocks below the negative issuance median and *NEG*2 contains stocks above the negative issuance median. We sort stocks with positive issuance into five quintiles (*POS*1–*POS*5); *POS*1 is for stocks in the lowest positive issuance quintile and *POS*5 is for stocks in the highest issuance quintile. A rank dummy variable is assigned a value of one if the firm is in the portfolio, and zero otherwise. The coefficients and adjusted R^2s are reported in percentages and are given by the time-series averages of the corresponding statistics obtained from the monthly cross-sectional regressions. *t*-Statistics, corrected for overlapping holding periods, are reported in parentheses. Coefficients with a 10% significance level or higher are bolded. The sample is drawn from 41 non-U.S. countries, covers a period between July 1981 and June 2006, and consists of 3,007,248 or 2,489,432 total firm-month observations for one-month or one-year holding-period regressions. Panel A reports results for the entire sample, while Panel B excludes observations for which buybacks were either illegal or unattractive due to either tax or other regulatory factors.

Regression	(1)	(2)	(3)	(4)	(5)	(6)
Return horizon	1-Month	1-Month	1-Month	1st-Year	1st-Year	1st-Year
Weighting	Equal	Value	Scaled	Equal	Value	Scaled
Panel A						
Intercept	**1.20**	**0.97**	**0.90**	**18.70**	**14.73**	**15.30**
	(4.23)	**(2.45)**	**(2.69)**	**(3.49)**	**(3.38)**	**(3.34)**
ME	**−0.04**	0.02	0.03	**−0.71**	0.04	−0.10
	(−1.78)	(0.51)	(0.95)	**(−2.34)**	(0.12)	(−0.38)
BM	**0.29**	**0.30**	**0.32**	**3.94**	**3.73**	**3.95**
	(7.38)	**(4.55)**	**(5.87)**	**(4.33)**	**(4.63)**	**(3.94)**
BM-Dum	**0.32**	**0.32**	**0.33**	**4.10**	**3.92**	**4.28**
	(6.21)	**(3.39)**	**(4.40)**	**(4.60)**	**(4.22)**	**(4.02)**
MOM	**0.88**	0.42	**0.65**	**9.71**	4.72	**6.25**
	(5.12)	(1.12)	**(2.31)**	**(4.16)**	(1.53)	**(2.39)**
*NEG*1	0.05	−0.01	0.00	0.35	−1.03	−1.33
	(0.97)	(−0.10)	(−0.05)	(0.56)	(−0.75)	(−0.83)
*NEG*2	0.01	**−0.17**	−0.11	0.30	−1.21	−0.74
	(0.13)	**(−1.71)**	(−1.30)	(0.46)	(−0.85)	(−0.52)
*POS*1	0.02	−0.04	−0.02	**0.72**	−0.55	0.20
	(0.46)	(−0.65)	(−0.34)	**(2.73)**	(−0.72)	(0.30)
*POS*2	0.00	−0.05	−0.02	0.17	−0.52	0.34
	(0.03)	(−0.73)	(−0.31)	(0.36)	(−0.61)	(0.44)
*POS*3	**−0.08**	−0.04	−0.01	−0.08	−1.03	−0.23
	(−1.81)	(−0.48)	(−0.13)	(−0.14)	(−1.12)	(−0.34)
*POS*4	**−0.29**	**−0.22**	**−0.21**	**−2.13**	**−2.64**	**−2.08**
	(−4.68)	**(−2.69)**	**(−3.11)**	**(−2.73)**	**(−2.60)**	**(−2.50)**
*POS*5	**−0.45**	**−0.30**	**−0.31**	**−3.98**	**−3.44**	**−3.29**
	(−6.41)	**(−3.72)**	**(−4.13)**	**(−5.66)**	**(−3.59)**	**(−3.33)**
Average adj. R^2	20.81	28.44	30.48	23.88	31.26	32.07
Country dummies	Yes	Yes	Yes	Yes	Yes	Yes
Panel B						
Intercept	**1.19**	**0.69**	**0.76**	**19.58**	**14.84**	**15.74**
	(4.12)	**(1.88)**	**(2.14)**	**(3.18)**	**(2.62)**	**(2.66)**
ME	**−0.05**	0.05	0.04	**−0.97**	0.07	−0.10
	(−1.80)	(1.45)	(1.30)	**(−2.06)**	(0.14)	(−0.23)
BM	**0.25**	**0.29**	**0.34**	**3.09**	**3.06**	**3.68**
	(5.49)	**(4.52)**	**(5.35)**	**(3.05)**	**(3.03)**	**(3.07)**
BM-Dum	**0.38**	**0.29**	**0.33**	**4.45**	**2.72**	**3.69**
	(6.38)	**(2.91)**	**(3.61)**	**(4.22)**	**(2.10)**	**(2.87)**
MOM	**1.11**	**0.98**	**0.84**	**10.27**	**8.22**	**6.27**
	(5.94)	**(2.58)**	**(2.61)**	**(3.38)**	**(2.65)**	**(2.24)**
*NEG*1	−0.04	−0.16	−0.10	−0.59	−3.48	−3.25

Table 6. (*continued*)

	(−0.52)	(−1.07)	(−0.62)	(−0.62)	(−1.62)	(−1.50)
*NEG*2	0.04	−0.16	−0.08	0.57	−1.34	−0.60
	(0.52)	(−1.24)	(−0.62)	(0.83)	(−0.76)	(−0.40)
*POS*1	0.07	−0.11	−0.08	**1.14**	−0.24	0.19
	(1.50)	(−1.59)	(−1.15)	**(2.68)**	(−0.34)	(0.26)
*POS*2	−0.01	0.05	0.07	−0.33	−0.62	0.16
	(−0.19)	(0.61)	(1.02)	(−0.50)	(−0.73)	(0.22)
*POS*3	**−0.15**	−0.04	0.04	−0.39	−0.33	0.68
	(−2.60)	(−0.43)	(0.42)	(−0.57)	(−0.31)	(0.91)
*POS*4	**−0.36**	**−0.29**	**−0.29**	**−3.02**	**−3.23**	**−3.10**
	(−4.85)	**(−3.29)**	**(−3.38)**	**(−3.84)**	**(−2.81)**	**(−3.28)**
*POS*5	**−0.58**	**−0.41**	**−0.36**	**−4.86**	**−4.52**	**−3.94**
	(−6.89)	**(−4.16)**	**(−3.65)**	**(−5.79)**	**(−2.97)**	**(−3.31)**
Average adj. R^2	16.19	24.00	26.10	20.19	26.42	28.76
Country dummies	Yes	Yes	Yes	Yes	Yes	Yes

month. The *POS*4 slope from the same regression is −0.29% and its *t*-statistic is −4.68. Fama and French (2008) find that this group of firms in the U.S. has a positive abnormal return of 0.07%. Taken in their entirety, these results show that the impact of positive issuances on future returns is both more pervasive, and of greater economic magnitude internationally than in the U.S.

Panel B restricts the sample to observations from countries and times for which buybacks were feasible. None of the specifications produce *NEG* coefficients that are positive and statistically significant. The *POS*4 and *POS*5 coefficients in Panel B are noticeably larger (in absolute value) than those in Panel A. This shows that when firms can buy their shares back, the post-issuance returns are worse following positive issuances. This again could be consistent with market timing, as firms may be more willing to issue overvalued shares if they know that they can buy those shares back if their equity becomes fairly valued in the future.

5. Does the issuance effect vary across countries? Determinants of cross-country differences in the share issuance effect

5.1. Reasons for cross-country variation in issuance effects

Issuance costs and market timing: Market timing may be a motive to either buy or sell shares. In an inefficient market, market timing takes advantage of mispricing, while in an efficient market, market timing may be a capital structure adjustment in response to changes in a company's exposure to priced risk (e.g., Carlson, Fisher, and Giammarino, 2006; Sagi, Spiegel, and Watanabe, 2008). In both cases, share issuance predicts stock returns.

Market timing is only one reason for share issuance. Firms issue and repurchase shares in response to cashflow needs (see Myers, 1984; Myers and Majluf, 1984), tax incentives (see Rau and Vermaelen, 2002), and regulatory requirements. If market timing is of second-order importance to these other share issuance motivations, then issuance costs will make issuance for market timing motives infrequent relative to issuance for the more primary reasons. This suggests that if the primary reasons for share issuance are unrelated to future stock returns, then countries with higher issuance costs will have less share issuance activity, and weaker share issuance return-predictability.

Our first proxy for the cost of share issuance measures the actual issuance activity in the country—*percentage with non-zero issuance*. We measure the percentage of firm-month observations in each country with non-zero values of *ISSUE*. Countries with a higher value of this measure contain firms that more actively issue and repurchase their own shares, suggesting that in these countries share issuance activities are of relatively low cost. An advantage of this measure is that it is outcome-based and reflects the costs and obstacles of issuance that managers encounter, but researchers may not observe.

Share issuance should be less costly in countries with more developed stock markets. Because of this, we expect proxies for equity market development to proxy for issuance costs. We use several stock market development measures from La Porta, Lopez-de-Silanes, and Shleifer (2006) as proxies for the cost of issuing shares. These measures were obtained from Andrei Shleifer's Web site. *Liquidity* is the total dollar value of stocks traded scaled by gross domestic product (GDP) for the period 1996–2000. *Turnover* is the total dollar value of stocks traded, scaled by the value of shares outstanding, for the period 1996–2000. *Log GDP per capita* is per capita GDP in U.S. dollars in 2000.

Some countries restrict buybacks. Such restrictions impose a high cost on market timing. If repurchases are restricted, then firms may be less willing to market time, as they are unable to reduce their shares outstanding when either share prices or capital structure targets require this. If the issuance effect is the result of market

timing, then this would suggest that it is stronger in countries where buybacks are allowed. We create a dummy variable *Buybacks* which is equal to one if buybacks are feasible, and zero if they are either illegal or if tax and/or other regulatory issues make them highly unattractive. As an example, we define Australia as feasible post-1995. Buybacks became legal in Australia in 1989, but regulatory issues made them unattractive (and highly infrequent) until rule changes in 1995. We obtained our buyback dates from various sources, with Kim, Schremper, and Varaiya (2004) providing dates for the ten largest stock markets. Hong, Wang, and Yu (2008) also use the data provided by Kim et al.

Short sale constraints: Short sale constraints reduce the ability of sophisticated traders to induce corrective price pressure, and thus contribute to a less efficient market (Miller, 1977). These constraints give market-timing firms an advantage, since they can issue their own shares without suffering competition from short-sellers. We expect the share issuance effect to be more pronounced in countries where short selling is prohibited. We create a dummy variable *Short selling* which is equal to one if short selling is allowed and zero if it is not allowed. We obtained this measure from Bris, Goetzmann, and Zhu (2007). If short selling was legal prior to 1990, then Bris et al. report "Before 1990" as the effective date. For these countries, we assume that short selling was allowed in each of the years prior to 1990.

Corporate governance: The arguments in Morck, Yeung, and Yu (2000) suggest that the issuance effect will be weaker in countries with stronger investor protection laws. Consider an environment in which some investors are irrational, so mispricing can arise. Arbitrageurs profit from this mispricing, thereby keeping markets efficient. If investor protection laws are effective, then information asymmetries between issuers and investors are reduced, preventing managers from expropriating the firm's resources. In countries with strong investor protection, arbitrageurs will have similar information as managers. Because they do not fear expropriation, arbitrageurs will trade on their information and keep prices close to fundamental values. In countries with weak investor protection, the risk of expropriation is greater, so arbitrageurs are less willing to trade due to a lack of protection. This results in larger mispricing in low protection countries, and stronger share issuance effects.

We use several different measures of investor protection, each of which was obtained from Andrei Shleifer's Web site. La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) show that common law countries tend to have stronger investor protection laws than do civil law countries. Hence, we create a dummy variable *Law* which is equal to one if a country is of common law origin, and zero if the country is of civil law origin.

Accounting is an index of accounting standards; a higher value represents better accounting standards. The index is based on the reporting or omission of 90 items from annual reports. This measure is from La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998).

La Porta, Lopez-de-Silanes, and Shleifer (2006) argue that the threat of civil and/or criminal sanctions will encourage issuing firms to more fully disclose information, which is relevant to the value of their shares. La Porta, Lopez-de-Silanes, and Shleifer (2006) introduce several such measures of investor protection and show that these measures are correlated to financial market development. With each of the measures, a higher value signals greater investor protection. *Liability* is an index which measures the ease with which accountants, directors, and distributors can be pursued in civil courts for not fully disclosing information in prospectuses. *Criminal* is similar to *Liability*, only *Criminal* reflects the ease with which accountants, directors, and distributors can be pursued in criminal courts. *Protect* is the principal component of three different investor protection indices: *Liability*, an index of disclosure requirements, and an index of anti-director rights.

Earnings management: Dechow, Sloan, and Sweeney (1996) and Teoh, Welch, and Wong (1998) argue that U.S. firms manipulate accounting figures to raise capital on favorable terms. This argument assumes that markets are inefficient, as managers are able to fool investors with inflated accounting figures. Leuz, Nanda, and Wysocki (2003) show that that there is a good deal of variation in earnings management across the countries in our sample, so we might expect that share issuance return-predictability will be stronger in countries with greater earnings management. Our measure of earnings management is *Earnings management score* (*EMS*); it is from Leuz et al. *EMS* is the average rank of four different earnings management measures. A higher value of the *EMS* signals poorer earnings quality.

Country-level share issuance coefficients: We estimate monthly and yearly issuance coefficients for each country, using equal weights, and controls for size, book-to-market, and momentum. Share issuance activity is infrequent in many smaller countries, with many firms having values of zero for *ISSUE*. We estimate the share issuance coefficient in countries which have at least 100 firms in each cross-section. Panel A of Table 7 reports these estimates. We include U.S. data, obtained from the Center for Research in Security Prices (CRSP) and Compustat, for the sample period of July 1981 to June 2006.

5.2. Estimation of cross-country differences

5.2.1. Correlations among variables

Panel B of Table 7 reports the correlations among the variables. We focus our discussion on the correlations between the one-month *ISSUE* coefficient and the other variables; the one-year *ISSUE* coefficient's correlations are similar. The one-month *ISSUE* coefficient is negatively correlated to the frequency of non-zero issuance; hence, countries with more issuance activity have stronger issuance effects. The market development indicators *Liquidity*, *Turnover*, and *Log GDP per capita*, are each negatively correlated to the one-month *ISSUE* coefficient as well, suggesting that the issuance effect is stronger in more developed markets. The remaining correlations suggest that the issuance effect is stronger in countries with stronger investor protection, and better earnings

Table 7
Country-level issuance coefficients, issuance activity, market development, and governance variables.

This table displays country-level data for 42 countries (includes the U.S.) that are used in our regressions in Table 8. The second and third columns in Panel A are the one-month and one-year share issuance coefficients from within-country regressions of monthly and yearly returns on *ISSUE* along with controls for size, book-to-market, and momentum. The fourth column reports the percentage of firm-month observations with non-zero values of *ISSUE*. The items in columns 5, 6, and 7 were obtained from La Porta, Lopez-de-Silanes, and Shleifer (2006). *Liquidity* is the total dollar value of stocks traded scaled by GDP for the period 1996–2000. *Turnover* is the total dollar value of stocks traded, scaled by the value of shares outstanding, for the period 1996–2000. *Log GDP per Capita* is the per capita GDP in U.S. dollars in 2000. *Buybacks allowed?* Is the year in which buybacks first became feasible; we collected this data from various sources. *Short selling allowed?* Is the year in which a country first allowed short selling; it is from Bris, Goetzmann, and Zhu (2007). *Law* is equal to one if a country is of common law origin and zero if the country is of civil law origin. *Accounting* is an index of accounting standards; a higher value suggests better accounting standards. The next three measures are from La Porta, Lopez-de-Silanes, and Shleifer (2006). With each measure a higher value signals greater investor protection. *Criminal* and *Liability* are indices which measure the ease with which accountants, directors, and distributors can be pursued in criminal and civil courts for not fully disclosing information in prospectuses. *Protect* is the principal component of *Liability* and two other investor protection indices. *Earnings management* is from Leuz, Nanda, and Wysocki (2003); a higher value of *Earnings management* suggests poorer earnings quality. Panel B reports the correlations among the variables.

Panel A: Summary statistics

Country	1-Month issue coefficient	1-Year issue coefficient	% Non-zero issuance	Liquidity	Turnover in U.S.$	Log GDP per capita	When were buybacks allowed?	When was short selling allowed?	Law	Accounting	Criminal	Liability	Product	Earnings management
Argentina			24.00	5.83	14.42	8.95	Full	1999	0	45	0.17	0.22	0.479	
Australia	−1.03	−10.20	60.85	45.16	48.16	9.89	1996	Before 1990	1	75	0.83	0.66	0.784	4.8
Austria			13.81	6.71	49.52	10.05	2000	Before 1990	0	54	0.50	0.11	0.104	28.3
Belgium	1.00	10.48	18.35	16.83	24.68	10.02	2000	Before 1990	0	61	0.50	0.44	0.068	19.5
Brazil	0.48	1.55	24.09	18.29	61.14	8.14	Full	Before 1990	0	54	0.33	0.33	0.442	
Canada	−0.60	−3.22	64.95	57.86	65.64	10.05	Full	Before 1990	1	74	0.83	1.00	0.959	5.3
Chile	2.26	21.31	11.06	9.14	10.00	8.44	Full	Before 1990	0	52	0.50	0.33	0.610	
China	0.59	34.68	32.98	9.14	10.00	8.44		Not allowed	0					
Czech Republic			6.06					Before 1990	0					
Denmark	−0.76	−15.66	22.23	36.27	64.23	10.31	2001	Before 1990	0	62	0.00	0.55	0.363	16.0
Egypt		0.00	8.31	7.76	32.81	7.28			0	24	0.42	0.22	0.202	
Finland	−0.95	28.63	36.04	70.97	51.34	10.06	1998	1998	0	77	0.50	0.66	0.465	12.0
France	−0.81	−7.76	39.66	44.90	63.82	9.99	1999	Before 1990	0	69	0.33	0.22	0.473	13.5
Germany	−1.23	−6.88	20.15	37.80	118.46	10.03	1999	Before 1990	0	62	0.50	0.00	0.000	21.5
Greece	−0.42	−9.23	28.96	60.84	78.79	9.27	Full	Not allowed	0	55	0.50	0.50	0.319	28.3
Hong Kong	−0.84	−11.13	52.88	179.05	64.94	10.10	1992	1996	1	69	1.00	0.66	0.851	19.5
India	0.22	0.26	26.18	54.65	63.72	6.16	2000		1	57	0.83	0.66	0.769	19.1
Indonesia	0.28	4.63	26.20	13.78	65.20	6.59		Not allowed	0		0.50	0.66	0.507	18.3
Ireland			70.44	30.79	59.96	10.14	Full	Before 1990	1		0.83	0.44	0.478	5.1
Italy	−0.57	−14.37	38.14	36.58	80.08	9.84	Full	Before 1990	0	62	0.50	0.22	0.197	24.8
Japan	0.51	7.82	41.90	35.50	49.40	10.54	1996	Before 1990	0	65	0.00	0.66	0.420	20.5
Malaysia	0.40	3.31	34.88	98.54	50.77	8.25	1998	1995–1997	1	76	1.00	0.66	0.730	14.8
Mexico	−0.53	−6.62	44.85	9.89	34.42	8.67		Before 1990	0	60	0.50	0.11	0.100	
Netherlands	−1.43	−18.99	45.23	113.49	95.36	10.06	2002	Before 1990	0	64	0.50	0.89	0.540	16.5
New Zealand			52.62	17.82	42.68	9.48	2000	1992	1	70	0.33	0.44	0.460	
Norway	−0.57	−3.69	43.58	30.15	79.64	10.49	2000	1992	0	74	1.00	0.39	0.440	5.8
Pakistan	−1.01	−18.58	21.91	26.50	220.97	6.10	Full	Not allowed	1		0.08	0.39	0.630	17.8
Peru	−3.83	−72.05	38.07	5.19	21.65	7.64		Not allowed	0	38	0.50	0.66	0.660	
Philippines	−0.23	−10.16	27.60	21.45	39.52	6.83		1998	0	65	0.50	1.00	0.810	8.8
Poland	0.01	−2.07	16.53				1998	2000	0					
Portugal			16.18	30.98	68.18	9.27		Before 1990	0	36	0.00	0.66	0.570	25.1
Singapore	−0.78	−14.42	42.11	79.15	49.62	10.05	1999	Not allowed	1	78	1.00	0.66	0.770	21.6
South Africa	−1.59	−7.98	39.50	41.77	27.74	7.98	2001	Before 1990	1	70	0.42	0.66	0.600	5.6
South Korea	−0.87	−7.93	37.95	110.16	204.92	9.18	Full	Not allowed	0	62	0.33	0.66	0.360	26.8

Spain	0.01	5.64	37.49	107.98	174.82	9.56	Full	1992	0	64	0.50	0.66	0.550	18.6
Sweden	−0.78	−5.08	39.73	92.22	78.08	10.15	2001	1991	0	83	0.58	0.28	0.390	6.8
Switzerland	−0.31	−1.09	24.77	206.27	91.22	10.41	1998	Before 1990	0	38	0.33	0.44	0.300	22.0
Taiwan	0.06	−7.31	72.05	320.69	314.74	9.54	2001	Before 1990	0	65	0.83	0.66	0.550	22.5
Thailand	0.50	11.18	45.08	22.55	62.51	7.58	2002	1997	1	64	0.58	0.22	0.370	18.3
Turkey	−2.31	−20.16	48.75	43.68	148.00	8.02	Full	Before 1990	0	51	0.50	0.22	0.338	
UK	−1.19	−10.40	55.35	83.02	50.62	10.08	Full	Before 1990	1	78	0.42	0.78	0.770	7.0
U.S.	−2.06	−16.40	87.48	178.88	125.30	10.46	1982	Before 1990	1	71	0.50	1.00	1.000	2.0

Panel B: Country-level correlation matrix

	1-Month issue coefficient	1-Year issue coefficient	% Non-zero issuance	Liquidity	Turnover	Log GDP per capita	Law	Accntg.	Criminal	Liability	Protect	Erngs. mgmt.
1-Month issue coefficient	1.00											
1-Year issue coefficient	0.68	1.00										
% Non-zero issuance	−0.46	−0.42	1.00									
Liquidity	−0.21	−0.30	0.51	1.00								
Turnover	−0.20	−0.29	0.31	0.64	1.00							
Log GDP per capita	−0.31	−0.27	0.43	0.35	0.02	1.00						
Law	−0.18	−0.21	0.44	0.11	−0.05	−0.08	1.00					
Accntg.	−0.28	−0.07	0.56	0.21	0.10	0.40	0.47	1.00				
Criminal	−0.03	0.00	0.38	0.30	0.01	0.08	0.41	0.45	1.00			
Liability	−0.14	−0.13	0.44	0.38	0.09	0.04	0.34	0.32	0.17	1.00		
Protect	−0.16	−0.17	0.48	0.29	0.01	−0.12	0.61	0.36	0.33	0.78	1.00	
Erngs. mgmt.	0.42	0.13	−0.57	0.07	0.27	−0.08	−0.45	−0.65	−0.26	−0.37	−0.54	1.00

quality. Taken in their entirety, the results suggest that the issuance effect is stronger in countries in which it is easier for firms to issue and buyback their shares.

The results show that share issuance activity is greater in more developed markets and in markets with stronger investor protection. *Percentage of non-zero issuance* is positively correlated with each of the development and investor protection measures; the correlations range from 0.31 to 0.56. This is consistent with our conjecture that share issuance activity will increase as the cost of share issuance decreases.

The results also show that the investor protection proxies are correlated with the market development proxies. This is consistent with the results in La Porta, Lopez-de-Silanes, and Shleifer (2006) who contend that the relation between investor protection and financial market development is causal, in that investor protection laws allow financial markets to develop.

5.2.2. Methodology

Regressions: Our objective is to test whether country characteristics can explain differences in the issuance effect across countries. To maximize the power of our tests, we return to our pooled sample and regress monthly stock returns on *ISSUE* along with interaction variables which are the product of *ISSUE* and each of the country characteristics described in Table 7.[9] The interaction coefficients can be interpreted as the marginal change in the slope of the *ISSUE* coefficient per unit change in the interactive variable. This estimation is similar in spirit to a second-pass regression of country *ISSUE* coefficients (from a first-pass regression) on explanatory variables.[10] An interactive regression is more efficient than a second-pass regression because it avoids two layers of statistical problems. First, a regression of slopes on explanatory variables leads to generated-regressor problems (Pagan, 1984). Second, due to the Fama-Macbeth approach, the left-hand-side variable is actually an average of slope coefficients. Regressions with left-hand-side variables that are averages of primary data result in inference that is inconsistent with regressions that utilize the primary left-hand-side variables. This "ecological regression" problem was originally identified by Yule (1903), more formally developed by Robinson (1950), and recently applied to the cross-country finance literature by Holderness (2008).

[9] If we do not have a country's characteristic variable, then the observations from that country are not included in the regression.

[10] Consider the following specification that relates next period's return on stock j, r_j, to the current period's share issuance, $ISSUE_j$,

$$r_j = a_j + b_j ISSUE_j + e. \qquad \text{(F1)}$$

The relation between the slope, b_j, and a characteristic of the country that stock j belongs to, $CHAR_j$, may be written as,

$$b_j = c_{j0} + c_{j1} CHAR_j. \qquad \text{(F2)}$$

Substituting (F2) into (F1) yields,

$$r_j = a_j + c_{j0} ISSUE_j + c_{j1} CHAR_j x ISSUE_j + e.$$

Thus, the slope on the interaction, c_{j1}, estimates the marginal impact of the characteristic on the issuance effect.

Table 8
Equal-weighted Fama-MacBeth regressions of monthly returns on annual share issuance with issuance activity, market development, and governance interactions, and controls.

This table reports the results of equal-weighted Fama-MacBeth regressions. Holding period returns measured over one month and one year are regressed on the natural logarithm of June-end market value (*ME*), the natural logarithm of the previous year's fiscal year-end book-to-market ratio (*BM*), the past six-month stock return (*MOM*), and the one-year real change in the number of shares outstanding (*ISSUE*). If book value of equity is either missing or negative, then we assign both *BM* and *BM-Dum* values of zero. Otherwise, *BM-Dum* receives a value of one. *ISSUE* is interacted with each of the variables described in Table 7. The coefficients and adjusted R^2s are reported in percentages and are given by the time-series averages of the corresponding statistics obtained from the monthly cross-sectional regressions. *t*-Statistics, corrected for overlapping holding periods, are reported in parentheses. Coefficients with a 10% significance level or higher are bolded. The sample is drawn from 42 countries (including the U.S.) and covers a period between July 1981 and June 2006. The sample size ranges from 3,600,509 to 4,522,009 total firm-month observations depending on the availability of the interactive variables.

Panel A: Issuance activity and market development interactions: 1-Month returns

Regression	(1)	(2)	(3)	(4)	(5)	(6)
Interactive variable	% Non-zero issuance	Liquidity	Turnover	Log GDP per capita	Buybacks allowed	Short selling allowed
Intercept	0.91	**1.09**	**1.12**	3.30	**1.04**	**1.46**
	(1.24)	**(2.29)**	**(2.60)**	(0.48)	**(3.42)**	**(2.97)**
ME	**−0.07**	**−0.07**	**−0.07**	**−0.07**	**−0.07**	**−0.07**
	(−2.15)	**(−2.11)**	**(−2.09)**	**(−2.10)**	**(−2.11)**	**(−1.97)**
BM	**0.37**	**0.37**	**0.38**	**0.38**	**0.38**	**0.39**
	(6.84)	**(6.85)**	**(6.84)**	**(6.88)**	**(6.70)**	**(6.96)**
BM-Dum	**0.36**	**0.36**	**0.36**	**0.36**	**0.37**	**0.36**
	(7.72)	**(7.66)**	**(7.70)**	**(7.72)**	**(7.75)**	**(7.70)**
MOM	**0.59**	**0.59**	**0.59**	**0.59**	**0.61**	**0.59**
	(2.87)	**(2.85)**	**(2.84)**	**(2.84)**	**(2.91)**	**(2.72)**
ISSUE	**0.61**	−0.10	−0.11	**6.25**	**−0.48**	**−0.53**
	(2.82)	(−0.94)	(−0.73)	**(4.12)**	**(−3.40)**	**(−2.46)**
Variable	0.68	0.00	0.00	−0.18	**0.56**	−0.02
	(0.69)	(0.71)	(0.68)	(−0.27)	**(1.72)**	(−0.05)
Variable x ISSUE	**−2.62**	**−0.01**	**−0.01**	**−0.72**	**−0.63**	**−0.41**
	(−4.90)	**(−5.04)**	**(−4.71)**	**(−4.57)**	**(−3.56)**	**(−1.69)**
Average adj. R^2	12.34	12.31	12.29	12.29	11.79	11.78

Panel B: Issuance activity and market development interactions: 1-Year returns

Regression	(1)	(2)	(3)	(4)	(5)	(6)
Interactive variable	% Non-zero issuance	Liquidity	Turnover	Log GDP per capita	Buybacks allowed	Short selling allowed
Intercept	19.07	**19.08**	**19.11**	20.25	**17.93**	**21.60**
	(1.60)	**(2.45)**	**(2.74)**	(0.17)	**(4.09)**	**(3.57)**
ME	**−1.00**	**−0.98**	**−0.97**	**−0.98**	**−1.02**	**−0.96**
	(−2.73)	**(−2.69)**	**(−2.67)**	**(−2.68)**	**(−2.73)**	**(−2.59)**
BM	**4.62**	**4.64**	**4.69**	**4.71**	**4.73**	**4.76**
	(4.17)	**(4.20)**	**(4.25)**	**(4.25)**	**(4.18)**	**(4.36)**
BM-Dum	**3.96**	**4.08**	**4.11**	**4.11**	**4.02**	**4.10**
	(4.17)	**(4.26)**	**(4.31)**	**(4.30)**	**(4.19)**	**(4.14)**
MOM	**7.02**	**7.03**	**7.06**	**7.06**	**7.08**	**6.30**
	(3.21)	**(3.19)**	**(3.21)**	**(3.20)**	**(3.21)**	**(2.68)**
ISSUE	**7.17**	1.03	−0.36	**60.92**	**−3.67**	**−7.42**
	(1.88)	(0.70)	(−0.10)	**(2.35)**	**(−2.85)**	**(−2.42)**
Variable	1.79	0.01	0.02	0.47	3.46	−1.12
	(0.11)	(0.20)	(0.24)	(0.04)	(0.68)	(−0.15)
Variable x ISSUE	**−26.53**	**−0.09**	**−0.09**	**−6.78**	**−6.89**	−1.02
	(−3.46)	**(−4.50)**	**(−2.10)**	**(−2.81)**	**(−3.43)**	(−0.29)
Average adj. R^2	16.07	15.99	15.95	15.97	15.39	15.65

Panel C: Governance interactions: 1-Month returns

Regression	(1)	(2)	(3)	(4)	(5)	(6)
Interactive variable	Common	Accntg.	Criminal	Liability	Protect	Erngs. mgmt.
Intercept	**1.12**	3.00	0.47	0.90	0.65	**1.57**

Table 8 (*continued*)

Panel C: Governance interactions: 1-Month returns

Regression	(1)	(2)	(3)	(4)	(5)	(6)
Interactive variable	Common	Accntg.	Criminal	Liability	Protect	Erngs. mgmt.
	(4.07)	(0.93)	(0.28)	(1.18)	(0.54)	**(3.88)**
ME	**−0.07**	**−0.07**	**−0.07**	**−0.07**	**−0.07**	**−0.07**
	(−2.10)	**(−2.09)**	**(−2.05)**	**(−2.09)**	**(−2.10)**	**(−2.20)**
BM	**0.38**	**0.38**	**0.38**	**0.38**	**0.38**	**0.38**
	(6.86)	**(6.81)**	**(6.85)**	**(6.83)**	**(6.82)**	**(6.48)**
BM-Dum	**0.36**	**0.37**	**0.37**	**0.37**	**0.37**	**0.36**
	(7.78)	**(7.70)**	**(7.79)**	**(7.75)**	**(7.75)**	**(7.37)**
MOM	**0.59**	**0.60**	**0.60**	**0.59**	**0.59**	**0.60**
	(2.87)	**(2.85)**	**(2.84)**	**(2.84)**	**(2.83)**	**(2.79)**
ISSUE	**−0.29**	**1.00**	**−1.19**	0.05	0.18	**−1.38**
	(−3.41)	**(2.37)**	**(−6.06)**	(0.30)	(1.13)	**(−6.51)**
Variable	0.35	−0.02	1.98	0.57	0.83	−0.04
	(1.19)	(−0.51)	(0.54)	(0.63)	(0.61)	(−0.60)
Variable x ISSUE	**−0.89**	**−0.03**	**0.60**	**−1.32**	**−1.48**	**0.06**
	(−5.88)	**(−3.95)**	**(2.01)**	**(−4.04)**	**(−4.56)**	**(4.86)**
Average adj. R^2	12.30	11.81	11.83	11.85	11.85	11.31

Panel D: Governance interactions: 1-Year returns

Regression	(1)	(2)	(3)	(4)	(5)	(6)
Interactive variable	Common	Acctng.	Criminal	Liability	Protect	Erngs. mgmt.
Intercept	**17.43**	22.78	19.14	19.16	18.43	**21.27**
	(4.25)	(0.50)	(0.74)	(1.55)	(0.97)	**(4.87)**
ME	**−0.99**	**−0.99**	**−0.96**	**−0.98**	**−0.98**	**−1.05**
	(−2.70)	**(−2.71)**	**(−2.65)**	**(−2.69)**	**(−2.70)**	**(−2.78)**
BM	**4.70**	**4.72**	**4.75**	**4.67**	**4.66**	**4.70**
	(4.24)	**(4.24)**	**(4.27)**	**(4.21)**	**(4.21)**	**(4.01)**
BM-Dum	**3.98**	**4.07**	**4.15**	**4.12**	**4.10**	**4.00**
	(4.23)	**(4.33)**	**(4.34)**	**(4.24)**	**(4.23)**	**(4.17)**
MOM	**7.06**	**7.12**	**7.14**	**7.08**	**7.07**	**7.06**
	(3.23)	**(3.17)**	**(3.22)**	**(3.19)**	**(3.19)**	**(3.17)**
ISSUE	−1.39	8.19	**−11.14**	2.46	4.52	**−13.11**
	(−1.35)	(1.42)	**(−3.91)**	(1.04)	(1.63)	**(−6.07)**
Variable	3.29	−0.05	1.70	0.94	1.97	−0.09
	(0.74)	(−0.06)	(0.03)	(0.07)	(0.09)	(−0.09)
Variable x ISSUE	**−9.54**	**−0.24**	6.80	**−14.60**	**−17.10**	**0.55**
	(−4.88)	**(−2.52)**	(1.26)	**(−3.26)**	**(−3.48)**	**(3.40)**
Average adj. R^2	16.03	15.28	15.36	15.40	15.41	14.96

5.2.3. Results

The results in Table 8 show that the issuance effect is stronger in countries in which it is less costly for firms to issue and repurchase their shares. Panels A and B of Table 8 show that the issuance effect is stronger in countries in which firms more actively trade in their own shares, in countries with more developed equity markets, and in countries where buybacks are allowed. Panel A reports results for one-month holding period return regressions, while Panel B reports the one-year holding period results. We describe the results in more detail below.

In regression 1 in Panel A, *ISSUE* is interacted with the percentage of observations within the country that have a non-zero value of *ISSUE*. The interaction term is negative and highly significant, with a *t*-statistic of −4.90, showing that the issuance effect is stronger in countries with more issuance activity. Regressions 2, 3, and 4 report the market development interactions. All three of the interaction terms are negative; the *t*-statistics range from −4.57 to −5.04, showing that the issuance effect is stronger in markets that are more developed. These results show that the share issuance effect increases as the cost of issuing shares falls.

The buyback interaction is also negative and significant. *Buyback* is equal to one if buybacks are permitted and zero otherwise. The interaction term is −0.63, while the *ISSUE* coefficient is −0.48. Taken together, the coefficients show that the issuance coefficient is −0.48 in countries that do not allow buybacks, and −1.11 in countries that do. The *t*-statistic for the buyback interaction coefficient is −3.56, which is slightly smaller than the development and non-zero interactions, suggesting that buyback regulations are not as important as issuance activity and equity market development with respect to explaining cross-country differences in the issuance effect.

The final regression in Panel A is an interaction with a short sale allowance dummy. Miller's (1977) hypothesis suggests that if the low returns following share issuances are the result of overvaluation, then the issuance effect will be weaker in countries that allow short selling. However, this is not what we find, as the interaction term is negative and marginally significant. Short selling tends to be allowed in developed markets more than in non-developed markets; this might explain why the coefficient has a negative sign.

The one-year holding period results in Panel B are very a similar to those in Panel A. The issuance activity and market development interactions are all highly significant, showing that the issuance effect is strongest in countries where it is easier to issue shares. The buyback dummy is also significant, showing that the effect is stronger in countries where buybacks are feasible, while the short selling interaction is not significant.

The results in Panels A and B suggest that the issuance effect is stronger in countries in which it is less costly for firms to issue and repurchase shares. This result is consistent with market timing. If the benefits of share issuance include market timing, and the costs of market timing decrease with market development, then we would expect to see both more issuance activity and greater share issuance effects in developed markets.

Panels C and D of Table 8 show that the issuance effect is stronger in countries with stronger investor protection laws, and in countries with less earnings management. We first describe the results in Panel C, which reports the monthly holding period return regression results.

In the first regression, the interaction term is a dummy variable equal to one if the country is a common law country. The interaction term is −0.89 (t-statistic = −5.88) and the *ISSUE* coefficient is −0.29 (t-statistic = −3.41). Hence, in a civil law country, where investor protections are weak, the average *ISSUE* coefficient is −0.29, while in common law countries, where investor protection is stronger, the average *ISSUE* coefficient is −1.18.

Regressions 2, 4, and 5 reinforce the notion that the issuance effect is stronger in countries which offer greater investor protection. The coefficients are negative and significant for the *Accounting*, *Liability*, and *Protect* interaction terms. The *t*-statistics range from −3.95 to −4.56. In regression 3 the *Criminal* interaction term is significant, but incorrectly signed.

La Porta, Lopez-de-Silanes, and Shleifer (2006) and our correlations in Table 7 show that better governed countries have more developed equity markets, thereby providing firms with easier access to equity capital. Hence, the corporate governance-share issuance relation is consistent with a stronger issuance effect in countries where it is less costly for firms to issue and repurchase their shares.

If the share issuance effect is the result of mispricing, then the results may be inconsistent with the arguments in Morck, Yeung, and Yu (2000). Morck et al. contend that investor protection laws encourage arbitrage activity, thereby making markets more efficient. This would suggest that anomalies should be less prevalent in countries with stronger investor protection, yet with the share issuance effect we find the opposite. Alternatively, it might be that markets are less efficient in low protection countries, but the costs of issuing shares are so high in these countries that firms do not bother to exploit mispricing, and this is why we observe weaker issuance effects in low protection countries.

Regression 6 shows that the issuance effect is strong in countries with good earnings quality, and weak in countries with poor earnings quality. The evidence in Dechow, Sloan, and Sweeney (1996) and Teoh, Welch, and Wong (1998) suggests that U.S. firms manipulate accounting figures to raise capital on favorable terms, so our cross-country results are different than these cross-firm results in the U.S. Leuz, Nanda, and Wysocki (2003) show that earnings quality is better in countries which offer better investor protection, so the results here again suggest that the issuance effect is stronger in countries with more developed capital markets.

Panel D of Table 8 reports the regression results with the one-year holding period. The results are similar to those in Panel C, showing that the issuance effect is stronger in countries which offer better investor protection and in countries which have better earnings quality.

6. Conclusion

In this paper we study the return-predictive ability of firm-level share issuance in international markets. We conduct our analyses across a large sample of non-U.S. firms, drawn from 41 different countries over a 25-year period. We find robust evidence of a share issuance effect in our sample. The predictive ability of issuance is generally more statistically significant than that of either size or momentum, and is similar to that of book-to-market.

The international issuance effect is especially strong following positive share issuances. A comparison of our results to those in Fama and French (2008) shows that positive share issuance events have a stronger effect on subsequent returns internationally than they do in the U.S. Like in the U.S., international negative issuances also predict high returns, but the international buyback effect is weaker than that from positive issuances, and weaker than the buyback effect found in the U.S.

The findings show that the share issuance effect is related to the ease with which firms can issue and buyback their shares. The issuance effect is stronger in countries in which there is more frequent issuance activity, more developed stock markets, and stronger investor protection laws. The results from our cross-country analyses show that the issuance effect is stronger when there is more issuance activity, and that there is more issuance activity when it is less costly for firms to issue and repurchase shares. These findings are consistent with the notion that issuance costs interfere with firms' abilities to time markets.

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