Style Evolution, Equity Issuance, and International Value Premium[*]

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Abstract

This paper studies how value-glamour style evolution, or the variation in firms' book-to-market ratios over time, helps explain the value premium in international markets. The style evolution reflects information about the firms' accounting-based performance, stock return, and net equity issuance. The net share issuance has the strongest ability to predict future cross-sectional returns in developed markets, whereas such an effect is absent in emerging markets. The global net issuance factor, given by a zero-investment portfolio that goes long net stock repurchasers and short net issuers from the developed markets, yields a significant premium of 4.68% per annum over the last quarter century. The exposure to the global issuance factor significantly explains the returns on global value and glamour portfolios.

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The value premium, which arises from buying stocks with high book-to-market ratios (value stocks) and selling stocks with low book-to-market ratios (growth stocks), has been found in the U.S. stock market and in a number of international markets.[1] Given such pervasive evidence, the characteristics and potential causes of this premium have been actively investigated over the last two decades.

The goal of this paper is to shed light on the sources of the global value premium by examining how value-glamour style evolution, or the variation in firms' book-to-market ratios over time, helps explain future stock returns. The book-to-market ratio evolves through time due to changes in a firm's accounting-based fundamental (the book value of equity) and stock price, and the magnitude of their relative changes determines whether or not the firm migrates across different style groups. The current level of the book-to-market ratio can therefore be regarded as a summary measure of all the migrations that a firm has undergone in the past, with each period's style change revealing new information about its risk or degree of misvaluation. Based on this view, the investigation of how and to what extent the nature of the style evolution affects future returns may be a useful way to understand the mechanism through which the value effect originates and whether particular information reflected in the evolution process is more important than others in driving this effect.

Recent studies by Daniel and Titman (2006) and Fama and French (2007) examine the value effect in the U.S. stock market using this approach. Specifically, they consider three types of information pertaining to the style-evolution process. The first two are the changes in per-stock book and market values of equity (book and stock returns) derived from a simple

[1] See, for example, Rosenberg, Reid, and Lanstein (1985), Fama and French (1992, 1993), and Lakonishok, Shleifer, and Vishny (1994) for the U.S., Chan, Hamao, and Lakonishok (1991) for Japan, Capaul, Rowley, and Sharpe (1993), French (1998), and Griffin (2002) for international markets.

decomposition of a log book-to-market ratio per share, and the third is the net equity issuance that affects firm-level variations in total book equity and total market capitalization.

Daniel and Titman (2006) find that the component of the stock return unrelated to the accounting-based performance measured by the book return, which they refer to as "intangible information," significantly negatively predicts future cross-sectional returns. The net share issuance, introduced as another proxy for the intangible information, is also shown to be strongly negatively associated with future returns. In contrast, the book return, or "tangible information," exhibits no significant effect. Daniel and Titman (2006) argue that these results contradict the two well-known explanations of the value anomaly based on rational and behavioral views. According to the rational argument (Fama and French (1993, 1995, 1996)), value firms are fundamentally riskier due to poor past performance and deliver higher average returns to compensate investors for the greater distress risk that they face. The proponents of the behavioral story (Lakonishok, Shleifer, and Vishny (1994)) claim that investors overreact to past fundamentals, depressing prices of value firms and inflating those of growth firms, and the value premium arises as this mispricing gets corrected. The two explanations hence share a common prediction that the past fundamental growth or the tangible information is what is important in driving the value effect. Daniel and Titman (2006) reject this hypothesis. Their findings instead suggest that the U.S. value effect arises from investor overreaction to the intangible information, such as firms' future growth options which leads to opportunistic share issuance activities, or alternatively, from changes in systematic risk brought about by the exercising of these growth options through equity issues (Carlson, Fisher, and Giammarino (2006)).

Recognizing the difficulty in separating out tangible and intangible information, Fama and French (2007) focus directly on the relative return-predictive ability of the book and stock returns. They find that these two growth measures are associated with future returns with a comparable magnitude for a similar sample of stocks as in Daniel and Titman (2006) representing the majority of the U.S. market share, whereas the effect of stock return is stronger than that of book return for the remaining smaller firms. Despite the difference, the estimate of expected returns is enhanced for both samples when the growths are measured over more recent past. Fama and French (2007) also show that the significant issuance effect documented by Daniel and Titman (2006) for their 1968-2003 sample is absent prior to 1963, questioning the behavioral market-timing interpretation of this effect.[2] Overall, their results imply that the recent period's style evolution contains useful information about future stock returns, while the relative importance of the three sources of the evolution–the book return, the stock return, and the net equity issuance–may vary across different types of stocks and across different time periods.

In this paper, I offer a first examination of the relationship between the book-to-market evolution and the value premium in international markets. Given mounting evidence on the existence of the value premium in various countries, identifying the roots of this premium is an important question for both finance academics and practitioners. I therefore offer a comprehensive analysis on this issue using a large sample of stocks selected from 41 different countries (21 developed and 20 emerging markets) and studying both cross-sectional and time-series effects of the value-glamour style evolution over a 25-year period between 1982 and 2006.

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[2] Pontiff and Woodgate (2008) report a similar finding.

First, I assess how strongly each of the style-evolution components is associated with future returns in the international markets by conducting a cross-sectional analysis similar to Daniel and Titman (2006) and Fama and French (2007). I find that there are stark contrasts in the role of book-to-market evolution between the developed and the emerging markets. In the developed markets, the net share issuance exhibits the strongest ability to predict future cross-sectional returns. The net share issuance measured over the most recent fiscal year is particularly important in affecting future returns than the issuance measured over longer horizons, consistent with Fama and French's (2007) post-1963 U.S. finding. The effect of the one-year issuance also dominates the effects of the book return and the stock return. Furthermore, the annual share issuance is the only component that possesses significantly greater return-forecasting power than the book-to-market ratio evaluated at the beginning of the style-evolution period. Regarding such lagged book-to-market ratios as representing more permanent characteristics of firms, the results imply that new information about risk characteristics or the extent of temporary mispricing reflected in the firms' recent share issuance activities serves as an important driver of the value effect in the developed markets.

In contrast, there are no components of book-to-market evolution that are more strongly linked to future returns than the lagged book-to-market ratio in the emerging markets. This implies that the emerging-market value effect is driven more by longer-term risk or mispricing, and the recent period's style evolution plays little role in providing return-relevant information. On a relative term, however, the book return exhibits a stronger effect on future returns than the stock return, consistent with the finding that stock-price variation contains less firm-specific information in the emerging markets (Morck, Yeung, and Yu (2000)). The effect of book return is also greater than that of net share issuance. Hence, unlike in the developed markets, firms' equity financing and payout decisions serve as a weak signal of their risk or mispricing in the emerging markets. The smaller issuance effect in the emerging countries is consistent with a recent finding by McLean, Pontiff, and Watanabe (2008), who show that the firm-level issuance effect is weaker in countries with less developed and more illiquid stock markets where share issues and repurchases are more costly and less active. Overall, my results show that, while various countries may share a similar value effect, the process through which this effect arises could be different depending on the countries' information environment and stock market liquidity.

Second, having identified the net share issuance to be the main driver of the developed-market value effect, I investigate whether a factor constructed on the net issuance information serves as a systematic factor important in explaining the global value premium. I construct a global issuance factor by forming a zero-investment portfolio, which goes long firms with the bottom 30% of the annual net share issues and short those in the top 30% from the 21 developed markets. The net issuance factor earns an annual premium of 4.68%, which is greater than the premia earned on global size and value strategies. The net issuance premium also remains significant after controlling for its exposure to the global Fama and French (1993) factors. The corresponding country-level net issuance strategy yields positive premia in 18 of the 21 developed markets, and most of the G7 countries generate significant premia. Furthermore, the pairwise premium correlations between the G7 countries are predominantly positive, suggesting the existence of the net issuance effect at a global level.

Time-series asset pricing tests show that the introduction of the global issuance factor into an asset pricing model, consisting of global market and size factors, significantly improves the model's ability to explain the return dynamics of global book-to-market-sorted portfolios. The strong explanatory power of the net issuance factor signifies its ability to isolate information about systematic risk, which is particularly important in driving the international value premium. We also find that the global book-to-market portfolios load significantly on the issuance factor even after accounting for their exposures to the global value factor. The result therefore implies that the net issuance factor represents additional systematic risk or mispricing not reflected in the global version of the Fama and French (1993) factors, but is crucial in explaining the return dispersion between international value and glamour firms.

The remainder of the paper is organized as follows. Section 1 explains the construction of the style-evolution components, the cross-sectional regression setup, and data. Section 2 examines the cross-firm relationship between style evolution and future returns, and Section 3 studies the time-series effect of the net share issuance on the global value premium. Section 4 concludes.

1. Value-Glamour Style Evolution

1.1. Style Evolution Components

To examine whether value-glamour style evolution, or the variation in firms' book-to-market ratios over time, affects future cross-sectional returns in the international markets, I consider three types of information pertaining to the style evolution process: a change in per-stock book equity value (book return), a change in per-stock market value (stock return), and a change in market value not explained by the stock return (net share issuance). Daniel and Titman (2006) study their effects in the U.S. during 1968 and 2003, and Fama and French (2007) provide an extended analysis between 1927 and 2006.

The book-to-market ratio (*B/M*) evolves through time due to changes in book and market values of equity as illustrated by the following equation:

$$bm_{it} = \log\left(\frac{B_{it}}{M_{it}}\right) = \log\left(\frac{B_{it-k}}{M_{it-k}}\right) + \log\left(\frac{B_{it}}{B_{it-k}}\right) - \log\left(\frac{M_{it}}{M_{it-k}}\right) = bm_{it-k} + r^{B}_{it-k,t} - r_{it-k,t}. \quad (1)$$

The book return ($r^{B}_{it-k,t}$) and the stock return ($r_{it-k,t}$) for firm i between month t-k and t hence arise from a simple decomposition of the natural logarithm of the firm's month-t book-to-market ratio (bm_{it}), where the book equity value (B_{it}) and the market value (M_{it}) are both measured on a split-adjusted per-share basis. The above equation also demonstrates that the relative magnitude of $r^{B}_{it-k,t}$ and $r_{it-k,t}$ affects the degree of the book-to-market variation ($bm_{it} - bm_{it-k}$) and determines whether the firm migrates across different value-glamour style groups.

Alternatively, we can study the style-evolution process through growths in total book equity (BE_{it}) and total market value (ME_{it}) if *B/M* is expressed as a ratio of these two aggregate measures (Fama and French (2007)). The growths in BE_{it} and ME_{it} are, in turn, driven by the corresponding per-share growths, $r^{B}_{it-k,t}$ and $r_{it-k,t}$, and by the growth in market value not attributable to stock returns, $\iota_{it-k,t}$:

$$\log\left(\frac{BE_{it}}{BE_{it-k}}\right) = \log\left(\frac{B_{it} \cdot N_{it}}{B_{it-k} \cdot N_{it-k}}\right) = r^{B}_{it-k,t} + \iota_{it-k,t}, \quad (2)$$

$$\log\left(\frac{ME_{it}}{ME_{it-k}}\right) = \log\left(\frac{M_{it} \cdot N_{it}}{M_{it-k} \cdot N_{it-k}}\right) = r_{it-k,t} + \iota_{it-k,t}, \quad (3)$$

where N_{it} is the split-adjusted shares outstanding for firm i in month t. Daniel and Titman (2006) call $\iota_{it-k,t}$ the composite share issuance measure as it incorporates equity issues, repurchases, cash dividends, and other activities which lead to a change in total market value.

Based on the above observation, $\iota_{it-k,t}$ is introduced as another component related to the style evolution in addition to $r^{B}_{it-k,t}$ and $r_{it-k,t}$. Indeed, the level of recent share issuance tends to vary across value and glamour firms. Growth firms with large $r^B_{it-k,t}$ and even larger $r_{it-k,t}$ are more likely to have issued shares recently to finance investment opportunities or to increase firm values by timing the market. In contrast, value firms with low $r^B_{it-k,t}$ and even lower or negative $r_{it-k,t}$ tend to have repurchased shares.[3] Therefore, the net equity issuance may contain information about firms' systematic risk or the extent of their misvaluation important in explaining the value-glamour return dispersion. Furthermore, given that $\iota_{it-k,t}$ captures decisions made by firm managers, it may offer additional return-relevant information not revealed by $r^B_{it-k,t}$ and $r_{it-k,t}$ (Daniel and Titman (2006)).

The *B/M* decomposition shown above helps us understand the process through which the value effect arises in the international markets. As in Daniel and Titman (2006) and Fama and French (2007), we can assess whether information conveyed by the style-evolution components, $r^B_{it-k,t}$, $r_{it-k,t}$, and $\iota_{it-k,t}$, significantly affects future cross-sectional returns, and if so, whether a particular component is more influential than others. By taking advantage of a richer cross-sectional variation offered by the international data, we can also examine whether the role of the style-evolution components and their relative importance vary across different countries. For example, the book return may be less informative about firm fundamentals in emerging markets than in developed markets due to a higher likelihood of accounting data manipulation in these countries (Leuz, Nanda, and Wysocki (2003)). Similarly, the role of stock return may also be weaker in emerging markets as stock-price variation contains less firm-specific information (Morck, Yeung, and Yu (2000)). Emerging markets may further exhibit weaker issuance effect if limited liquidity in their equity markets makes issuance and repurchase activities more costly and less active (McLean, Pontiff, and Watanabe (2008)). These predictions imply that the overall effect of the style-evolution

[3] Table 7 provides the summary statistics on the style-evolution components for global *B/M*-sorted portfolios.

components may be smaller in the emerging markets than in the developed markets, while their relative importance within each group remains an empirical question.

1.2. Regression Setup

Using the three style-evolution components derived above, we will later examine whether there is a significant cross-firm relationship between these components and future returns. This subsection explains the setup of the cross-sectional regression analysis, which closely follows Daniel and Titman (2006) and Fama and French (2007).

First, in order to demonstrate the strength of the *B/M* effect in the international markets, I estimate the following cross-sectional regression using monthly data:

$$r_{it} = a_t + b_{1t} mc_{it} + b_{2t} bm_{it} + b_{3t} r_{it}^{5m} + e_{it}. \tag{4}$$

For firm i, mc_{it} is the natural logarithm of the June-end market capitalization, bm_{it} is the natural logarithm of the book-to-market ratio from the previous fiscal-year end in December, and $r^{5m}{}_{it}$ is the December-to-May five-month cumulative log return. These characteristics are used to predict the cross section of monthly excess returns, given by the stocks' U.S.-dollar returns in excess of the one-month U.S. Treasury bill rate, from July of the current year to June of next year. The six-month lag between bm_{it} and the first return-prediction month is allowed to ensure that the accounting information becomes publicly available by the time of forecast.

To examine the return-predictive ability of the style-evolution components, I replace bm_{it} in regression (4) by its decomposition variables and estimate the following cross-sectional relationship:

$$r_{it} = \alpha_t + \beta_{1t} mc_{it} + \beta_{2t} bm_{it-k} + \beta_{3t} r_{it-k,t}^{B} + \beta_{4t} r_{it-k,t} + \beta_{5t} \iota_{it-k,t} + \beta_{6t} r_{it}^{5m} + \varepsilon_{it}, \tag{5}$$

where bm_{it-k} is the natural logarithm of firm *i*'s book-to-market ratio from *k* months prior to the previous fiscal-year end, $r^B_{it-k,t}$ is the book return, $r_{it-k,t}$ is the stock return, and $\iota_{it-k,t}$ is the net equity issuance all measured from *k* months prior to the last fiscal-year end through the end of the previous fiscal year. Following Daniel and Titman (2006), r^{5m}_{it} is included to control for the effect of the recent price change not reflected in $r_{it-k,t}$. It is also included in (4), in addition to the size and book-to-market attributes (Fama and French (1992)), to make the regression setup consistent with (5).

The significance of the predictive contribution brought about by each style-evolution component is assessed by comparing its effect to that of bm_{it-k}. If $r^B_{it-k,t}$, $r_{it-k,t}$, and $\iota_{it-k,t}$ exhibit stronger impact on future returns than bm_{it-k}, it indicates that recent style evolution adds substantially more information about a firm's risk or mispricing than the information contained in all of the previous evolutions that the firm has experienced up to *t-k*, as summarized in bm_{it-k}. This point can be further examined by observing how the effects of the style-evolution components change as we lengthen their measurement horizon (*k* months). If the explanatory power of $r^B_{it-k,t}$, $r_{it-k,t}$, and $\iota_{it-k,t}$ declines as *k* increases, it again suggests that the recent style evolution is more important than older evolutions in explaining future cross-firm returns. I consider 1, 3, and 5 fiscal-year horizons (k = 12, 36, and 60 months, respectively) following Fama and French (2007). Similarly, the relative importance of the style-evolution components can be assessed by comparing the effects of $r^B_{it-k,t}$, $r_{it-k,t}$, and $\iota_{it-k,t}$.

Using the Fama and MacBeth (1973) procedure, I estimate the cross-sectional regressions (4) and (5) each month and report time-series averages of the intercepts, slope coefficients, and adjusted R^2 statistics. When country-pooled samples are used, I estimate the regressions with and without country dummies to infer the effects of style evolution on future returns within each country (from regressions with country dummies) and across all countries (from regressions without country dummies).

1.3. Data Construction

I investigate the relationship between value-glamour style evolution and future cross-sectional returns using a large sample of stocks drawn from 41 different countries (21 developed and 20 emerging markets) over a quarter-century period between 1982 and 2006. The sample countries are listed in Table 1.

The U.S. sample consists of ordinary common shares listed on the New York Stock Exchange, the American Stock Exchange, and the NASDAQ, which have a price of at least 5 dollars per share at the end of each June to avoid bid-ask bounce effects.[4] The regression variables, to be explained in detail below, are constructed using the Center for Research in Security Prices (CRSP) and the CRSP-Compustat merged annual datasets.

For non-U.S. firms, I obtain data from Thomson Datastream and convert all nominal variables to the U.S.-dollar equivalents. I select common stocks listed on each country's major stock exchange(s) from both active and defunct research files of Datastream to avoid survivorship bias and screen initial data for coding errors via the methods outlined in Ince and Porter (2006).

The one-month excess return, r_{it}, used as the dependent variable in regressions (4) and (5), is given by the U.S.-dollar simple return in excess of the one-month U.S. Treasury bill rate. The return series for the U.S. stocks are obtained from the CRSP, and those for the non-

[4] This requirement also makes our U.S. sample comparable to Daniel and Titman's (2006) sample and Fama and French's (2007) all-but-microcap sample, which represent the majority of the U.S. market capitalization.

U.S. firms are constructed using the U.S.-dollar-converted return index provided by Datastream. The U.S. Treasury bill rate is also from the CRSP.

Turning to the explanatory variables in regression (4), mc_{it} is calculated using June-end size given by the CRSP-reported price times the number of shares outstanding for the U.S. stocks and by Datastream's U.S.-dollar-converted market value for the non-U.S. stocks. To construct bm_{it}, I follow Davis, Fama and French (2000) and calculate previous December-end total book value for the U.S. firms using the CRSP-Compustat merged annual dataset.[5] If the book equity is positive, it is then divided by the December-end market value to generate the book-to-market ratio. For the non-U.S. firms, the ratio is given by the inverse of the market-to-book value provided by Datastream.[6]

The main explanatory variables of our interest are the value-glamour style evolution components derived from the *B/M* decomposition. The first component, $r_{it-k,t}$, is the continuously compounded stock return, which is calculated using the CRSP cum-dividend return for the U.S. stocks and Datastream's U.S.-dollar-converted return index for the non-U.S. stocks. To construct $\iota_{it-k,t}$ and $r^B_{it-k,t}$, observe from equations (2) and (3) that:

$$\iota_{it-k,t} = \log\left(\frac{ME_{it}}{ME_{it-k}}\right) - r_{it-k,t}, \tag{6}$$

$$r^B_{it-k,t} = \log\left(\frac{BE_{it}}{BE_{it-k}}\right) - \iota_{it-k,t}. \tag{7}$$

Therefore, $\iota_{it-k,t}$ is given the difference between the continuously compounded growth in total market value and the continuously compounded stock return. The per-share book return,

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[5] Specifically, the total book equity value is given by stockholders' book equity plus balance sheet deferred taxes and investment tax credit (if available) minus the book vale of preferred stock, which is given by the redemption, liquidation, or par value in the order of availability. If the stockholders' equity is missing, it is measured by the book value of common equity plus the par value of preferred stock, or else by the book value of assets minus total liabilities.

[6] The fiscal-year end is set to March for Japan, whereas it is set to December for all the other countries.

$r^B_{it-k,t}$, is calculated by subtracting $\iota_{it-k,t}$ from the continuously compounded growth in total book equity measured over the same horizon. The total book value for the U.S. firms is constructed as described above, and it is given by the U.S.-dollar-converted net tangible assets reported by Datastream for the non-U.S. firms. All of the style-evolution components, $r^B_{it-k,t}$, $r_{it-k,t}$, and $\iota_{it-k,t}$, are measured over the previous 1, 3, and 5 fiscal years.

To eliminate the effect of outliers, I winsorize all the variables for the U.S. firms at the top and bottom 0.5% following Fama and French (2007) and those for the non-U.S. firms at the top and bottom 1% within each country. I further require that the stocks have all the variables necessary to run regression (5) using the style-evolution components measured over the previous fiscal year, and limit monthly sample to include countries with at least 30 firm observations in that month. Due to the availability of book value information in Datastream, the one-year book return becomes available for several larger non-U.S. countries from December of 1981. The regression analysis therefore begins in July of 1982 and ends in December of 2006. The first month of inclusion into the sample varies across countries based on each country's data availability (see column 2 of Table 1).

The final sample consists of 2,737,391 total firm-month observations (see column 3 of Table 1). As expected, the U.S. represents the largest part of the sample, accounting for 32% of the total observations (column 4) and almost half of the total monthly market capitalization on average (column 8). Japan is the second largest, accounting for 14% of the total observations (column 4) and 23% of the total market value per month (column 8). The rest of the countries typically accounts for less than 5% of the total observations and market value.

I begin each regression analysis by first looking at the entire sample of stocks from the 41 countries pooled together. This allows us to assess the potential pervasiveness of the *B/M* effect and its evolution effect in the global markets. Given that the U.S. accounts for almost half of the global market value and the emerging markets represent only about 6% (see column 8 of Table 1), I also examine three additional samples of firms drawn from the U.S. only, the developed markets excluding the U.S., and the emerging markets, separately.

2. Style Evolution and Future Returns: Cross-Sectional Analysis

2.1. Summary Statistics

Table 2 presents summary statistics for the style-evolution components measured over the previous fiscal year, $r^{B}_{it-12,t}$, $r_{it-12,t}$, and $\iota_{i12-k,t}$, for each country and for a selected number of country-pooled samples. We observe that an average emerging-market firm experiences smaller growths in all of these components than an average developed-market firm, with the difference being particularly large for $r_{it-12,t}$ (0.32% for ‘Emerging’ and 7.94% for ‘Developed’). Within the developed markets, the growths in all of the evolution components are larger in the U.S. than in the remaining developed markets (‘Ex-U.S. Developed’). For example, the average one-year net share issuance is 1.89% for the U.S., 1.21% for the ex-U.S. developed markets, and 0.72% for the emerging markets. The cross-firm dispersions in the evolution measures are, however, the largest in the emerging markets and the smallest for the ex-U.S. developed markets. We also observe substantial cross-country dispersions in the average values of the style-evolution components; the country dummy variables used in our regressions therefore control for the effect of such country-level differences.

2.2. Pervasiveness of International Value Effect

First, we provide evidence of a pervasive value effect in the international markets. Panel A of Table 3 reports the results for regression (4) estimated using the sample of stocks drawn from all of the 41 countries. We confirm the existence of a significant value effect internationally; the variation in bm_{it} strongly predicts future cross-sectional returns both within a country (see the regression result with country dummies) and across countries (without dummies) controlling for the size and the short-term return effects. While the economic magnitude of the *B/M* effect is the same in both settings, the statistical significance of the effect is greater within a country.[7]

To assure that the significant *B/M* effect is not driven by the U.S. firms representing a large part of our country-pooled sample, I re-estimate regression (4) separately for the U.S., the developed markets excluding the U.S., and the emerging markets. The results provided in Panel B show significant value effects in all of these subsamples. Comparing the results with country dummies for the ex-U.S. developed and emerging markets to the U.S. result, we observe that the economic magnitude and the statistical significance of the within-country value effect is greater in the non-U.S. countries. The strong evidence of the international value effect motivates us to investigate how such effect arises in the global markets. This is the question that we now turn to.

2.3. Return Predictive Ability of the Style-Evolution Components

We ask how the history of style evolutions contributes to the rise of value effect in the international markets by examining the return-forecasting ability of the *B/M* decomposition

[7] The substantially larger R^2 statistic obtained from the regression with country dummies suggests that country-level characteristics are important in explaining the return dispersion across firms in the international markets.

variables, bm_{it-k}, $r^B_{it-k,t}$, $r_{it-k,t}$, and $\iota_{it-k,t}$. The latter three are the components of the most recent period's style evolution measured over the 1, 3, or 5 previous fiscal years (k = 12, 36, and 60 months, respectively). The lagged log book-to-market ratio, bm_{it-k}, is evaluated at the beginning of the evolution period and is regarded as a summary measure of all the past style evolutions that a firm has undergone up to month t-k.

Panel A of Table 4 presents the results for regression (5) using the sample of stocks from all of the 41 countries. We observe that the *B/M* decomposition variables have significant explanatory power for future stock returns. Looking at the effects of the style-evolution components within a country (see the regression results with country dummies), there are declining yet significant effects of the book return and the net equity issuance measured over longer fiscal-year horizons. The effect of stock return is also significant although it exhibits no discernible pattern over different horizons. While the strong effects of bm_{it-k}, $r^B_{it-k,t}$, and $\iota_{it-k,t}$ remain, the effect of $r_{it-k,t}$ diminishes when we consider the across-country effect (without country dummies). In addition, focusing on the net share issuance, we find that its effect is stronger, both economically and statistically, within a country than across countries regardless of its measurement period.

The signs of the coefficients conform to our expectation. The lagged log book-to-market ratio and the book return have positive coefficients and the stock return has a negative coefficient, as implied by their relationship to bm_{it} (see equation (1)) which has a positive effect on future returns. The negative coefficient on the net share issuance is also in agreement with past evidence on negative abnormal returns following share issues (Loughran and Ritter (1995)) and positive abnormal returns subsequent to repurchases (Ikenberry, Lakonishok, and Vermalen (1995)).

The right half of the panel summarizes the results of various parameter comparison tests. First, I examine the contribution of recent style-evolution components in predicting future returns by comparing the effects of $r^B_{it\text{-}k,t}$, $r_{it\text{-}k,t}$, and $\iota_{it\text{-}k,t}$ to the effect of $bm_{it\text{-}k}$. Specifically, taking into account the directional difference in their effects (positive for $bm_{it\text{-}k}$ and $r^B_{it\text{-}k,t}$, and negative for $r_{it\text{-}k,t}$ and $\iota_{it\text{-}k,t}$), I test the following three hypotheses: H1: $r^B_{it\text{-}k,t} - bm_{it\text{-}k} = 0$, H2: $r_{it\text{-}k,t} + bm_{it\text{-}k} = 0$, and H3: $\iota_{it\text{-}k,t} + bm_{it\text{-}k} = 0$. For instance, a significant negative value for $\iota_{it\text{-}k,t} + bm_{it\text{-}k}$ indicates that the magnitude of the net issuance effect is substantially greater than that of $bm_{it\text{-}k}$. Second, in order to identify the most important component of the style evolution, I test the following additional hypotheses again accounting for the difference in expected parameter signs: H4: $r_{it\text{-}k,t} + r^B_{it\text{-}k,t} = 0$, H5: $\iota_{it\text{-}k,t} + r^B_{it\text{-}k,t} = 0$, and H6: $\iota_{it\text{-}k,t} - r_{it\text{-}k,t} = 0$. If the net issuance effect strongly dominates the effect of stock return, for example, we obtain a significant negative value for $\iota_{it\text{-}k,t} - r_{it\text{-}k,t}$.

From the hypothesis tests, we draw one important conclusion: the net share issuance is the most important component of the value-glamour style evolution in international equity markets. It is the only component that exhibits a significantly greater return-forecasting ability than the lagged log book-to-market ratio, and its effect becomes particularly strong if we consider the issuance activity that occurred during the most recent fiscal year (see columns ‘H1’, ‘H2’, and ‘H3’). Furthermore, the effect of $\iota_{it\text{-}k,t}$ significantly dominates the effects of the other two evolution components, $r^B_{it\text{-}k,t}$ and $r_{it\text{-}k,t}$ (‘H5’ and ‘H6’). This suggests that firms’ equity financing and payout decisions convey important information about their risk or the extent of mispricing, which cannot be drawn from the past accounting performance or stock return alone. Lastly, we observe that the effects of the book return and the stock return are similar in magnitude (‘H4’) consistent with Fama and French’s (2007)

U.S. finding. This result, in conjunction with the dominance of $\iota_{it\text{-}k,t}$ over $r^{B}_{it\text{-}k,t}$ and $r_{it\text{-}k,t}$, suggests that the intangible information, such as firms' future growth options or the extent of their mispricing (Daniel and Titman (2006)), plays a stronger role in explaining future returns via the firms' net share issuance than via their stock returns in the international markets.

2.4. Style Evolution and Future Returns: Developed versus Emerging Markets

To examine whether the above findings are common phenomena in the global markets, I repeat the same analyses for the U.S., the developed markets excluding the U.S., and the emerging markets. The results for regression (5) and our six hypothesis tests using this breakdown are provided in Panels B, C, and D of Table 4, respectively.

First, we find that the significant cross-firm association between net share issues and future returns is a phenomenon specific to developed markets (Panels B and C). The emerging markets do not exhibit such a relationship over all fiscal horizons that we examine (Panel D). The results are consistent with the recent finding by McLean, Pontiff, and Watanabe (2008); they show that the firm-level issuance effect is stronger in countries with more developed and liquid markets, which allow share issuance and repurchase activities to be less costly and more active. My analysis adds two new findings to theirs. First, the developed-market issuance effect remains significant even after controlling for the effects of contemporaneous firm fundamental growth and stock return. Second, in terms of the return-predictive ability both within a country and across countries, the recent period's share issuance matters more than the issuance activity that took place over a longer period of time. This is consistent with the U.S. findings provided by Fama and French (2007) and Pontiff and Woodgate (2008).

The importance of the issuance effect is further emphasized by the results of our hypothesis tests. For the U.S. (Panel B) and the remaining 20 developed markets (Panel C), the net share issuance over the previous fiscal year contains significantly more information about future returns than the lagged log book-to-market ratio (‘H3’). In addition, compared to the effects of the book return and the stock return measured over the same horizon, the issuance effect is significantly stronger within a country but not across counties (‘H5’ and ‘H6’). The superior return-predictive power is also observed for the past three-year share issuance in the U.S., but not in the other developed markets, indicating the greater and longer-lasting effect of net equity issues in the U.S. Again, similar to the full-sample results reported earlier, the book return and the stock return affect future returns with a similar magnitude (‘H4’) and contribute little in predicting future returns (‘H1’ and ‘H2’). Overall, these results lead us to conclude that the net share issuance is the most important component of the style evolution and plays a crucial role in driving the developed-market value effect.

In stark contrast to the results obtained for the developed markets, we find no style-evolution components that significantly improve the forecast of future returns in the emerging markets (Panel D); the effects of $r^B_{it-k,t}$, $r_{it-k,t}$, and $\iota_{it-k,t}$ are all insignificantly different from the effect of bm_{it-k} if not significantly weaker (‘H1’, ‘H2’, and ‘H3’). On a relative term, however, the book return plays a greater role than the stock return and the net share issuance, and its effect becomes significantly stronger than the issuance effect measured over longer horizons (‘H4’ and ‘H5’). In sum, unlike in the developed markets, the emerging-market value effect seems to be driven more by longer-term risk or mispricing conveyed by the history of previous style evolutions as reflected in bm_{it-k}.

3. Net Share Issuance and Global Value Premium: Time-Series Analysis

3.1. Global Net Share Issuance Factor

It is known that expected returns on *B/M*-sorted portfolios are explained by their exposures to the book-to-market factor, a zero-investment portfolio long in high *B/M* stocks and short in low *B/M* stocks, both in the U.S. (Fama and French (1993)) and in the international markets (Fama and French (1998) and Griffin (2002)). Many regard this factor as a systematic distress-risk factor following its introduction by Fama and French (1993). Alternatively, it is sometimes regarded as a non-risk factor proxying for market-wide mispricing (Daniel, Hirshleifer, and Subrahmanyam (2005)).

The previous section identified that the net share issuance is the main driver of the developed-market *B/M* effect, suggesting that information about firms' risk or mispricing is predominantly captured by the firms' recent issuance and payout decisions. Building on this result, we are interested in examining whether a factor constructed using the net issuance information serves as a systematic factor and explains the expected return dispersion between global value and glamour portfolios. To this end, I introduce a global share issuance factor into an asset pricing model and assess the performance of the model based on how well it explains time-series variations in returns on global *B/M* portfolios using Gibbons, Ross, and Shanken's (1989, GRS) *F*-test on the joint significance of regression intercepts and examining adjusted R^2 statistics.

I construct a value-weighted country-neutral global net share issuance factor using a sample of stocks drawn from the 21 developed markets. To construct the global factor, I first create an issuance factor within each country by forming a zero-investment portfolio that goes long firms with the bottom 30% of share issues over the previous fiscal year and short those in the top 30%. I call this a domestic *omi* factor (net cash-*outflow* firms due to share repurchases and cash dividends minus net cash-*inflow* firms due to share issues). The average one-year net share issuance is -5.63% for firms included in the long position and is 13.81% for those in the long position. I then combine the 21 domestic *omi* factors to form a global share issuance factor, *OMI*, where the monthly weight on a country is given by the total market capitalization of its sample stocks at the beginning of the month.

The global size (small minus big, *SMB*) and value (high book-to-market ratio minus low book-to-market ratio, *HML*) factors are also constructed in a similar fashion. Additionally, the global market factor, *MKT*, is created as the difference between the country-weighted domestic market U.S.-dollar returns and the one-month U.S. Treasury bill rate, where monthly market returns for each country are given by the value-weighted returns of its sample stocks.

I also construct global *B/M* decile portfolios, used as test assets, on the value-weighted country-neutral basis as follows: at the end of each June, I allocate stocks within each country into deciles based on the previous December-end *B/M* values and value weight constituent stocks within each rank. The global *B/M* portfolios are then formed by combining relevant country deciles and assigning them country weights explained above.

3.2. Summary Statistics for the Global Net Share Issuance Factor

Table 5 presents the summary statistics for the global net share issuance factor and the global version of Fama and French (1993) factors. Most importantly, we find that the global share issuance factor, *OMI*, yields an average premium of 0.39% per month (4.68% per annum) which is significant at the 1% level and greater than the premia earned on the global size and value factors.

The columns ‘$O\text{-}r_f^{US}$’ and ‘$I\text{-}r_f^{US}$’ summarize the performance of global net repurchase and net issuance portfolios in excess of the U.S. Treasury bill rate, respectively. Both portfolios have positive excess returns, but the average return is significantly higher for the net repurchase portfolio, leading to the significant premium earned on *OMI*. The last two columns, ‘*Avg.o-mkt*’ and ‘*Avg.i-mkt*,’ report the summary statistics for the country-weighted averages of domestic net repurchase and net issuance portfolio returns in excess of the local market returns. We observe that the positive abnormal return on repurchasing firms and the negative abnormal return on issuing firms are pervasive in the international markets.

The bottom half of the table reports pairwise correlations between the global factors. As expected, *OMI* is highly positively correlated with *HML* (correlation = 0.66), confirming the close link between the net share issuance and the book-to-market effects documented in the previous section. The *OMI* factor also exhibits significant negative associations with *MKT* and *SMB*.

To examine whether the *OMI* portfolio return remains significant after controlling for its exposure to the global Fama and French (1993) factors, I run a time-series regression of *OMI* on *MKT, SMB*, and *HML*. The regression yields the following result:

$$\underset{}{OMI_t} = \underset{(3.13)}{0.31} - \underset{(-7.20)}{0.18}MKT_t - \underset{(-5.67)}{0.20}SMB_t + \underset{(13.52)}{0.65}HML_t + e_t \qquad Adj.R^2 = 54.24\%,$$

where the ordinary-least-squares *t*-statistics of the coefficients are reported in parentheses. We observe that the *OMI* strategy yields an abnormal return of 0.31% per month (3.72% per annum), which is significant at the 1% level. The robustness of the *OMI* return indicates that the *OMI* factor represents an additional risk not captured by the global version of Fama and French (1993) factors or it captures systematic mispricing.

3.3. Summary Statistics for the Domestic Net Share Issuance Factors

The success of the issuance-based trading strategy is also evident from Panel A of Table 6, which summarizes the performance of the domestic *omi* strategy applied to the 21 developed markets. From the column '*omi*', we observe that the strategy yields positive premium in 18 of these countries with nine of them being significant. The G7 countries, except Italy and Japan, are among those with a significant premium while the premium for Japan is marginally significant at the 13% level.[8]

Consistent with the results for the global factors, net repurchase firms have significant premium over the U.S. Treasury bill rate (see column '$o\text{-}r_f^{US}$') and outperform the domestic market ('*o-mkt*') in almost all countries. We also observe negative abnormal returns for net issuance firms widely across the countries shown ('*i-mkt*').

Panel B of Table 6 presents pairwise correlations between the domestic *omi* factors from the 21 countries. The correlations are mostly positive and also significant for many country pairs. While Italy has insignificant correlations with Canada, Germany, and the U.K, the remaining correlations are all positive and significant among the G7 countries. The *omi* factors of the G7 countries exhibit correlations with the U.S. *omi* factor in the range of 0.12 (Italy) to 0.46 (Canada).

[8] The G7 countries are Canada, France, Germany, Italy, Japan, the U.K., and the U.S.

3.4. Factor Regressions

I now examine how well the *OMI* factor jointly explains time series of the excess returns on the global *B/M* portfolios to study the link between net share issuance and the global value premium. Table 7 provides the summary statistics for the test portfolios. High *B/M* value firms yield high future returns, are small in size, have recently experienced a low book return and an even lower or negative stock return, and have been net repurchasers of stocks over the previous fiscal year. Low *B/M* growth firms exhibit opposite characteristics and have issued shares recently.

Table 8 presents the results of our asset pricing tests. Panel A shows the result of the global capital asset pricing model. Consistent with Fama and French (1998), the model cannot explain global value and glamour portfolio returns. The average absolute value of the intercept is 0.206%, and the GRS *F*-test strongly rejects the null hypothesis that the intercepts are jointly equal to zero (*F*-value = 2.965 and *p*-value = 0.030). The inclusion of the size factor adds little to the explanatory power (Panel B); the average absolute value of the intercept stays at a similar level (0.205%), there is no improvement in the adjusted R^2, and the GRS *F*-test rejects the hypothesis that the intercepts are all zero with a high level of significance (*F*-value = 2.874 and *p*-value = 0.033). The poor performance of these models is due to their inability to explain returns on extreme value and glamour portfolios, leaving eight portfolios at the extreme ends having significant alphas.

The previous section found that net share issuance is the main source of the developed-market value effect, implying that information about firms' risk or mispricing is mostly captured by the firms' equity financing and payout decisions. Given this result, we conjecture that the *OMI* factor alone will be able to explain a significant part of the variation in returns of the global value and glamour portfolios. To test this hypothesis, I introduce the *OMI* factor, in place of *HML*, into the asset pricing model and examine its performance.

The result presented in Panel C clearly demonstrates the importance the *OMI* factor. The introduction of *OMI* brings the average absolute value of the intercepts much closer to zero from 0.205% to 0.077%. Adding this factor also increases the adjusted R^2 by 2.3%. With the introduction of the *OMI* factor, the GRS *F*-test no longer rejects the null of intercepts being jointly equal to zero, reducing the *F*-statistic to 1.750 (*p*-value = 0.163). From the loadings estimates we see that the low-*B/M* growth portfolios are negatively exposed and the high-*B/M* value portfolios are positively exposed to the *OMI* factor, consistent with growth firms being recent share issuers and value firms being recent repurchasers. In sum, in support of our hypothesis, we find that the net share issuance serves as an important factor that significantly explains the time variation in the global value and glamour portfolio returns.

The time-series regression result in subsection 3.2 indicated that the *OMI* factor represents additional systematic risk or mispricing in the international markets not captured by *MKT*, *SMB*, and *HML*. Therefore, as a final analysis, I include the *OMI* factor along with *MKT*, *SMB*, and *HML* in the asset pricing model and examine whether the global *B/M* portfolios still load significantly on the *OMI* factor after accounting for their exposures to *HML*. Panel D summarizes the result. The model performance improves with the inclusion of *HML* as expected; the average absolute intercept value is lower, the adjusted R^2 is higher, and the GRS *F*-statistic is further reduced. More importantly, however, we find that nine out of ten *B/M* portfolios still exhibit significant exposures to the *OMI* factor albeit with smaller absolute magnitude for most portfolios. The results therefore indicate that the systematic risk or mispricing, which is specifically reflected in the *OMI* factor, also plays an important role in explaining the return variation of the global value-glamour portfolios.

Overall, adding to our cross-sectional finding that the net share issuance is the main driver of the developed-market value effect, we identify a strong time-series link between net equity issuance and the global value premium. The exposure to the global net share issuance factor significantly explains the returns on the global value and glamour portfolios. The strong explanatory power of the issuance factor arises due to its ability to isolate information about systematic risk, contained in *HML*, which is important in affecting future stock returns. Furthermore, the global issuance factor also represents systematic risk or mispricing not reflected in the Fama and French (1993) factors, but is relevant in explaining the value-glamour return dispersion in the international markets.

4. Conclusion

In this paper, I study how the value effect arises in the international markets by examining whether value-glamour style evolution, or the variation in firm's book-to-market ratios over time, helps explain future stock returns. I consider three types of information pertaining to the style-evolution process derived from a simple decomposition of the log book-to-market ratio: the book return, the stock return, and the net share issuance.

Using a large sample of stocks drawn from 41 countries over a 25-year period, I find that the role of style evolution differs significantly between developed and emerging markets. In developed markets, net share issuance exhibits the strongest effect on future cross-sectional returns. This implies that the value effect in these countries is predominantly driven by recent news about firms' risk or mispricing, which is conveyed by the firms' equity financing and payout decisions. In contrast, none of the style-evolution components improve the forecast of future returns in the emerging markets. Therefore, unlike in developed markets, longer-term risk or mispricing plays a greater role in explaining the emerging-market value effect.

Building on the result that the share issuance effect is the main source of the value effect in developed markets, I investigate whether global net share issuance serves as a systematic risk or mispricing factor important in explaining the global value premium. The global issuance factor is given by a zero-investment portfolio that goes long net stock repurchasers and short net issuers. The strategy yields a significant premium even after controlling for its exposure to the global Fama and French (1993) factors.

Time-series asset pricing tests show that the loadings on the global issuance factor significantly explain the returns on the global book-to-market-sorted portfolios and hence account for the value-glamour return dispersion observed in international equity markets. The strong explanatory power of the global net share issuance factor arises from the following two reasons. First, it can isolate information about systematic risk, contained in the usual value factor, which is most important in driving the global value premium. Second, the global issuance factor also represents additional systematic risk or mispricing, not reflected in the Fama and French (1993) factors, but is crucial in explaining the return dynamics of global value-glamour portfolios. Therefore, there is a strong link between net equity issuance and international value effect in both cross sections and time series.

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Table 1. Characteristics of Sample Countries

This table provides characteristics of the 41 countries included in the sample. Columns 2 lists beginning dates from which each country is included in the regression analysis. The sample period ends in December 2006 for all the countries. The table also reports the total number of firm-month observations (column 3), the average number of firm observations per month (column 5), and the average monthly total market capitalization in millions of U.S. dollars (column 7) for each country. The values of these statistics represented as percentages of the corresponding total across countries are given in the remaining columns (columns 4, 6, and 8, respectively). The same statistics are also provided for the pooled samples consisting of stocks from all countries (All), all but the U.S. countries (Ex-U.S. All), 21 developed markets (Developed), all but the U.S. developed markets (Ex-U.S. Developed), and 20 emerging markets (Emerging).

	Start Date (yyyy:mm)	Total Number of Firm-Month Observations	Percentage of Total Sample (%)	Average Number of Firm Observations per Month	Average Monthly Percentage of Sample (%)	Average Monthly Total Market Value (U.S.$ Million)	Average Monthly Percentage of Total Market Value (%)
Developed Markets							
Australia	1982:07	75,142	2.75	256	2.16	95,812	1.01
Austria	1991:07	11,076	0.40	60	0.50	27,034	0.21
Belgium	1989:07	18,122	0.66	86	0.81	57,403	0.47
Canada	1982:07	101,498	3.71	345	3.47	214,189	2.30
Denmark	1990:07	28,864	1.05	146	1.29	39,280	0.31
Finland	1991:07	15,278	0.56	82	0.65	41,582	0.31
France	1982:07	99,654	3.64	339	3.21	327,176	2.98
Germany	1982:07	87,911	3.21	299	2.83	284,119	3.08
Hong Kong	1986:07	63,774	2.33	259	2.05	136,449	1.24
Ireland	1991:07	6,632	0.24	36	0.31	34,132	0.25
Italy	1989:07	48,094	1.76	229	2.23	229,213	1.89
Japan	1982:07	377,010	13.77	1,282	14.48	1,636,699	23.25
Netherlands	1982:07	29,188	1.07	101	1.13	149,966	1.37
New Zealand	1997:07	6,086	0.22	53	0.36	12,357	0.08
Norway	1989:07	20,454	0.75	98	0.84	32,504	0.25
Singapore	1990:07	28,245	1.03	143	1.08	50,066	0.41
Spain	1989:07	18,587	0.68	89	0.81	173,824	1.40
Sweden	1990:07	35,215	1.29	178	1.45	121,383	0.95
Switzerland	1989:07	36,115	1.32	172	1.68	64,846	0.65
U.K.	1982:07	247,993	9.06	844	9.41	585,441	6.88
U.S.	1982:07	871,402	31.83	2,964	40.93	4,177,995	48.90
Emerging Markets							
Argentina	1998:07	5,056	0.18	50	0.33	20,208	0.14
Brazil	1996:07	37,751	1.38	300	2.06	132,331	0.87
Chile	1993:07	16,210	0.59	100	0.73	40,625	0.30
China	1997:07	65,959	2.41	579	3.61	180,678	1.20
Greece	1992:07	27,389	1.00	157	1.18	35,517	0.24
India	1994:07	34,063	1.24	227	1.63	80,810	0.50
Indonesia	1993:07	10,769	0.39	75	0.58	17,013	0.13
Israel	2000:07	4,770	0.17	61	0.38	23,583	0.14
Malaysia	1988:07	63,547	2.32	286	2.20	61,529	0.58
Mexico	1993:07	12,719	0.46	79	0.60	66,348	0.49
Pakistan	1995:07	7,748	0.28	56	0.40	5,463	0.03
Peru	1998:07	6,068	0.22	59	0.39	6,217	0.04
Philippines	1993:07	18,137	0.66	112	0.82	17,682	0.15
Poland	1999:07	5,124	0.19	57	0.37	21,848	0.12
Portugal	1993:07	8,661	0.32	53	0.42	29,988	0.21
South Africa	1988:07	36,078	1.32	163	1.33	82,415	0.76
South Korea	1990:07	59,461	2.17	300	2.24	73,900	0.56
Taiwan	1995:07	42,328	1.55	307	2.04	161,503	1.10
Thailand	1993:07	35,056	1.28	216	1.63	35,146	0.29
Turkey	1995:07	14,157	0.52	103	0.70	34,926	0.22
Pooled Samples							
All	1982:07	2,737,391	100.00	9,311	100.00	8,768,951	100.00
Ex-U.S. All	1982:07	1,865,989	68.17	6,347	59.07	4,590,956	51.10
Developed	1982:07	2,226,340	81.33	7,573	87.49	8,191,904	95.74
Ex-U.S. Developed	1982:07	1,354,938	49.50	4,609	46.55	4,013,909	46.84
Emerging	1988:07	511,051	18.67	2,302	16.57	764,197	5.64

Table 2. Summary Statistics for the Style-Evolution Components

This table reports the mean and the standard deviation (Stdev) for the natural logarithm of the fiscal-year-end book-to-market ratio (bm_{it}) and the following three style-evolution components computed over one fiscal year; $r_{it-12,t}$ is the continuously compounded cum-dividend U.S.-dollar stock return, $\iota_{it-12,t}$ is the net share issuance given by the difference between the continuously compounded growth in total U.S.-dollar market value and $r_{it-12,t}$, and $r^{B}_{it-12,t}$ is the book return given by the difference between the continuously compounded total book value and $\iota_{it-12,t}$, all given in percentages. The statistics are provided for 41 countries and 5 pooled samples.

	bm_{it}		$r^{B}_{it-12,t}$		$r_{it-12,t}$		$\iota_{it-12,t}$	
	Mean	Stdev	Mean	Stdev	Mean	Stdev	Mean	Stdev
Developed Markets								
Australia	-0.30	0.56	2.42	32.53	5.18	38.46	5.57	17.69
Austria	-0.26	0.92	5.59	21.96	1.23	28.80	-0.11	8.40
Belgium	-0.37	0.62	8.88	20.81	8.96	27.08	-0.22	9.73
Canada	-0.40	0.63	6.53	30.97	6.79	40.02	5.44	18.12
Denmark	-0.21	0.55	5.36	19.82	8.15	30.71	1.27	12.70
Finland	-0.42	0.66	9.73	27.64	5.14	33.31	0.10	12.69
France	-0.34	0.63	8.71	18.93	9.14	34.74	-0.36	9.86
Germany	-0.62	0.68	4.94	21.54	3.41	32.35	-0.19	6.78
Hong Kong	-0.01	0.75	9.86	27.23	5.53	39.67	1.69	15.13
Ireland	-0.47	0.62	9.50	26.49	9.10	33.12	1.95	15.81
Italy	-0.23	0.58	4.09	21.15	3.80	27.00	-0.04	13.71
Japan	-0.58	0.51	8.98	12.03	7.62	25.54	0.32	3.74
Netherlands	-0.28	0.65	6.95	20.78	11.78	30.71	0.59	9.42
New Zealand	-0.51	0.65	10.18	28.58	9.34	31.62	-1.72	15.18
Norway	-0.44	0.72	9.71	33.24	6.60	41.14	3.70	17.48
Singapore	-0.22	0.58	7.74	18.00	3.65	29.82	0.52	8.83
Spain	-0.42	0.59	6.95	19.32	7.43	28.02	1.01	11.02
Sweden	-0.48	0.72	4.04	38.57	2.35	40.45	8.98	27.73
Switzerland	-0.28	0.67	5.20	23.23	5.30	27.42	0.63	10.84
U.K.	-0.47	0.73	5.81	28.98	6.14	37.41	2.12	16.01
U.S.	-0.54	0.70	10.81	25.94	11.72	38.83	1.89	12.17
Emerging Markets								
Argentina	-0.17	1.35	-5.46	35.01	-6.35	40.68	-0.25	8.78
Brazil	0.38	1.04	-3.51	50.35	-0.42	50.72	-1.28	26.49
Chile	-0.20	0.80	10.79	19.34	8.24	31.75	-1.46	12.78
China	-1.18	0.45	3.94	18.43	1.30	25.90	-0.30	2.35
Greece	-0.57	0.66	7.83	26.99	-1.17	39.31	1.15	10.95
India	-0.33	0.96	9.72	22.49	6.14	43.48	1.26	11.22
Indonesia	-0.27	0.78	0.49	32.56	-2.42	41.09	0.41	24.73
Israel	-0.46	0.60	6.08	20.35	8.74	32.40	-1.36	9.76
Malaysia	-0.36	0.58	5.05	23.43	0.91	31.41	1.46	12.47
Mexico	-0.17	0.81	2.56	27.83	-0.68	38.76	1.04	15.05
Pakistan	-0.10	0.73	8.50	23.02	4.57	36.72	-1.95	9.14
Peru	0.14	1.53	3.46	41.53	6.20	45.25	-3.08	16.69
Philippines	0.04	0.89	-1.61	32.15	-7.79	47.08	2.13	12.89
Poland	-0.25	0.62	4.78	25.38	6.87	42.99	3.32	15.02
Portugal	-0.04	0.77	2.75	27.59	4.22	32.88	0.25	9.39
South Africa	-0.39	0.82	4.79	28.12	2.08	43.87	-0.05	15.42
South Korea	0.25	0.61	4.26	27.64	-2.14	36.67	3.19	14.83
Taiwan	-0.37	0.51	5.92	14.75	-6.47	34.57	1.06	6.72
Thailand	-0.14	0.69	3.30	29.14	-6.44	47.01	0.07	13.13
Turkey	-0.67	0.74	8.67	33.50	3.32	39.03	0.28	9.67
Pooled Samples								
All	-0.49	0.63	8.57	20.28	7.43	33.61	0.99	9.03
Ex-U.S. All	-0.45	0.63	7.48	20.07	6.56	33.09	0.94	9.56
Developed	-0.51	0.62	8.75	20.15	7.94	32.72	1.19	9.07
Ex-U.S. Developed	-0.47	0.61	7.54	19.95	7.04	31.82	1.21	9.70
Emerging	-0.31	0.84	5.23	29.17	0.32	47.19	0.72	14.60

Table 3. Fama-MacBeth Cross-Sectional Regressions with Basic Firm Characteristics

This table reports the results of the Fama-MacBeth cross-sectional regressions in which the monthly U.S.-dollar excess returns from July of the current year to June of next year are regressed on the natural logarithm of the current year's June-end market capitalization (mc_{it}), the natural logarithm of the previous December-end book-to-market ratio (bm_{it}), and the December-to-May five-month cumulative log stock return (r^{5m}_{it}). The regression results are provided for the samples consisting of stocks from all 41 countries, the U.S., the developed markets excluding the U.S., and the emerging markets. Panel A gives the result for the full sample, and Panel B the results for the subsamples. For the country-pooled samples, the regressions are estimated with or without country dummies. The estimated coefficients and adjusted R-squared are in percentages and are given by the time-series averages of the corresponding statistics obtained from the monthly cross-sectional regressions. T-statistics are reported in parentheses, and the coefficients that are significantly different from zero at the 10% level are shown in bold.

Panel A. Full Sample

Sample	Period N.Obs.	Country Dummies	Intercept	mc_{it}	bm_{it}	r^{5m}_{it}	$Adj.R^2$
All	1982:07-2006:12 2,737,391	Yes	**0.81** **(2.79)**	0.05 (1.48)	**0.38** **(5.75)**	**0.78** **(4.41)**	15.44
		No	**0.85** **(2.83)**	0.02 (0.53)	**0.38** **(4.69)**	**0.65** **(2.61)**	2.39

Panel B. Subsamples

Sample	Period N.Obs.	Country Dummies	Intercept	mc_{it}	bm_{it}	r^{5m}_{it}	$Adj.R^2$
U.S.	1982:07-2006:12 871,402		**0.86** **(2.51)**	0.03 (0.72)	**0.30** **(2.64)**	**0.71** **(2.99)**	2.59
Ex-U.S. Developed	1982:07-2006:12 1,354,938	Yes	0.80 (1.61)	0.01 (0.26)	**0.36** **(6.29)**	**0.93** **(4.24)**	16.71
		No	**1.19** **(3.81)**	-0.03 (-0.89)	**0.26** **(2.56)**	**0.57** **(1.74)**	3.66
Emerging	1988:07-2006:12 511,051	Yes	0.95 (1.18)	-0.05 (-0.78)	**0.40** **(4.68)**	**0.63** **(1.68)**	25.30
		No	**1.15** **(2.43)**	-0.08 (-1.05)	**0.57** **(3.80)**	0.74 (1.38)	5.32

Table 4. Fama-MacBeth Cross-Sectional Regressions with the Style-Evolution Components

This table reports the results of the Fama-MacBeth cross-sectional regressions in which the monthly U.S.-dollar excess returns from July of the current year to June of next year are regressed on the natural logarithm of the current year's June-end market capitalization (mc_{it}), the December-to-May five-month cumulative log stock return (r^{5m}_{it}), and the following decomposition variables of the previous December-end log book-to-market ratio; bm_{it-k} is the natural logarithm of the book-to-market ratio at the beginning of the previous 1, 3, or 5 fiscal years (indicated by the number of monthly lags, k = 12, 36, or 60, respectively, from the previous fiscal year end), $r_{it-k,t}$ is the continuously compounded cum-dividend U.S.-dollar stock return, $\iota_{it-k,t}$ is the net share issuance given by the difference between the continuously compounded growth in total U.S.-dollar market value and $r_{it-k,t}$, and $r^{B}_{it-k,t}$ is the book return given by the difference between the continuously compounded total book value and $\iota_{it-k,t}$, all measured over the previous 1, 3, or 5 fiscal years. The table also provides results of the equality tests comparing six pairs of the regression coefficients. The regression and equality test results are provided for the samples including stocks from all 41 countries (Panel A), the U.S. (Panel B), the developed markets excluding the U.S. (Panel C), and the emerging markets (Panel D). For the pooled samples, the regressions are estimated with or without country dummies. The coefficients, coefficient differences, and adjusted R-squared are in percentages and are given by the time-series averages of the corresponding statistics obtained from the monthly cross-sectional regressions. T-statistics are reported in parentheses, and the coefficients and coefficient differences that are significantly different from zero at the 10% level are shown in bold.

Panel A. All

k	Period / N.Obs.	Country Dummies	Intercept	mc_{it}	bm_{it-k}	$r^{B}_{it-k,t}$	$r_{it-k,t}$	$\iota_{it-k,t}$	r^{5m}_{it}	$Adj.R^2$	*H1* $r^{B}_{it-k,t}-bm_{it-k}$	*H2* $r_{it-k,t}+bm_{it-k}$	*H3* $\iota_{it-k,t}+bm_{it-k}$	*H4* $r_{it-k,t}+r^{B}_{it-k,t}$	*H5* $\iota_{it-k,t}+r^{B}_{it-k,t}$	*H6* $\iota_{it-k,t}-r_{it-k,t}$
12	1982:07-2006:12		**0.83**	0.04	**0.35**	**0.34**	**-0.26**	**-1.25**	**0.75**	15.87	-0.01	0.09	**-0.90**	0.08	**-0.91**	**-0.99**
	2,737,391		**(2.95)**	(1.29)	**(5.54)**	**(4.50)**	**(-2.44)**	**(-7.23)**	**(4.42)**		(-0.19)	(0.88)	**(-6.41)**	(0.67)	**(-5.07)**	**(-4.99)**
36	1984:07-2006:12	Yes	**0.61**	**0.06**	**0.31**	**0.28**	**-0.22**	**-0.59**	**0.69**	16.32	-0.03	0.09	**-0.28**	0.06	**-0.31**	**-0.37**
	2,045,713		**(2.14)**	**(2.00)**	**(4.46)**	**(4.97)**	**(-3.02)**	**(-5.56)**	**(3.96)**		(-0.50)	(1.19)	**(-3.46)**	(0.90)	**(-2.92)**	**(-2.98)**
60	1986:07-2006:12		**0.63**	**0.06**	**0.26**	**0.25**	**-0.31**	**-0.30**	**0.55**	16.52	-0.01	-0.05	-0.05	-0.06	-0.05	0.00
	1,523,345		**(2.04)**	**(1.74)**	**(3.66)**	**(4.48)**	**(-4.53)**	**(-3.46)**	**(2.96)**		(-0.10)	(-0.91)	(-0.66)	(-1.10)	(-0.57)	(0.03)
12	1982:07-2006:12		**0.78**	0.02	**0.34**	**0.41**	-0.24	**-1.11**	**0.64**	3.72	0.07	0.10	**-0.77**	0.17	**-0.70**	**-0.87**
	2,737,391		**(2.77)**	(0.54)	**(4.28)**	**(2.52)**	(-1.40)	**(-4.97)**	**(2.80)**		(0.45)	(0.57)	**(-3.67)**	(0.74)	**(-2.41)**	**(-2.88)**
36	1984:07-2006:12	No	**0.62**	0.03	**0.31**	**0.25**	-0.12	**-0.48**	**0.78**	4.15	-0.06	0.19	-0.17	0.13	-0.23	**-0.36**
	2,045,713		**(2.14)**	(0.90)	**(3.37)**	**(2.17)**	(-0.87)	**(-3.53)**	**(3.14)**		(-0.60)	(1.47)	(-1.32)	(0.96)	(-1.27)	**(-1.88)**
60	1986:07-2006:12		**0.80**	0.01	**0.35**	**0.25**	**-0.26**	**-0.24**	**0.72**	4.33	-0.10	0.09	0.11	-0.01	0.00	0.01
	1,523,345		**(2.50)**	(0.21)	**(3.42)**	**(2.95)**	**(-1.92)**	**(-2.29)**	**(2.71)**		(-1.14)	(0.79)	(0.92)	(-0.10)	(0.03)	(0.09)

Panel B. U.S.

k	Period / N.Obs.	Intercept	mc_{it}	bm_{it-k}	$r^{B}_{it-k,t}$	$r_{it-k,t}$	$\iota_{it-k,t}$	r^{5m}_{it}	$Adj.R^2$	*H1* $r^{B}_{it-k,t}-bm_{it-k}$	*H2* $r_{it-k,t}+bm_{it-k}$	*H3* $\iota_{it-k,t}+bm_{it-k}$	*H4* $r_{it-k,t}+r^{B}_{it-k,t}$	*H5* $\iota_{it-k,t}+r^{B}_{it-k,t}$	*H6* $\iota_{it-k,t}-r_{it-k,t}$
12	1982:07-2006:12	**0.89**	0.02	**0.26**	0.08	-0.09	**-1.45**	**0.67**	3.48	**-0.18**	0.16	**-1.19**	-0.02	**-1.37**	**-1.36**
	871,402	**(2.64)**	(0.53)	**(2.42)**	(0.56)	(-0.66)	**(-5.13)**	**(2.98)**		**(-1.65)**	(1.22)	**(-5.19)**	(-0.11)	**(-5.11)**	**(-4.88)**
36	1984:07-2006:12	**0.67**	0.04	0.19	0.15	-0.13	**-0.60**	**0.61**	3.37	-0.04	0.06	**-0.41**	0.02	**-0.45**	**-0.47**
	807,721	**(1.95)**	(0.98)	(1.59)	(1.52)	(-1.29)	**(-3.41)**	**(2.60)**		(-0.54)	(0.60)	**(-3.01)**	(0.21)	**(-2.89)**	**(-2.72)**
60	1986:07-2006:12	**0.71**	0.04	0.15	**0.15**	**-0.21**	**-0.31**	**0.44**	3.20	0.00	-0.06	-0.16	-0.06	-0.16	-0.10
	615,690	**(1.96)**	(0.78)	(1.29)	**(1.70)**	**(-2.15)**	**(-2.24)**	**(1.79)**		(-0.02)	(-0.77)	(-1.46)	(-1.03)	(-1.22)	(-0.70)

Panel C. Ex-U.S. Developed

k	Period / N.Obs.	Country Dummies	Intercept	mc_{it}	bm_{it-k}	$r^B_{it-k,t}$	$r_{it-k,t}$	$\iota_{it-k,t}$	r^{5m}_{it}	$Adj.R^2$	$H1$ $r^B_{it-k,t}$-bm_{it-k}	$H2$ $r_{it-k,t}$+bm_{it-k}	$H3$ $\iota_{it-k,t}$+bm_{it-k}	$H4$ $r_{it-k,t}$+$r^B_{it-k,t}$	$H5$ $\iota_{it-k,t}$+$r^B_{it-k,t}$	$H6$ $\iota_{it-k,t}$-$r_{it-k,t}$
12	1982:07-2006:12	Yes	**0.80**	0.01	**0.33**	**0.44**	**-0.39**	**-0.87**	**0.89**	17.18	0.11	-0.06	**-0.54**	0.05	**-0.43**	**-0.48**
	1,354,938		**(1.65)**	(0.17)	**(5.94)**	**(4.16)**	**(-3.13)**	**(-4.89)**	**(4.32)**		(1.06)	(-0.50)	**(-3.22)**	(0.33)	**(-1.93)**	**(-2.15)**
36	1984:07-2006:12		0.76	0.01	**0.33**	**0.28**	**-0.29**	**-0.46**	**0.79**	17.70	-0.06	0.05	-0.13	-0.01	-0.19	-0.18
	1,038,739		(1.38)	(0.23)	**(6.02)**	**(3.25)**	**(-3.32)**	**(-4.19)**	**(3.42)**		(-0.77)	(0.58)	(-1.20)	(-0.10)	(-1.26)	(-1.25)
60	1986:07-2006:12		0.44	0.02	**0.29**	**0.26**	**-0.36**	**-0.26**	**0.56**	18.21	-0.04	-0.06	0.03	-0.10	-0.01	0.09
	792,934		(0.70)	(0.46)	**(5.06)**	**(3.06)**	**(-4.73)**	**(-3.37)**	**(2.42)**		(-0.62)	(-1.06)	(0.32)	(-1.43)	(-0.06)	(0.79)
12	1982:07-2006:12	No	**1.16**	-0.03	**0.23**	**0.59**	**-0.36**	**-0.81**	**0.53**	5.35	**0.37**	-0.13	**-0.58**	0.23	-0.21	-0.45
	1,354,938		**(3.83)**	(-0.91)	**(2.20)**	**(2.66)**	**(-1.91)**	**(-3.21)**	**(1.90)**		**(1.81)**	(-0.66)	**(-2.16)**	(0.80)	(-0.55)	(-1.34)
36	1984:07-2006:12		**1.11**	-0.04	**0.22**	**0.41**	-0.19	**-0.42**	**0.80**	5.98	0.20	0.03	-0.20	0.23	0.00	-0.23
	1,038,739		**(3.39)**	(-0.97)	**(1.80)**	**(2.49)**	(-1.18)	**(-2.70)**	**(2.47)**		(1.35)	(0.22)	(-1.02)	(1.29)	(-0.01)	(-1.02)
60	1986:07-2006:12		**1.13**	-0.05	**0.36**	**0.36**	-0.22	**-0.22**	0.59	6.51	0.01	0.14	0.14	0.14	0.14	0.00
	792,934		**(3.11)**	(-1.08)	**(2.44)**	**(3.12)**	(-1.35)	**(-2.16)**	(1.65)		(0.05)	(1.03)	(0.82)	(1.09)	(0.94)	(-0.01)

Panel D. Emerging

k	Period / N.Obs.	Country Dummies	Intercept	mc_{it}	bm_{it-k}	$r^B_{it-k,t}$	$r_{it-k,t}$	$\iota_{it-k,t}$	r^{5m}_{it}	$Adj.R^2$	$H1$ $r^B_{it-k,t}$-bm_{it-k}	$H2$ $r_{it-k,t}$+bm_{it-k}	$H3$ $\iota_{it-k,t}$+bm_{it-k}	$H4$ $r_{it-k,t}$+$r^B_{it-k,t}$	$H5$ $\iota_{it-k,t}$+$r^B_{it-k,t}$	$H6$ $\iota_{it-k,t}$-$r_{it-k,t}$
12	1988:07-2006:12	Yes	0.70	-0.05	**0.37**	**0.77**	-0.36	-0.51	0.51	26.18	0.39	0.01	-0.13	0.40	0.26	-0.14
	511,051		(0.92)	(-0.77)	**(4.21)**	**(2.64)**	(-1.32)	(-1.26)	(1.38)		(1.41)	(0.04)	(-0.32)	(1.05)	(0.56)	(-0.29)
36	1990:07-2006:12		0.68	-0.03	**0.48**	**0.57**	**-0.43**	-0.12	0.13	26.07	0.09	0.05	**0.36**	0.14	**0.45**	0.31
	337,569		(0.78)	(-0.39)	**(4.15)**	**(3.68)**	**(-2.60)**	(-0.66)	(0.33)		(0.53)	(0.25)	**(1.86)**	(0.73)	**(1.74)**	(1.24)
60	1992:07-2006:12		1.49	-0.12	**0.42**	**0.63**	**-0.58**	-0.13	-0.02	27.40	0.20	-0.15	0.30	0.05	**0.50**	0.45
	207,764		(1.42)	(-1.27)	**(3.24)**	**(3.14)**	**(-3.22)**	(-0.64)	(-0.04)		(0.83)	(-0.69)	(1.24)	(0.23)	**(1.81)**	(1.55)
12	1988:07-2006:12	No	**0.80**	-0.04	**0.51**	0.58	-0.41	-0.62	0.79	8.11	0.07	0.10	-0.11	0.17	-0.04	-0.21
	511,051		**(1.85)**	(-0.56)	**(3.56)**	(1.39)	(-1.15)	(-1.15)	(1.52)		(0.17)	(0.27)	(-0.20)	(0.32)	(-0.06)	(-0.32)
36	1990:07-2006:12		**1.44**	**-0.15**	**0.49**	**0.45**	-0.16	-0.31	0.38	8.62	-0.04	0.33	0.19	0.30	0.15	-0.15
	337,569		**(2.92)**	**(-1.71)**	**(2.55)**	**(1.93)**	(-0.60)	(-1.17)	(0.66)		(-0.14)	(1.22)	(0.68)	(0.85)	(0.38)	(-0.42)
60	1992:07-2006:12		**2.71**	**-0.31**	0.24	0.36	-0.40	-0.28	0.32	9.83	0.12	-0.16	-0.04	-0.04	0.08	0.12
	207,764		**(3.33)**	**(-2.48)**	(0.95)	(1.33)	(-1.37)	(-1.04)	(0.45)		(0.38)	(-0.56)	(-0.11)	(-0.11)	(0.20)	(0.34)

Table 5. Summary Statistics for the Global Factors

This table reports the summary statistics for the global market (*MKT*), size (*SMB*), value (*HML*), and net share issuance (*OMI*) factors and their pairwise correlations. *MKT* is given by the country-size-weighted average of the value-weighted U.S.-dollar market returns for the 21 developed markets in excess of the one-month U.S. Treasury bill rate. *SMB*, *HML*, and *OMI* are given by the country-size-weighted averages of the corresponding local factors from the same markets. The local size, value, and net share issuance factors are constructed as the difference in value-weighted returns on firms with bottom and top 30% of June-end market capitalization, top and bottom 30% of the previous December-end book-to-market ratio, and bottom and top 30% of net share issuance over the previous fiscal year, respectively. Reported are the mean and the standard deviation (Stdev) of each factor and the t-statistic (*t*-stat) on the null that the mean premium equals zero. The table also provides the summary statistics for the long and short positions of the *OMI* factor. $O\text{-}r_f^{US}$ and $I\text{-}r_f^{US}$ are the returns on the global portfolios consisting of stocks with bottom and top 30% of the one-year net share issuance, respectively, in excess of the U.S. Treasury bill rate. *Avg.o-mkt* and *Avg.i-mkt* are the country-size-weighted averages of the U.S.-dollar returns on the local portfolios with bottom and top 30% of one-year net share issuance, respectively, in excess of the U.S.-dollar local market returns. Factor premia, portfolio excess returns, and factor correlations that are significantly different from zero at the 10% level are shown in bold. The sample period is from July 1982 to December 2006.

	MKT	*SMB*	*HML*	*OMI*	$O\text{-}r_f^{US}$	$I\text{-}r_f^{US}$	*Avg.o-mkt*	*Avg.i-mkt*
Mean	**0.76**	0.14	**0.37**	**0.39**	**0.95**	**0.57**	**0.19**	**-0.19**
Stdev	**4.11**	2.63	**2.05**	**2.36**	**3.76**	**4.88**	**1.09**	**1.33**
t-stat	**3.16**	0.94	**3.11**	**2.81**	**4.34**	**1.99**	**3.05**	**-2.48**
Correlations								
SMB	**-0.16**							
HML	**-0.34**	0.07						
OMI	**-0.46**	**-0.14**	**0.66**					

Table 6. Summary Statistics for the Domestic Factors

Panel A of this table reports the summary statistics for the following domestic factors; *mkt* is the value-weighted U.S.-dollar market return in excess of the one-month U.S. Treasury bill rate, and *smb*, *hml*, and *omi* are the size, value, and net share issuance factors given by the differences in value-weighted returns on firms with bottom and top 30% of June-end market capitalization, top and bottom 30% of the previous December-end book-to-market ratio, and bottom and top 30% of net share issuance over the previous fiscal year, respectively. The panel reports the mean of each factor and the t-statistic (*t*-stat) on the null that the mean premium equals zero in parentheses. The same statistics are also provided for the long and short positions of the domestic *omi* factors. $o\text{-}r_f^{US}$ and $i\text{-}r_f^{US}$ are the returns on the domestic portfolios consisting of stocks with bottom and top 30% of the one-year net share issuance, respectively, in excess of the U.S. Treasury bill rate. *o-mkt* and *i-mkt* are the U.S.-dollar returns on the domestic portfolios with bottom and top 30% of the one-year net share issuance, respectively, in excess of the U.S.-dollar local market returns. Panel B reports country-pair correlations of the domestic *omi* factors. Factor premia, portfolio excess returns, and factor correlations that are significantly different from zero at the 10% level are shown in bold. The sample period for each country starts in the month listed in Table 1 and ends in December 2006.

Panel A. Domestic Factors

	mkt	*smb*	*hml*	*omi*	$o\text{-}r_f^{US}$	$i\text{-}r_f^{US}$	*o-mkt*	*i-mkt*
Australia	**0.98**	0.28	**0.45**	0.28	**0.96**	**0.68**	-0.01	**-0.29**
	(2.61)	(1.08)	**(2.27)**	(1.59)	**(2.72)**	**(1.71)**	(-0.14)	**(-2.66)**
Austria	**0.61**	-0.39	0.52	**1.06**	**1.12**	0.07	**0.51**	**-0.54**
	(1.73)	(-1.29)	(1.55)	**(3.42)**	**(2.99)**	(0.18)	**(2.34)**	**(-3.27)**
Belgium	**0.97**	**-0.41**	0.42	0.02	**1.08**	**1.07**	0.11	0.09
	(3.05)	**(-1.80)**	(1.53)	(0.05)	**(3.28)**	**(2.70)**	(0.63)	(0.48)
Canada	**0.90**	**0.63**	0.23	**0.41**	**1.08**	**0.67**	**0.18**	**-0.23**
	(3.22)	**(2.89)**	(1.10)	**(1.99)**	**(4.00)**	**(1.92)**	**(1.86)**	**(-1.72)**
Denmark	**0.76**	0.15	0.47	-0.16	**0.84**	**1.00**	0.08	0.24
	(2.39)	(0.54)	(1.60)	(-0.51)	**(2.41)**	**(2.43)**	(0.49)	(1.14)
Finland	**1.15**	0.04	-0.13	-0.22	**1.20**	**1.41**	0.05	0.26
	(2.40)	(0.10)	(-0.28)	(-0.56)	**(2.36)**	**(2.39)**	(0.20)	(1.13)
France	**1.20**	-0.06	**0.63**	**0.35**	**1.29**	**0.94**	0.10	**-0.26**
	(3.56)	(-0.25)	**(2.62)**	**(1.72)**	**(4.11)**	**(2.49)**	(0.68)	**(-2.56)**
Germany	**0.89**	**-0.48**	0.32	**0.36**	**1.06**	**0.70**	0.17	-0.19
	(2.92)	**(-2.36)**	(1.29)	**(1.79)**	**(3.57)**	**(1.91)**	(1.54)	(-1.45)
Hong Kong	**1.30**	-0.60	0.22	**0.81**	**1.66**	0.84	**0.36**	**-0.45**
	(2.41)	(-1.35)	(0.66)	**(2.57)**	**(3.37)**	(1.42)	**(1.86)**	**(-2.54)**
Ireland	**1.56**	-0.55	0.14	0.30	**1.67**	**1.37**	0.11	-0.18
	(3.97)	(-1.40)	(0.33)	(0.82)	**(3.73)**	**(3.04)**	(0.45)	(-0.81)
Italy	0.57	0.00	0.29	0.21	0.64	0.43	0.07	-0.14
	(1.18)	(-0.01)	(1.30)	(0.89)	(1.30)	(0.85)	(0.40)	(-1.31)
Japan	0.56	0.06	**0.50**	0.25	**0.75**	0.50	**0.19**	-0.07
	(1.49)	(0.26)	**(2.73)**	(1.50)	**(1.95)**	(1.25)	**(1.78)**	(-0.88)
Netherlands	**1.09**	0.19	0.40	0.32	**1.45**	**1.13**	**0.36**	0.03
	(3.42)	(0.73)	(1.47)	(1.10)	**(4.14)**	**(3.15)**	**(1.76)**	(0.21)
New Zealand	**1.13**	-0.15	-0.37	0.11	**1.07**	0.96	-0.05	-0.17
	(2.04)	(-0.43)	(-0.82)	(0.27)	**(1.88)**	(1.57)	(-0.22)	(-0.67)
Norway	**0.79**	0.27	**0.89**	**0.75**	**1.27**	0.52	**0.48**	-0.27
	(1.77)	(0.73)	**(2.37)**	**(2.17)**	**(2.83)**	(1.02)	**(2.35)**	(-1.27)
Singapore	0.86	-0.38	0.32	**0.63**	**1.12**	0.49	0.26	**-0.37**
	(1.50)	(-0.99)	(0.99)	**(1.91)**	**(2.27)**	(0.72)	(1.32)	**(-2.00)**
Spain	**0.87**	-0.31	0.35	0.35	**1.17**	**0.82**	**0.30**	-0.05
	(2.31)	(-1.21)	(1.27)	(1.43)	**(3.19)**	**(1.88)**	**(2.22)**	(-0.32)
Sweden	**0.96**	-0.58	0.44	0.36	**1.26**	0.90	**0.31**	-0.05
	(2.11)	(-1.57)	(1.23)	(0.97)	**(2.68)**	(1.64)	**(1.99)**	(-0.20)
Switzerland	**0.85**	-0.35	0.10	-0.18	**0.77**	**0.95**	-0.08	0.10
	(2.72)	(-1.60)	(0.54)	(-0.88)	**(2.48)**	**(2.77)**	(-0.67)	(0.82)
U.K.	**0.93**	-0.17	**0.68**	**0.51**	**1.20**	**0.69**	**0.28**	**-0.23**
	(3.08)	(-0.79)	**(3.83)**	**(3.01)**	**(4.01)**	**(2.07)**	**(3.30)**	**(-2.10)**
U.S.	**0.85**	0.17	0.21	**0.36**	**1.01**	**0.65**	**0.16**	**-0.20**
	(3.31)	(0.83)	(1.25)	**(1.90)**	**(4.44)**	**(1.97)**	**(1.90)**	**(-1.82)**

Panel B. Correlations of the Domestic Net Share Issuance Factors

	AU	OE	BG	CN	DK	FN	FR	BD	HK	IR	IT	JP	NL	NZ	NW	SG	ES	SD	SW	UK
Australia (AU)																				
Austria (OE)	0.00																			
Belgium (BG)	-0.10	-0.02																		
Canada (CN)	**0.25**	**-0.21**	-0.04																	
Denmark (DK)	**0.20**	**-0.12**	-0.02	**0.28**																
Finland (FN)	0.05	-0.03	0.02	**0.25**	0.06															
France (FR)	**0.15**	0.01	0.08	**0.13**	**0.18**	**0.26**														
Germany (BD)	0.05	0.04	**0.19**	**0.12**	0.10	**0.15**	**0.20**													
Hong Kong (HK)	**0.25**	-0.04	-0.02	**0.16**	**0.35**	-0.01	**0.15**	**0.13**												
Ireland (IR)	0.11	0.01	0.00	0.07	0.09	0.01	0.03	-0.11	0.06											
Italy (IT)	-0.06	0.12	0.10	-0.02	0.03	0.07	**0.17**	-0.02	0.07	**0.13**										
Japan (JP)	**0.11**	-0.06	0.04	**0.18**	**0.18**	**0.12**	**0.16**	**0.15**	0.09	-0.04	**0.12**									
Netherlands (NL)	-0.03	**-0.18**	**0.13**	0.07	-0.03	**0.16**	**0.13**	**0.17**	-0.01	-0.02	**-0.21**	0.04								
New Zealand (NZ)	-0.14	0.00	-0.13	0.03	0.11	**0.18**	0.06	0.01	-0.02	-0.11	0.03	-0.08	-0.04							
Norway (NW)	**0.12**	0.06	**0.12**	**0.29**	**0.23**	0.00	**0.25**	**0.15**	**0.15**	0.03	0.06	**0.16**	0.07	-0.08						
Singapore (SG)	0.11	-0.09	0.06	**0.27**	0.09	**0.17**	**0.40**	**0.18**	**0.15**	0.12	0.05	**0.22**	**0.14**	0.08	**0.14**					
Spain (ES)	0.02	0.01	**0.15**	**0.24**	**0.12**	**0.28**	**0.24**	**0.17**	0.02	0.08	0.02	0.09	**0.18**	0.11	**0.20**	**0.26**				
Sweden (SD)	**0.19**	-0.02	-0.06	**0.28**	**0.24**	**0.16**	**0.33**	0.11	**0.16**	**0.16**	**0.25**	**0.24**	**-0.12**	0.08	**0.24**	**0.20**	**0.14**			
Switzerland (SW)	**0.15**	-0.06	0.00	**0.13**	**0.19**	0.11	**0.20**	0.09	**0.26**	**0.15**	**0.20**	**0.25**	-0.01	0.01	0.08	0.11	**0.16**	**0.26**		
U.K. (UK)	**0.15**	0.06	0.09	**0.33**	**0.30**	**0.18**	**0.24**	**0.13**	**0.14**	-0.10	0.02	**0.24**	**0.11**	0.03	**0.27**	**0.22**	**0.22**	**0.30**	**0.16**	
U.S.	**0.22**	**-0.14**	0.03	**0.46**	**0.37**	**0.35**	**0.29**	**0.21**	**0.27**	-0.01	**0.12**	**0.33**	0.06	0.05	**0.30**	**0.31**	**0.28**	**0.50**	**0.31**	**0.43**

Table 7. Characteristics of the Global Book-to-Market Decile Portfolios

This table reports average values of the following firm characteristics for stocks included in each of the global book-to-market decile portfolios; r_{it} is the one-month U.S.-dollar return in excess of the one-month U.S. Treasury bill rate, mc_{it} is the natural logarithm of the June-end market capitalization, bm_{it} is the natural logarithm of the previous December-end book-to-market ratio, $r_{it-12,t}$ is the continuously compounded cum-dividend U.S.-dollar stock return over the previous fiscal year, $\iota_{it-12,t}$ is the net share issuance given by the difference between the continuously compounded growth in total U.S.-dollar market value and $r_{it-12,t}$, and $r^B_{it-12,t}$ is the book return given by the difference between the continuously compounded total book value and $\iota_{it-12,t}$. *N.Obs.* reports the monthly average number of stocks included in each decile. The return variables, r_{it}, $r^B_{it-12,t}$, $r_{it-12,t}$, and $\iota_{it-12,t}$, are given in percentages and their average values are given by the country-size-weighted averages of the corresponding value-weighted domestic statistics. Average values of mc_{it}, bm_{it}, and *N.Obs.* are given by the simple equal-weighted averages. The global book-to-market decile portfolios consist of stocks from the 21 developed markets that are allocated to the corresponding decile groups based on domestic rankings. The sample period is from July 1982 to December 2006.

	Book-to-Market Deciles									
	1 (Low)	2	3	4	5	6	7	8	9	10 (High)
r_{it}	0.44	0.62	0.71	0.79	0.86	0.86	0.97	0.91	0.92	1.11
mc_{it}	5.80	5.62	5.53	5.37	5.29	5.17	5.06	4.89	4.66	4.17
bm_{it}	-1.54	-1.01	-0.75	-0.55	-0.40	-0.25	-0.10	0.06	0.28	0.69
$r^B_{it-12,t}$	15.31	13.62	12.60	11.56	10.74	11.00	10.27	9.77	9.99	9.70
$r_{it-12,t}$	26.98	19.79	16.04	14.12	12.35	10.50	8.76	6.91	3.92	-3.09
$\iota_{it-12,t}$	1.45	0.78	0.92	0.73	0.93	1.21	0.59	0.45	-0.47	-0.63
N.Obs.	748	761	760	760	757	763	759	757	760	747

Table 8. Time-Series Regressions to Explain Monthly Excess Returns on the Global Book-to-Market Decile Portfolios

The value-weighted U.S.-dollar returns on the global book-to-market decile portfolios in excess of the one-month U.S. Treasury bill rate are regressed on the global market factor (*MKT*) in Panel A, *MKT* and the global size factor (*SMB*) in Panel B, *MKT*, *SMB*, and the net share issuance factor (*OMI*) in Panel C, and *MKT*, *SMB*, *OMI*, and the global value factor (*HML*) in Panel D. The global book-to-market decile portfolios consist of stocks from the 21 developed markets that are allocated to the corresponding decile groups based on domestic rankings. The construction of the global factors is explained in Table 5. *t*() is the t-statistic for a coefficient and $Adj.R^2$ is the adjusted R-squared of a regression. $N(Sig.\alpha)$ is the number of portfolios with intercepts significantly different from zero at the 10% level, $Avg.|\alpha|$ is the average absolute value of the intercepts, $Avg.R^2$ is the average adjusted R-squared, $F(\alpha)$ is the Gibbons, Ross, and Shanken (1989) F-statistic for the null hypothesis that the regression intercepts are jointly equal to zero, and $p(F)$ is the corresponding p-value. The intercepts and their averages are in percentages. The sample period is from July 1982 to December 2006.

Panel A. $r_{it}=\alpha_i+\beta_i^{MKT}MKT_t+\varepsilon_{it}$

	Book-to-Market Deciles									
	1 (Low)	2	3	4	5	6	7	8	9	10 (High)
α_i	-0.40	-0.16	-0.08	0.00	0.11	0.12	0.27	0.22	0.25	0.45
β_i^{MKT}	1.11	1.03	1.04	1.03	0.99	0.98	0.92	0.91	0.88	0.86
$t(\alpha_i)$	-3.73	-3.07	-1.81	0.07	1.72	1.84	4.18	2.90	3.06	4.55
$t(\beta_i^{MKT})$	43.13	85.10	97.44	82.95	66.88	64.18	58.88	50.84	44.42	35.95
$Adj.R^2$	0.86	0.96	0.97	0.96	0.94	0.93	0.92	0.90	0.87	0.81
$N(Sig.\ \alpha)$=9, $Avg.\ \lvert\alpha\rvert$=0.206, $Avg.R^2$=0.913, $F(\alpha)$=2.965, $p(F)$=0.030										

Panel B. $r_{it}=\alpha_i+\beta_i^{MKT}MKT_t+\beta_i^{SMB}SMB_t+\varepsilon_{it}$

	Book-to-Market Deciles									
	1 (Low)	2	3	4	5	6	7	8	9	10 (High)
α_i	-0.43	-0.15	-0.07	0.01	0.11	0.12	0.27	0.21	0.24	0.43
β_i^{MKT}	1.12	1.03	1.04	1.03	0.99	0.97	0.92	0.91	0.88	0.87
β_i^{SMB}	0.11	0.00	-0.05	-0.03	-0.02	-0.02	0.01	0.02	0.04	0.11
$t(\alpha_i)$	-3.98	-3.04	-1.56	0.18	1.77	1.89	4.13	2.84	2.94	4.36
$t(\beta_i^{MKT})$	43.51	84.02	97.42	81.97	65.99	63.32	58.24	50.33	44.21	36.46
$t(\beta_i^{SMB})$	2.64	-0.21	-3.24	-1.36	-0.65	-0.68	0.45	0.60	1.35	2.91
$Adj.R^2$	0.87	0.96	0.97	0.96	0.94	0.93	0.92	0.90	0.87	0.82
$N(Sig.\ \alpha)$=8, $Avg.\ \lvert\alpha\rvert$=0.205, $Avg.R^2$=0.913, $F(\alpha)$=2.874, $p(F)$=0.033										

Panel C. $r_{it} = \alpha_i + \beta_i^{MKT} MKT_t + \beta_i^{SMB} SMB_t + \beta_i^{OMI} OMI_t + \varepsilon_{it}$

	Book-to-Market Deciles									
	1 (Low)	2	3	4	5	6	7	8	9	10 (High)
α_i	-0.06	-0.14	-0.09	-0.08	-0.03	-0.05	0.07	-0.03	0.02	0.20
β_i^{MKT}	0.96	1.02	1.05	1.07	1.05	1.05	1.01	1.03	0.98	0.98
β_i^{SMB}	0.00	-0.01	-0.05	0.00	0.03	0.03	0.07	0.09	0.11	0.18
β_i^{OMI}	-0.57	-0.03	0.03	0.15	0.23	0.26	0.31	0.39	0.35	0.37
$t(\alpha_i)$	-0.74	-2.59	-1.85	-1.65	-0.56	-0.77	1.28	-0.51	0.27	2.12
$t(\beta_i^{MKT})$	42.23	72.49	85.33	78.86	67.87	68.03	67.97	62.44	49.90	39.84
$t(\beta_i^{SMB})$	-0.14	-0.47	-2.87	0.10	1.32	1.59	3.46	4.01	4.01	5.27
$t(\beta_i^{OMI})$	-14.51	-1.09	1.21	6.28	8.37	9.74	12.15	13.57	10.32	8.73
$Adj.R^2$	0.92	0.96	0.97	0.96	0.95	0.95	0.95	0.94	0.90	0.86
$N(Sig.\alpha)=3$, $Avg.\|\alpha\|=0.077$, $Avg.R^2=0.936$, $F(\alpha)=1.750$, $p(F)=0.163$										

Panel D. $r_{it} = \alpha_i + \beta_i^{MKT} MKT_t + \beta_i^{SMB} SMB_t + \beta_i^{HML} HML_t + \beta_i^{OMI} OMI_t + \varepsilon_{it}$

	Book-to-Market Deciles									
	1 (Low)	2	3	4	5	6	7	8	9	10 (High)
α_i	0.02	-0.10	-0.07	-0.08	-0.05	-0.07	0.03	-0.09	-0.06	0.10
β_i^{MKT}	0.96	1.02	1.05	1.07	1.05	1.05	1.01	1.03	0.98	0.98
β_i^{SMB}	0.08	0.03	-0.03	0.01	0.01	0.00	0.03	0.03	0.03	0.08
β_i^{HML}	-0.68	-0.32	-0.12	-0.04	0.15	0.23	0.32	0.49	0.61	0.75
β_i^{OMI}	-0.17	0.16	0.10	0.17	0.14	0.13	0.12	0.10	0.00	-0.07
$t(\alpha_i)$	0.37	-2.23	-1.56	-1.55	-0.91	-1.36	0.67	-2.20	-1.16	1.71
$t(\beta_i^{MKT})$	63.69	88.06	88.17	79.11	69.98	73.25	80.97	92.40	77.65	61.95
$t(\beta_i^{SMB})$	3.91	1.95	-1.95	0.39	0.41	0.22	1.67	1.82	1.75	3.67
$t(\beta_i^{HML})$	-19.36	-11.83	-4.46	-1.38	4.31	6.85	11.10	18.70	20.44	20.41
$t(\beta_i^{OMI})$	-5.10	6.32	3.75	5.80	4.08	3.96	4.43	4.10	-0.14	-2.06
$Adj.R^2$	0.97	0.97	0.97	0.96	0.95	0.96	0.96	0.97	0.96	0.94
$N(Sig.\alpha)=3$, $Avg.\|\alpha\|=0.067$, $Avg.R^2=0.962$, $F(\alpha)=1.590$, $p(F)=0.211$										