

Performance of newly listed mining stocks on the London AIM and Toronto TSX-V Stock Exchanges

1. INTRODUCTION

Mining is a highly capital intensive endeavour and access to equity capital a key requirement for the development of a mine. New mining issues are difficult to value since unseasoned companies often have no past earnings history on which to base predictions of future earnings. Some equity markets have developed large mining boards, and investors seeking the promise of the high returns risky mining investments often focus their attention on these markets.

In this study we investigate the initial and after-market returns of newly listed mining stocks on the London and Toronto stock markets. This will be of interest to companies choosing to list in one of these two markets as well to investors. Considering the many billions of dollars invested in mining stocks annually, it is surprising that no previous study of new mining listings on either of these two markets was found.

The paper commences with a brief description of the two markets. This is followed by a review of studies into initial and after-market returns around the world, the objectives of the study and the methodology used. The results are presented in section 6 and the paper concludes in section 7.

2. THE AIM AND TSX-V STOCK EXCHANGES

London and Toronto are considered to be two of the world's most important mining finance centres (Levitt and Derksen, 2006). The total capital raised in 2005 for mining ventures in Toronto and London was over USD 3,9 billion and USD 1,6 billion respectively, exceeding the combined capital raised for mining companies listed on the Australian Stock Exchange (USD 654 million), the Johannesburg Stock Exchange (USD 191 million) and the New York Stock Exchange (USD 41 million).

Both Toronto and London have junior markets where smaller, more risky companies are encouraged to list. The Toronto Venture Exchange (TSX-V) and the Alternative Investment Market (AIM) of the London Stock Exchange have in recent years attracted a significant proportion of the new listings of the so-called "junior mining stocks" and with it have raised substantial funds for these ventures.

Since AIM opened in 1995, more than 2400 companies have been admitted and more than £30 billion has been raised collectively, both through initial public offerings and further capital raisings. Although there is a wide diversity of industry sectors on AIM, this exchange has grown in popularity as a destination for new mining listings, particularly since 2003. Mining stocks, which form the largest single industry category on AIM, account for 26,6% by value of the £8 billion capitalisation of the AIM (www.londonstockexchange.com).

AIM and the TSX-V compete directly with each other to attract new mining listings. Table 1 reflects some of the characteristics of the Toronto and London main and junior markets. The 1192 mining stocks hosted by the TSX and TSX-V exchanges represented 60% of the world's publicly listed mining companies (Levitt and Derksen, 2006). However the data in the table suggest that the average market capitalisation for an AIM listed mining firm was significantly larger than that of the TSX-V at the end of 2005.

3. LITERATURE REVIEW

Most of the extensive literature on Initial Public Offers (IPOs) has tended to group together all the new listings on a particular market for a specified time period and there has not been a focus specifically on natural resource companies. The majority of studies show that IPO's are generally under priced, offering initial (at the end of the first day's trading) excess returns for shareholders. In many cases, the share prices of newly listed stocks have under-performed their respective local market indices in the longer-term.

3.1 Studies on North American and UK markets

IPO's in the USA are the most widely researched of all the world stock markets. Studies by Reilly and Hatfield (1969), Ibbotson (1975), Ibbotson and Jaffe (1975), Ibbotson and Sindelar (1988), Ibbotson, Sindelar and Ritter (1994) and Ritter (1984, 1991) all found that new issues were under-priced (relative to the closing price at the end of the first day's trading) at the time of listing.

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Table 1: Listed mining companies on the London and Toronto Stock Exchanges as at end 2005

	TSX	TSX-V	TSX & TSX-V	LSE	AIM	LSE & AIM
Number of mining issues listed	249	943	1192	34	149	183
Quoted market value (C\$ billions)	189,7	17,5	207,2	269,0	17,3	286,3
New mining listings	40	46	86	1	66	67
Equity capital raised (C\$ billions)	5,0	2,9	7,9	0,4	1,8	2,2
Volume traded (\$ billions shares)	158,7	8,0	166,7	29,4	12,7	307,1
Value traded (C\$ billions)	10,1	2,0	12,1	2,9	0,3	3,1

Source: <http://www.tsx.com/en/pdf/TSXMining.pdf>

Reilly and Hatfield (1969) found that there were superior long-run returns in the first year after listing, an observation in contrast to the findings of most other researchers. In particular, Ibbotson (1975) and Ritter (1991) both found under-performance of new issues in the after-market for periods of up three and five years respectively, and those firms with the highest initial returns had the worst after-market performance. Ritter (1991:20) suggested that this poor after-market performance was due to the "irrationally over optimistic forecasts" of investors at the time of listing. He went on to say that "this paper's evidence indicates that the offering price is not too low, but that the first after-market price is too high" (Ritter, 1991:24).

Jog and Riding's (1987) study of new listings in Canada over the period 1971 to 1983 found an average initial premium of 9,33% for the first trading day. Although they analysed their sample by business sector, their study did not look at the mining sector.

Kooli and Suret (2001) explored the initial and after-market performance of 445 new listings between January 1991 and December 1998. The average initial premium was 20,6%. The IPOs showed significant after-market under-performance when measured against the returns of seasoned firms of similar market capitalisation.

Measured on an equally-weighted basis, they found that buy-and-hold investors (who bought immediately after listing and held for 5 years) made a 24,7% loss. Negative returns were realised every year for the five years studied. Small capitalisation stocks (<CAD 10 million) under-performed the market to a greater extent than large capitalisation stocks (>CAD 10 million), suggesting that *ex ante* uncertainty was related positively to the under-performance of new issues. They found that mining stocks (excluding oil and gas) were the most under-priced business sector, with average initial premia of 35,7%. Kooli and Suret (2001:14) concluded "Canadian IPO's are not a good long-term investment" and went on to ask "but why do investors still buy newly listed stocks?"

Levis (1993) studied 712 U.K. IPOs in the period 1980 and 1988 and found the initial returns of 14,8%, a result similar to that reported by Ritter (1991) for the period 1975 to 1984 in the USA. He found that firms that raised less capital and offered proportionately less

equity commanded the highest initial premia. At the end of three years, these new listings had underperformed the Financial Times Actuaries All Share Index (FTA) benchmark by 11,4%. Those firms with the highest initial premia performed the worst in the after-market. Although Levis analysed returns by business sector, he did not consider mining stocks separately.

3.2 Studies on developing markets

Research on smaller markets tends to support the bulk of the findings of the Canadian, USA and UK markets. Aggarwal, Leal and Hernandez (1993) studied the Brazilian, Chile and Mexican markets during the 1980's and found first day returns of 78,5%, 16,7% and 2,8% respectively. The new issues in these developing markets fared poorly in the after-market, recording losses of 47% (Brazil), 23,7% (Chile) and 19,8% (Mexico) from day one of listing to the end of the third year. These findings for the Latin American markets are similar to the U.S. and U.K. patterns of long-run underperformance. The developing markets with the best initial returns had the worst after-market performance, consistent with findings by Ibbotson (1975) and Ritter (1991).

A well-studied developing market in a mining based economy is the JSE of South Africa. Early studies showed initial premia of 32,1% for 105 IPOs (Barlow and Sparks, 1986), 27,0% for 77 IPOs (Bradfield and Hampton, 1988) and 67,9% for 80 IPOs (Bhana, 1989). A study of 308 IPOs between 1986 and 1995 by Lawson and Ward (1998) found an average initial return of 27,2%, confirming the existence of underpricing on the JSE.

Bradfield and Hampton (1988) found positive excess returns of 29,0% in the 1-year after-market, in contrast to Bhana (1989) who found a negative excess return of -11,3%. Lawson and Ward (1998), observed a statistically insignificant 3,2% excess return over the same after-market period, although the aftermarket returns of new listings with high initial premia were significantly higher than those with lower premia, in contrast to the North American experience. This, they suggested, was evidence of a "loyal clientele": stocks yielding a high initial premium on listing create a loyal investing clientele who thereafter contribute towards the maintenance of the stock price.

3.3 Studies on natural resource IPOs

Four studies were found which focused specifically on the natural resources sector. Ritter (1984) showed that the average initial premia for natural resource stocks listed in the USA between 1972 and 1984 was 56,2%, compared to 17,3% for non-natural resource stocks. He established that initial returns on natural resource stocks varied in accordance with their projected (or actual) sales and whether the listing was done in a 'hot' (relatively high volume of new listings) or 'cold' issue period. This suggested that the smaller, more risky listings were under-priced and that this was further exacerbated during hot issue periods. Natural resource listings in cold periods, however, had the same relationship between risk and expected initial return as did non-natural resource issues (Ritter, 1984:228).

A similar finding was made by Barlow and Sparks (1986) who noted that JSE mining stocks had a higher average initial premium (46%) than other business sectors.

Kooli and Suret (2001) found that the average initial return on 102 Canadian mining IPOs was 35,7% and these stocks under-performed the market for each of the five years following listing, offering returns of between -17% and -31%.

How (2000) analysed a sample of 130 new mining and exploration stocks that listed between 1979 and 1990 on the Australian Stock Exchange. These were on average under-priced by 107,2%. Excluding five outliers from the sample lowered this figure to 63,6%. She noted that this first day return was in excess of that experienced by other business sectors for the same period. She found variations in the initial returns across the different mining sectors with gold stocks experiencing the highest initial returns of 119,5%. Stocks listed in hot issue periods showed larger under-pricing than those issued in cold periods, consistent with Ritter's (1984) observation. Larger, seasoned mining firms were generally less under-priced than smaller firms. However proxies for risk, such as age, size and growth potential were not as significant in determining the amount of under-pricing as was the number of calendar days between the prospectus registration date and the listing day.

In the after-market, How (2000) found that Australian mining stocks did not under-perform the market for the period of up to three years after listing, in contrast to evidence presented by Ritter (1984 and 1991) in the USA and Kooli and Suret (2001) in Canada.

3.4 Reasons for under-pricing and after-market performance

Uncertainty and risk in new listings are often cited as the most important of the reasons why IPOs are under

priced (Reilly and Hatfield 1969, Ritter 1984, Beatty and Ritter 1986, How 2000 and Kooli and Suret 2001). Proxies for risk such as company size, age and business sector have been linked to under-pricing by Jog and Riding (1987), How (2000) and Kooli and Suret (2001).

Rock (1986) proposed that under-pricing is necessary to compensate uninformed investors for what is known as the winner's curse – namely that informed investors withdraw from the market when they identify a poor issue, resulting in uninformed investors receiving larger allocations of poor than good issues. Listing firms thus price their shares at a discount, he suggests, ensuring that these uninformed investors purchase the issue.

Ritter's (1984) "monopsony power hypothesis", suggests that underwriters deliberately under-price IPOs and allocate these shares to favoured customers. His Institutional Lag Hypothesis suggests that once a new issue is priced, given the time delay to the offering on a rising market, the consequent increased opening price of the new issue has the same effect as under-pricing.

Finally Ritter (1991) argued that during hot issue periods investor optimism could result in the share price being driven up on issue, thus over-valuing the shares more than would have been the case if they had been issued in cold periods. Ibbotson *et al.* (1994) suggest that, particularly during hot issue periods, it is not the IPO that may be under-priced, but rather that it is the initial after-market that is over-priced. They argued that overly optimistic expectations by investors contribute to long run under-performance of newly listed stocks. This is more likely to occur during hot listing periods when investors create "windows of opportunity during which many firms rush to the market, which results in disappointment to long-term investors when the issues fail to live up to overly optimistic expectation"

Miller (2000) suggested that firms with the greatest after-market under-performance are those with short operating history, low sales, low prestige underwriters, low institutional ownership and high volatility. This combination results in higher uncertainty, hence a higher initial premium at the time of listing and poor long-run after-market performance.

4. OBJECTIVES

In summary, although research into the price performance of newly listed shares is extensive, there have been few investigations into the price performance of newly listed mining stocks. No study was found on mining IPOs on the two of the most important markets for the raising of capital for natural resource companies, London and Toronto.

This study set out to explore the initial and after-market returns of newly listed mining stocks on the AIM and TSX-V markets over a three-year period. Tests were carried out to establish whether the returns differed from zero and whether any differences in returns could be identified between the two markets.

The correlation between initial and after-market premia was examined. The impact of life-cycle stage, the amount of capital raised, the phase of the commodity cycle as well as the particular commodity mined were also probed.

5. METHODOLOGY

Data was collected for the period from January 1st 1997 (when AIM started attracting new mining listings) to 30th June 2006. The TSX-V has a much longer history of new mining listings, but for comparability reasons pre-1997 listings were not included.

The data was obtained from a number of sources. These included: Minesite.com for the AIM mining companies listing information, TSX Datalinx for the TSX-V mining companies listing information, VSE, CDNX and TSX-V market indices, SEDAR for Canadian mining company prospectus information, DataStream for share price information and AIM All Share market index, I-Net Bridge for commodity prices and company websites. The after-market share price performance in this study was restricted to three years since about half of the new listings occurred after 2002.

Twenty nine companies that TSX Datalinx listed in the mining category on the TSX-V were found not to be solely involved in the mining industry and were excluded from the sample. Data could not be found for a further six companies, leaving a sample of 142 TSX-V companies. All 160 listings on AIM were included in the sample.

The study was run in event time, in line with the approach taken by Ritter (1991) and Koolie and Suret (2001). Twenty-one successive trading days were defined to be a one month period. The initial and after-market periods studied corresponded to the following event days:

- First Day Close = Closing price in event day 1
- 1 Month Close = Closing price in event day 22
- 6 Month Close = Closing price in event day 126
- 1 Year Close = Closing price in event day 252
- 2 Year Close = Closing price in event day 504
- 3 Year Close = Closing price in event day 756

The initial and after-market returns were calculated for each stock as follows:

$$\text{Initial Return} = \frac{\text{First day closing price} - \text{Listing price}}{\text{Listing price}}$$

$$\text{After-market return} = \frac{\text{Closing price at period end} - \text{First day closing price}}{\text{First day closing price}}$$

A combined return was obtained by summing the initial and after-market returns for each stock. No allowance was made for trading costs or dividends paid when calculating the initial and after-market returns.

The returns were converted into adjusted returns by subtracting the return of an appropriate benchmark over the same investment horizon. Whilst the FTSE AIM All Share Index was available on DataStream, establishing a TSX-V benchmark proved more difficult. The TSX-V, in its current form, has been in existence since 9th December 2001 when the TSX Group acquired the CDNX. The CDNX itself had been in existence only two years prior to that, having taken over the Vancouver Stock Exchange. Therefore, in order to calculate a set of benchmark returns for the TSX-V, the returns for these respective indices had to be merged.

The excess (benchmark adjusted) return is defined as:

$$AR_{it} = r_{it} - r_{mt}$$

where: AR_{it} is the adjusted return for firm i in period t ,

r_{it} is the return for firm i in event period t , and

r_{mt} is the return on the benchmark index during the corresponding time period.

The adjusted returns were not explicitly adjusted for systematic risk. The systematic risk adjustments necessary for the (single day) initial returns should be negligibly small when compared to the average expected initial returns. The after-market returns, however, could be affected by the systematic risk of the respective companies. The risk adjusted excess return would therefore be calculated as the actual return on the stock minus the CAPM derived expected return on the stock. The problem with this approach is that the coefficient of systematic risk (β) for newly listed stocks is difficult to calculate, particularly early in the listed period.

Neither Ritter (1991) nor Levis (1993) took the beta of the firm into account when adjusting returns for the benchmark return, arguing that average betas for newly listed firms are not significantly different to have

any real influence on the data for periods of up to three years after listing. This approach was followed in the present study.

Descriptive statistics were run in Excel for each data period, in order to analyse the raw and excess returns. In common with previous studies (e.g. How, 2000), outliers were removed from the data prior to testing of the various hypotheses. Outliers were established using box plots. An outlier was classified as a value greater or less than 1,5 times the inter quartile range. Twelve outliers (out of 160 new listings) on AIM market and six (out of 142) on TSX-V were identified.

6. RESULTS

The number of new listings each year in the two markets are presented in Figure 1. Over the decade of the study the number of new listings on AIM grew steadily, overtaking TSX-V in 2003.

Figure 2 shows the mean initial excess returns by year of listing for both markets, clearly showing the consistently higher initial returns on the TSX-V.

The mean initial excess returns on AIM, adjusted for movements in the benchmark index, were 6,3% and 38,5% for TSX-V. Descriptive statistics for initial and for after-market returns on the two markets are shown in Table 2.

In prior studies on mining IPOs, Ritter (1984) found an average initial premium of 56,2% in the U.S., Barlow and Sparks (1986) 46,1% in South Africa, How (2001) 67,0% in Australia and Koolie and Suret (2001) 35,7% in Canada. The initial premia on AIM were far lower than these, suggesting that either mining IPO's on AIM are considered to be less risky than on other exchanges or that a more efficient price setting mechanism is at play. The level of under-pricing on the TSX-V was very similar to that found by Koolie and Suret (2001) on the Canadian market.

The mean initial excess returns on both exchanges were significantly greater than zero, indicating that under-pricing is a feature of both. The TSX-V returns were significantly higher than those on AIM (t-statistic 7,31, significant at the 1% level based on a two sample unequal variance test). The after-market excess mean returns, shown in Table 2, were negative for both exchanges for all periods of study, with the exception of the 1-year after-market return on AIM.

The excess after-market returns for AIM were higher and less volatile than those for the TSX-V, a combination which should be attractive to investors in mining stocks. However, the largely negative returns support Koolie and Suret's (2001) contention that

investing in natural resource stocks in the after-market is not a rewarding endeavour.

In contrast to How's (2000) Australian study, Ritter (1984) in the USA, Barlow and Sparks (1986) in South Africa and Koolie and Suret (2001) in Canada found that the after-market returns for mining stocks underperformed the general market indices of the markets on which they were listed. So the next test explored whether investors who bought mining stocks on either the AIM or TSX-V at the closing price on the first day of trading achieved excess returns in the after-market, and if so for what periods. The results are also presented in Table 2.

On the AIM market significantly negative returns were found only for the 1 and 6 month periods. For longer periods there was no significant difference in the after-market returns of the mining stocks and the FTSE All Share AIM index. The null hypothesis of a zero after-market excess return was rejected for all periods tested for the TSX-V. Investors who bought newly listed mining stocks on the TSX-V at the closing price of the first day's trading suffered significant negative excess returns in the after-market for periods of up to three years.

The combined initial and after-market returns are shown in Table 3. These were positive on AIM for each of the time periods, with minimum and maximum return of 0% (6 months) and 15,0% (1 year). TSX-V showed higher combined returns than AIM for the first six months after listing. However the average combined return on the TSX-V decreased to a cumulative negative -64,5% by the end of year 3. Positive excess combined returns were the result of the high initial premium.

Investors who purchased newly listed mining stocks prior to listing made a better return on TSX-V than on AIM for the first six months only, primarily due to the substantially higher initial returns on Toronto market. However, in the long-run investors fared better on AIM where small, but positive, excess returns were made for periods of up to three years after listing.

With the exception of the one-year period, the mean excess return on AIM was not significantly different from zero. A somewhat different pattern of results was obtained for the TSX-V stocks. For all holding periods except one year, the mean excess return was significantly different from zero. An investor who bought new mining issues ahead of the IPO and held them for a period of up to 6 months was rewarded with significant returns in excess of the TSX-V index. However significant losses relative to the market index of -28,3% or -64,5% would have been realised if a portfolio of new mining IPO's was purchased and held for periods of 2 or 3 years respectively.

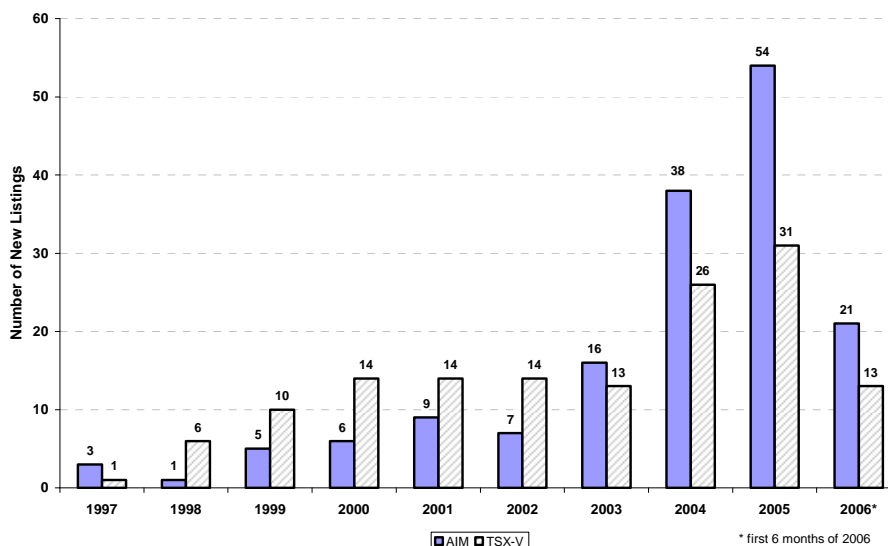


Figure 1 Number of new mining listings on AIM and TSV-X: 1997-mid 2006

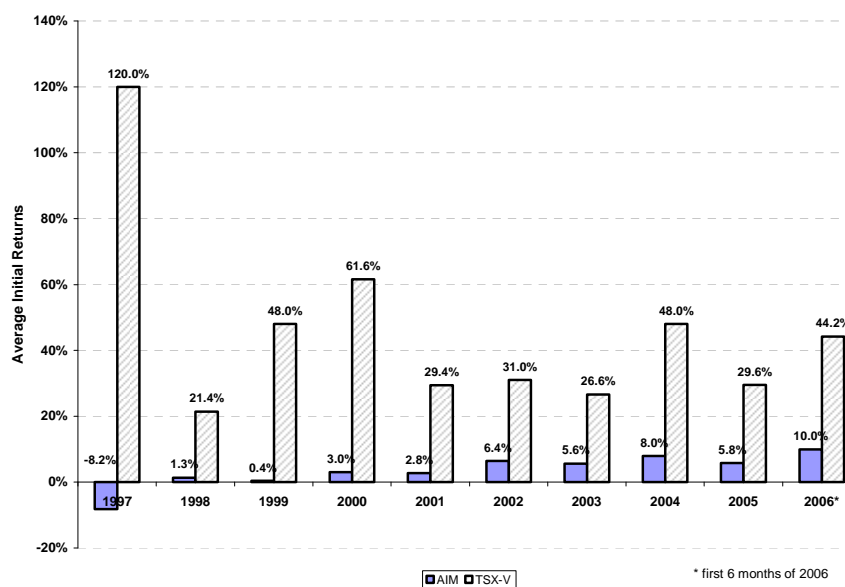


Figure 2: AIM and TSX-V average initial excess returns by year (excluding outliers)

Table 2 Initial and after-market excess returns on AIM and TSX-V

AIM	1 st day	1 month	6 months	1 year	2 year	3 year
Mean	6,3%	-4,4%	-8,0%	3,8%	-13,2%	-7,4%
Standard deviation	11,0%	14,7%	33,2%	56,3%	75,1%	91,5%
Sample size	148	148	129	109	63	33
t-Stat	6,91%***	-3,63***	-2,72***	0,71	-1,39	-0,46

TSX-V	1 st day	1 month	6 months	1 year	2 year	3 year
Mean	38,9%	-6,0%	-16,8%	-26,3%	-53,7%	-78,7%
Standard deviation	50,9%	21,3%	37,9%	48,6%	51,9%	47,7%
Sample size	136	136	115	100	78	60
t-Stat	8,92***	-3,25***	-4,73***	-5,42***	-9,12***	-12,76***

*** Significant at the 1% level

Table 3: Single means t-tests of AIM combined excess returns

AIM	1 month	6 months	1 year	2 year	3 year
Mean	2,6%	0%	15,0%	3,9%	2,1%
Standard deviation	21,0%	37,4%	67,3%	94,9%	101,8%
Sample size	148	127	110	64	33
t-Stat	1,50	0	2,33***	0,33	0,12

TSX-V	1 month	6 months	1 year	2 year	3 year
Mean	36,1%	26,6%	8,6%	-28,3%	-64,5%
Standard deviation	61,0%	81,1%	77,1%	61,2%	49,0%
Sample size	136	117	100	76	56
t-Stat	6,90***	3,55***	1,12	-4,04***	-9,86***

*** Significant at the 1% level

Next the after-market and combined excess returns on TSX-V were compared to those on AIM. The results of the two sample t-tests are shown in Table 4. Significantly different after-market excess returns were found on TSX-V for all holding periods greater than one month.

For the combined returns, only for the one-year period was the hypothesis of equality of returns was not rejected. TSX-V investors who are allocated shares at the time of the IPO and who remain in the market for up to six months after listing, achieved significantly higher returns on average than those obtained by AIM investors. For two and three-year holding periods, the AIM investors' returns were significantly better than those achieved in Toronto. Of note is the fact that the combined excess returns for AIM in years 2 and 3 were slightly positive, whereas the TSX-V combined returns were strongly negative for the same periods.

Both Ibbotson (1975) and Ritter (1991) found that stocks that achieved high initial premia did not have higher after-market returns. This was explored by establishing the correlation between the initial and 1-year after-market returns for AIM and TSX-V mining stocks. The correlation coefficients of 0,012 and 0,050 respectively suggest that price performance in the after-markets could not be anticipated based on the initial returns alone. This result does not lend support to the "loyal clientele theory" for TSX-V. Little can be said based about AIM, where much lower initial premia were found.

Many mining companies are pure exploration plays and are considered to be higher risk investments than those mining companies with an already defined resource or an existing mine asset. Studies by Reilly and Hatfield (1969), Ritter, (1984), Beatty and Ritter (1986), How (2000) and Kooli and Suret (2001) suggested that higher risk issues had higher initial premia.

AIM companies were divided into exploration, feasibility and operating mine categories (all but six of the TSX-V companies were at the exploration stage, so no test was carried out on TSX-V). The mean returns of the three groups were compared using a single factor ANOVA test. The results are shown in Table 5. The F-statistic of 0,23 offers strong evidence that the means did not differ. The degree of underpricing of new mining listings on AIM does not seem to be dependent on the stage of the project. There is no gain to investors in selectively picking new issues based on life cycle stage.

However life cycle stage was important in the after-markets. Mean 1-year after-market returns for exploration companies were -5,7%, for feasibility companies 19,1% and for operating mines 24,9%. The F-statistic of 3,06 was significant at the 5 per cent level, suggesting that after-market returns were related to life-stage. Shareholders in companies with well advanced operations or cash generating projects enjoyed better returns in the after-market. An investor would therefore have been rewarded for selectively investing in these companies.

From the perspective of the company, although the nature of its assets did not affect the initial premium, there seems to be longer-term benefit in having a portfolio of assets that include more advanced projects.

Both Ibbotson *et al.* (1994) in the US and Levis (1993) in the UK found that firms raising smaller amounts of capital during their IPOs had higher initial premia and lower after-market returns. This finding was tested on AIM and TSV-X using 1-year after-market returns. The IPOs on each market were divided into approximately equal groups based on the amount of capital raised.

Table 4: Two sample t-test of AIM and TSX-V after-market and combined excess returns

	t-statistic After-market returns	t-statistic Combined returns
1 Month	0,73	-6,07***
6 Months	1,91**	-3,24***
1 Year	4,15***	0,63
2 Years	3,63***	2,34**
3 Years	4,17***	3,53***

*** Significant at the 1% level

** Significant at the 5% level

Table 5 Initial returns for AIM companies at different stages of the life cycle

Project Status	Initial returns			After-market returns		
	Count	Average	Variance	Count	Average	Variance
Exploration	76	6,9%	0,0111	58	-5,7%	0,2668
Feasibility	39	5,8%	0,0187	30	19,1%	0,3338
Mine	19	5,3%	0,0042	13	24,9%	0,2785
F-Stat		0,23			3,06**	

** Significant at the 5% level

Table 6: Initial and 1-year after market returns by capital raised

Capital Raised	Initial Returns			1-year Returns		
	Count	Average	Variance	Count	Average	Variance
AIM						
£0-2 million	30	9,7%	0,0134	19	16,1%	0,2892
£2-5 million	28	6,1%	0,0179	22	13,6%	0,2797
£5-10 million	19	10,0%	0,0088	12	13,6%	0,4625
>£10 million	23	3,0%	0,0061	14	-26,3%	0,0686
F-Stat		2,13			2,28*	
TSX-V						
C\$0-0.5 million	45	58,9%	0,2535	40	-20,6%	0,1615
C\$0.5-1 million	30	37,9%	0,3233	24	-38,9%	0,1540
C\$1-2 million	37	30,0%	0,2211	23	-10,5%	0,4442
>C\$2 million	24	16,6%	0,1397	13	-48,5%	0,1665
F-Stat		4,57***			2,56*	

*** Significant at the 1% level

* Significant at the 10% level

The first panel of Table 6 shows the results of a single factor ANOVA test for the initial returns for the AIM market. The null hypothesis of no difference in initial returns across the four groups could not be rejected. Weak evidence was found suggesting that firms raising small amounts of capital on AIM may offer above average 1-year after-market returns. Those companies that raised capital in excess of £10 million during the IPO experienced very different after-market returns and also exhibited a lower average variance

from those raising less than £10 million. Pair-wise comparisons of mean returns between the three smaller categories and the largest category was found to be significantly different. Of the 23 firms that raised in excess of £10 million, 15 were at the advanced feasibility or mining stage, whereas firms that raised less than £10 million were mostly at the exploration stage.

Smaller amounts of capital were raised by mining companies on TSX-V than on AIM. As shown in Panel B of Table 6, initial average returns on the TSX-V decreased with increasing capital raised but no relationship was apparent between the amount of capital raised and the after-market returns. The null hypothesis of no difference in the average initial returns across the four size categories was strongly rejected. All after-market returns were negative and there was weak evidence that the average 1-year returns across the four categories differed. The pattern of average initial returns suggest that the smaller listings on TSV-X were perceived to be more risky and were therefore more under-priced than those listings where larger amounts of capital was raised during the IPO.

IPOs in hot issue markets are, on average, more under-priced than issues in cold issue markets (Ibbotson and Jaffe, 1975, Ritter, 1984, and Lawson and Ward, 1998). In the relatively short time frame of this study (nine years), no cyclical pattern in the number of new listings was evident. However it can be seen in Figure 2 that there was a large increase in the number of listings on both AIM and the TSX-V in 2004 which continued in 2005. The 2006 numbers suggest that the volume of new listings may have been falling (approximately equal numbers of listings occur in the first and second halves of each year), but this did not provide a strong enough evidence of a cycle to test whether the performance of IPOs differed depending on whether the listing occurred in hot or cold listing periods.

Figure 3 shows the relative performances of three US dollar denominated commodity indices published by the Economist: an all-commodities index, a metals index and an industrial metals index. Inspection of Figure 3 suggests that the increase in listing activity was broadly in line with the general increase in commodity prices from mid-2003. So a test was carried out to establish whether listings after the start of 2004 had higher initial premia than those in the period 1997 to 2003.

On AIM the null hypothesis of no difference between initial returns prior to and after 1 January 2004 (3,6% and 7,4% respectively) was rejected at the 5% level of significance. This may be evidence of the impact of a hot listing period influencing initial returns. However no such effect was evident on TSX-V (returns 38,9% and 38,0% respectively).

Finally the companies on each exchange were grouped by commodity mined in order to test whether initial and one-year after-market returns differed for companies producing gold, base metals, diamonds, industrial minerals and diversified minerals. Table 7 shows the results of the ANOVA tests. The null hypothesis of similar returns for different commodity

groups was not rejected for either market at the five per cent level. No commodity group appeared to have offered better returns, either at the time of listing or in the 1-year after-market.

7. CONCLUSIONS

In this study performance of newly listed mining stocks on AIM and the TSX-V for the period 1st January 1997 to 30th June 2006 was studied.

It was found that under-pricing existed in the natural resource sector on the two exchanges studied, though the level of this under-pricing varied. Newly listed mining stocks on the TSX-V offered higher initial premia than those on AIM. This was consistent with the higher risk profiles of these companies, as suggested by the amount of capital raised.

The after-market returns disappointed on both exchanges, and investors who bought new mining stocks on the TSX-V would have suffered higher losses than investors in mining stocks on AIM. If investors were lucky enough or sufficiently well-informed to obtain an allocation of shares at the issue price then significant gains could have been made on the TSX-V, though most of this gain would have been as a result of the high initial premium and not through share price appreciation after the first day of trading. In fact the initial gains were rapidly lost in the after-market period and had disappeared altogether six months after listing.

A number of variables were investigated to see whether they were correlated with the initial and after-market excess returns. These were amount of capital raised, type of commodity mined, the stage in the company life cycle at which capital was raised and the generally commodity life cycle. None of these variables were considered to consistently affect the returns on either market, with the exception of the strong relationship between capital raised and initial premia on the TSX-V.

From the perspective of the listing company, the lower level of under-pricing on AIM suggests that the listing price was more accurately set here than on the TSX-V.

Investing in newly listed mining stocks on AIM and TSX-V is likely to lead to significant losses if the shares are bought at the closing price on the first day of trading. Excess returns accrue only to investors who obtained an allocation prior to listing. Since allocations of successful issues are often restricted to underwriting firms and their favoured clients (Ritter, 1984), the investor who bought new issues in the secondary markets did not make appropriate returns for the risks taken on these markets.

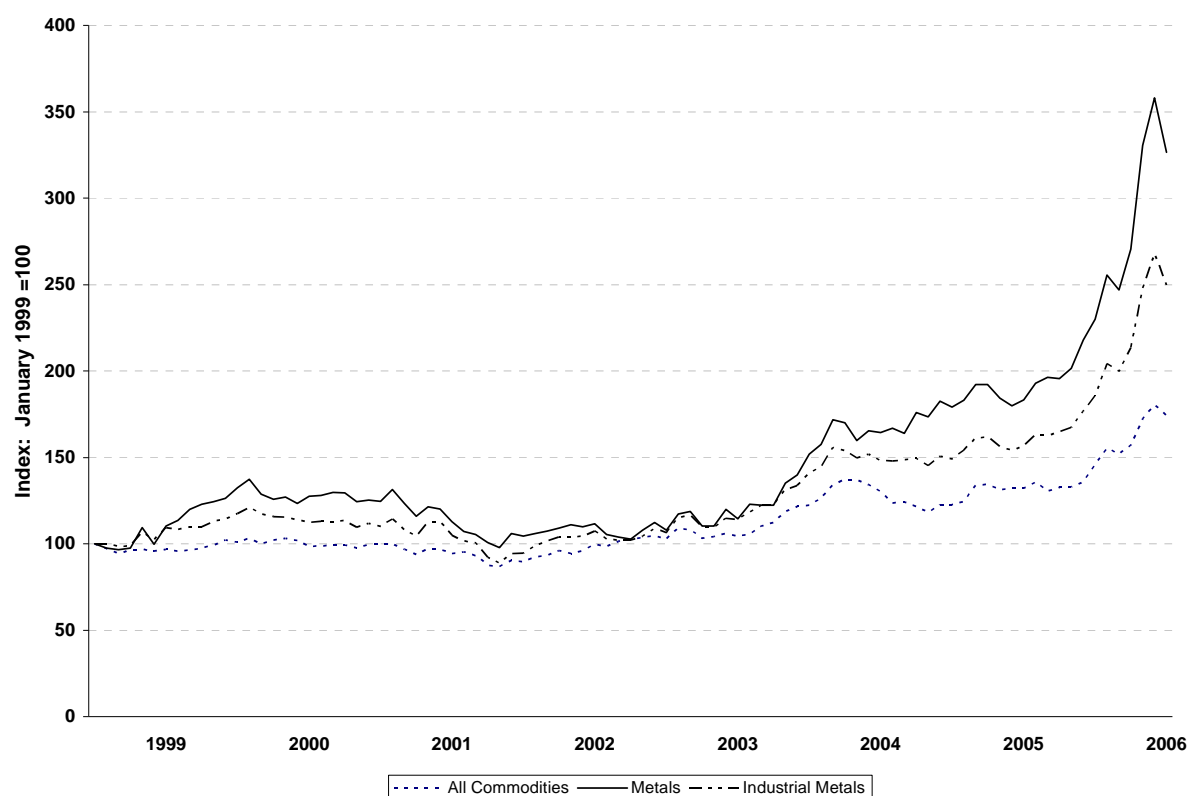


Figure 3: The Economist commodities indices: January 1999 = 100

Table 7: Initial and 1-year after market returns by commodity mined

<i>Capital Raised</i>	<i>Count</i>	<i>Initial Returns</i>		<i>Count</i>	<i>1-year Returns</i>	
		<i>Average</i>	<i>Variance</i>		<i>Average</i>	<i>Variance</i>
AIM						
Base metals	55	6,5%	0,0164	40	-10,2%	0,1911
Diamonds	18	5,9%	0,0084	11	8,5%	0,3301
Gold	47	4,5%	0,0076	40	4,7%	0,3215
Industrial minerals	15	10,8%	0,0169	10	28,2%	0,4937
Diversified	5	9,6%	0,0138	6	5,5%	0,4856
<i>F-Stat</i>		1,02			1,25	
TSX-V						
Base metals	35	30,4%	0,2371	28	-28,1%	0,2402
Diamonds	11	40,9%	0,4885	8	-28,6%	0,5739
Gold	43	48,8%	0,2955	31	-12,0%	0,2230
Industrial minerals	15	56,5%	0,2789	9	-32,7%	0,1909
Diversified	24	16,8%	0,1105	17	-35,2%	0,2053
<i>F-Stat</i>		2,22*			0,79	

* Significant at the 10% level

Two extensions to this study are proposed. Since only 142 of the 943 mining stocks listed on the TSX-V were used in this study (due to the shorter life of AIM), a review of the complete listings history of TSX-V could have the benefit of capturing a complete hot and cold listing cycle.

Further work on the other “traditional” natural resource stock exchanges, those of Australia and South Africa, would allow comparisons to be drawn with the results of this study. Both the ASX and JSE have a long history of natural resource IPO’s and this could enable the effects of full commodity cycles on the initial and after-market share price performance across different markets to be studied.

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