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ASIA PACIFIC ADRS IN THE NEW MILLENNIUM: IS THERE A DIFFERENCE IN PERFORMANCE FOR ISSUES LISTED ON THE NYSE IN THE LAST TWO DECADES?

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ABSTRACT

The long-term excess returns for Asia Pacific ADRs listed on the NYSE from 1990 through 2009 are tested to determine differences in performance and evidence of decade-long market timing effects. While the overall sample outperformed the S&P 500 Index during the first 36 months of trading by over 13 percent, those ADRs listed before January 1, 2000 underperformed by 21 percent while those issued after outperformed the index by 31 percent. A similar market-timing effect is seen by breaking IPOs and SEOs down by date of issue as well. The results suggest Asia Pacific ADRs provided great diversification benefits during the volatile US markets during the 2000s.

Keywords: American depository receipts, International investing, Portfolio diversification, Asia pacific

JEL Classification: F21, G11, G12, G14, G15.

1. INTRODUCTION

International investing allows individuals to diversify portfolios in such a way as to offset losses during bear markets in certain countries. Jiang (1998) and Officer and Hoffmeister (1988) suggest American Depository Receipts (ADRs) provide this diversification benefit for US investors by giving them a way to invest in global companies on their own domestic exchanges. While some studies, such as Callaghan *et al.* (2000) find ADRs outperform domestic market portfolios, others, such as Foerster *et al.* (2000) find ADRs underperform the market index. Schaub (2004) suggests that these studies have differing results based on when the ADRs are listed and finds ADRs traded on the New York Stock Exchange (NYSE) outperformed the S&P 500 during bear markets in the US and underperformed the index during U.S. bull markets. If Schaub (2004) is correct, then ADRs listed in the 1990s should underperform the domestic market index and those listed during the 2000s should outperform it. Schaub (2012; 2013a; 2013b) finds that this effect does in fact exist for ADR IPOs and SEOs as well as Latin American ADRs and emerging market ADRs. The

purpose of this research is to determine whether Asia Pacific ADRs listed on the NYSE provided international diversification benefits to US investors during the stock market crashes and volatility of the 2000s as compared to the steady growth in the 1990s.

2. BACKGROUND

The ADR was created in 1927 during an incredible booming US stock market by the investment firm of J. P. Morgan. The idea was to give US investors a way to buy foreign company equities without dealing with foreign currency transactions or trading on foreign exchanges. Essentially, long before the emergence of mutual funds, US investors could easily diversify internationally with trades on their own domestic exchanges and in the over-the-counter market.

The process of creating an ADR involves a large international bank bundling shares of international stocks until their dollar translated value was equivalent to most US stocks. Whether the bundle contained one share or twenty shares of the foreign stock, a receipt was sold against the bundle and traded like one share of stock in the US. Sponsored ADRs involve the sale of foreign shares with the involvement of the foreign firm, although the large bank can also bundle the shares of a firm without their involvement (called unsponsored ADRs). Also, a foreign firm's first US issue is considered an initial public offering (IPO) whereas previously issued or subsequent issues listed in the US are considered seasoned equity offerings (SEOs) by the NYSE.

There are various additional risks involved in ADR investing. Country risk, the risk of the issuing country and/or region where the company is headquartered, can affect ADR share prices since the value of the share in the originating country determines the value of the ADR in the US. If an investor purchases ADRs from different regions, they may diversify most of the country risk away. Also, since the original shares are valued in their own currency before being translated into dollar values, there is a level of foreign exchange risk involved. Changes in the values of foreign currencies relative to the US dollar can therefore increase or decrease returns to US investors in ADRs.

Several ADR studies examine returns for a holding period of one year or longer from the initial listing date of the ADR portfolio relative to a US index. These studies normally employ the same methodology as IPO studies (for example, see (Schaub, 2003). Callaghan *et al.* (2000)) found a portfolio of 66 ADRs issued from 1986 through 1993 and listed on the New York Stock Exchange, American Stock Exchange and the NASDAQ outperformed US domestic market portfolios by 7.5% to 19.6% in the first year of trading depending on the listing exchange. Although they did not specifically focus on Asia Pacific ADRs, they found emerging market ADRs significantly outperformed those issued in developed markets when compared to the market index.

Foerster *et al.* (2000) focused on monthly excess returns for three years from the issue date. Their sample consisted of 333 ADRs listed on the NYSE, AMEX and NASDAQ from 1982 through 1996. Overall, their findings were that, for the 36 month holding period, ADRs underperformed the domestic market index by nearly 15%. Their findings included ADRs from the Asia Pacific region (which underperformed the Datastream index by over 19%). Overall, they

concluded that ADRs behave much like IPOs in that they tend to underperform the market index in the long-run (Ritter, 1991).

Schaub (2003) examined 179 NYSE-listed ADRs that were issued from 1987 through mid-1998 and found that the total sample of ADRs underperformed the S&P 500 during the initial 3-year trading period by nearly 20%. Included in the findings was that the Asia Pacific issues underperformed the market index by nearly 30%. Since the ADR studies provided different conclusions as to how ADR portfolios perform compared to the US market index, Schaub (2004) segmented a sample of 143 NYSE-listed Asia Pacific and European ADRs listed from 1987 through September 2000 into those trading through the US bull market versus those trading through the US bear market. The author found that the entire sample of Asia Pacific ADRs underperformed the market by 18%. However, after breaking the sample down into those trading through the bull market and those through the bear market, the results showed the bear market ADRs underperformed the index by only 1% over a 3-year trading horizon while the bull market ADRs underperformed by nearly 23%. Hence, Schaub (2004) suggested that market timing may affect ADR returns and make them a good diversification tool. Other studies found stock market timing effects for NASDAQ-listed ADRs (Schaub, 2009), IPOs and SEOs (Schaub and Highfield, 2004) and emerging market issues (Schaub and Highfield, 2006).

Schaub (2004) findings of Asia Pacific ADR performance is potentially weakened by the fact that it only contained 8 observations trading through the US bear market out of a total sample of 39 Asia Pacific ADRs. Also, although the bear market ADRs did outperform the bull market ADRs relative to the index, the bear market ADR portfolio did not outperform the index itself.

Previously mentioned studies identified stock market timing effects but were weak in that they compared ADRs in a very long bull market to those in a short bear market. Identifying where to segment the sample in such a case is difficult since a 3-year trading window can easily include both a bull and bear market period. In this study, the sample period is expanded far beyond that of Schaub (2004) to include many more cases of Asia Pacific ADRs. The particular emphasis in on the differences in ADR performance for issues listed in two very different decades. The 1990s saw a strong US stock market with a steady upward trend whereas, in the 2000s, the US market was extremely volatile with a stock market bubble bursting in 2000, the September 11th terrorist attacks the next year, a period of rebound for equities, and finally a severe decline resulting from the mortgage market crisis. Essentially this research examines whether the Asia Pacific ADRs listed and trading through the period of market crashes and volatility (the 2000s) outperformed the market index and provided actual international diversification benefits to US investors. Schaub (2012; 2013a; 2013b) found that the excess returns for ADR IPOs and SEOs, Latin American ADRs and emerging market ADRs listed in the 2000's significantly outperformed those listed in the 1990's. In keeping with these findings, this research further looks at the differences in performance of the IPO and SEO Asia Pacific portfolios based on date of issue as well.

3. RESEARCH METHODOLOGY

For purposes of this research, standard excess return ADR performance methodology is utilized as in Schaub (2009). The total sample of NYSE-listed Asia Pacific ADRs consists of 90 ADRs that were listed from January 1, 1990 through December 31, 2009. The sample can be broken down by IPOs (64 ADRs) versus SEOs (26 ADRs) and by ADRs listed in the 1990s (31 ADRs) versus those listed in the 2000s (59 ADRs).

For reporting and testing purposes, excess returns are computed by subtracting the returns of the appropriate index from the returns of the ADRs. Because this study examines NSYE-listed ADRs, the S&P 500 Index is considered the appropriate proxy for the market return (see (Schaub, 2003)) and (Schaub, 2004).

Monthly excess returns and cumulative excess returns for the first 36 months of trading are computed as shown in Equations 1 through 3. The excess return for security i during month t (xr_{it}) is computed as the difference between the return of the security in month t (r_{it}) and the return of the S&P 500 market index in month t (r_{mt}). This is shown in equation 1 below.

$$xr_{it} = r_{it} - r_{mt} \quad (1)$$

The average excess return for the sample during month t (XR_t) is computed as the simple average of the sum of the excess returns of each of the n securities as shown in Equation 2 below.

$$XR_t = \frac{1}{n}\sum_{i=1}^{n} xr_{it} \quad (2)$$

Once monthly average excess returns are computed, cumulative excess returns as of month s are computed as the summation of the average excess returns starting at month 1 until month s in Equation 3. Here, s ends at month 36 since the return period is for the first three years of trading.

$$CXR_{1,s} = \sum_{t=1}^{s} XR_t \quad (3)$$

Monthly average excess returns and the cumulative excess returns are tested to determine significance using a Z-score as in Schaub (2009). For convenience, P-values for these tests are reported and indicate whether monthly and/or cumulative average excess returns are significantly different from 0 using a .10 alpha level.

4. ANALYSIS AND RESULTS

In Table 1 the excess return analysis for the entire sample is broken down by type of issue (IPO versus SEO). The total sample results for the 90 Asia Pacific ADRs shown in the first panel indicates that there were 10 months of significant excess return performance, with 6 months of positive excess returns and 4 months of negative significant excess returns. The cumulative results for the entire sample show that from the 24th month through the 36th month the Asia Pacific ADR

portfolio had significant positive excess returns. By the end of the 3-year initial trading period the ADR portfolio return exceeded the S&P 500 index return by over 13 percent.

The second and third panels of Table 1 show that splitting the Asia Pacific ADR portfolio into IPOs and SEOs revealed that there was not much difference in their overall return behavior for the 36-month trading period. Each sample enjoyed a few months of significant cumulative excess returns over and beyond that of the S&P 500, but overall the portfolios performed about the same.

Table-1. Performance by Month for Asia Pacific NYSE-Listed IPO and SEO ADRs (January 1990 – December 2009)[a]

	All Asia Pacific ADRs (90 Observations)				Asia Pacific IPO ADRs (64 Observations)				Asia Pacific SEO ADRs (26 Observations)			
Month	XR	P-value	CXR	P-value	XR	P-value	CXR	P-value	XR	P-value	CXR	P-value
+ 1	0.95%	0.32	0.95%	0.32	1.80%	0.26	1.80%	0.26	-1.13%	0.32	-1.13%	0.32
+ 2	3.34%	*0.08*	4.29%	*0.09*	4.94%	*0.06*	6.74%	*0.06*	-0.59%	0.40	-1.73%	0.30
+ 3	-1.85%	0.12	2.44%	0.25	-5.02%	*0.00*	1.72%	0.36	5.95%	*0.01*	4.23%	0.16
+ 4	2.10%	0.15	4.54%	0.13	3.48%	*0.10*	5.19%	0.17	-1.31%	0.31	2.92%	0.28
+ 5	1.91%	0.12	6.45%	*0.07*	1.53%	0.23	6.73%	0.12	2.84%	*0.08*	5.76%	0.14
+ 6	-1.17%	0.24	5.28%	0.13	-1.71%	0.22	5.02%	0.21	0.17%	0.47	5.93%	0.15
+ 7	2.14%	0.11	7.42%	*0.07*	2.83%	*0.10*	7.85%	0.12	0.45%	0.43	6.38%	0.15
+ 8	-3.49%	*0.01*	3.93%	0.23	-3.95%	*0.02*	3.90%	0.29	-2.36%	0.16	4.01%	0.27
+ 9	-2.40%	*0.02*	1.54%	0.39	-2.68%	*0.05*	1.22%	0.43	-1.70%	0.12	2.31%	0.37
+10	-2.06%	*0.07*	-0.53%	0.46	-3.18%	*0.05*	-1.96%	0.40	0.68%	0.33	2.99%	0.33
+11	-1.43%	0.13	-1.96%	0.37	-0.68%	0.33	-2.63%	0.36	-3.30%	*0.09*	-0.31%	0.48
+12	-0.31%	0.43	-2.27%	0.35	-1.40%	0.26	-4.03%	0.30	2.38%	0.18	2.07%	0.40
+13	2.32%	*0.08*	0.05%	0.50	2.63%	0.11	-1.40%	0.43	1.55%	0.24	3.62%	0.33
+14	1.46%	0.19	1.51%	0.41	1.32%	0.28	-0.09%	0.50	1.81%	0.18	5.43%	0.26
+15	3.55%	*0.03*	5.05%	0.22	3.08%	*0.10*	3.00%	0.37	4.69%	*0.01*	10.12%	0.12
+16	-1.65%	0.15	3.40%	0.31	-1.85%	0.19	1.15%	0.45	-1.17%	0.30	8.95%	0.16
+17	0.02%	0.49	3.42%	0.31	0.78%	0.31	1.92%	0.42	-1.86%	0.13	7.09%	0.22
+18	1.69%	0.17	5.10%	0.24	1.65%	0.24	3.57%	0.35	1.80%	0.19	8.89%	0.17
+19	1.69%	0.16	6.79%	0.18	2.43%	0.13	6.00%	0.27	-0.14%	0.47	8.75%	0.18
+20	0.80%	0.31	7.60%	0.16	1.06%	0.32	7.06%	0.24	0.17%	0.46	8.92%	0.18
+21	-1.24%	0.21	6.36%	0.21	-1.96%	0.16	5.09%	0.31	0.55%	0.40	9.47%	0.17
+22	1.56%	0.16	7.92%	0.16	0.70%	0.37	5.80%	0.29	3.68%	*0.04*	13.15%	*0.10*
+23	0.60%	0.36	8.52%	0.15	0.72%	0.38	6.52%	0.27	0.28%	0.43	13.43%	*0.10*
+24	3.06%	*0.04*	11.57%	*0.08*	4.42%	*0.03*	10.94%	0.16	-0.29%	0.45	13.14%	0.11
+25	0.41%	0.40	11.99%	*0.08*	0.55%	0.40	11.49%	0.15	0.09%	0.48	13.22%	0.11
+26	-0.13%	0.46	11.85%	*0.08*	0.14%	0.47	11.63%	0.15	-0.81%	0.34	12.41%	0.13
+27	0.48%	0.37	12.34%	*0.08*	0.87%	0.33	12.50%	0.14	-0.46%	0.39	11.94%	0.14
+28	2.40%	*0.08*	14.74%	*0.05*	3.63%	*0.06*	16.12%	*0.08*	-0.62%	0.31	11.33%	0.15
+29	-1.41%	0.22	13.33%	*0.07*	-1.76%	0.23	14.36%	*0.11*	-0.54%	0.39	10.79%	0.17
+30	1.77%	0.12	15.10%	*0.05*	1.90%	0.16	16.26%	*0.09*	1.46%	0.27	12.25%	0.14
+31	-1.64%	0.13	13.46%	*0.07*	-2.21%	*0.13*	14.06%	0.12	-0.26%	0.45	11.99%	0.15
+32	-1.15%	0.18	12.31%	*0.09*	-1.35%	0.20	12.70%	0.15	-0.64%	0.35	11.34%	0.17
+33	3.12%	*0.02*	15.43%	*0.05*	3.50%	*0.04*	16.21%	*0.10*	2.18%	0.20	13.53%	0.13
+34	-2.36%	*0.04*	13.07%	*0.09*	-2.16%	0.11	14.05%	0.13	-2.87%	*0.07*	10.66%	0.19
+35	-0.24%	0.43	12.83%	*0.09*	-1.05%	0.28	13.00%	0.15	1.75%	0.17	12.41%	0.16
+36	0.39%	0.39	13.22%	*0.09*	0.96%	0.29	13.96%	0.14	-1.03%	0.27	11.38%	0.18

[a]The computation of average excess returns (XR) is described in equation 2 in the text and the computation of cumulative excess returns (CXR) is described in equation 3 in the text. P-values in bold italics represent returns that are significant at the 10% alpha level.

Table-2. Performance by Month for Asia Pacific NYSE-Listed ADRs by Date of Issue (January 1990 – December 2009)[a]

	All Asia Pacific ADRs (90 Observations)				ADRs Listed Before 2000 (31 Observations)				ADRs Listed After 1-1-2000 (59 Observations)			
Month	XR	P-value	CXR	P-value	XR	P-value	CXR	P-value	XR	P-value	CXR	P-value
+ 1	0.95%	0.32	0.95%	0.32	-0.52%	0.40	-0.52%	0.40	1.73%	0.28	1.73%	0.28
+ 2	3.34%	*0.08*	4.29%	*0.09*	1.24%	0.40	0.71%	0.45	4.45%	*0.04*	6.18%	*0.06*
+ 3	-1.85%	0.12	2.44%	0.25	-1.37%	0.28	-0.66%	0.46	-2.11%	0.16	4.07%	0.18
+ 4	2.10%	0.15	4.54%	0.13	-3.21%	0.14	-3.86%	0.28	4.88%	*0.03*	8.95%	*0.04*
+ 5	1.91%	0.12	6.45%	*0.07*	0.75%	0.37	-3.12%	0.33	2.52%	0.12	11.47%	*0.02*
+ 6	-1.17%	0.24	5.28%	0.13	-0.93%	0.38	-4.05%	0.30	-1.29%	0.26	10.18%	*0.04*
+ 7	2.14%	0.11	7.42%	*0.07*	-1.34%	0.32	-5.39%	0.25	3.97%	*0.03*	14.15%	*0.01*
+ 8	-3.49%	*0.01*	3.93%	0.23	-1.66%	0.28	-7.04%	0.21	-4.45%	*0.01*	9.70%	*0.07*
+ 9	-2.40%	*0.02*	1.54%	0.39	-3.27%	*0.02*	-10.32%	0.12	-1.94%	0.12	7.77%	0.13
+10	-2.06%	*0.07*	-0.53%	0.46	-2.99%	*0.03*	-13.31%	*0.07*	-1.58%	0.22	6.19%	0.19
+11	-1.43%	0.13	-1.96%	0.37	-3.41%	*0.02*	-16.71%	*0.03*	-0.40%	0.41	5.79%	0.22
+12	-0.31%	0.43	-2.27%	0.35	1.84%	0.30	-14.87%	*0.06*	-1.43%	0.22	4.36%	0.28
+13	2.32%	*0.08*	0.05%	0.50	2.34%	0.22	-12.54%	0.11	2.31%	0.12	6.66%	0.20
+14	1.46%	0.19	1.51%	0.41	-3.66%	*0.03*	-16.20%	*0.06*	4.15%	*0.03*	10.81%	*0.09*
+15	3.55%	*0.03*	5.05%	0.22	5.05%	*0.03*	-11.15%	0.15	2.75%	0.13	13.57%	*0.06*
+16	-1.65%	0.15	3.40%	0.31	-6.26%	*0.00*	-17.41%	*0.05*	0.77%	0.37	14.33%	*0.05*
+17	0.02%	0.49	3.42%	0.31	-1.82%	0.19	-19.23%	*0.04*	0.98%	0.25	15.31%	*0.04*
+18	1.69%	0.17	5.10%	0.24	-1.79%	0.22	-21.02%	*0.03*	3.52%	*0.07*	18.83%	*0.02*
+19	1.69%	0.16	6.79%	0.18	-1.29%	0.31	-22.30%	*0.03*	3.25%	*0.06*	22.08%	*0.01*
+20	0.80%	0.31	7.60%	0.16	-0.54%	0.42	-22.85%	*0.03*	1.51%	0.23	23.59%	*0.01*
+21	-1.24%	0.21	6.36%	0.21	-2.26%	0.20	-25.11%	*0.02*	-0.70%	0.35	22.89%	*0.01*
+22	1.56%	0.16	7.92%	0.16	-1.49%	0.29	-26.59%	*0.02*	3.16%	*0.05*	26.05%	*0.00*
+23	0.60%	0.36	8.52%	0.15	0.66%	0.40	-25.93%	*0.02*	0.56%	0.40	26.62%	*0.00*
+24	3.06%	*0.04*	11.57%	*0.08*	-2.99%	*0.07*	-28.92%	*0.01*	6.23%	*0.00*	32.85%	*0.00*
+25	0.41%	0.40	11.99%	*0.08*	1.61%	0.34	-27.31%	*0.02*	-0.21%	0.45	32.64%	*0.00*
+26	-0.13%	0.46	11.85%	*0.08*	3.06%	0.17	-24.25%	*0.04*	-1.81%	0.11	30.83%	*0.00*
+27	0.48%	0.37	12.34%	*0.08*	2.27%	0.21	-21.99%	*0.06*	-0.45%	0.39	30.37%	*0.00*
+28	2.40%	*0.08*	14.74%	*0.05*	3.26%	0.21	-18.73%	*0.10*	1.95%	0.11	32.32%	*0.00*
+29	-1.41%	0.22	13.33%	*0.07*	-1.50%	0.32	-20.23%	*0.09*	-1.36%	0.27	30.96%	*0.00*
+30	1.77%	0.12	15.10%	*0.05*	1.41%	0.29	-18.82%	0.11	1.96%	0.14	32.93%	*0.00*
+31	-1.64%	0.13	13.46%	*0.07*	-0.93%	0.38	-19.74%	*0.10*	-2.02%	0.11	30.90%	*0.00*
+32	-1.15%	0.18	12.31%	*0.09*	1.02%	0.34	-18.73%	0.12	-2.28%	*0.05*	28.62%	*0.01*
+33	3.12%	*0.02*	15.43%	*0.05*	0.29%	0.46	-18.44%	0.12	4.61%	*0.01*	33.23%	*0.00*
+34	-2.36%	*0.04*	13.07%	*0.09*	-2.33%	0.19	-20.76%	*0.10*	-2.38%	*0.07*	30.85%	*0.00*
+35	-0.24%	0.43	12.83%	*0.09*	-0.98%	0.32	-21.74%	*0.09*	0.15%	0.47	31.00%	*0.01*
+36	0.39%	0.39	13.22%	*0.09*	0.55%	0.43	-21.20%	*0.10*	0.30%	0.41	31.30%	*0.00*

[3] See footnote to Table 1.

Table 2 compares the performance of the combined sample of ADRs listed before and after January 1, 2000 to capture market-timing effects in the total portfolio. The 31 Asia Pacific ADRs listed in the 1990s (before 2000) shown in the second panel reveals seven months of significant excess returns, six of which were negative. The cumulative excess returns were negative every month but one and included many months of significant losses relevant to the S&P 500 index. The losses were as high as 28.92 percent in month 24 but finished out the three-year holding period with an underperformance of over 21 percent relative to the market index. Essentially, while the US stock market boomed (the 1990s) the Asia Pacific ADRs underperformed the index.

In the third panel of Table 2, the 59 Asia Pacific ADRs listed in the 2000s are shown to have outperformed the market. Eleven months of significant performance had 8 significant gains and only 3 significant losses relative to the index. However, every month of cumulative excess returns outperformed the index. Most months reported significant excessive gains that got as high as 33 percent in month 34 and finished out the 36-month period with a 31.3 percent cumulative excessive gain when compared to the S&P 500 index. The results shown in Table 2 conclusively show the

diversification benefits of Asia Pacific ADRs because the sample that traded through the times of US stock market volatility and crashes (after 2000) significantly outperformed the US market index. In fact, those ADRs listed after 2000 outperformed those listed before 2000 by over 52 percent relative to the S&P 500 index.

In Table 3, the Asia Pacific IPO ADR portfolio is broken down into those listed in the 1990s (22 ADRs) and those listed in the 2000s (42 ADRs). The IPO ADRs trading in the 1990s underperformed the S&P 500 index by over 24 percent by the end of the 3-year trading period. Cumulative excessive losses got as high as 35.47 percent in month 24 for this portfolio. These results differ starkly from the IPO ADR portfolio from the 2000s where the 3-year excess returns beat the S&P 500 by over 34 percent. The cumulative excess return performance of this portfolio was positive for the entire 3-year initial trading period. The cumulative excessive gains relative to the market index totaled as high as 36.6 percent in month 33. Comparing the performance of the before 2000 IPO ADRs to that of the IPO ADRs listed after 2000 reveals an over 58 percent difference in performance relative to the market index. Once again, these differences suggest market timing plays an important role when diversifying internationally using Asia Pacific ADRs.

Table-3. Performance by Month for Asia Pacific NYSE-Listed IPO ADRs by Date of Issue (January 1990 – December 2009)[a]

	All Asia Pacific IPO ADRs (64 Observations)				Asia Pacific IPO ADRs Issued Before 2000 (22 Observations)				Asia Pacific IPO ADRs Issued After 1-1-2000 (42 Observations)			
Month	XR	P-value	CXR	P-value	XR	P-value	CXR	P-value	XR	P-value	CXR	P-value
+ 1	1.80%	0.26	1.80%	0.26	0.61%	0.42	0.61%	0.42	2.42%	0.27	2.42%	0.27
+ 2	4.94%	*0.06*	6.74%	*0.06*	3.54%	0.31	4.16%	0.29	5.67%	*0.05*	8.09%	*0.06*
+ 3	-5.02%	*0.00*	1.72%	0.36	-5.00%	*0.02*	-0.84%	0.46	-5.04%	*0.03*	3.06%	0.30
+ 4	3.48%	*0.10*	5.19%	0.17	-2.38%	0.28	-3.22%	0.36	6.55%	*0.03*	9.60%	*0.08*
+ 5	1.53%	*0.23*	6.73%	0.12	1.88%	0.26	-1.34%	0.44	1.35%	0.32	10.96%	*0.07*
+ 6	-1.71%	0.22	5.02%	0.21	-1.48%	0.37	-2.82%	0.39	-1.83%	0.24	9.12%	0.12
+ 7	2.83%	*0.10*	7.85%	0.12	-2.15%	0.28	-4.98%	0.32	5.44%	*0.03*	14.56%	*0.04*
+ 8	-3.95%	*0.02*	3.90%	0.29	-1.67%	0.33	-6.65%	0.28	-5.13%	*0.01*	9.43%	0.14
+ 9	-2.68%	*0.05*	1.22%	0.43	-2.99%	*0.08*	-9.64%	0.20	-2.51%	0.12	6.91%	0.22
+10	-3.18%	*0.05*	-1.96%	0.40	-4.14%	*0.01*	-13.78%	0.12	-2.68%	0.16	4.24%	0.32
+11	-0.68%	0.33	-2.63%	0.36	-4.04%	*0.03*	-17.82%	*0.07*	1.09%	0.29	5.32%	0.29
+12	-1.40%	0.26	-4.03%	0.30	2.23%	0.31	-15.59%	0.11	-3.30%	*0.07*	2.02%	0.42
+13	2.63%	0.11	-1.40%	0.43	2.80%	0.25	-12.79%	0.17	2.54%	0.15	4.56%	0.33
+14	1.32%	0.28	-0.09%	0.50	-5.15%	*0.01*	-17.94%	*0.09*	4.71%	*0.06*	9.27%	0.19
+15	3.08%	*0.10*	3.00%	0.37	4.42%	*0.09*	-13.53%	0.17	2.38%	0.23	11.65%	0.15
+16	-1.85%	0.19	1.15%	0.45	-6.74%	*0.00*	-20.26%	*0.08*	0.71%	0.41	12.36%	0.14
+17	0.78%	0.31	1.92%	0.42	-1.58%	0.27	-21.84%	*0.07*	2.01%	0.15	14.37%	0.11
+18	1.65%	0.24	3.57%	0.35	-2.51%	0.21	-24.35%	*0.05*	3.82%	0.12	18.20%	*0.06*
+19	2.43%	0.13	6.00%	0.27	-2.50%	0.23	-26.85%	*0.04*	5.01%	*0.04*	23.21%	*0.03*
+20	1.06%	0.32	7.06%	0.24	-0.74%	0.42	-27.59%	*0.04*	2.00%	0.24	25.21%	*0.02*
+21	-1.96%	0.16	5.09%	0.31	-1.73%	0.29	-29.32%	*0.03*	-2.09%	0.20	23.12%	*0.04*
+22	0.70%	0.37	5.80%	0.29	-3.03%	0.20	-32.35%	*0.02*	2.66%	0.15	25.78%	*0.02*
+23	0.72%	0.38	6.52%	0.27	1.28%	0.35	-31.07%	*0.03*	0.43%	0.44	26.21%	*0.03*
+24	4.42%	*0.03*	10.94%	0.16	-4.40%	*0.04*	-35.47%	*0.02*	9.04%	*0.00*	35.25%	*0.01*
+25	0.55%	0.40	11.49%	0.15	2.72%	0.30	-32.75%	*0.03*	-0.59%	0.39	34.66%	*0.01*
+26	0.14%	0.47	11.63%	0.15	6.27%	*0.06*	-26.47%	*0.07*	-3.07%	*0.05*	31.59%	*0.01*
+27	0.87%	0.33	12.50%	0.14	3.48%	0.18	-22.99%	0.11	-0.50%	0.41	31.09%	*0.01*
+28	3.63%	*0.06*	16.12%	*0.08*	5.30%	0.17	-17.69%	0.18	2.75%	*0.09*	33.83%	*0.01*
+29	-1.76%	0.23	14.36%	0.11	-1.81%	0.34	-19.49%	0.16	-1.74%	0.27	32.10%	*0.01*
+30	1.90%	0.16	16.26%	*0.09*	-0.18%	0.48	-19.67%	0.16	2.99%	0.11	35.09%	*0.01*
+31	-2.21%	0.13	14.06%	0.12	-1.56%	0.35	-21.23%	0.15	-2.55%	0.11	32.54%	*0.02*
+32	-1.35%	0.20	12.70%	0.15	-0.99%	0.38	-22.22%	0.14	-1.54%	0.19	31.00%	*0.02*
+33	3.50%	*0.04*	16.21%	*0.10*	-0.50%	0.43	-22.72%	0.14	5.60%	*0.01*	36.60%	*0.01*
+34	-2.16%	0.11	14.05%	0.13	-0.64%	0.42	-23.36%	0.14	-2.95%	*0.08*	33.65%	*0.02*
+35	-1.05%	0.28	13.00%	0.15	-3.03%	0.13	-26.39%	0.11	-0.01%	0.50	33.64%	*0.02*
+36	0.96%	0.29	13.96%	0.14	1.91%	0.31	-24.48%	0.13	0.46%	0.40	34.10%	*0.02*

[3] See footnote to Table 1.

In Table 4, a similar, but not as pronounced, excess return performance is shown by the portfolio of 26 Asia Pacific SEOs. The SEO ADRs listed in the 1990s (9 ADRs) underperformed the S&P 500 market index by over 13 percent (though not statistically significant). Once again the ADRs listed in the 2000s (17 SEO ADRs) outperformed the market index. The underperformance of the 1990s sample was as low as 22 percent below the market (in month 29) while the outperformance of the 2000s sample exceeded the market by as much as 28.9 percent (in month 26). Overall, the SEO ADRs trading through the 2000s outperformed the index by over 24 percent. As seen with the IPO ADRs from the Asia Pacific region, the SEOs trading through the troubled US period (the 2000s) outperformed those trading through the stable growth period (the 1990s) by over 37 percent relative to the market index.

Table-4. Performance by Month for Asia Pacific NYSE-Listed SEO ADRs by Date of Issue (January 1990 – December 2009)[a]

	All Asia Pacific SEO ADRs (26 Observations)				Asia Pacific SEO ADRs Issued Before 2000 (9 Observations)				Asia Pacific SEO ADRs Issued After 1-1-2000 (17 Observations)			
Month	XR	P-value	CXR	P-value	XR	P-value	CXR	P-value	XR	P-value	CXR	P-value
+ 1	-1.13%	0.32	-1.13%	0.32	-3.31%	*0.08*	-3.31%	*0.08*	0.02%	0.50	0.02%	0.50
+ 2	-0.59%	0.40	-1.73%	0.30	-4.41%	*0.00*	-7.71%	*0.00*	1.43%	0.34	1.44%	0.38
+ 3	5.95%	*0.01*	4.23%	0.16	7.50%	*0.06*	-0.21%	0.49	5.13%	*0.03*	6.58%	0.12
+ 4	-1.31%	0.31	2.92%	0.28	-5.23%	*0.02*	-5.43%	0.21	0.77%	0.42	7.35%	0.13
+ 5	2.84%	*0.08*	5.76%	0.14	-2.02%	0.25	-7.46%	0.15	5.41%	*0.02*	12.76%	*0.04*
+ 6	0.17%	0.47	5.93%	0.15	0.41%	0.45	-7.05%	0.19	0.05%	0.49	12.80%	*0.05*
+ 7	0.45%	0.43	6.38%	0.15	0.66%	0.44	-6.39%	0.24	0.34%	0.46	13.14%	*0.05*
+ 8	-2.36%	0.16	4.01%	0.27	-1.62%	0.26	-8.01%	0.19	-2.76%	0.21	10.38%	0.12
+ 9	-1.70%	0.12	2.31%	0.37	-3.96%	*0.03*	-11.97%	*0.10*	-0.51%	0.39	9.87%	0.14
+10	0.68%	0.33	2.99%	0.33	-0.19%	0.48	-12.16%	0.11	1.14%	0.26	11.01%	0.12
+11	-3.30%	*0.09*	-0.31%	0.48	-1.85%	0.11	-14.01%	*0.08*	-4.07%	0.13	6.94%	0.24
+12	2.38%	0.18	2.07%	0.40	0.87%	0.43	-13.13%	0.12	3.18%	0.16	10.12%	0.17
+13	1.55%	0.24	3.62%	0.33	1.21%	0.34	-11.92%	0.15	1.73%	0.29	11.85%	0.14
+14	1.81%	0.18	5.43%	0.26	-0.02%	0.50	-11.94%	0.16	2.78%	0.12	14.63%	*0.09*
+15	4.69%	*0.01*	10.12%	0.12	6.61%	*0.04*	-5.33%	0.34	3.66%	*0.08*	18.29%	*0.06*
+16	-1.17%	0.30	8.95%	0.16	-5.10%	*0.07*	-10.43%	0.21	0.91%	0.38	19.20%	*0.05*
+17	-1.86%	0.13	7.09%	0.22	-2.42%	0.25	-12.85%	0.17	-1.56%	0.18	17.64%	*0.07*
+18	1.80%	0.19	8.89%	0.17	-0.01%	0.50	-12.87%	0.18	2.76%	0.16	20.40%	*0.05*
+19	-0.14%	0.47	8.75%	0.18	1.68%	0.35	-11.19%	0.22	-1.10%	0.33	19.30%	*0.06*
+20	0.17%	0.46	8.92%	0.18	-0.07%	0.49	-11.26%	0.22	0.30%	0.44	19.60%	*0.06*
+21	0.55%	0.40	9.47%	0.17	-3.55%	0.24	-14.81%	0.17	2.72%	*0.08*	22.32%	*0.04*
+22	3.68%	*0.04*	13.15%	*0.10*	2.29%	0.25	-12.52%	0.22	4.42%	*0.05*	26.74%	*0.02*
+23	0.28%	0.43	13.43%	*0.10*	-0.86%	0.36	-13.38%	0.20	0.89%	0.34	27.62%	*0.02*
+24	-0.29%	0.45	13.14%	0.11	0.47%	0.44	-12.91%	0.21	-0.70%	0.41	26.93%	*0.02*
+25	0.09%	0.48	13.22%	0.11	-1.12%	0.31	-14.03%	0.20	0.72%	0.37	27.65%	*0.02*
+26	-0.81%	0.34	12.41%	0.13	-4.80%	*0.10*	-18.83%	0.13	1.29%	0.28	28.94%	*0.02*
+27	-0.46%	0.39	11.94%	0.14	-0.71%	0.39	-19.53%	0.13	-0.33%	0.44	28.61%	*0.02*
+28	-0.62%	0.31	11.33%	0.15	-1.75%	0.20	-21.28%	0.11	-0.02%	0.49	28.59%	*0.02*
+29	-0.54%	0.39	10.79%	0.17	-0.75%	0.37	-22.03%	*0.10*	-0.43%	0.43	28.16%	*0.03*
+30	1.46%	0.27	12.25%	0.14	5.30%	0.16	-16.73%	0.18	-0.58%	0.39	27.59%	*0.03*
+31	-0.26%	0.45	11.99%	0.15	0.62%	0.40	-16.11%	0.19	-0.72%	0.39	26.86%	*0.03*
+32	-0.64%	0.35	11.34%	0.17	5.92%	*0.01*	-10.19%	0.29	-4.12%	*0.01*	22.74%	*0.06*
+33	2.18%	0.20	13.53%	0.13	2.22%	0.36	-7.97%	0.34	2.16%	0.20	24.91%	*0.05*
+34	-2.87%	*0.07*	10.66%	0.19	-6.45%	*0.07*	-14.42%	0.23	-0.97%	0.30	23.94%	*0.06*
+35	1.75%	0.17	12.41%	0.16	4.03%	*0.10*	-10.39%	0.30	0.54%	0.40	24.48%	*0.06*
+36	-1.03%	0.27	11.38%	0.18	-2.79%	0.23	-13.18%	0.26	-0.09%	0.48	24.39%	*0.06*

[4] See footnote to Table 1.

5. CONCLUSIONS

This study adds to the relevant literature by providing strong evidence that there exists a long-term market timing wealth effect when investing in Asia Pacific ADRs. This effect was shown to be sustainable over entire decades. As one would want from international diversification, when the

US stock market was suffering times of excessive volatility and severe losses (the 2000s), the NYSE-listed Asia Pacific ADR portfolio was significantly outperforming the S&P 500. Overall, the total portfolio of ADRs listed in the 1990s and 2000s outperformed the US market significantly. However, after breaking the performance results down by when the ADRs were listed, an obvious advantage existed for US investors that diversified internationally with Asia Pacific ADRs while the US market was performing poorly (the 2000s) as compared to when the US market was doing well (the 1990s). These results strongly suggest that diversification in Asia Pacific ADRs may serve as a type of portfolio insurance when the US market declines or experiences extreme volatility.

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