

Long-Term Performance of Manufacturing Firm American Depository Receipts: Do They Out-Perform the Market?

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With the growth of global markets, foreign equities may likely provide a lucrative and diversified alternative for portfolio managers and individual investors. A portfolio of newly issued foreign manufacturing firm equities from 18 countries listed on the New York Stock Exchange and traded as American Depository Receipts (ADRs) are examined to determine whether they outperform the market. The Standard & Poor's 500 Index serves as a proxy for the performance of the market. Data are tested for significant differences in returns during the period of January 1, 1990 to December 31, 2002. Findings show no significant difference in the performance of manufacturing firm ADRs relative to the S&P500 Index during the holding period. Likewise, ADRs classified as Initial Public Offerings (IPOs), Seasoned Equity Offerings (SEOs), and ADRs from emerging markets and developed markets show returns that are not significantly different from the market performance. Implications are that manufacturing firm ADRs generally reap returns similar to the market and may provide an alternative for portfolio diversification.

INTRODUCTION

Manufacturing is an integral part of a nation's economy. In the growing global economy, manufacturing firms are capitalizing on resources from all over the world more than ever before. Companies are outsourcing everything from information technology to engineering to patent attorneys (Engardio and Armdt, 2006). During the last twenty years, exports have increased from 16 percent to 27 percent of total output. Since 1990, foreign direct investment has almost tripled and foreign portfolio investment has risen fivefold as a percentage of world output. As countries open themselves to international competition, they tend to pursue policies that promote success in the global market (Cox and Alm, 2005).

From 1980 to 2001, with the creation of the General Agreement on Tariffs and Trade (GATT), the World Trade Organization (WTO), and the North American Free Trade Agreement (NAFTA), world trade more than tripled to 12.5 trillion (Cox and Alm, 2002). Overall, globalization is reducing costs, creating larger markets, greater specialization, and higher

standards of living. Global productivity has nearly doubled in the past ten years to 2.3 percent a year. (Cox and Alm, 2006).

Global competition by foreign firms promote lower prices of substitute goods, stimulate greater sales, higher revenues and the potential for profitable investment returns from foreign equities. The growth of global markets and the availability of American Depository Receipts (ADRs) create an opportunity for institutional investors and individuals to expand portfolio diversification and reap profits.

American Depository Receipts facilitate the trading of foreign equities by United States investors. ADRs make it possible for investors to buy and sell foreign securities without having to trade on foreign exchanges or deal in foreign currency. A primary advantage of ADRs is the benefit of global diversification (Officer and Hoffmeister, 1988 and Jiang, 1998). ADRs are certificates created by large U.S. banks that represent ownership of foreign equity shares denominated in U.S. dollars and are traded on the New York Stock Exchange, the American Stock Exchange, and the over-the-counter market. The market value of the ADR fluctuates with the market value of the underlying foreign stock (Besley and Brigham, 1999). Approximately 1700 ADRs are traded in the United States (Brigham and Ehrhardt, 2005).

RELATED LITERATURE

Earlier studies show mixed findings in ADR performance. ADRs generally either outperform or under-perform the market as measured by the performance of a market index. In a study of financial institution ADRs, Elliott and Schaub (2005) find that ADRs from developed markets during a 36-month holding period outperform the S&P 500 Index while ADRs from emerging markets perform similar to the market. In a study involving market timing, Schaub and Highfield (2006) conclude that emerging market ADRs issued during a bull market under-perform the S&P 500 Index after a 36-month holding period, while those issued during a bear market outperform the market and developed market ADRs under-perform the market throughout the study period. According to Surz (2007), ADRs outperform the S&P 500 Index by 16 percent. Callaghan, Kleiman and Sahu (1999), find that ADRs significantly outperform the stock market index during short-term and long-term holding periods from the date of issue. In a sample of 66 ADRs from 18 countries the authors record cumulative excess returns of 19.6 percent during the first 12 months and 2.3 percent cumulative excess returns during the first month. ADRs from emerging markets yield cumulative excess returns of 34.37 percent during the first year and outperform ADRs from developed countries. Sundaram and Logue (1996) report significant positive abnormal returns in early trading. Furthermore, Jayaraman, Shastri and Tandon (1993) find the variances of the underlying shares from developed markets to be significantly higher after listing the ADRs.

On the other hand, ADRs may under-perform the market. In a study involving 333 ADRs from 35 countries, Foerster and Karolyi (2000) find ADRs under-perform the U.S. market index by 27.5 percent during a 3-year holding period following the date of issue. In another study of 89 emerging market ADRs and 90 developed market ADRs, Schaub (2003) discovers that in both markets ADRs under-perform the S&P 500 Index by 28 percent and 11 percent, respectively, after 3 years of trading. Schaub (2002) likewise finds that Mexican ADRs under-perform the S&P 500 Index during the first five years after issue. Ritter (1991), in a study of 1526 IPOs, similarly concludes that global equity offerings under-perform the market in the long-run. Martell, Rodriguez and Webb (1999) find that price volatility of the underlying shares

for ADRs from emerging markets are weak and not significant, while Alexander, Eun, and Janakiramanan (1988) find that foreign equities under-perform the market in the long-run. In related IPO studies with equities from the United Kingdom (Levis, 1993), Taiwan (Huang, 1999) and Latin America (Aggarwal, Leal and Hernandez, 1993) and others (Brav and Gompers, 1997) find that initial public offerings from foreign countries generally under-perform the market in the long-run. Contrary to these studies Ben Naceur (2000) and Dawson (1987) find that IPOs outperform the market in the long-run.

The literature indicates varying results in ADR performance but does not provide a definite answer to the problem of whether newly issued manufacturing firm ADRs generate returns greater than the market during the long-run. This study attempts to address the conundrum of manufacturing firm ADR performance over a 36-month holding period.

THE PROBLEM

The problem of this study is to determine whether foreign manufacturing firm equities newly listed as ADRs on the New York Stock Exchange generally outperform the S&P 500 Index over a three-year period from the date of issue. In addition, the problem is to determine whether manufacturing firm ADR returns from initial public offerings (IPOs) or seasoned equity offerings (SEOs) outperform the market and to determine whether the manufacturing firm ADRs from developed markets or emerging markets outperform the market.

DATA

This study examines the long-run performance of a portfolio of 35 newly issued foreign manufacturing firm ADRs traded on the New York Stock Exchange from January 1, 1990 through December 31, 2002. This study period is selected to capture equity performance during a time of relative prosperity and economic growth before the market effects due to the war on terrorism that followed this period. Although the portfolio includes a relatively small number of equities, these 35 ADRs represent all newly issued foreign manufacturing firm equities listed on the New York Stock Exchange during the study period. The portfolio represents manufacturing firm ADRs from eighteen countries. Table 1 lists the countries and the number of stock issues from each. To examine the performance by type of market and age of issue, the 35 ADRs are further divided into subsets: 10 from emerging markets, 25 from developed markets; and 21 issues are IPOs, 14 are SEOs. Equity prices and S&P 500 return data were obtained from Commodity Systems, Inc.

METHODOLOGY

The methodology for this study is modeled from two earlier studies by Schaub (2003) and Foerster and Karolyi (2000) which derive and examine ADR portfolio monthly cumulative returns relative to a market index during a 36-month holding period after the date of issue. The portfolio includes all newly listed manufacturing firm American Depositary Receipts on the New York Stock Exchange during the study period. Returns are examined over a 36-month period following the date of issue. The S&P 500 Index serves as an appropriate proxy for the U.S. market returns (Schaub, 2002, 2003). No adjustments for ADR risk are included in the methodology. The primary objective of this study is to determine whether the ADRs outperform the market regardless of the particular risks involved.

TABLE 1
SURVEY SAMPLE OF ALL NEWLY ISSUED FOREIGN MANUFACTURING
INDUSTRY EQUITIES LISTED ON THE NEW YORK STOCK EXCHANGE
FROM JANUARY 1990 – DECEMBER 2002 BY COUNTRY

Australia:	2 Issues SEOs	Italy:	3 Issues IPOs
Brazil:	2 Issues * IPOs	Japan:	3 Issues SEOs
Chile:	2 Issues * IPOs	Mexico:	5 Issues * (4) IPO, (1) SEO
Finland:	2 Issues SEOs	Netherlands:	1 Issue IPO
France:	2 Issues (1) IPO, (1) SEO	New Zealand:	1 Issue SEO
Germany:	3 Issues (2) IPO, (1) SEO	Singapore:	1 Issue IPO
Hong Kong:	1 Issue IPO	South Africa:	1 Issue * SEO
Ireland:	1 Issue SEO	Taiwan:	3 Issues IPOs
Israel:	1 Issue IPO	United Kingdom:	1 Issue SEO
* Emerging Markets			
Total: 35 Issues from 18 Countries			

Returns are calculated as compounded total returns including dividends over consecutive months. Returns that are less than or greater than the market returns are hereby called abnormal returns. Monthly abnormal returns are computed by subtracting each monthly holding period return from that of the S&P 500 Index. Equations in Figures 1 through 3 describe the process for computing abnormal returns (ar), average abnormal returns (AR), and cumulative abnormal returns (CAR). The abnormal return for each security i on month t (ar_{it}) is computed as the difference between the return of the security on month t (r_{it}) and the return of the market on month t (r_{mt}) as shown in Figure 1 below.

FIGURE 1
ABNORMAL RETURN EQUATION

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

As shown in Figure 2, the average abnormal return for the sample for month t (AR_t) is the simple average of the sum of the abnormal returns for each of the n securities during month t.

FIGURE 2
AVERAGE ABNORMAL RETURN EQUATION

$$AR_t = \frac{1}{n} \sum_{i=1}^n ar_{it}$$

Next, the cumulative abnormal return as of month s is computed as the summation of the average abnormal returns starting at month 1 until month s as shown in Equation 3.

FIGURE 3
CUMULATIVE ABNORMAL RETURN EQUATION

$$CAR_{1,s} = \sum_{t=1}^s AR_t$$

P-values for the monthly average abnormal returns (AR) and the cumulative abnormal returns (CAR) are tested for statistical significance using a Z-score to determine statistical significance at the 10 percent alpha level. The respective average abnormal returns, cumulative abnormal returns, and p-values are shown in Table 2 and 3. P-values of .10 or less indicate the abnormal returns or cumulative abnormal returns are significantly different from 0.

FINDINGS

Table 2 shows that during the 36-month period, cumulative abnormal returns are positive and significant at the 10 percent alpha level for months 2, 4, 5, and 6. At the end of the 36-month period the manufacturing firm cumulative abnormal returns are not significantly different from the performance of S&P 500 Index. Findings suggest that diversification into foreign equities provide returns similar to the market. Considering the additional risk associated with ADRs, such as currency risk, the country's economy, asymmetric information problems, and others, the performance may not provide adequate rates of return to satisfy some investors. Interestingly, these findings differ from those of Foerster and Karolyi (2000), Ritter (19991), Alexander, Eun, and Janakiramanan (1988), and Schaub (2002, 2003b) who find that ADRs under-perform the market in the long-run while Callaghan, Kleiman and Sahu (1999) find that ADRs out-perform the market.

Further investigation reveals similar results for the cumulative abnormal returns of IPOs and SEOs. The IPO cumulative abnormal returns, shown in Table 2, are positive and statistically significant during months 1, 2, 4, and 5 however, at the end of the 36-month period returns are

TABLE 2
LONG-TERM PERFORMANCE BY MONTH FOR MANUFACTURING FIRM IPO
AND SEO NYSE-LISTED ADRs*

Month	Entire Sample (35 Observations)				IPO ADRs (21 Observations)				SEO ADRs (14 Observations)			
	AR	P-value	CAR	P-value	AR	P-value	CAR	P-value	AR	P-value	CAR	P-value
+ 1	2.10%	0.19	2.10%	0.19	5.08%	0.07	5.08%	0.07	-2.36%	0.19	-2.36%	0.19
+ 2	2.71%	0.18	4.81%	0.10	2.86%	0.24	7.94%	0.07	2.48%	0.28	0.12%	0.49
+ 3	0.27%	0.46	5.08%	0.14	-2.37%	0.28	5.57%	0.20	4.24%	0.07	4.36%	0.23
+ 4	5.36%	0.08	10.45%	0.04	11.02%	0.04	16.59%	0.03	-3.12%	0.04	1.24%	0.42
+ 5	0.64%	0.35	11.08%	0.04	1.54%	0.27	18.12%	0.03	-0.71%	0.37	0.53%	0.47
+ 6	0.14%	0.48	11.23%	0.05	-7.39%	0.01	10.73%	0.15	11.44%	0.01	11.97%	0.08
+ 7	-2.47%	0.20	8.75%	0.13	-3.25%	0.25	7.49%	0.25	-1.31%	0.28	10.66%	0.11
+ 8	-2.33%	0.13	6.42%	0.21	-4.36%	0.06	3.12%	0.39	0.72%	0.41	11.37%	0.11
+ 9	-2.07%	0.21	4.36%	0.30	-0.77%	0.40	2.35%	0.42	-4.01%	0.18	7.37%	0.24
+10	-1.51%	0.22	2.85%	0.37	-3.35%	0.11	-1.00%	0.47	1.25%	0.31	8.62%	0.21
+11	-0.18%	0.46	2.67%	0.38	-0.20%	0.47	-1.20%	0.46	-0.14%	0.47	8.48%	0.22
+12	-2.43%	0.25	0.24%	0.49	-0.89%	0.40	-2.08%	0.44	-4.75%	0.26	3.73%	0.39
+13	0.49%	0.41	0.73%	0.47	2.22%	0.23	0.13%	0.50	-2.10%	0.18	1.62%	0.45
+14	3.67%	0.04	4.40%	0.33	5.49%	0.05	5.62%	0.34	0.96%	0.30	2.58%	0.42
+15	-0.72%	0.39	3.68%	0.36	-0.93%	0.39	4.69%	0.37	-0.41%	0.46	2.17%	0.44
+16	-4.66%	0.03	-0.98%	0.46	-7.37%	0.02	-2.68%	0.43	-0.60%	0.41	1.57%	0.46
+17	0.17%	0.47	-0.81%	0.47	0.36%	0.45	-2.32%	0.44	-0.12%	0.48	1.45%	0.46
+18	2.74%	0.13	1.93%	0.43	2.27%	0.26	-0.05%	0.50	3.45%	0.11	4.91%	0.37
+19	-4.46%	0.03	-2.52%	0.41	-3.35%	0.16	-3.40%	0.42	-6.12%	0.01	-1.21%	0.47
+20	4.27%	0.03	1.75%	0.44	5.38%	0.06	1.98%	0.45	2.61%	0.13	1.39%	0.46
+21	0.79%	0.32	2.54%	0.41	-0.53%	0.41	1.45%	0.46	2.78%	0.11	4.17%	0.39
+22	1.67%	0.13	4.21%	0.36	0.56%	0.40	2.01%	0.45	3.33%	0.02	7.51%	0.31
+23	-0.84%	0.33	3.37%	0.39	0.65%	0.42	2.65%	0.44	-3.07%	0.03	4.44%	0.39
+24	-1.50%	0.20	1.87%	0.44	-1.57%	0.28	1.09%	0.47	-1.40%	0.24	3.04%	0.42
+25	1.07%	0.26	2.94%	0.40	3.62%	0.03	4.71%	0.39	-2.75%	0.16	0.29%	0.49
+26	1.45%	0.22	4.39%	0.36	-0.51%	0.42	4.20%	0.40	4.38%	0.06	4.67%	0.39
+27	-0.59%	0.36	3.80%	0.38	-0.21%	0.46	3.99%	0.41	-1.16%	0.30	3.51%	0.42
+28	1.12%	0.26	4.91%	0.35	-0.38%	0.44	3.60%	0.42	3.37%	0.05	6.88%	0.34
+29	-1.40%	0.23	3.51%	0.39	-2.61%	0.19	0.99%	0.48	0.41%	0.41	7.29%	0.33
+30	0.34%	0.42	3.85%	0.38	1.16%	0.31	2.15%	0.45	-0.89%	0.35	6.40%	0.35
+31	-1.50%	0.15	2.35%	0.43	-3.14%	0.05	-0.98%	0.48	0.95%	0.32	7.35%	0.33
+32	-1.69%	0.12	0.66%	0.48	-1.91%	0.18	-2.89%	0.44	-1.37%	0.24	5.98%	0.36
+33	-0.87%	0.35	-0.21%	0.49	-4.28%	0.07	-7.17%	0.35	4.26%	0.11	10.24%	0.28
+34	-1.16%	0.30	-1.37%	0.46	-3.68%	0.13	-10.85%	0.28	2.61%	0.16	12.85%	0.23
+35	-3.75%	0.01	-5.12%	0.35	-5.99%	0.00	-16.83%	0.19	-0.39%	0.44	12.46%	0.24
+36	0.88%	0.34	-4.24%	0.38	0.47%	0.44	-16.37%	0.20	1.50%	0.30	13.96%	0.22

*The computation of average abnormal returns (AR) is described in Figure 2 in the text and the computation of cumulative abnormal returns (CAR) is described in Figure 3 in the text. P-values in bold italics represent returns that are significant at the 10% alpha level.

not significantly different from the market. The findings are consistent with those of Elliott and Schaub (2005). Other studies by Aggarwal, Leal and Hernandez (1993), Ritter (1991), Levis (1993), Huang (1999), and Brav and Gompers (1997) find long-term under-performance of IPOs.

In the case of SEOs, cumulative abnormal returns at the end of the holding period are not significantly different from the S&P 500 Index. Only month 6 shows significant cumulative abnormal returns. This finding is contrary to the study by Elliott and Schaub (2005) which reveals that financial institution ADR seasoned equity offerings significantly outperform the S&P 500 index by 20.69 percent.

Table 3 indicates that the performance of manufacturing firm ADRs from both emerging markets and developed markets perform relatively the same as the S&P 500 Index. At the end of

the 36 month period, cumulative abnormal returns in either market are not significantly different from the market. Emerging market ADR returns show no statistical significance difference relative to the performance of the S&P 500 index during the entire 36-month period, while developed market returns are positive and significant in months 2 through 8. These findings are contrary to a similar 3-year study by Schaub (2003) who reports that long-term returns of ADRs from emerging markets under-perform the S&P 500 Index by over 28 percent while those from developed markets under-perform the market by nearly 11 percent. In a study of financial institutions, Elliott and Schaub (2005) conclude that ADRs from developed markets outperform the S&P 500 index by 15.17 percent while those from emerging markets, as in the case of this study, perform similar to the market index.

TABLE 3
LONG-TERM PERFORMANCE BY MONTH FOR MANUFACTURING FIRM
EMERGING AND DEVELOPED MARKET NYSE-LISTED ADRs*

Month	Entire Sample (35 Observations)				Emerging Market ADRs (10 Observations)				Developed Market ADRs (25 Observations)			
	AR	P-value	CAR	P-value	AR	P-value	CAR	P-value	AR	P-value	CAR	P-value
+ 1	2.10%	0.19	2.10%	0.19	-0.09%	0.49	-0.09%	0.49	2.97%	0.11	2.97%	0.11
+ 2	2.71%	0.18	4.81%	0.10	1.17%	0.42	1.09%	0.45	3.32%	0.17	6.30%	0.07
+ 3	0.27%	0.46	5.08%	0.14	-1.85%	0.38	-0.77%	0.47	1.12%	0.35	7.42%	0.07
+ 4	5.36%	0.08	10.45%	0.04	-3.68%	0.12	-4.44%	0.34	8.98%	0.04	16.40%	0.01
+ 5	0.64%	0.35	11.08%	0.04	0.38%	0.42	-4.06%	0.35	0.74%	0.37	17.14%	0.01
+ 6	0.14%	0.48	11.23%	0.05	-3.33%	0.37	-7.39%	0.30	1.53%	0.24	18.67%	0.01
+ 7	-2.47%	0.20	8.75%	0.13	-6.18%	0.23	-13.57%	0.20	-0.99%	0.35	17.69%	0.02
+ 8	-2.33%	0.13	6.42%	0.21	-1.33%	0.40	-14.91%	0.19	-2.73%	0.09	14.96%	0.04
+ 9	-2.07%	0.21	4.36%	0.30	2.33%	0.35	-12.58%	0.24	-3.82%	0.08	11.13%	0.11
+10	-1.51%	0.22	2.85%	0.37	2.98%	0.24	-9.60%	0.30	-3.30%	0.06	7.83%	0.20
+11	-0.18%	0.46	2.67%	0.38	0.13%	0.49	-9.48%	0.31	-0.30%	0.44	7.53%	0.22
+12	-2.43%	0.25	0.24%	0.49	-2.37%	0.42	-11.85%	0.30	-2.46%	0.17	5.07%	0.31
+13	0.49%	0.41	0.73%	0.47	-1.72%	0.35	-13.57%	0.27	1.37%	0.27	6.45%	0.26
+14	3.67%	0.04	4.40%	0.33	5.33%	0.04	-8.24%	0.36	3.01%	0.13	9.46%	0.18
+15	-0.72%	0.39	3.68%	0.36	-8.61%	0.03	-16.85%	0.23	2.43%	0.19	11.89%	0.14
+16	-4.66%	0.03	-0.98%	0.46	-6.81%	0.15	-23.66%	0.16	-3.80%	0.05	8.09%	0.23
+17	0.17%	0.47	-0.81%	0.47	-1.94%	0.35	-25.60%	0.15	1.02%	0.31	9.11%	0.21
+18	2.74%	0.13	1.93%	0.43	3.80%	0.24	-21.81%	0.19	2.32%	0.19	11.43%	0.16
+19	-4.46%	0.03	-2.52%	0.41	-1.52%	0.40	-23.33%	0.18	-5.63%	0.01	5.80%	0.31
+20	4.27%	0.03	1.75%	0.44	3.37%	0.21	-19.96%	0.22	4.63%	0.05	10.43%	0.20
+21	0.79%	0.32	2.54%	0.41	5.19%	0.06	-14.77%	0.29	-0.97%	0.31	9.46%	0.22
+22	1.67%	0.13	4.21%	0.36	-0.13%	0.49	-14.90%	0.29	2.39%	0.03	11.85%	0.17
+23	-0.84%	0.33	3.37%	0.39	-1.04%	0.33	-15.94%	0.28	-0.76%	0.39	11.09%	0.19
+24	-1.50%	0.20	1.87%	0.44	-1.17%	0.33	-17.11%	0.26	-1.63%	0.23	9.46%	0.23
+25	1.07%	0.26	2.94%	0.40	1.77%	0.25	-15.33%	0.29	0.79%	0.36	10.25%	0.22
+26	1.45%	0.22	4.39%	0.36	4.34%	0.13	-10.99%	0.34	0.29%	0.45	10.54%	0.21
+27	-0.59%	0.36	3.80%	0.38	5.17%	0.05	-5.82%	0.42	-2.90%	0.05	7.64%	0.28
+28	1.12%	0.26	4.91%	0.35	-0.01%	0.50	-5.84%	0.42	1.57%	0.22	9.21%	0.25
+29	-1.40%	0.23	3.51%	0.39	-4.13%	0.11	-9.97%	0.36	-0.31%	0.45	8.91%	0.26
+30	0.34%	0.42	3.85%	0.38	5.06%	0.00	-4.91%	0.43	-1.55%	0.23	7.36%	0.30
+31	-1.50%	0.15	2.35%	0.43	0.35%	0.46	-4.57%	0.44	-2.24%	0.07	5.12%	0.36
+32	-1.69%	0.12	0.66%	0.48	-1.56%	0.27	-6.13%	0.41	-1.74%	0.17	3.37%	0.41
+33	-0.87%	0.35	-0.21%	0.49	-1.88%	0.22	-8.01%	0.39	-0.46%	0.44	2.92%	0.42
+34	-1.16%	0.30	-1.37%	0.46	-0.20%	0.48	-8.21%	0.39	-1.55%	0.30	1.37%	0.46
+35	-3.75%	0.01	-5.12%	0.35	-4.63%	0.04	-12.84%	0.33	-3.40%	0.05	-2.03%	0.45
+36	0.88%	0.34	-4.24%	0.38	6.77%	0.01	-6.07%	0.42	-1.48%	0.29	-3.50%	0.41

* See footnote to Table 2.

CONCLUSIONS AND IMPLICATIONS

Although the manufacturing industry represents a major contributor to the global economy, evidence from this study does not support the hypothesis that manufacturing firm ADRs outperform the market. During the long-run holding period of 36-months, no significant difference exists in the performance of manufacturing firm ADRs relative to the performance of the S&P 500 Index. Even when the data is segmented by IPOs and SEOs, manufacturing firm ADRs perform similar to the market index during the 3-year holding period. Furthermore, emerging market ADRs and developed market ADRs show no significant difference in performance relative to the S&P 500 Index. Findings tend to suggest that manufacturing firm ADRs performance is relatively unique in that they generally perform relatively the same as the S&P 500 Index regardless of whether characterized as being an IPO, SEO, or from an emerging or developed market.

Implications are that investors may purchase manufacturing firm ADRs and receive returns similar to the U.S. market returns, while at the same time, enhance portfolio diversification. However, because of the additional risk of ADRs, investors must decide when the ADRs are appropriate. Buyers must be selective and exercise care when purchasing ADRs. The literature tends to show that all ADRs do not perform the same.

Further study is needed to determine whether the performance of manufacturing firm ADRs change as individual firms and markets continue to develop in a global economy.

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