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Abstract

This paper examines the returns of a sample of American Depository Receipts issued for Brazilian firms in order to determine if a currency crisis in the country of origin affects either the long- or short-term performance of ADRs. Brazil has the largest market in Latin America with a market capitalization of over $234 billion and 367 companies listed on the São Paulo Stock Exchange. Brazil has 85 companies with ADRs, more than any other country in Latin America. A research report by the Central Bank of Brazil suggests that Brazilian ADRs have increased interest in the domestic stock market. Research has shown that ADRs display short-term profit potential, while recent studies on Latin American ADRs have shown that ADRs under-perform the market in the long term. This paper confirms those conclusions and proposes that even ADRs issued after weak economic conditions have been resolved will continue to under-perform the overall market as a long-term investment.

Keywords: ADRs, emerging markets, international finance.
JEL Classification: C20, E44, F30.

Introduction. American Depository Receipts

There are two ways to list securities outside of the firm's home country. The first is through a direct listing. This requires that the firm meets all of the exchange's listing requirements. The second method of listing a security on an exchange outside of the home country is through an American Depository Receipt (ADR). In the United States the primary vehicle through which non U.S. companies raise capital in U.S. markets is the issuance of American Depository Receipts (ADRs) (Foerster and Karolyi, 2000).

ADRs are credited with bringing companies the advantages of liquidity, transparency, access to the U.S. market, and a lower cost of capital. Additionally, ADRs have been shown to provide international diversification benefits to U.S. investors. While ADRs seem to have several benefits, the question arises whether ADRs are a good investment when compared to the market portfolio. Recent research has shown that ADRs might display negative abnormal returns when compared to the market portfolio (Callaghan et al., 1999).

A paper by Costa et al. (1998) looks at the potential for abnormal returns for Brazilian ADRs that trade in the over-the-counter (OTC) market. Additionally, a paper by Tabak and Lima (2002) finds that Brazilian ADRs have increased the efficiency of the domestic stock market, the São Paulo Stock Exchange. This paper adds to the existing literature on ADRs' returns by taking a close look at ADRs from Brazil to find the return characteristics of these securities. The goal of this paper is to determine if the currency crisis of 1999 contributed to abnormal returns.

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1. Brazil

Brazil has one of the largest stock market capitalizations in Latin America. The stock market in Brazil, the São Paulo Stock Exchange, was created in 1968. In 2000, Brazil's stock markets were integrated and trading activity was consolidated at the São Paulo Stock Exchange (Bovespa). According to the World Development Indicators database, the market capitalization in Brazil for 2003 was the largest in Latin America with a market capitalization of over $234 billion. The table below shows the market capitalization, number of domestic companies, and turnover ratios of stock markets in Latin America. Of Brazil's 367 domestic companies, 85 currently list shares as ADRs in the American markets. Another interesting point to note is that the highest turnover ratio of the selected Latin American countries is in Brazil.

Table 1. Market capitalization

Country	Market capitalization	Listed domestic companies	Turnover ratio
Argentina	$38,927	107	1.66
Brazil	$234,560	367	3.37
Chile	$86,291	240	0.93
Colombia	$14,258	114	0.55
Ecuador	$2,153	30	0.23
Jamaica	$8,500	39	0.28
Mexico	$122,532	159	1.52
Peru	$16,055	197	0.52
Venezuela, RB	$3,820	54	0.65

Source: World Development Indicators database.

Despite Brazil's large market capitalization, turnover ratio, and number of listed domestic companies, the country was considered to rank poorly in terms of transparency and corporate governance just a few years ago (Classens et al., 2000). Transparency leads to broad-based investor confidence and competitive

trading (Khambata, 2000). In transparent markets liquidity and trading activity tend to be high, market breadth is substantial, the private sector dominates the economy, information is widely available and reporting and disclosure standards are high (Khambata, 2000). Higher transparency reduces the information asymmetry between a firm's management and its stakeholders (Patel et al., 2002).

Transparency is directly related to corporate governance and the agency problem. The agency problem is the potential decrease in the ability to monitor managers (Lee and Kwok, 1988). A vigilant board of directors, timely and adequate disclosure of financial information, and a transparent ownership structure can help mitigate the agency problem (Patel et al., 2002). Before 2000, most shares in Brazil were non-voting, minority shareholders did not receive tag-along rights, and transparency was not ensured. This creates problems of asymmetric information as majority owners overemphasize bad news in order to depress stock prices (Araujo and Esposito, 2004).

In 2000, Bovespa created a new listing segment, Novo Mercado, to distinguish firms that voluntarily adopt higher standards of corporate governance and information disclosure. Novo Mercado was part of a series of securities law changes designed to promote ownership dispersion, increase transparency, and protect minority shareholder rights (Araujo and Esposito, 2004). The Bovespa "Where you are" campaign was launched in 2002 with the intention to show that the market is accessible to the public. In 2003, the program was extended with the goal of popularizing the stock market, showing that this investment is within reach of all, as well as explaining the importance of the stock market to the country's economic development and how it can be used to form the wealth and the savings of individuals. Increased transparency, governance, and the promotion of dispersed ownership are factors that have influenced the market capitalization in Brazil.

The market capitalizations in Latin America are also, in part, due to the liberalization efforts of the countries within the region. Historically, international equity markets have had restrictions on investments from outsiders. When the domestic economy is closed and investors' access is restricted, there is no reason to expect domestic assets to be priced internationally (Solnik, 2000). But in the late 1980s and early 1990s many emerging markets decided to open up their equity markets to outside investors. When the economy opens up and access to equity markets is liberalized (or deregulated), asset pricing should become global. The decision by a country's government to allow foreigners to purchase shares in that country's stock market is known as "stock market liberalization" (Henry, 2000). Levine and Zervos (1998) find that liberalization tends to increase various measures of stock market development, including market capitalization to GDP and liquidity measured by the total value traded to GDP or, alternatively, to total market capitalization. An important policy implication based on the evidence presented by Garcia and Liu (1999) indicates that economic development plays an important role in stock market development. They state specifically the importance for Latin American countries to liberalize the economy when undertaking financial liberalization.

Table 2. Stock market liberalizations in Latin America

Country	Date of first stock market liberalization
Argentina	Nov-89
Argentina	Mar-88
Chile	May-87
Chile	Dec-91
Colombia	May-89
Venezuela	Jan-90

Source: Henry (2000).

A paper by Hargis (2000) shows how the use of depository receipts can increase the market capitalization and liquidity of local markets by reducing market segmentation. Bekaert and Harvey (2002) find that the correlations of emerging markets are still sufficiently low to provide important portfolio diversification, but market segmentation becomes harder to exploit as capital is more readily moved across borders. Brazil's market liberalization efforts began in 1988, after Chile, but before Argentina, Colombia, Mexico, and Venezuela.

According to Costa et al. (1998), the regulations on foreign listing of depository receipts were enacted on May 18, 1992. Aracruz Celulose S.A. (ARA), a level III ADR, was issued on March 3, 1997 and was the first Brazilian ADR issued. Today, approximately one-third of all Latin American ADRs are Brazilian companies. Companies have four choices for cross-listing shares. The first choice is unsponsored depository receipts, which are issued based on market demand rather than at the request of the underlying company. Additionally, sponsored depository receipts can be issued at three levels[1]. Currently all types of depository receipts are used to cross-list Brazilian companies. A paper by Sanvicente (2001) finds that in terms of price and trading flows both the companies in Brazil and the domestic market benefit from the listing of ADRs.

[1] For the definition of an ADR program and the various levels at which ADRs are traded see the Bank of New York's ADR website available at adrbny.com.

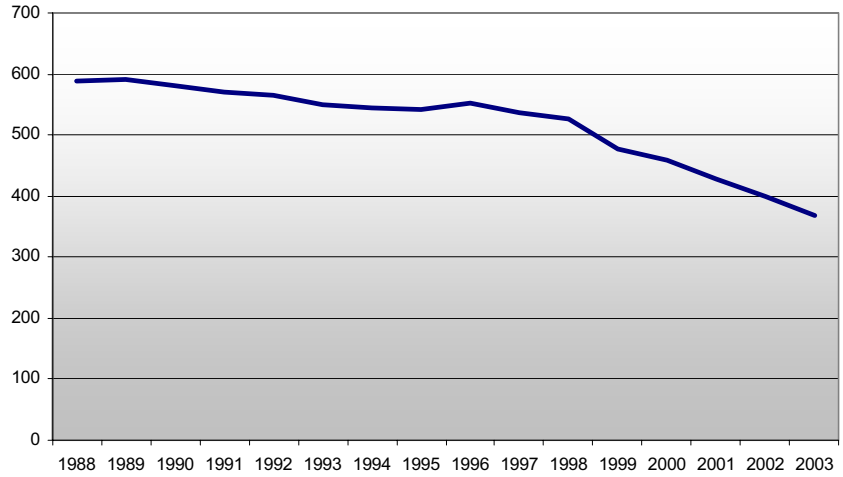
Table 3. Latin American ADRs

Country	Total	%
Argentina	21	8.24%
Bolivia	2	0.78%
Brazil	85	33.33%
Chile	27	10.59%
Colombia	10	3.92%
Dominican Republic	1	0.39%
Ecuador	2	1.18%
Jamaica	3	30.20%
México	77	0.39%
Panamá	2	0.78%
Perú	9	3.53%
Uruguay	0	0.00%
Venezuela	15	5.88%
Virgin Islands	1	0.39%
Latin America	255	**100%**

Source: Bank of New York.

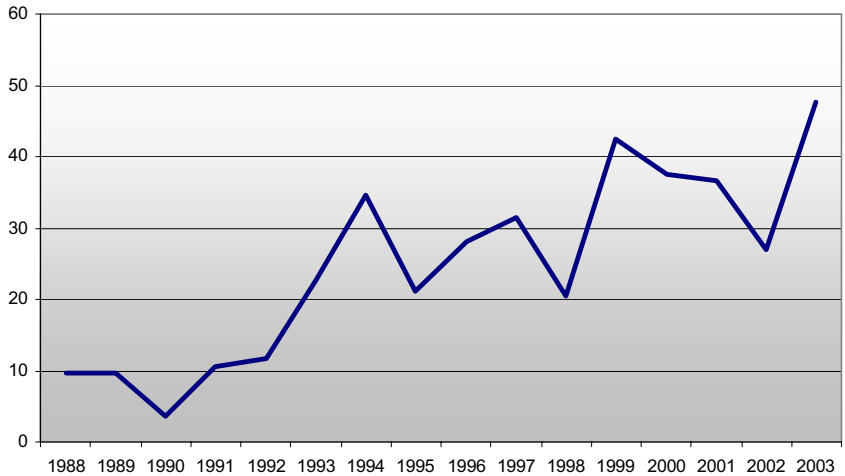
The following countries issued regulation S securities that were not yet traded on an exchange: Argentina (3), Brazil (4), Chile (1), Colombia (1), Ecuador (1), Mexico (9), Peru (1) and Venezuela (1). In addition, the following countries had additional securities that were not traded on an exchange: Colombia (2), Peru (1), Uruguay (1), and the Virgin Islands (1).

While ADRs are used extensively in Brazil there was initial hesitation about their use. Sanvicente (2001) points out three concerns. First, there was concern that the São Paulo exchange would lose market share if the trades moved to the "more efficient" NYSE market. Second, it was feared that increased volatility would occur in local market prices with the introduction of fragmented trading. The final concern was the possibility that the cost of capital would be reduced (creating a loss for local markets). Sanvicente (2001) uses tests of statistical significance to refute these concerns and finds that both companies and local markets benefit from the use of ADRs.



Source: World Development Indicators database.

Fig. 1. Brazil's listed domestic companies since liberalization



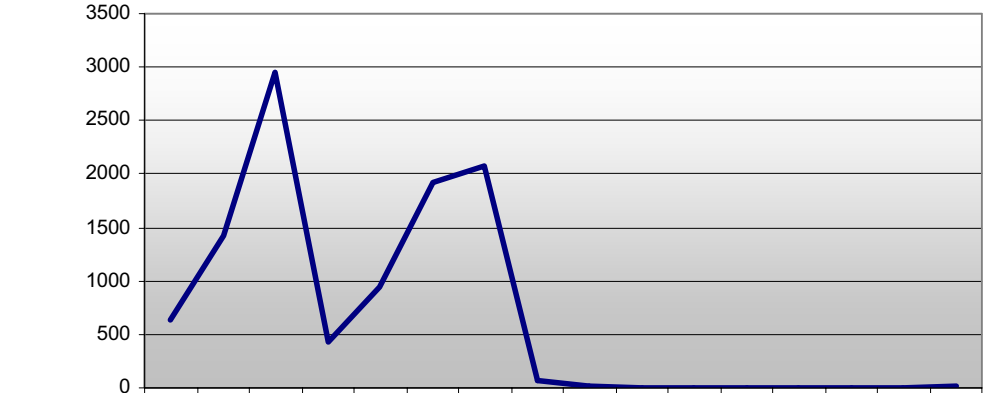
Source: World Development Indicators database.

Fig. 2. Brazil's total market capitalization since liberalization (in $US millions)

Figures 1 and 2 were derived from the World Development Indicators database. These figures show graphically that while the number of companies listed on the domestic market has decreased, the market capitalization has increased. Part of this increase can be attributed to the currency fluctuations that Brazil has experienced. The impact of the currency crisis in Brazil on ADR returns is the focus of this paper.

This research paper complements previous research on Brazilian ADRs by examining the impact of Brazil's currency crisis on ADRs returns, which is a new aspect to consider within the literature. Patel et al. (2002) find that emerging markets exhibit greater transparency and disclosure following recent currency, banking, and equity market crises. Pasqariello (2004) states that the ADR market represents an ideal environment to determine whether the efficiency of emerging equity markets deteriorates during periods of financial distress. If there is a potential for abnormal returns, then this research will be one of many that seem to contradict the traditional asset pricing models which promote market efficiency or the random walk hypothesis[1].

In the 1980s and early 1990s Brazil was known for periods of high inflation and hyperinflation. Hyperinflation is an acute acceleration of the inflation rate, it begins in the month the inflation rate exceeds 50 percent and ends in the month before inflation drops below 50 percent and stays below 50 percent for at least one year (Cagan, 1956). Brazil experienced inflation levels above 1000 percent per year in several years prior to the Real Plan in 1994. According to Sachs and Larrain (1993), Brazil experienced hyperinflation between December 1989 and March 1991. According to Gruben and Welch (2001), policymakers were responsible for a problematic tax system, fiscal deficits, excessive seigniorage, and inflation. Garcia (1996) claims that the domestic currency substitute was the main source of the inability of the Central Bank of Brazil to fight inflation and the public's unwillingness to face the costs related to fighting inflation.



	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
annual %	629	1431	2948	433	952	1928	2076	66	15.8	6.93	3.2	4.86	7.04	6.84	8.45	14.7

Source: World Development Indicators database.

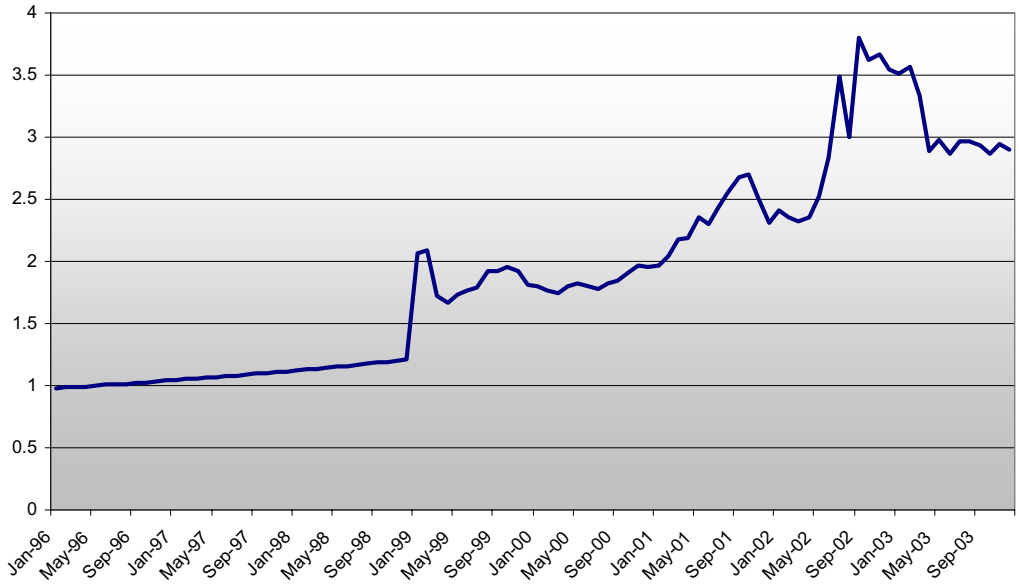
Fig. 3. Brazil's annual inflation (%), 1988-2003

During Brazil's experiences with extraordinary inflation, the country adopted several economic plans, but two stand out – the Cruzado Plan in 1986 and the Collor Plan in 1990. The Cruzado Plan of 1986 froze all retail prices, while the Collor Plan of 1990 blocked bank accounts. Neither plan was successful (Averbug, 2002). In 1994, the government launched a new currency, the real, which replaced the former cruzerio currency.

According to the Embassy of Brazil, the Real Plan established in June 1994 had three main objectives: to keep inflation under control; to obtain a steady and substantial reduction of social imbalances; and to achieve long-term sustainable growth of GDP, investment, employment, and productivity. In the four and a half years up to January 1999, the real seemed to be a strong anti-inflationary instrument or "exchange rate anchor" (Amann and Baer, 2003).

Pasqariello (2004) defines a financial crisis as an episode of turmoil such as sudden, severe, and excessive downward price movements, scarce liquidity, rapid reversals of capital flows, and contagion shocks across stock, currency, and debt markets. A crisis suggests market breakdowns, irrational investor behavior, and inefficient allocations of resources and risks (Pasqariello, 2004). Brazil's currency crisis of 1999 was far from the earlier more frequent periods of instability in that it was short and quickly corrected.

[1] For research in this area start with Fama and French (1987). There is extensive research in this area of finance.



Source: Federal Reserve Bank of New York.

Fig. 4. Brazil's currency crisis

In January 1999, the Brazilian real lost value as the government was unable to continue to support the currency. The Brazilian real depreciated against the dollar at a steady rate from 1995 when the Real Plan was put in place; but with the global crises in Russia, Asia, and Mexico the real could not hold its value. In January, the real experienced a quick devaluation and then began a steady trend until the more recent stock market bubble and subsequent crash in the United States. Gruben and Welch (2001) attribute this quick recovery to the Central Bank of Brazil's drastic postdevaluation stabilizing measures and the characteristics of the banking sector at that time. For example, the banking sector in Brazil has high capitalization ratios, smaller loan portfolios, and increased holdings of government debt. The Brazilian devaluation was one of the most successful (Averbug, 2002).

This return behavior created the opportunity for a two period event study that evaluated the return behavior of ADRs issued before and after the January 1999 correction.

2. Data

Data for this study were compiled from the Bank of New York's ADR database for the period from January 1, 1996 to December 31, 2003. The database provided a list of 33 companies that have ADRs listed on either the NYSE or NASDAQ stock exchanges. The sample includes 13 ADRs issued before the currency crisis and 20 ADRs issued after the currency crisis. The two most recent Brazilian ADRs listed on the NYSE were excluded from the sample. The airline Gol Linhas Aereas Intelgentes issued an ADR on June 29, 2004 and the energy company Cpfl Energia issued an ADR on September 28, 2004.

Currently there are 85 Brazilian companies that have ADRs; of those, 33 companies list ADRs on either the NYSE or NASDAQ. The companies in this sample represent 14 industries: Aerospace (1); Airlines (1); Banking (3); Beverage (1); Broadcasting (1); Chemicals (2); Electric Utilities (2); Energy (2); Fixed Line Communication (4); Food (2); Food Retail & Wholesale (1); Forest Products & Paper (2); Mining & Metals (2); Water Utilities (1); and Wireless Communication (7).

Closing prices for the 33 ADRs were retrieved from the Datastream database. Closing prices are adjusted for stock splits and dividends. The one-day, one-week, one-year, three-year, and five-year continuously compounded, dividend-adjusted, U.S. dollar returns were retrieved for this analysis.

3. Methodology

The data are divided into two periods in order to compare the pre- and post-crisis returns. The first period for this analysis is January 1, 1996 – December 31, 1998; the second period is January 1, 2000 – December 31, 2003. There were no Brazilian ADRs issued between November 14, 1998 and March 10, 1999. In perfectly open, fully integrated financial markets, ADR prices should be related exclusively to their covariance with world factors. When "normal" market conditions fail to continue to exist, the dollar return for an ADR should be more sensitive to the dollar return index and less sensitive to its local return index (Pasquariello, 2004).

The first step in analyzing excess returns is to determine the appropriate benchmark for analysis. Currently, there is a debate as to the appropriate methodology to estimate long-run returns in U.S. markets[1]. For this analysis the methodology used by Schaub (2002) will be employed which included the selection of the S&P 500 as the benchmark (or market) portfolio. Thus, abnormal returns are computed by subtracting the holding period returns of each ADR from that of the S&P 500 for the one-day, one-week and one-year results. The three-year and the five-year results are found by subtracting the compounded geometric average returns of each ADR from compounded geometric average returns of the S&P 500.

The one-day, one-week, one-year, three-year, and five-year holding period returns are computed by subtracting the closing price on the effective date (the first day of trading) from the price of the stock at the close of day *t*, where *t* is the relevant holding period. The formula for the holding period calculation is shown below:

$$HPR = \frac{P_t - P_0}{P_0}. \quad (1)$$

P_o represents the closing price on the effective date and P_t represents the price *t* days from the effective date. The closing price on day 0 is used rather than the issue price because only a limited number of investors are allowed to purchase a security at the issue price. Therefore, the one-day return is calculated by using a 24 hour period rather than an eight hour period. Additionally, the one-week return is calculated by using a complete week (five full trading days) and the years are calculated based on the appropriate actual number of trading days.

The next step is to calculate the abnormal returns for each ADR. In the following formula AR_t represents the average abnormal return for the security over holding period *t*. The sum of all *HPRs* was divided by the appropriate number of observations to obtain the *AR* shown in the formula below:

$$AR_t = HPR_{ADR_t} - HPR_{S\&P_t}. \quad (2)$$

HPR_{ADRt} is the average holding period return for the ADR over the holding period *t* and $HPR_{S\&Pt}$ is the average holding period return for the S&P 500 over each holding period *t*.

AGR is the annualized growth rate or compounded average annual return. The geometric average three-year and five-year returns for each ADR was calculated for the various holding periods and the following formula was used to determine the compounded annual average return *AGR* for each ADR and for the market index for each holding period.

$$AGR = \left(\frac{P_t}{P_0}\right)^{\frac{1}{t}} - 1. \quad (3)$$

Each *AGR* was summed and divided by the appropriate number of observations to compute the average *AGR* for the ADR sample and the S&P 500 over the respective periods. After this step, the annualized average abnormal return for each ADR was computed. In the following formula the average annualized abnormal return AGR_{ADRt} is the average annualized growth rate in the price of each ADR from the date of issue until day *t*, and $AGR_{S\&Pt}$ is the average annual compounded return on the market for the corresponding period.

$$AAR_t = AGR_{ADR_t} - AGR_{S\&P_t}. \quad (4)$$

Table 3 presents the results of the one-day, one-week, one-year, three-year, and five-year analysis. The average returns of Brazilian ADRs for the one-day, one-week, and one-year trading periods relative to the S&P 500 were positive and significant. This result is in line with research that finds positive abnormal returns for ADRs in the short run. For example, Callaghan et al. (1999) found one-day and one-year positive abnormal returns for a sample of 66 ADRs issued by 18 countries that trade on the NYSE, the AMEX, and NASDAQ from 1986 to 1993. This research confirms that finding in the case of ADRs issued for Brazilian companies. It is also consistent with work by Schaub (2002) regarding Mexican ADRs. Longer-period returns for Brazilian ADRs are negative and significant. The annually compounded average abnormal three-year return was a negative 0.08 percent, and the average abnormal return for the five-year holding period was a negative 0.06 percent.

Table 3. Return profile of Brazilian ADRs listed on the NYSE & NASDAQ

Return period	Average return	Average abnormal return
1 day	2.47%	2.37%
5 day	11.48%	15.19%
1 year	40.25%	19.03%
1 year (annually compounded)	0.08%	0.00%
3 year	60.26%	-42.03%
3 year (annually compounded)	0.01%	-0.08%
5 year	121.19%	-2.79%
5 year (annually compounded)	0.00%	-0.06%

Source: Author's estimates.

[1] For recent literature on the problems with estimating long-run returns see Brav et al. (2000), Eckbo et al. (2000) or Loughran and Ritter (2000).

To examine the effects of the January 1999 currency crisis in Brazil the ADRs were divided into two segments – those issued before the crisis and those issued after the crisis. The sample includes 13 ADRs issued before the currency crisis and 20 ADRs issued after the currency crisis. Table 4 presents the results of the pre and post crisis analysis for the one-day, one-week, one-year, three-year, and five-year holding periods. The average one-day and one-week returns pre crisis were higher than the post crisis group. The results for the one-year and three-year holding period were mixed, and the five-year holding period results were not significant.

Table 4. Return profile pre and post crisis

	Issued before January 1999		Issued after January 1999	
Return period	Average return	Average abnormal return	Average return	Average abnormal return
1 day	5.54%	5.45%	0.11%	0.01%
5 day	20.13%	23.72%	4.60%	8.18%
1 year	41.65%	21.14%	36.81%	16.30%
1 year (annually compounded)	0.10%	0.03%	0.05%	-0.02%
3 year	61.89%	-35.95%	36.81%	16.30%
3 year (annually compounded)	0.01%	-0.08%	0.05%	-0.02%
5 year	160.84%	0.01%	52.12%	-45.73%
5 year (annually compounded)	43.75%	-0.05%	0.02%	-0.07%

Source: Author's estimates.

The long-term performance of the Brazilian ADRs is poor when compared to the short-term abnormal positive returns. Again, this finding is in line with findings by Schaub's (2002) analysis of the ADRs of Mexican companies. These results suggest that Brazilian ADRs have been a poor investment for long-term investors, but short-term investors who purchase shares on the day of issue can expect to earn abnormal returns with the one-day, one-week, and one-year holding periods.

Conclusions

Abnormal returns create opportunities for investors. The average returns of Brazilian ADRs for the one-day, one-week, and one-year trading periods relative to the S&P 500 were positive. This result is in line with research that finds positive abnormal returns for ADRs in the short run, it is also consistent with work by Schaub (2002) regarding Mexican ADRs. Additionally, it is important to point out that these returns were achieved in both pre and post crisis periods.

Brazil is unique in that it has experienced extraordinary inflation, the Brazilian market is the largest in Latin America, and the currency crisis was unprecedented in its quick resolution. Additional support for this conclusion comes from a paper by Silva (2001) that fails to find the same return behavior in Brazil when compared to Argentina, Chile, Colombia, Mexico, Peru, and Venezuela. For example, Brazil has the highest average dividend yield, which is twice the dividend yield in Argentina and three times the dividend yield in Mexico. A paper by Chang et al. (1995) studying closed-end funds further confirms this by finding imperfect integration between the U.S. and Brazilian markets.

The limitations include the time period analyzed and methodological dependence. While there are still limited data, the results were significant for the one-day, one-week, and one-year returns. Methodological dependence will continue to haunt academic studies as the profession seeks to address the underlying assumptions. Additionally, there are other factors yet to be examined. For example, Domowitz et al. (1997) look at the impact of ownership restrictions on equity prices in emerging markets and find that firms discriminate between investor groups that have different demand elasticities. This study employs various event windows in order to evaluate the return profile of Brazilian ADRs. This paper presents the first focused analysis of "Brazilian ADRs' returns with regard to the currency crisis in 1999. The contribution to existing literature is confirmation of the potential for short-term excess returns in the ADR market.

Recently, Brazil has been facing continued challenges with regard to its economic policies and inflation. This research suggests that contrary to the random walk hypothesis, short-term profit opportunities should still persist in the Brazilian ADR market.

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Appendix A. Brazil's ADRs

	Company (Exchange: symbol)	Ratio	Industry	Date
1	Ambev (NYSE: ABV)	1:100	Beverage	9/15/2000
2	Aracruz Celulose (NYSE: ARA)	1:10	Forest Products & Paper	3/3/1997
3	Banco Bradesco (NYSE: BBD)	1:1	Banking	11/21/2001

4	Banco Itau Holdings Financeira (NYSE: ITU)	2:1	Banking	2/21/2002
5	Brazil Telecom (NYSE: BTM)	1:3000	Fixed Line Communication	11/16/2001
6	Braskem.(NYSE: BAK)	1:1000	Chemicals	9/17/2003
7	CBD-Companhia Brasileira de Distribuicao (NYSE: CBD)	1:1000	Food Retail & Wholesale	
8	Comp. Paranaense de Energia (NYSE: ELP)	1:1000	Electric Utilities	7/29/1997
9	Companhia Energetica de Minas Gerais (NYSE: CIG)	1:1000	Electric Utilities	9/19/2001
10	Companhia Siderurgica Nacional (NYSE: SID)	1:1	Mining & Metals	11/3/1997
11	Companhia Vale do Rio Doce (NYSE: RIO)	1:1	Mining & Metals	3/20/2002
12	Cpfl Energia (NYSE: CPL)	1:3	Energy	9/28/2004
13	Embraer (NYSE: ERJ)	1:4	Aerospace	7/26/2000
14	Embratel Participacoes (NYSE: EMT)	1:5000	Fixed Line Communication	11/1/1998
15	Gerdau (NYSE: GGB)	1:1	Mining & Metals	3/10/1999
16	Gol Linhas Aereas Intelgentes (NYSE: GOL)	1:2	Airlines	6/29/2004
17	Net Servicos de Comunicaco (NASDAQ: NETC)	1:10	Broadcasting	12/172001
18	Perdigo (NYSE: PDA)	1:2	Food	10/20/2000
19	Petroleo Brasilerio (NYSE: PBR)	1:1	Energy	8/9/2000
20	Sabesp (NYSE: SBS)	1:250	Water Utilities	5/9/2002
21	Sadia (NYSE: SDA)	1:30	Food	12/30/2002
22	Tele Centro Oeste Celular Participacoes (NYSE: TRO)	1:3000	Wireless Communication	11/1/1998
23	Tele Leste Celular Participacoes (NYSE: TBE)	1:50000	Wireless Communication	11/13/1998
24	Tele Norte Celular Participacoes (NYSE: TCN)	1:50000	Wireless Communication	11/1/1998
25	Tele Norte Leste Participacoes (NYSE: TNE)	1:1	Fixed Line Communication	11/1/1998
26	Tele Sudeste Celular Participacoes (NYSE: TSD)	1:5000	Wireless Communication	11/1/1998
27	Telecomunicacoes de Sao Paulo (NYSE: TSP)	1:1000	Fixed Line Communication	11/1/1998
28	Telemig Celular Participacoes (NYSE: TMB)	1:20000	Wireless Communication	11/1/1998
29	Telesp Celular Participacoes (NYSE: TCP)	1:2500	Wireless Communication	11/1/1998
30	Tim Participacoes (NYSE: TSU)	1:10000	Wireless Communication	6/24/20002
31	Ultrapar Partipacoes (NYSE: UGP)	1:1000	Chemicals	10/5/1999
32	Unibanco - Uniao de Bancos Brasileiros (NYSE: UBB)	1:5	Banks	3/27/2001
33	Votorantim Celulose e Papel (NYSE: VCP)	1:500	Forest Products & Paper	5/17/2002

Source: Bank of New York.