Economic Prosperity and U.S. Market Competitiveness

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How Economic Prosperity Impacts DR Market Participants

In this study, Citi's Depositary Receipt Services explores the effects of cross-listing – including a cross-listing valuation premium – on companies from markets of different levels of economic prosperity. One key finding is that non-U.S. companies from less prosperous economies have stronger incentives to benefit from a higher valuation premium by raising capital in the U.S. market through a cross-listed IPO.

However, since the implementation of the Sarbanes Oxley Act (SOX) in the U.S. in 2002, a significant percentage of issuers from less prosperous economies have shifted their listing preference from the U.S. market to the London and Luxembourg markets. The study illuminates the opportunity cost of foregoing a U.S. listing not only to investors in the U.S. market, but also to the issuing companies themselves.

The study is divided into four sections:

1. Economic Prosperity and the Cross-Listing Valuation Premium
2. Economic Prosperity and U.S. Market Competitiveness
3. Economic Prosperity and ADR Delistings from U.S. Exchanges
4. Conclusions

About the Author

Michael J. Chafkin, Vice President in Citi's Depositary Receipt Services, has 17 years' experience in Depositary Receipts (DRs) and over 35 years' experience at Citi. He is known among DR market participants for his scholarly analyses of cross-border investing trends, and his research findings on how activity in the capital markets may affect international investor behavior. Chafkin's analyses and published studies have been cited in academic studies and worldwide financial press. In addition, Chafkin created and oversees the Citi Liquid DR Indices which track international investor sentiment towards non-U.S. markets. He holds a Bachelor of Science degree in Mechanical Engineering from Duke University and an MBA from Columbia Business School.

Economic Prosperity and U.S. Market Competitiveness

Introduction

The competitiveness of global equity markets can be measured by the strength of corporate governance, laws and regulations protecting shareholder rights, the level of accounting standards, transparency, disclosure, liquidity, technology, and company valuations.

The economic prosperity of a country is frequently measured by per capita gross domestic product (GDP).[1] Countries with a higher per capita GDP generally have higher rates of long-term economic growth, higher levels of corporate governance and shareholder protection, and are more prosperous than those with a lower per capita GDP. A sampling of countries ranked by 2006 per capita GDP is shown in Table 1.

Companies from many of these countries that wish to raise capital, expand their shareholder base and increase their valuation by cross-listing and bonding with the laws and regulations of a more prosperous market through an equity IPO have choices as to where to cross-list their shares. The most frequently chosen markets for IPOs in Depositary Receipt (DR) form by non-U.S. companies are the U.S., London and Luxembourg stock exchanges.

As part of this study, Citi analyzed the relationship between the economic prosperity of non-U.S. countries, as measured by per capita GDP, and U.S. market competitiveness. The study has found that economic prosperity is highly correlated to, and is a common denominator for some of the key market factors that influence U.S. market competitiveness, including the cross-listing valuation premium, the market chosen by non-U.S. issuers to place cross-border IPOs in DR form, and DR delistings from U.S. exchanges.

The cross-listing valuation premium is defined as the percentage increase in non-U.S. company valuation realized by cross-listing the company's shares on a U.S. stock exchange, compared to firms that do not cross-list, or to firms that have chosen to list on the London Stock Exchange.

The study found that on average, valuation premiums are higher for companies from less prosperous economies than for companies from more prosperous economies. This is true whether comparing non-U.S. companies that cross-list in the U.S. to those that do not cross-list, or to companies that cross-list in London. Therefore non-U.S. companies from less prosperous economies have stronger incentives to benefit from a higher valuation premium by complying with and bonding with the laws and regulations of the more prosperous U.S. market, and raising capital through a cross-listed IPO.

However, the study also found that since the implementation of the Sarbanes-Oxley Act (SOX) in the U.S. in 2002, issuers from less prosperous economies have shifted their listing preferences from the U.S. market to the London and Luxembourg markets, both of which have levels of economic prosperity similar to the U.S. market. This represents a significant opportunity cost to the U.S. market.

The findings of this Citi study suggest that recent regulatory and litigation-related events in the U.S. may have:

- Reduced incentives for non-U.S. issuers from less prosperous economies to cross-list in the U.S. market and take advantage of potentially higher cross-border valuation premiums.
- Increased incentives for non-U.S. issuers from more prosperous economies to de-list their ADRs from a U.S. exchange and move them to the less regulated and less liquid U.S. over-the-counter (OTC) market.
- Significantly diminished opportunities for international retail investors to achieve potentially higher returns in the U.S. market because a larger proportion of non-U.S. companies are raising capital in private equity markets.

[1] Nominal per capita GDP is expressed in current dollars and is defined as the value of all final goods and services produced within a country in a given year, divided by the average population for the same year.

Table 1 — Countries Ranked by 2006 Per Capita GDP

More Prosperous		Less Prosperous	
Country	Per Capita GDP (US$)	Country	Per Capita GDP (US$)
Luxembourg	92,640	Slovakia	10,130
Norway	72,179	Croatia	9,420
Ireland	52,330	Poland	8,880
Denmark	50,715	Lithuania	8,710
Switzerland	50,390	Chile	8,640
United States	44,237	Mexico	7,820
Sweden	41,920	Russia	6,880
Finland	41,520	South Africa	6,040
Netherlands	41,000	Malaysia	5,590
United Kingdom	39,340	Argentina	5,400
Canada	38,950	Romania	5,340
France	36,400	Turkey	5,300
Australia	35,950	Brazil	5,080
Germany	35,090	Kazakhstan	5,022
Japan	34,258	Peru	3,290
U.A.E.	32,710	Thailand	3,120
Italy	31,900	Colombia	2,850
Singapore	30,330	Ukraine	2,200
Greece	28,030	China	2,040
Hong Kong	27,310	Indonesia	1,480
Spain	27,210	Egypt	1,430
New Zealand	25,590	Sri Lanka	1,330
Israel	19,917	Philippines	1,310
Slovenia	18,580	India	825
South Korea	17,990	Nigeria	810
Taiwan	15,700	Pakistan	808
Czech Republic	13,400	Vietnam	715
Estonia	11,780	Ghana	529
Hungary	11,130	Bangladesh	421

Source: The Economist Intelligence Unit

1. Economic Prosperity and the Cross-Listing Valuation Premium

Two cases were analyzed:

A. U.S. Cross-Listed Companies vs. Not Cross-Listed.
B. U.S. Cross-Listed Companies vs. London Stock Exchange (LSE) Cross-Listed.

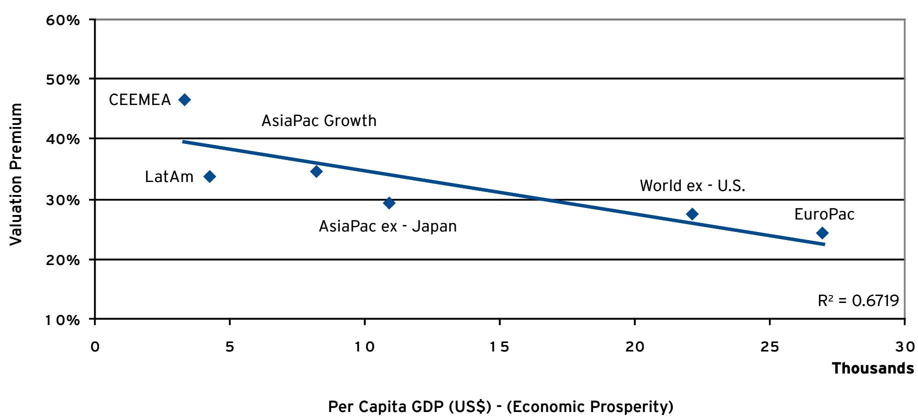
Case A — U.S. Cross-Listed Companies vs. Not Cross-Listed

A recent academic study found that firms that cross-list on a major U.S. exchange, such as the NYSE, NASDAQ or AMEX, benefit from, on average, a sustainable cross-listing valuation premium of 33% over firms that do not cross-list.[2] The study covered the period from 1997 through 2005. The premium was larger for companies from less prosperous economies, and smaller for companies from more prosperous economies, suggesting a relationship to per capita GDP.

To test the relationship between economic prosperity and the cross-listing valuation premium, a market capitalization weighted valuation premium and per capita GDP were derived by Citi for each region based on the country weightings of the Citi Liquid DR Indices.[3] Market capitalization weighting was chosen over equal weighting to more accurately represent actual investor preferences.

As shown in Figure 1 below, the market capitalization weighted cross-listing valuation premium between non-U.S. companies that cross-list in the U.S. and those that do not cross-list is highest for companies from less prosperous economies, and lowest for companies from more prosperous economies. Premiums ranged from 47% for the less prosperous Central & Eastern Europe, Middle East & Africa (CEEMEA) region, to 24% for the more prosperous Western Europe & Developed Asia (EuroPac) region.

Figure 1 — U.S. Listed Companies vs. Not Cross-Listed
Regional Valuation Premium vs. Regional Economic Prosperity
Market Capitalization Weighted, 1997-2005



Source: Citi analysis. The Economist Intelligence Unit

Case B — U.S. Cross-Listed Companies vs. London Stock Exchange (LSE) Cross-Listed

The next objective of this Citi study was to determine if there is a valuation premium for non-U.S. companies that choose to cross-list in the U.S. market compared to those that cross-list in the London market. This study found that the market capitalization weighted cross-listing valuation premium for non-U.S. companies that cross-list in the U.S. compared to those that cross-list in London is also higher for companies from less prosperous economies, and lower for companies from more prosperous economies.

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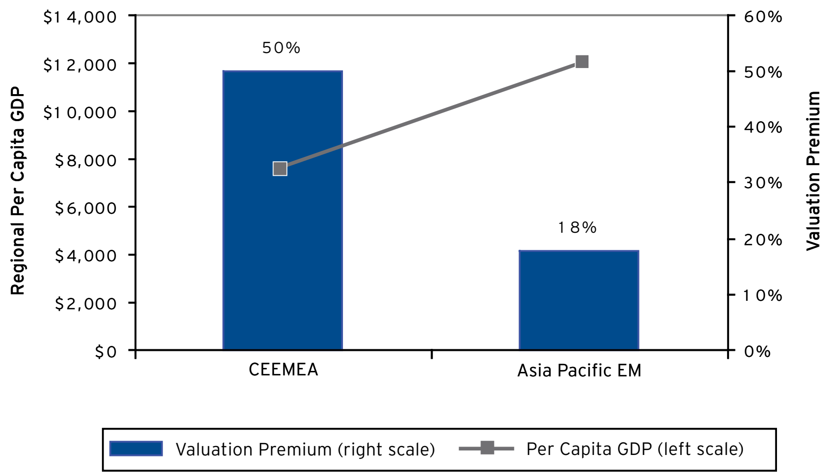
[2] Craig Doidge, G. Andrew Karolyi, and Renee M. Stulz, "The Valuation Premium for Non-U.S. Stocks Listed in U.S. Markets," January 3, 2007. Table 1, pp. 8-25. Valuation was measured using the Tobin's q valuation ratio, (total assets less book equity plus market value of equity)/total assets. For this Citi study, country premiums were based on the median q values for exchange-listed and non-cross-listed stocks from 1997 through 2005. Median qs were used to minimize the effects of outliers. Median regional premiums based on 1997-2005 median country qs. Non-U.S. companies that cross-listed on the LSE were not included in the study.

[3] The Citi Liquid DR Indices, calculated by Standard & Poor's, are an excellent gauge of international investor sentiment towards non-U.S. markets, and can provide U.S. retail investors with the opportunity to invest in companies with liquid, London or Luxembourg listed, US$ denominated Reg S Global Depositary Receipts (GDRs).

As shown in Figure 2 below, the premium for non-U.S. issuers from the less prosperous CEEMEA region that listed in the U.S. was 50% higher than for those that listed in London. By comparison, the premium for non-U.S. issuers from the more prosperous Asia Pacific emerging markets that listed in the U.S. was 18% higher than for those that listed in London.[4]

This finding is consistent with those of Doidge, Karolyi and Stulz — that there was a significant cross-listing premium for U.S. exchange listings in every year between 1990 and 2005, while there was no premium for London listings in any year during the period.[5]

Figure 2 — U.S. vs. London
2006 Per Capita GDP & Cross-Listing Valuation Premium



Source: Citi analysis. The Economist Intelligence Unit

2. Economic Prosperity and U.S. Market Competitiveness

The U.S. Congress passed the Sarbanes-Oxley Act (SOX) on July 31, 2002 in response to corporate scandals that involved fraud and accounting irregularities and weakened investor trust in the integrity of U.S. capital markets. The Act required corporate leaders to personally certify the firm's financial statements, and for auditors to certify the firm's internal controls (the statute's Section 404).

The Interim Report of the Committee on Capital Markets Regulation of November 30, 2006 concluded that there has been a decline in U.S. public market competitiveness compared to other global public markets. The Committee found four factors responsible for the loss of U.S. market competitiveness: [6]

- Increased integrity of, and trust in, major non-U.S. markets resulting from more transparency and better disclosure.
- Increased liquidity of private markets and non-U.S. public markets relative to the U.S.
- Improvements in technology, making it easier to invest in non-U.S. markets.
- Differences in the legal rules governing U.S. public markets and non-U.S. and private alternatives.

The Committee's recommendations for improving the competitiveness of U.S. capital markets focused on reducing regulation and litigation while enhancing shareholder rights.

[4] To measure valuations, the trailing 12-month price-to-book-value ratios (P/BV) of non-U.S. companies with cross-listed DRs listed on the NYSE, NASDAQ, AMEX and London stock exchanges as of 8/29/2006 were used. Virtually all non-U.S. companies with DRs listed on the LSE are domiciled in the Central & Eastern Europe, Middle East & Africa region (CEEMEA), and in the Asian emerging markets. Therefore the sample was limited to these regions, and the seven countries with DR listings in both the U.S. and London (Russia, Hungary, Turkey, Korea, Taiwan, India and Indonesia). Eight countries that did not have DR listings in both markets were omitted from the analysis to maintain comparability. To minimize the distorting effects of outliers, median values for each country were used. To test the relationship between economic prosperity and the cross-listing valuation premium for the U.S. and London, regional market cap weighted valuation premiums were derived based on the Citi CEEMEA, and Citi AsiaPac Growth Economies Liquid DR Indices.

[5] Craig Doidge, G. Andrew Karolyi, and Renee M. Stulz, "Has New York Become Less Competitive in Global Markets?," "Evaluating Foreign Listing Choices Over Time," April 23, 2007. Dice Center working paper. Available at: http://www.cob.ohio-state.edu/fin/dice/papers/2007/2007-9.htm

[6] "Interim Report of the Committee on Capital Markets Regulation," November 30, 2006.

Non-U.S. companies are also raising a larger proportion of capital in the private Rule 144A market for large institutional investors — markets in which average retail investors cannot directly participate. Raising capital in the private market allows issuers to avoid most U.S. securities regulation, including the Securities Act of 1933 and SOX. The Committee's report noted that 90% of international equity issues in 2005 were done in the private market, compared to a 50/50 split between public and private markets in 1999. This was in spite of the lower cost of capital in public markets,[7] suggesting that regulatory and litigation hurdles are an important factor in the choice between public and private markets.[8] As a result of this shift, the supply of investable non-U.S. equity for retail investors has been sharply reduced.

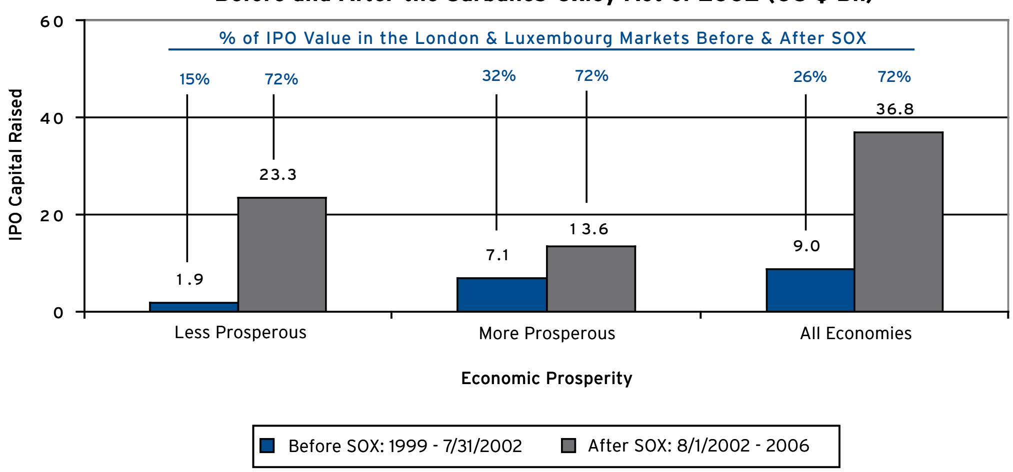
Using per capita GDP (economic prosperity) as a background, Citi analyzed the value of IPOs in DR form by non-U.S. issuers for the four-year periods before and after the implementation of SOX. As shown above, companies from less prosperous economies have strong incentives to comply with and bond with the laws and regulations of the U.S. market and to cross-list and raise capital in the U.S.

However, since the implementation of SOX, issuers from less prosperous economies have shifted their listing preferences from the U.S. market to the London and Luxembourg markets, both of which have levels of economic prosperity similar to the U.S. market. This represents a significant opportunity cost to the U.S. market.

As shown in Figure 3 below, the less prosperous the economy, the larger the shift in IPO value toward the London and Luxembourg markets since the implementation of SOX.[9] *This suggests that the costs and hurdles of current U.S. regulations and litigation may have become too great even for companies that would benefit the most from a U.S. listing.*

- For issuers from less prosperous economies, the percentage of IPOs in DR form placed in London and Luxembourg before and after SOX increased from 15% to 72%, (by $21.4 billion), from $1.9 to $23.3 billion.
- For issuers from more prosperous economies, the percentage of IPOs in DR form placed in London and Luxembourg before and after SOX increased from 32% to 72%, (by $6.5 billion), from $7.1 to $13.6 billion. Issuers from Korea and Taiwan were the primary drivers of this increase.

Figure 3 — IPO Capital Raised in DR Form in London & Luxembourg Before and After the Sarbanes-Oxley Act of 2002 (US $ Bn)



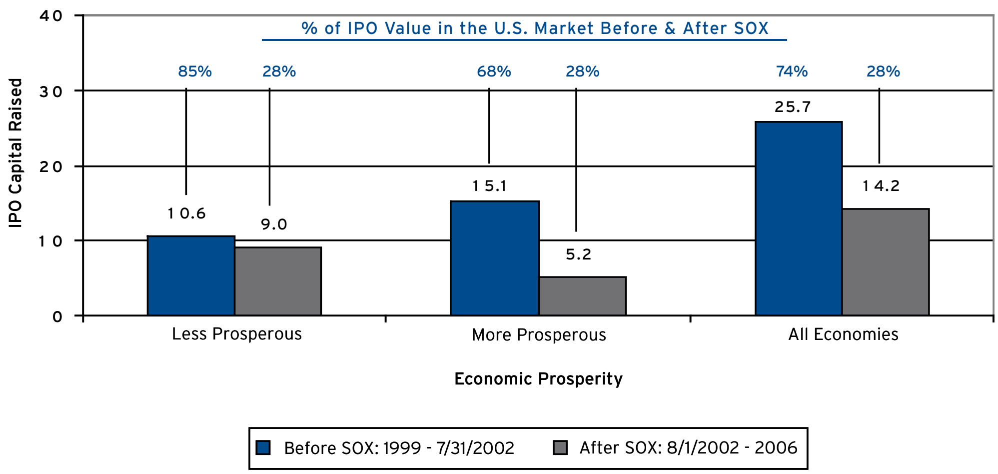
Sources: Citi and other depositaries; The Economist Intelligence Unit

[7] Luzi Hail and Christian Leuz, "Cost of Capital Effects and Changes in Growth Expectations around U.S. Cross-Listings," October 2006. European Corporate Governance Institute Working Paper No. 46/2004, Revised October 2006.
[8] "Interim Report of the Committee on Capital Markets Regulation," November 30, 2006.
[9] The 64 home countries of the non-U.S. companies that raised capital through a cross-listed IPO in DR form (359 IPOs) between 1999 and 2006 were ranked in each year by per capita GDP and divided into quartiles. The top two quartiles in each year were classified as "more prosperous," the bottom two quartiles as "less prosperous." For reference, the 2006 cutoff for more prosperous countries was $11,130. To analyze capital raised before and after SOX, the data was divided into two date ranges, 1999 through 7/31/2002, and 8/1/2002 through 2006. London listings do not include the Alternative Investment Market (AIM).

As shown in Figure 4, below, *the more prosperous the economy, the larger the shift in IPO value was away from the U.S. market, suggesting that the costs of increased U.S. regulation and litigation may now exceed the benefits for these issuers.*

- For issuers from more prosperous economies, the percentage of IPOs in DR form placed in the U.S. market before and after SOX decreased from 68% to 28%, (by $9.9 billion), from $15.1 to $5.2 billion.
- Issuers from less prosperous economies have the most to gain from a U.S. listing, and their post-SOX reduction was the smallest, $1.6 billion, from $10.6 billion to $9.0 billion, but the decrease in the percentage of IPO value placed in the U.S. market was the largest, from 85% to 28%.

Figure 4 — IPO Capital Raised in DR Form in the U.S. Before and After the Sarbanes-Oxley Act of 2002 (US $ Bn)



Sources: Citi and other depositaries; The Economist Intelligence Unit

These trends have continued during 2007. During the first half of 2007, the total IPO value placed in DR form by non-U.S. companies was $16.5 billion, of which $11.5 billion, or 70%, was placed in the London and Luxembourg markets. Companies from less prosperous economies placed $16.3 billion, 99% of the total, of which $11.3 billion, or 69%, was placed in London and Luxembourg. Companies from more prosperous economies placed $219 million, 1% of the total, of which 100% was placed in London and Luxembourg.

3. Economic Prosperity and ADR Delistings from U.S. Exchanges

Historically, non-U.S. companies have found it difficult to terminate the registration of their ADRs and their U.S. Securities and Exchange Commission (SEC) reporting obligations under the U.S. Securities Exchange Act of 1934, even if their ADRs have been delisted from a U.S. exchange, and U.S. market interest in their ADRs was relatively low.[10] This was especially true for issuers from more prosperous economies that have a relatively large U.S. shareholder base.

[10] Patterson Belknap Webb & Tyler LLP, Client Alert of January 2007 entitled "SEC Re-Proposes Rules to Facilitate Exit from U.S. Exchange Act Registration & Reporting Requirements," at www.pbwt.com/resources/alerts. º

In response to concerns raised publicly by representatives of non-U.S. companies and industry associations, and to the increased globalization of U.S. securities markets, the SEC published new proposed rules in December 2005 to make it easier for foreign private issuers[11] to deregister their debt and equity securities, including ADRs. The SEC then re-proposed for public comment a revised version of the proposed rules in December 2006. The final rules were issued in March 2007 and became effective on June 4, 2007.

As a result, the combined influence of SOX and the new SEC rules may have increased the incentives for non-U.S. issuers from more prosperous economies to de-list their ADRs from a U.S. exchange and move them to the less regulated and less liquid U.S. OTC market.

From the implementation of SOX through the third quarter of 2007, excluding merger and acquisition activity, 140 non-U.S. companies delisted their ADRs from U.S. exchanges. Of these, 119, or 85%, were companies from more prosperous economies that have levels of economic prosperity similar to the U.S., further suggesting that the costs of increased U.S. regulations and litigation may have exceeded the benefits for these issuers.

Most significantly, 72 (51%) of the 140 non-U.S. companies that delisted their ADRs from a U.S. exchange during the period decided to maintain their U.S. market presence by moving their delisted ADR programs to the less highly regulated and less liquid U.S. OTC market. 88% of the 72 companies were from more prosperous economies.

However, moving their ADRs to the OTC market may foreshadow future opportunity costs for some of these companies. Between 1997 and 2005 the median valuation premium for non-U.S. companies with U.S. exchange-listed ADRs was 30% higher than for companies with ADRs trading on the U.S. OTC market.[12]

In addition, the high proportion of ADR delistings from a U.S. exchange and movement to the OTC market by companies from more prosperous economies may also be explained by the correlations between the Citi Liquid DR Indices and the U.S. and non-U.S. markets.[13]

- Citi Liquid DR Indices covering more prosperous regions (Western Europe and Developed Asia) are more highly correlated to, and are more influenced by the U.S. market than by non-U.S. markets.
    - Therefore, companies from these regions may have less to gain from complying with and bonding with the laws and regulations of the U.S. market and remaining cross-listed on a U.S. exchange.
- Citi Liquid DR Indices covering less prosperous regions (Emerging Asia, Latin America and CEEMEA) are more highly correlated to, and are more influenced by non-U.S. markets than the U.S. market.
    - Therefore, companies from these regions may have more to gain from complying with and bonding with the laws and regulations of the U.S. market and remaining cross-listed on a U.S. exchange.
- These relationships held regardless of which market (U.S. or non-U.S.) was the better performer during the period.

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[11] A company incorporated outside the U.S. is a "foreign private issuer" for SEC purposes unless (i) more than 50% of its voting securities are held by U.S. persons and (ii) a majority of its executive officers are in the U.S. or are U.S. citizens, or more than 50% of its assets are in the U.S., or its business is administered principally in the U.S.

[12] Craig Doidge, G. Andrew Karolyi, and Renee M. Stutz, "The Valuation Premium for Non-U.S. Stocks Listed in U.S. Markets," January 3, 2007. Table 1, pp. 8-25.

[13] Citi analyzed the correlations between the daily returns of the five regional Citi Liquid DR Indices and the U.S. market, as measured by the S&P 500 Index, and non-U.S. markets, as measured by appropriate Morgan Stanley Capital International (MSCI) regional benchmark indices, over a six-year period covering 1,507 trading days from 2001 through 2006.

4. Conclusion

The findings of this Citi study support the hypothesis that economic prosperity, measured by per capita GDP, is highly correlated to and is a common denominator for some of the key market factors that influence U.S. market competitiveness, including the cross-listing valuation premium, the market chosen by non-U.S. issuers to place cross-border IPOs in Depositary Receipt (DR) form, and ADR delistings from U.S. exchanges.

On average, valuation premiums are higher for companies from less prosperous economies than for companies from more prosperous economies. This is true whether comparing non-U.S. companies that cross-list in the U.S. to companies that do not cross-list, or to companies that cross-list in London. Therefore non-U.S. companies from less prosperous economies have stronger incentives to benefit from a higher valuation premium by complying with and bonding with the laws and regulations of the more prosperous U.S. market, and raising capital through a cross-listed IPO.

Large shifts in non-U.S. issuer preference away from the U.S. market towards the London and Luxembourg markets for IPOs, especially by issuers from less prosperous economies that potentially benefit the most from a U.S. cross-listing, represent a significant opportunity cost to the U.S. market.

The current supply of investable non-U.S. equity available to retail investors has been significantly reduced by the increase in capital raised by non-U.S. issuers in private equity markets in which retail investors cannot directly participate.

The high proportion of ADR delistings from U.S. exchanges by companies from more prosperous economies may be explained by the correlations between the Citi Liquid DR Indices and the U.S. and non-U.S. markets, and by the combined influence of SOX and new SEC rules that make it easier for non-U.S. companies to deregister their ADRs under the Exchange Act and terminate their SEC reporting obligations.

The findings of this Citi study suggest that recent regulatory and litigation-related events in the U.S. may have resulted in significantly diminished opportunities for international retail investors to achieve potentially higher returns in the U.S. market because a larger proportion of non-U.S. companies are raising capital in private equity markets, reduced incentives for non-U.S. issuers from less prosperous economies to cross-list in the U.S. market and take advantage of potentially higher cross-border valuation premiums, and increased incentives for non-U.S. issuers from more prosperous economies to de-list their ADRs from a U.S. exchange and move them to the less regulated and less liquid U.S. OTC market.

Depositary Receipt Services
Depositary Receipt Services, a business within Citi markets and banking, is a leader in bringing quality issuers to U.S. and global capital markets, and in promoting depositary receipts (DRs) as an effective capital markets tool. Citi began offering DRs in 1928 and today is widely recognized for providing non-U.S. companies with access to the powerful global platform Citi has to offer. For information about DRs visit www.citi.com/adr.

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