

The Relationship between Global Depositary Receipt (GDR) Conversion and Exchange Rate

“Case Study from Egyptian Stock Exchange”

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Abstract: The purpose of this study is to test the relationship between GDR Conversion in the Egyptian Stock Market and the USD Exchange Rate, Our study is mainly motivated by the paucity of similar studies in context of MENA capital markets and in most other emerging markets.

Lately a problem aroused in the availability of the foreign currencies in the Egyptian Market which made difficulties to foreign investors to repatriate their investment proceeds to their home country, so it became a common tool nowadays that foreign investors to purchase one of the stocks from the Egyptian Exchange that can be converted to GDRs traded in London Exchange, then sell them in London Exchange for US Dollars, so they can repatriate their funds more quickly than stacking in a very long queue in banks due to the lack of foreign currency.

This mechanism increased the demand of these stocks in the Egyptian Stock Market (*pushing their prices up*) in the same time increased the supply of the GDRs corresponding to those shares in London Stock Exchange (*pulling their prices down*) which created a gap between the two prices leading to increase the USD Exchange Rate in these transaction (spread around 26% above the official Exchange Rate).

There are 14 stocks in the Egyptian Market that can be converted to GDRs, we selected one of them “Edita Food Industries” and tested the relation between Local Share price and USD Exchange Rate which resulted in a strong direct relationship, also we tested the relation between GDR price USD Exchange Rate which resulted in a moderate negative relationship.

Keywords: GDR Conversion, Exchange Rate, Arbitrage, Repatriation, Egyptian Stock Exchange, Market Efficiency.

1. INTRODUCTION

What is a Global Depositary Receipt – (GDR)?

Since 1994 the London Stock Exchange (LSE) has provided a cross-listing mechanism through its Global Depositary Receipt (GDR) program. GDRs target global investors and are pursued primarily by companies from emerging and developing markets

A global depositary receipt (GDR) is a bank certificate issued in more than one country for shares in a foreign company. The shares are held by a foreign branch of an international bank. The shares trade as domestic shares, but are offered for sale globally through the various bank branches.

The majority of GDRs are denominated in U.S. dollars.

What are the benefits of global depositary receipts (GDRs) to investors?

Benefits that investing in global depositary receipts (GDRs) can provide to investors the opportunity to access investment opportunities in foreign companies.

The use of GDRs provides investors the ability to invest in a foreign company without concerns about foreign trading practices, differences in tax laws or transactions occurring across borders. GDRs typically offer increased liquidity, and reduced spread and transaction costs. Investors benefit from getting corporate notifications, such as rights offerings, in English, receiving dividend payments in the currency of the GDR, and from easier trading processes.

Companies that issue GDRs benefit as well, by gaining access to more potential investors. GDRs can significantly increase the visibility and public profile of companies located in foreign countries that do not ordinarily garner much attention from investors. In addition to increased news and analyst coverage, GDRs offer the opportunity to broaden the company's base of shareholders and to raise additional capital. This can be very important to companies in emerging markets that are seeking to take advantage of opportunities for rapid growth.

There are 14 Egyptian companies listed in the Egyptian Stock Exchange and in London Stock Exchange as well as Global Depository receipts (GDRs).

With the assumption that the Exchange Rate is stable and there are no problems in concerting local currency and foreign currencies, an Arbitrage opportunity arises due to Market Inefficiencies, so investors can make profits from converting local shares to GDRs and vice versa.

What is Arbitrage?

Arbitrage is the simultaneous purchase and sale of an asset in order to profit from a difference in the price. It is a trade that profits by exploiting price differences of identical or similar financial instruments, on different markets or in different forms. Arbitrage exists as a result of market inefficiencies; it provides a mechanism to ensure prices do not deviate substantially from fair value for long periods of time.

In the context of the stock market, traders often try to exploit arbitrage opportunities. For example, a trader may buy a stock on a foreign exchange where the price has not yet adjusted for the constantly fluctuating exchange rate. The price of the stock on the foreign exchange is therefore undervalued compared to the price on the local exchange, and the trader makes a profit from this difference

If all markets were perfectly efficient, there would never be any arbitrage opportunities - but markets seldom remain perfect. It is important to note that even when markets have a discrepancy in pricing between two equal goods, there is not always an arbitrage opportunity. Transaction costs can turn a possible arbitrage situation into one that has no benefit to the potential arbitrageur.

What Is Market Efficiency?

Market Efficiency in the efficient market hypothesis (**EMH**) suggests that at any given time, prices fully reflect all available information on a particular stock and/or market.

According to the EMH, no investor has an advantage in predicting a return on a stock price because no one has access to information not already available to everyone else.

If the Market is **Efficient**, there is **No Arbitrage Opportunity**.

How Does a Market Become Efficient?

A market has to be large and liquid. Accessibility and cost information must be widely available and released to investors at more or less the same time. Transaction costs have to be cheaper than an investment strategy's expected profits.

In the real world, markets cannot be absolutely efficient or wholly inefficient. It might be reasonable to see markets as essentially a mixture of both, wherein daily decisions and events cannot always be reflected immediately into a market. If all participants were to believe that the market is efficient, no one would seek extraordinary profits, which is the force that keeps the wheels of the market turning.

Our Case Study from the Egyptian Stock Exchange:

Edita Food Industries was established in 1996, and now is one of the leading FMCG companies in Egypt and the Middle East.

- Edita Food Industries Market Share is 12% in 2014.
- Edita Food Industries Capital Structure (68% Equity and 32% Debt).
- No of Shares Outstanding 362,691,450.

- Edita Food Industries decided to go public with an IPO on 02 April 2015 with a simultaneous listing in London Stock Exchange as GDR.

➤ **The fair value of Edita Food Industries in IPO prospectus is estimated using :**

- 1- **Discounted Cash Flows** for five years (from 2015 to 2019) and DCF was weighed 70% of the company value.
- 2- **Multiplies Trading** compared with peer companies in the Egyptian market and MT was weighted 30% of company value.

Discounted Cash Flows Assumptions:

Cost of Debt (Before Tax) 10.80% equivalent to **7.56%** (After 30% corporate tax)

Cost of Equity was estimated using Capital Asser Pricing Model **CAPM** with the following assumptions:

- Risk Free Rate 11.30% which is the rate of 10 Years Bonds (After Tax).
- Equity Risk Premium 7%.
- Stock Beta 0.79.

So Cost of Equity is **16.83%**.

Weighted average cost of capital **WACC** is equal to **13.86%**.

So **fair value** of Edita Food Industries stock was estimated to be **EGP 19.22**.

Edita Food Industries was first offered to the public at **EGP 18.50** per share (*3.87% discount to its fair value*).

2. LITERATURE REVIEW

- Cross-listing represents a policy option for overcoming the negative impact of market segmentation for firms from segmented markets, as well as minimizing investment costs for foreign investors Stapleton and Subrahmanyam (1977), Alexander et al. (1987).
- A positive impact of foreign listing on the stock returns of the underlying stocks Errunza and Losq, (1989); Merton, (1987); Amihud and Mendelson, (1986); Gande, (1999); Doidge et al, (2001).
- Regarding mispricing of assets, there are different points of views concluded by researchers. Park and Tavakkol, 1994, found no significant differences between the price of the Depository Receipts (DR's) and the price of their underlying asset which concludes that they observed no arbitrage opportunities. Park and Tavakkol, (1994).
- Some researchers as Shleifer and Vishny, 1997, mentioned that arbitrage is not risk free, and that those arbitrageurs need to be so lucky in their trading activities. Their conclusions were based on that the trades might not profit because stocks may move rapidly away from their fundamental values, and at the same time different markets have different trading hours, settlement dates and delivery terms. These mentioned points would increase the risk of arbitrage trading. Shleifer and Vishny, (1997).
- The owners of DR's are allowed to switch the shares to corresponding underlying shares subject to transaction costs, the DR's are priced by arbitrage forces between the two markets. As a result, the currency value against the US dollar should be reflected in the DR prices to avoid any abnormal arbitrage profits Kim et al, (2000).
- In Canada cross-listed Canadian stocks which are directly traded in American markets and conclude that infrequent arbitrage opportunities do exist here, particularly with stock pairs that present a combination of relatively low spreads and low trading volume. Kaul and Mehrotra, (2000).
- Corporations in emerging economies over the last two decades increased their cross listing activities in the U.S and Europe to benefit from listing overseas advantages as lowering the cost of capital, increasing liquidity and promoting the image of the company. Whether these companies are private or public enterprises, they develop and implement different cross listing strategies to cope with the economic and political changes in developed countries Hoskisson et al, (2000).
- Listing in the U.S or London improves the protection of the firm's investors compared to any other listing. The investors of the listed firms in the U.S or London are subject to the American or British laws and regulations, and that means they are subject to higher protection and obtain higher benefits Reese and Weisbach, (2002).

- In fact, investors that trade ADR's and GDR's benefit from the lower correlation of returns of international markets compared to solely investing within the local markets (Thomas, 2002).
- examined DR's from emerging markets that impose foreign ownership restriction and other capital barriers, and he concluded that DR's premiums and discounts co-move with aggregate foreign market returns and not with the market returns of the domestic market, and therefore using a portfolio approach and putting into consideration risk differentials between the DR's and the their underlying assets, arbitrage opportunities do exist. Suh, (2003).
- The arbitrageurs are the elements that eliminate price discrepancies between locations for the same economic asset. The paper concluded that arbitrage became an important linkage between financial economics and financial markets as he mentioned that arbitrage is a key issue for the 'performativity' of economics. (MacKenzie, 2003).
- The market reactions to cross-listings differ among destination markets, find that disclosure, investor protection, and market segmentation all influence the value creation of cross-listings on U.S. and U.K. stock markets, yet those variables have little power to explain abnormal returns for cross listings in Europe and Japan. Roosenboom and Dijk (2009).
- The recent process of integration of international capital markets has resulted in a rapid growth in international cross-listings, especially by firms from emerging markets (World Federation of Exchanges 2009).
- Only temporary gains, much of the valuation gains in response to overseas listings are not permanent Sarkissian and Schill (2009, 2014).

3. RESEARCH HYPOTHESIS

H0: There is no relationship between GDR conversion and USD Exchange rate.

H1: There is a relationship exists between GDR conversion and USD Exchange rate.

4. DATA ANALYSIS

We used historical stock prices for Edita share for one year starting from the date of IPO, along with the corresponding values of the main index in the Egyptian Stock Exchange EGX 30 to calculate the correlation between Edita Stock and EGX30.

Also we used historical stock prices for Edita GDR for one year starting from the date of IPO, along with the corresponding values of the main index in London Stock Exchange FTSE 100 to calculate the correlation between Edita GDR and FTSE 100.

Also we calculated the relationship between Edita stock (Local share) and Edita GDR, along with the relation between the main index in the Egyptian Stock Exchange EGX 30 and the main index in London Stock Exchange FTSE 100.

Also we calculated the correlation between Edita local share prices and the USD official Exchange rate, along with the correlation between Edita GDR and the USD official Exchange rate.

Also we calculated the correlation between Edita local share prices and the USD rate resulted from the process of GDR conversion, along with the correlation between Edita GDR and the USD rate resulted from the process of GDR conversion.

Correlation Model

CORRELATION COEFFICIENT

$$r = \frac{\sum(X - \bar{X})(Y - \bar{Y})}{(n - 1)s_x s_y}$$

5. CONCLUSION

- There is a **moderate negative** correlation (-0.39) between Edita local stock and EGX 30 (*the share that have GDRs is unlikely to follow the index of the main issuer*).
- There is a **weak direct** correlation (0.17) between Edita GDR and FTSE100
- There is a **moderate direct** correlation (0.54) between Edita local stock and Edita GDR.

- There is a **strong direct** correlation (0.81) between EGX30 and FTSE100 (*the two markets are moving in the same direction strongly, so any change in one market is more likely to be followed by a change in the other market in the same direction*).
- There is a **moderate direct** correlation between Edita local stock price and the official USD Exchange rate (*investors tends to buy the stock in the local market and sell it in London Exchange exploit the arbitrage opportunity*).
- There is a **moderate direct** relationship (0.56) between Edita local stock price with the USD rate resulted from the process of GDR conversion, accompanied with a **moderate negative** relationship (-0.35) between Edita GDR price with USD rate resulted from the process of GDR conversion.
- The USD rate resulted from the process of GDR conversion approaches the USD rate in the parallel market.
- Due to the lack of foreign currencies in the Egyptian market, foreign investors would prefer to convert their Egyptian Pounds to US Dollars with this high spread between the two rates instead of shucking themselves in very long queues in the banks in order to repatriate their money back.

6. SUGGESTIONS FOR FURTHER RESEARCH

We have done our research on one stock only, although it may be extended to test for the 14 stocks that are dually listed in the Egyptian Exchange and in London Exchange as GDRs in order to generalize the results.

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