Journal of Empirical Finance 24 (2013) 63–77

Contents lists available at ScienceDirect

Journal of Empirical Finance

journal homepage: www.elsevier.com/locate/jempfin

The development of emerging stock markets and the demand for cross-listing☆

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ARTICLE INFO

Article history:
Received 3 August 2011
Received in revised form 31 May 2013
Accepted 21 August 2013
Available online 5 September 2013

JEL classification:
G15
G32

Keywords:
Cross-listing
Depositary receipts
Emerging markets

ABSTRACT

This study provides new insights into the link between local stock-market development and the demand for cross-listing. Analyzing 14 Central and Eastern European stock markets over two decades, we find that the link is non-monotonic: cross-listing activity first grows and then decreases as the local market develops. We support that country-level finding with firm-level evidence on non-monotonic preferences to issue and terminate depositary receipt programs. The results have important policy implications and they shed new light on the competitiveness and prospects of local stock markets in emerging economies.

1. Introduction

Stock markets around the world compete for listings. The competitive pressures are particularly severe for emerging countries whose less developed domestic equity markets are, according to the general perception, at a disadvantaged position compared with global financial centers. Concerns that listings of emerging market firms would migrate abroad were expressed in the financial press[2] and in policy-oriented research reports (e.g., Claessens et al., 2000, 2003), and the issue triggered academic research aiming to explore and explain the links between local stock-market development and the scope of cross-listing activities by domestic companies.

The empirical literature in the field provides mixed and inconclusive evidence, though. Studies by Moel (2001) and Karolyi (2004) focus on the impact of cross-listing on local market development in two samples of emerging markets. They find that there is a negative contemporaneous link: countries with more depositary receipt (DR) issues[3] tend to have less developed equity markets. To provide a simple test of the dynamics of the process, Moel (2001) moves on to study Granger causality between cross-listing and market development, and finds that increases in DR activity precede decreases in market development, not vice versa. Karolyi (2004) disaggregates the DR sample into different types of listing and finds a striking result that lower-profile and

☆ We would like to thank an anonymous referee, Serafeim Tsoukas, Qian Sun, Qiaoqiao Zhu, participants at the 3rd EMG Conference on Emerging Markets Finance at Cass Business School and the 2011 FMA European Conference and seminar participants at the University of Bristol for their helpful comments and suggestions. All remaining errors are our own.

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[2] See, e.g., Latin America's stock markets: High and dry, *The Economist* (19 February 2000); ADRs prove a double-edged sword, *Financial Times* (6 April 1998).

[3] Similarly to other studies, throughout this paper we use the terms 'cross-listing' and 'DR activity' interchangeably. DRs are certificates that represent shares of foreign firms and they bear the same cash flow and voting rights. DR issues are a predominant mode of entry to foreign equity markets used by emerging market firms (e.g., Foerster and Karolyi, 1999; Salva, 2003).

0927-5398/$ – see front matter
http://dx.doi.org/10.1016/j.jempfin.2013.08.002

less liquid cross-listings are negatively associated with local market development to the same (if not larger) extent as high-profile listings on foreign exchanges. This leads him to conclude, in contrast with Moel (2001), that cross-listing is as much an outcome of poor market development as it is a cause.

The conjecture is further and more formally tested by Claessens et al. (2006) in a large sample of both developed and emerging markets. Even though in their main tests Claessens et al. (2006) focus on the impact of macroeconomic factors on both local market development and the scope of firm internationalization (mainly cross-listing), in a supplementary analysis they address the point raised by Karolyi (2004) and directly test the impact of past market development on the scope of internationalization. They find strong evidence that companies from more developed local stock markets are more likely to internationalize in the subsequent year. The argument of Karolyi (2004) would suggest a negative relation, and the result also contradicts the finding by Moel (2001). Claessens et al. (2006) interpret their finding from the perspective of international investors' interest and argue that investors are more willing to provide financing to firms from sounder domestic market environments.

In this paper we focus on the different views presented in earlier studies to shed new light on the relation between the development of emerging stock markets and cross-listing. The design of our main tests closely follows that of Claessens et al. (2006) but we allow for a non-monotonic relation between past domestic market development and the demand for cross-listing. We argue that at a certain level of the domestic market development, the relation between market development and cross-listing changes. A less developed local market does not offer a sufficient capital and liquidity pool, so firms have to go overseas to satisfy their financing needs, in line with the argument in Karolyi (2004).[4] As the market grows, fueled by macroeconomic and institutional reforms, so do both firms' financing needs and the attractiveness of assets to investors. This in turn leads to greater internationalization of capital-raising activities (Claessens et al., 2006). However, at some level of its development, the local market becomes competitive and offers sufficient financing opportunities so that local firms no longer need to go abroad and they can benefit from the improved environment of the domestic market. Reformulating the argument of Karolyi (2004), firms do not seek foreign listings when the domestic market is sufficiently developed.

The following example illustrates the decreasing popularity of foreign listings as the significance of the domestic market grows. Poland's KGHM Polska Miedz was partially privatized in July 1997. It was listed on the Warsaw Stock Exchange and cross-listed on the London Stock Exchange. At that time this was the largest privatization in the history of the still relatively underdeveloped Polish market. The overseas offering accounted for 58% of all shares offered and 18% of all shares outstanding. At the end of 2009, KGHM was still one of the largest companies on the Warsaw Stock Exchange with a 5.0% share in the total market capitalization and a 13.1% share in the total trading value. In the meantime the Polish stock market had developed significantly, and the most popular measure of stock-market development, the ratio of market capitalization to Gross Domestic Product (GDP), quadrupled from 7.7% at the end of 1997 to 31.5% at the end of 2009. In September 2009, KGHM announced delisting from London arguing that the DR program 'has ceased to be effective. Investor interest in this form of investment in the shares of KGHM Polska Miedz S.A. has become weak. The number of issued Global Depositary Receipts (GDRs) has fallen to around 0.5% of the share capital of the Company, and for several months has remained at this level. Investors prefer to directly purchase the Company's ordinary shares on the Warsaw Stock Exchange, where they will continue to be listed.'[5]

Our sample includes 14 countries from Central and Eastern Europe (CEE) and the sample period spans 1991–2009. The CEE markets offer a good testing ground as they allow us to observe the link between market development and the demand for cross-listing from the inception of the local markets and through different stages of their development. Moreover, the previous studies look at cross-listing activity up to the year 2000, and their sample period coincides with an exceptional increase in the number of foreign listings and a surge in DR activity in the 1990s. After 2000 the total number of cross-listings flattened and while there are still between 100 and 200 new companies entering overseas markets via DR programs every year (BNY Mellon, 2010), many decide to withdraw from foreign exchanges, sparking a discussion about the attractiveness of global financial centers to foreign issuers (e.g., Doidge et al., 2009; Zingales, 2007). At the same time, over the last decade, local stock markets in emerging economies have experienced unprecedented growth and grabbed international investors' attention. All of these make our sample and the period worth investigating to gain new insights into the link between local stock-market development and the demand for cross-listing.

Our results can be summarized as follows. We start by replicating the tests of Claessens et al. (2006) using our unique data sample and period. Overall, we confirm their findings of the positive (linear) link between the DR activity and (lagged) local stock-market development but our results are less consistent and become insignificant in some specifications. We then move on to test our argument regarding the non-monotonic link. To this end we add a square of the market development measure to the models and find statistically and economically significant evidence that local stock-market development and the demand for cross-listing are linked in a non-linear fashion. The results indicate that there is a threshold level of local stock development below which listing only domestically is not a viable option for companies that seek financing. However, they also indicate that cross-listing activity is not a one-way trend that does not revert. We show that the activity is triggered by local market underdevelopment but that when the local market reaches a certain stage, the demand for cross-listing fades. Our main results are robust to the choice of the measure of DR activity and local stock-market development, and they hold after controlling for general economic development, growth opportunities, capital account liberalization and the quality of corporate governance.

[4] Karolyi (2006) provides a comprehensive survey of the theoretical and empirical literature on motivations for and consequences of cross-listing.

[5] See the company's current report, no. 36/2009, available at www.kghm.pl.