

Investing in European stock markets for high-technology firms

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Abstract

We used a recursive modeling approach to study whether investors, in real time could, have used information on the comovement of stock markets to forecast stock returns in European stock markets for high-technology firms. We analyzed weekly data on returns in the Neuer Markt, the Nouveau Marché, the Alternative Investment Market, and the NASDAQ. We found substantial changes over time in the usefulness of the inter-European and cross-Atlantic comovement of stock markets for predicting stock returns. We also studied how monitoring the comovement of stock markets would have affected the performance of simple trading rules and the investors' market-timing ability of investors.

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1. Introduction

At the end of the 1990s, advances made in high-technology sectors like the IT sector and the bio-sciences sector were in the focus of the mass media and investors. Investors were strongly interested in investing in high-technology firms that needed capital to finance their expansion. As a result, European stock exchanges founded new stock markets for high-technology firms. In Frankfurt, Paris, and London important marketplaces for trading stocks in European high-technology firms were established.

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A key problem of investors who planned to invest in the new European stock markets for high-technology firms was that little was known about these markets and the firms listed in these markets. Because these markets were new, investors knew little about how these markets processed information and how they reacted to news. Moreover, because many high-technology firms operated in completely new technological fields, investors had hardly any experience in assessing the growth prospects for firms listed on European stock markets for high-technology firms. As a result, investors' beliefs concerning the bright growth prospects of particular high-technology firms resulted in the bubble-like phenomena that were a characteristic feature of stock markets for high-technology firms in the late 1990s.

In general, there was no empirical evidence available that could have helped investors to determine the key driving factors of stock returns in the new European stock markets for high-technology firms. Even worse, the potential for portfolio diversification across markets was limited because European stock markets for high-technology firms witnessed a non-negligible degree of comovement at the end of the 1990s. This comovement may even indicate that the portfolios held by investors who invested in these markets were vulnerable to the kind of contagion effects and spillovers of market jitters that have been widely studied in the recent literature (Forbes & Rigobon, 2002; Hon, Strauss, & Yong, 2007).

Contagion and spillover effects, however, do not necessarily imply that the comovement of stock markets was per se bad for investors. In fact, even investors who only invested in their domestic stock market for high-technology firms, rather than in international stock markets, may have benefited from the comovement of stock markets. The reason for this is that comovement of stock markets need not reflect only contemporaneous links between stock markets. Rather, comovement could also indicate that potentially complex lead-lag links between stock markets exist. If this is the case, comovement of stock markets could imply that investors can use international stock returns to predict returns in their domestic stock market. If comovement implies predictability of returns, this may even help investors to set up profitable simple trading rules based on the comovement of stock markets.

While many authors have empirically studied the degree and the sources of the international comovement of stock markets (Bekaert & Harvey, 1995, Chinn & Forbes, 2004, Longin & Solnik, 1995, among others), empirical evidence is relatively silent with respect to the comovement of stock markets for high-technology firms. Even less is known about the question whether investors who invested in these stock markets could have taken advantage of the comovement of stock markets for high-technology firms in order to increase the performance of their stock market investments. To the best of our knowledge, our study is the first empirical study to address the question whether investors could have used the comovement of European stock markets for high-technology firms to increase the performance of their investments.

In order to conduct our empirical study, we used the recursive modeling approach developed by Pesaran and Timmermann (1995, 2000). A recursive modeling approach implies that, to predict stock returns, investors can only use a set of information that is available in the period of time in which investors have to reach investment decisions. Included in this set of information is the information on the international comovement of stock markets available in the period of time when investment decisions had to be reached. Not included is information on the comovement of stock markets in later periods of time. Thus, a recursive modeling approach renders it possible to explicitly account for the uncertainty concerning the comovement of stock markets that is a crucial aspect of investors' decision problem in real time.

A recursive modeling approach has two further key advantages. First, a recursive modeling approach renders it possible to trace out potential changes in the comovement of stock markets

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