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# Does financial market liberalization increase the degree of market efficiency? The case of the Athens stock exchange

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ABSTRACT

In this paper we assess if the financial market liberalization introduced in the beginning of the 1990s in Greece has changed the degree of market development (efficiency) by studying time-varying global Hurst exponents. Our results suggest that changes in financial market liberalization have important positive implications on the degree of development of stock markets. These results have important policy implications for the development of stock markets around the world.



## 1. Introduction

The past two decades have witnessed an extensive research effort in understanding the impacts of financial market liberalization on the development of financial markets. In the early 1980s and 1990s many emerging markets underwent a set of reform measures to enhance and deepen their financial markets.

Recent research has suggested the following benefits from stock market liberalization: 1. It may reduce the country's cost of equity capital by allowing for risk sharing between domestic and foreign agents (Henry, 2000a); 2. capital account liberalization may have a positive impact on investment.[1]

Therefore, an important topic in the financial research agenda has been to understand the impact of financial market liberalization on the cost of equity, volatility and asset returns, and on investment. Bekaert and Harvey (2000) argue that uncovering these relationships may help on efforts to incorporate emerging markets into global asset allocation models.

An important research question is how financial liberalization induces the development of domestic capital markets. The Greek stock market presents an interesting opportunity for such tests, since this market has been liberalized in the end of the 1980s and beginning of the 1990s.

The main contributions of this paper are threefold. In the first place we employ a recently introduced methodology (Barabási & Vicsek, 1991; Di Matteo, Aste, & Dacorogna, 2005) to test for structural changes in the degree of market development. Secondly, we innovate in using a “rolling sample” approach, instead of analyzing different periods. Therefore, we do not have to use a “liberalization date,” which is always subject to criticism.[2] Finally, we relate structural changes in the degree of equity market development to equity market liberalization and find a positive association between these variables. Our main findings suggest that equity market liberalization plays an important role in enhancing equity market development, which induces decreases in the cost of capital and increases in the productivity of capital and better capital allocation.

The paper is organized as follows: section 2 provides a brief literature review. Section 3 describes the methodology associated with testing for time-varying long-range dependence. Section 4 describes the data.

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[1] Henry (2000b) presents evidence that the mean growth rate of private investment in the 3 years following stock market liberalizations exceeds the sample mean by 22 percentage points.

[2] Such liberalization dates are static and in general it may take a long time to full liberalization to take place. Therefore, evaluating dynamics statistics may prove fruitful as the assessed impacts are not dependent on the a priori chosen liberalization date.

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**Fig. 1.** Athens stock exchange index in US$.

Section 5 presents the results of applying the methodology. Finally, section 6 offers a brief conclusion.

## 2. Brief literature review

Financial market liberalization have been pervasive amongst many countries in the past two decades. Specifically, liberalization of equity markets have important implications on growth and investment and the effects of equity market liberalization have been the subject of extensive research in recent years.

Liberalization is understood as a decision to allow foreigners to purchase shares in a country's stock market and repatriate their gains. Assessing the impact of liberalization is important as it leads to important changes in both the financial sector and the real economy. Therefore, in the relevant literature on this issue presented below, precise dating of the financial liberalization, is of crucial importance in testing for its effects.

Kim and Singal (2000) study the impact of market opening in emerging markets and find that the benefits are likely to outweigh the perceived risks associated with foreign portfolio flows. Stock

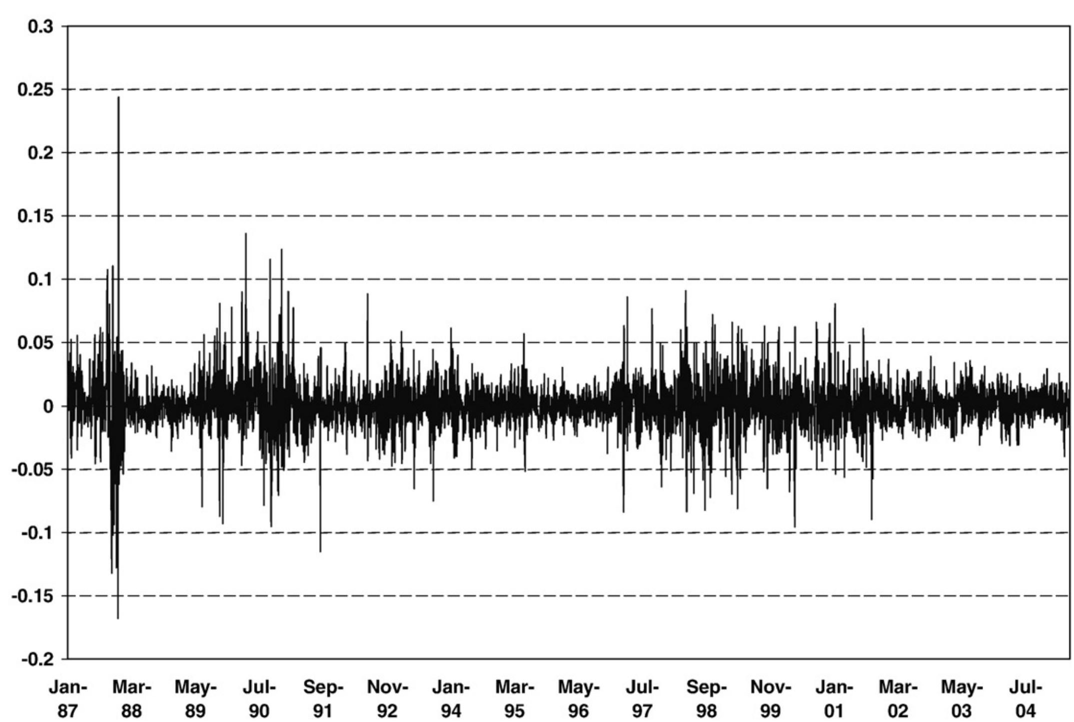


**Fig. 2.** Athens stock exchange index returns in US$.