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Technology firms and capital structure adjustment: Application of two-step system generalised method of moments

The study asks whether technology firms adjust their capital structures towards predetermined targets, and if so, at what speed? Also, is there an intra-industry leverage-level effect? The study empirically evaluates the listed technology firms in South Africa's Johannesburg Stock Exchange (JSE). Methodologically, a generalised method of moments (GMM) is employed on 34 firms over 21 years (1999–2019), resulting in a sample size of 714 observations. The results show that technology firms adjust their debt-equity ratios towards target levels with speed above other industries at 45 to 57%. A comparison with prior research shows that this adjustment pace is consistent with the experience of technology firms in Asian emerging markets but differs markedly from that of developed economies. These results support the literature observation that technology is characterised differently in less developed economies, yet research on technology firms' capital structure dynamics is scant. The results of this study should enlighten industrialists, investors, and policymakers involved with technology industries. Intuitively, the partial capital adjustment process should play an essential role in project financing decisions. Maintaining optimal capital adjustment speeds should lead to better industrial activity like maximised innovation and technology diffusion.

Keywords: capital adjustment; capital structure; adjustment speed; technology firms.
JEL classification: E22; G32; M21; O16.

1. Introduction

This study investigates the capital structure dynamics of technology firms in the emerging market environment of South Africa, taking the Johannesburg Stock Exchange (JSE) listed firms as a case study. A capital structure may be seen as primarily a mix of debt and equity in a firm. Myers (2001) further generalises that capital structure explains a fusion of securities and financing sources corporations use to finance real investment but concedes that no universal formula or theory defines a given firm's capital structure. Nevertheless, for empirical purposes, this is not an issue in the study of capital structure.

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