North American Journal of Economics and Finance 21 (2010) 332–346

Contents lists available at ScienceDirect

North American Journal of Economics and Finance

The behaviour of small cap vs. large cap stocks in recessions and recoveries: Empirical evidence for the United States and Canada

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ARTICLE INFO

Article history:
Received 29 June 2009
Received in revised form 12 October 2010
Accepted 13 October 2010
Available online 4 November 2010

Keywords:
Small-cap equities
Business cycles
Style based investing
Return performance
Market segmentation

ABSTRACT

This paper examines the relative performance of small-caps vs. large caps surrounding periods of peaks and troughs of economic activity, and reexamines the relationship between the small firm anomaly and the business cycle. Small-cap firms outperform large caps over the year subsequent to an economic trough. In the year prior to the business cycle peak, however, small caps tend to lag. US style based large caps perform better over peaks, but there is no dominant category across size and book to market asset classes over troughs. The US small cap premium is related to default risk, although recessions per se do not on average impact on this premium. Default risk and the inflation risk differential between Canada and the US significantly impact on the Canada–US equity premium. Abnormal positive performance observed for US small caps in the recent (post 2001) period as well as for the long horizon is attributable to the small cap growth cohort. Canadian small firm stocks also exhibit significantly positive performance in the post 2001 period.

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doi:10.1016/j.najef.2010.10.002

1. Introduction

A standard presumption of the efficient markets paradigm in finance is that stock market returns reflect anticipated cash flows of firms in the economy. One of the early challenges to the efficient markets paradigm is the small firm (small cap) anomaly. The essence of this anomaly is that for long term holding periods, small cap stocks outperform large cap stocks (e.g., Banz, 1981; Hawawini & Keim, 1999; Reinganum, 1981; Siegel, 1998). Dimson and Marsh (1999) state that the striking outperformance of small cap companies is "the premier stock market anomaly" that is inconsistent with market efficiency. Bhardwaj and Brooks (1993), Horowitz, Loughran, and Savin (2000) and Schwert (2003) challenge the small-firm anomaly, however. Based on returns that extend to the 1982–2002 period, Schwert concludes (2003, p. 943) the "small-firm anomaly has disappeared since the initial publication of the papers that discovered it." The issue of small stock outperformance remains a topic of debate across countries. More recently, Switzer and Fan (2007) show that the high returns to small caps may be country dependent, and demonstrate the benefits of adding Canadian small caps for international investors in enhancing their risk-return performance.

Kim and Burnie (2002) suggest that the time-varying nature of the firm size effect may be attributable to the business cycle. They study returns over the period 1976–1995, asserting that differentially higher returns for small cap firms relative are observed during economic expansion phases. Small firm underperformance is shown to occur in their sample over economic contractions. They postulate that this may be due to the relatively lower productivity and high financial leverage during downturns (Chan & Chen, 1991; Kim & Burnie, 2002).[2] Switzer and Tang (2009) note that small-cap firms provide a significant nexus for entrepreneurship and innovation and hence might be viewed as less prone to governance problems than large firms; this could in part explain the superior performance of small-cap firms, although leverage, which may be exacerbated during downturns, may hinder their performance.[3]

This paper provides new evidence on the small cap anomaly for the US and Canada extending the sample to include the most recent recessionary period, which dates the trough of the worst post World War II recession as occurring in June 2009.[4] In addition, new evidence is put forth to identify whether the differential returns for small firms vs. large firms are due to the state of the business cycle per se, as asserted by Kim and Burnie (2002) or due to uncertainty factors including default risk, interest rate risk, and inflation risk that may be distinct from business cycle effects for small cap vs. large cap firms. The paper also explores the performance of the Canada vs. US stock premium as a small-country vs. large country variant of the small firm anomaly over the business cycle. Various determinants of the Canada–US equity premium are also examined including the role of changing institutional factors, such as the Canada–US Free Trade Accord (FTA)and the approval of the Multi-Jurisdictional Disclosure System, which enhances the integration of the markets (see e.g., Doukas & Switzer, 2000).

The organization of the remainder of the paper is as follows. Section 2 describes the data. Section 3 revisits the small cap premium in the U.S. and provides some new evidence for a small cap premium for the Canadian market. As is shown therein, it is apparent that the announcement of the death of the small firm anomaly seems premature based on the post 2000 period, in particular for small cap value firms as well as for the experience of Canadian small firms. Section 4 looks at business

[2] This argument has also appeared in the popular financial press. As reported by an analyst in the *Financial Times* (Handy Caps, May 26, 2009, p. 12): "The final stages of a boom, though, are an inauspicious time to own small companies. As the economy slows, they are often the first to feel the pinch: small businesses tend to be biased towards cyclical industries and mostly do not have the luxury of international diversification. Also, as bull markets near their apex, inflows from naïve retail investors may be concentrated in the largest, most liquid shares. True to form, small caps began to underperform the broader US market just as the housing bubble peaked. From April 2006 to the end of 2008, they shed 32 per cent of their value compared with just 24 per cent for large stocks. Conversely, much of small stocks' historical edge comes from outperforming early in any recovery. . ."

[3] Switzer and Tang (2009) support the paradigm of entrepreneurial CEO's whose ownership in such firms is optimally aligned with performance. However, suboptimal deployment of debt is observed in their sample. In particular, excess leverage is observed which significantly reduces firm value. This is consistent with the view that debt reduces the entrepreneurial capacity of firms, by hindering the firm's ability or willingness to compete aggressively, particularly against well-financed competitors.

[4] See the National Bureau of Economic Research (NBER) announcement on September 20, 2010: http://www.nber.org/cycles/sept2010.html.