

The economic costs of US stock mispricing

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Abstract

The USAGE model for the United States is used to quantify economic costs due to stock mispricing, made operational by shocking Tobin's q . The simulations quantify a potentially large impact *even in the most favorable environment*, where export demand holds up, and, the dollar is pro-cyclical. A two-year investment boom in two sectors increases consumption by a Net Present Value (NPV) amount of nearly one per cent, due to a positive investment externality onto the US terms of trade. If the investment is wasted, however, the consumption loss is nearly one-half of a per cent. A 5-year 'capital strike' across the whole economy subsequent to the boom – mimicking financial distress from a burst bubble – shaves around 10 per cent off consumption. Given these significant costs associated with "boom" and "bust" equity markets, we consider some, policy options that might result in greater stability in these markets.

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1. Introduction

This paper uses a contemporary policy model of the United States (US International Trade Commission, 2004, 2007) to quantify the effects of a rapid boom and bust associated with asset price bubbles. We begin, in Section 2, by reviewing the debate about the impact of mispricing. The literature focuses on two distinct mechanisms which can affect the real economy – misallocation

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and financial sector distress.¹ This sets the stage for designing three stock mispricing scenarios which are applied to the US economy. Section 3 explains the model qualitatively, drawing on the canonical Mundell–Fleming and optimal capital stock diagrams. The findings with respect to the economics costs of stock mispricing are discussed in Section 4 and the policy implications of these findings are surveyed in Section 5. Section 6 provides a conclusion to the paper.

2. Asset mispricing in the literature

Asset price bubbles are commonly associated with an increase of debt. During the boom phase of the bubble, the large distortion in relative prices induces investors to increase their debt burden. Shiller (2003) provides an example of this mania when he relates the story of university students ‘maxing out their credit cards’ to buy shares during the height of the Internet bubble, and Posen (2006) describes American households utilizing cash-out refinancing on the equity in their house during the housing booms. Once the bubble bursts, many investors default on what prove to be unsustainable loans.

However, when investors default *en mass*, some believe that the instability of the banking/financial system, rather than the stock market crashes *per se*, is the major macro-economic concern. Mishkin and White (2002) marshal history for the defence of this distinction. They show that there was severe economic damage only for 8 of 15 US stock market crashes in the last 100 years. And, only some of these 8 episodes resulted in recessions. They conclude that in the absence of financial instability, stock market crashes had negligible effects on the economy. In this, they concur with Posen (op. cit.) who cautions against central banks bursting bubbles.²

While perhaps dispelling the notion of *inevitable* economic distress, historical analysis may provide only limited insight into a rapidly evolving financial system. Indeed, as a result of increasing competition and financial deregulation, financial institutions have aggressively sought income from non-core lines of business, such as asset trading (International Monetary Fund, 2000).³ As a consequence of this, they have significantly increased their exposure to the real economy as the sub-prime crisis is making abundantly clear.

Mispricing of assets may also affect the real economy by disrupting the optimal allocation of resources.

However, the issues are subtle, as Barlevy (2007) skillfully shows. He outlines a number of situations where bubbles have redeeming features. First, he draws a surprising link between the

¹ With regards to financial stress following a bubble, the literature on these effects presumes the ability to econometrically test for bubbles, yet this is no trivial matter. Gürkaynak (2008) provides a comprehensive survey on the tests including variance bound tests (as in Shiller, 1981), West’s two-step test (1987), integration/co-integration tests (Diba & Grossman, 1987, 1988a,b) and intrinsic bubble tests (Froot & Obstfeld, 1991). After canvassing the strength and weakness of each type of tests, Gürkaynak summed up the state of econometric testing: “. . . [This] survey of econometric tests of asset price bubbles shows that, despite recent advances, econometric detection of asset price bubbles cannot be achieved with a satisfactory degree of certainty. For each paper that finds evidence of bubbles, there is another one that fits the data equally well without allowing for a bubble. We are still unable to distinguish bubbles from time-varying or regime-switching fundamentals, while many small sample econometrics problems of bubble tests remain unresolved.” (Gürkaynak, 2008, p. 166).

² He writes: ‘In the end, there is no monetary substitute for financial stability, and no market substitute for monetary ease during severe credit crunch’ (op. cit. page 1).

³ To quote them: “Greater exposure to asset market developments implies that sharp swings in stock and property prices, such as those observed over the last two decades, tend to have a major impact on the balance sheets of financial institutions. One direct channel is through revaluations of non-loan assets and changes in earnings accruing from brokerage fees on the value of asset transactions. . . .” (op. cit., p. 102).

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