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Stock market volatility and the US consumer expenditure

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Abstract

This paper provides an empirical investigation of effects of stock market volatility on the US consumer expenditure. Four different series of consumer expenditures are investigated; total real expenditure, real expenditure on durable goods, real expenditure on non-durable goods and real expenditure on services. The empirical investigation is conducted by means of the Johansen multivariate cointegration procedure and the error correction method. Results in all four cases indicate a long-run relationship between the consumer expenditure and its determinants (including stock market volatility). Error corrections results indicate causality between the consumer expenditure and its determinants. There is evidence of causality from stock market volatility to consumer expenditure but not the other way around. This is true in all four cases.

JEL classification: E4; E41
Keywords: Cointegration; Volatility; Unit roots; GARCH; Causality

1. Introduction

The traditional economic theory implies that household consumption depends upon wealth and on current and future income. According to Modigliani and Brumberg (1954)'s life-cycle hypothesis, the household plans its present and future consumption based on expected lifetime resources. [1] The households lifetime resources

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[1] Friedman (1957)'s permanent-income hypothesis states that consumption depends on the long-run average (permanent) income that people expect to receive, rather than on current income.

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include its current and future labour income, its current financial assets and its non-financial assets. Thus along with current and future income, the value of financial assets also influence current and future consumption. The life-cycle hypothesis implies that a decline in stock prices has a negative effect on current household consumption (Garner, 1990). A decline in stock prices reduces the financial wealth available to the household for consumption and bequest, forcing a reduction in planned consumption over the life cycle. [2] According to Garner along with stocks the consumer wealth also includes money, government bonds, real estate and tangible assets. And, yet over time, stock market fluctuations account for much of the variation in household wealth because stock prices are so volatile. The effects of stock price on consumer expenditure as been well documented (see Garner, 1990; Romer, 1990; Poterba and Samwick, 1995; Shirvani and Wilbrattie, 2000).

This paper investigates the effects of stock market volatility (uncertainty) on the US consumer expenditure. Shirvani and Wilbrattie (2000) claim that the frequency and severity of recent stock market declines provide grounds for concern that stock market volatility remains a significant potential source of instability to the real economy. Extreme stock market volatility may make economic agents temporarily uncertain about the level of future income (Romer, 1990). This uncertainty in turn causes consumers to postpone consumption or purchase of goods and services. To our knowledge no other study investigates the effects of stock market volatility on US consumer expenditure. Empirical investigation is conducted for real consumer expenditure on all goods and services, on durable goods only, on non-durables only and on services only. The empirical tests are conducted by means of multivariate Johansen cointegration procedure and error correction method.

2. The consumer expenditure and its determinants

As stated earlier, the standard Economic theory indicates that consumer spending depends both on wealth and on current and future income. Both the permanent-income hypothesis and the life-cycle hypothesis indicate a direct relationship between real income and real consumption. According to Garner (1990) consumer confidence about future business and financial conditions may be an important determinant of consumer expenditure. Consumption decisions depend not only on ability to buy but also on willingness to buy, with consumer optimism or pessimism being the key determinant of willingness (Katona, 1975). Increase in the consumer confidence about the future of the business and financial conditions should increase consumption in the present period and a decrease in the confidence should provide the opposite affect. [3]

[2] According to Garner (1990) the effect of lower stock prices on current consumption should be relatively small because the decrease in planned consumption is spread over the whole life cycle.

[3] Empirical evidence regarding the effects of the consumer confidence on consumption is mixed. Brinner et al. (1985) and Juster and Wachtel (1972) find useful role of the consumer confidence in the consumption function. Whereas Burch and Gordon (1984) and Garner (1986) fail to find any significant role of the consumer confidence once income and stock prices are taken into account.