

THE STOCK MARKET WEALTH AND CONSUMER SPENDING BEHAVIOUR: IS THERE A WEALTH EFFECT?

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—Abstract —

This paper investigates the effects of stock market wealth on consumer spending. Basic macroeconometric models estimate that a Saudi Riyal's increase in stock market wealth boosts consumer spending by 7-9 Halals per year. With the significant 2004 and 2005 rise in stock prices in Saudi financial market, the nature and importance of this wealth effect have been much debated. After reviewing previous works, we find new evidence from the Direct Survey of Income & Consumption (DSOIC). The survey results are mostly consistent with lifecycle saving and a modest wealth effect. Some stockholders reported substantial effect of stock prices on their saving and spending.

Key Words: *Wealth effect, Stock price, Stockholders' spending.*

JEL Classification: G140

1. INTRODUCTION

Saudi Arabia stock market recorded a dramatic increase in stock values between the second half of 2003 and 2005. The fast boom started in the beginning of year 2003 and the stock price index kept sharply growing without major breakdowns to reach its top level (over 20600 points) by the end of February 2006. The market has been stimulated by the Saudi government's expanding privatization program and a step up in the number of companies seeking to raise finance through the capital market. Based on the nature of the correlation between asset prices and consumption, it is tempting to attribute it to a direct wealth effect: increasing asset prices increase household wealth, which in turn increases consumption. The empirical evidence for most countries suggested that household consumption is correlated with wealth and does respond to changes in permanent changes in wealth. However, the majority of fluctuations in assets values are attributable to transitory innovations that display no association with consumer spending (Lattua and Ludvigson, 2001). Most empirical research on the wealth effect has

investigated the response of aggregate consumption to changes in household wealth. Studies in the consumption-function tradition found a marginal propensity to consume (MPC) out of stock market wealth of 0.03 to 0.07, with the effect materializing over one to three years. More modern macro-econometric models also find a significant effect of stock market wealth on spending, with estimates of the MPC on the lower end of the traditional range. Most estimates of the MPC are quite consistent with the simple life-cycle model. From July 2003 to September 2005, the DSOIC Direct Survey of Income & Consumption interviewed 1200 households, of whom 700 households reported owning stock in some form. Households were asked a special set of questions about saving and spending. However, the data collected from the DSOIC Direct Survey of Income & Consumption seem to provide a reasonably good representation of Saudi stockholders. The survey data point to more appreciable effects of wealth on spending for stockowners with large holdings. This provides support to Poterba and Samwick's (1995) approach to the aggregate wealth effect, and is consistent with reports of strong spending at high-end retailers during the 1990s stock boom in the U.S and some industrial countries. Such an effect is consistent with predictions from a simple life-cycle model, in which consumers spend more over their lifetimes in response to higher wealth. The purpose of this study is to examine the wealth effect of stock market changes on consumer spending behavior. The term wealth effect refers to the belief that the increasing stock valuations of the 1990s were due to the increased marginal consumption that itself was the indirect result of the greater wealth created by high stock prices. Spending growth in recent years has certainly been augmented by market gains, but the effect is found to be unstable. However, many studies have produced observations indicating that only between 2-7 percent of unexpected wealth is actually spent within one year. Several studies have used microdata to examine the spending effects of changes in stock market wealth. Poterba and Samwick (1995) investigated whether spending on items bought disproportionately by high-income households who owned a large share of household stock rose disproportionately when stock prices increased. Research by Mankiw and Zeldes (1991) and Poterba and Samwick (1995) using the Panel Study of Income Dynamics suggests that the consumption of stockholders is more highly correlated with stock returns than the consumption of non-stockholders. Friend and Lieberman (1975) found a negative relationship between stock price changes and saving, using data from the 1962-63 Survey of Financial Characteristics of Consumers. This paper is organized as follows: section two presents the literature review on wealth effect of stock market changes on consumer spending behavior. Section three presents the data

and methodology used in this paper. Finally, a summary of main findings and implication are presented in section four.

2. LITERATURE REVIEW

Several studies have started from the basic predictions of the life-cycle theory to build empirical models and quantify the relationship between consumption and wealth. According to Ando and Modigliani (1960, 1963), households accumulate and deplete their wealth to keep their consumption roughly steady. They developed the basic ideas and key theoretical links between wealth and consumption that can be described using the life-cycle model of household spending behavior. Therefore, the model suggests that expected changes in asset prices should not lead to changes in planned consumption, while unexpected changes should generate a response. In their micro-data studies on consumption Mankiw and Zeldes (1991), Attanasio, Banks and Tanner (1998), Vissing-Jørgensen (1999), and Brav, Constantinides and Geczy (1999) find that the spending of stockholders is more highly correlated with stock market returns than that of non-stockholders, which supports a direct effect. Nashat and Saghir (1991) and Ahmed (1999) have observed unidirectional causality from stock prices to consumption expenditure in Pakistan and Bangladesh respectively, while Mookerjee (1988) has observed the opposite case in India. Parker (1999) and Juster, Lupton, Smith and Stafford (1999) both find that spending appears responsive to wealth at the household level, but neither paper can pinpoint the response as occurring in the time frame necessary to explain the macro relationship. On the other hand, if households experience an unexpected change in their wealth, they will modify their consumption plan. Poterba and Samwick (1995) present some evidence in this regard. Compared to stockholders with directly held shares, the correlation between consumption and stock returns was lower for stockholders having only retirement accounts. However, Poterba and Samwick (1995) introduce other tests and conclude that the balance of evidence points to a small role for direct effects. Otoo (1999) finds that the correlation between stock prices and consumer sentiment does not vary by stock ownership. Brayton and Tinsley (1996) generally illustrate that an additional dollar of stock market wealth raises the level of consumer spending by 3 to 5 cents, with the

effect emerging gradually over several years. Carroll (2000) has argued that very wealthy households may value the accumulation of wealth as an end in itself. Alternatively, Muellbauer and Murphy (1990) suggested that financial market liberalization may drive up asset prices and stimulate consumption by relaxing borrowing constraints. Starr- McCluer's (2000) analysis of qualitative evidence from the University of Michigan's SRC Survey of Consumers suggests that the spending of stockholders is only modestly affected by changes in wealth. Shleifer, A. (1995) stated that there are strong theoretical arguments for direct wealth effects and the empirical evidence does not determinedly reject that in the short run. Finally, Ludvigson and Steindel (1999) state that total household equity grew 260 percent from 1991 until the middle of 1998; therefore, such a massive increase in household wealth would have impacted overall consumption. They stated that it was between 1995 and the middle of 1997 that the greatest gain in the market occurred, when an actual doubling took place.

3. DATA AND METHODOLOGY:

There are two types of approaches used for the empirical estimation of wealth effects: the first relies on aggregate data, the second is based on household level data. Economists allow for the possibility that consumption responds to predictable changes in income or wealth or that it responds slowly to permanent changes. Many methodologies have been used to investigate the wealth effects on consumption using micro data, macro data and some direct surveys. Most microeconomic studies of wealth effects focus on the equilibrium behavior of consumers and use cross-sectional data to estimate a relationship between consumption, income and wealth. Micro level data enable us to examine the effects of prices on individual household's consumption but they have different implications for the behavior of different types of households. Some studies find that the wealth effects on consumer spending are mainly direct, and there was a causal channel, the heterogeneity of household portfolios necessarily implies considerable heterogeneity in the response of household consumption to asset prices. Parker (1999) tests reduced-form regressions for consumption growth Paiella and Others (2004) test the consumption-capital asset pricing model, Starr-McCluer (1998) presents studies of responses to qualitative questions about the wealth effects on spending and Imbens et al, (1999) contributes studies of the effects of winning a lottery on consumer spending. Economists also suggest that household spending may be related to all those variables that help to predict future

changes in income or wealth. From July 2003 to September 2005, the DSOIC Direct Survey of Income & Consumption interviewed 1200 households, of whom 700 households reported owning stock in some form. Using open-ended question, households were asked a special set of questions about saving and spending. In addition to the core questions on attitudes and expectations, the survey collects information on household characteristics and various special topics. They asked questions on financial assets that could be used to identify households owning stock in some form, including individual stocks and mutual funds. The open-ended question allowed households to report any response they thought was applicable. Nevertheless, because the question provides little structure and the effects of higher wealth may be hard to distinguish from other determinants of spending, there could be some tendency for changes to be misreported. According to DSOIC survey, about 58.3% of households owned stock in one specific form. In terms of the value of holdings, the total value of stock reported by DSOIC survey respondents was SR 5.2 millions. However, only 6.8 % of stockholders in the DSOIC survey did not report a Riyal value of their holdings. Households owning stock were asked certain questions such as, (Has your family changed the amount of money they spend or save as a result of the trend in stock prices during the past three years?). If their answers were yes, they were asked how their spending and saving had changed, and their responses were recorded literally. Some of those who were asked report that households may want to keep some assets as a precaution against unpredictable, future, adverse events or to bequeath to younger generations. Table 1 represents the distribution of responses to the wealth-effect questions. Generally, the minority of respondents (13.6%) said the recent trend in stock prices had not affected their spending and saving. The majority of respondents, i.e. 76.2% of stockholders, said they had increased their spending or lowered their saving as a result of higher stock prices. Their responses included "bought or built a house," "bought new or used a car," and "spent more time in vacations". The rest of respondents (10.2%) of stockholders said the trend in stock prices had caused them to save more. As a result, the data from the DSOIC survey appear to provide a realistically good interpretation of household stockownership and stock wealth in Saudi Arabia.

Table 1: Respondents reports

No	Reported response	Report/ response (% of stockowners)
1	More spending and less saving	(76.2%)

2	Less spending and more saving	(10.2%)
3	Not effected	(13.6%)

The realistic interpretation of this unsurprised result comes from respondents' frequent mentions of their saving goals in explaining their spending and saving's behavior. For instance, when asked about their main reasons for saving, the most frequent reason given by stockholders was "future security," with almost 60% of respondents mentioned this as their main reason for saving. With many immediate implications for spending, respondents commonly appeared to view stock gains as part of long-term saving. Mainly, these results were consistent with the basic of life-cycle model.

4. CONCLUSION AND FINDING RESULTS

Two main findings are of interest. In the first finding, it has been suggested that concerns about increasing of stock price motivated stockholders for spending their gains. Moreover, stock price expectations have significant effect when other determinants of spending are taken into account. According to the second finding, DSOIC survey data show some significant differences in spending behavior related to the value of holdings. Especially, stockholders who were holdings more, significantly more expected to report an effect of stock price trends on their spending in the last three years.

In conclusion, even though the majority of stockholders reported a considerable effect of stock prices on their spending or saving, the results of the DSOIC are consistent with life-cycle spending and saving and a modest wealth effect. Specifically, the life-cycle view predicts only modest effects of wealth gains on current spending, as spending gains would be distributed over the household's lifetime. However, the fact that many stockholders mentioned "future security" in explaining their behavior provides some degree of support to the lifecycle view. Moreover, many stockholders specifically mentioned that an increase in saving for future security has a constraint on their spending, which is contrary to a mental-accounting interpretation. More broadly, the finding also suggests a need to improve our understanding of the saving and spending decisions of wealthy households. The distribution of spending is not as concentrated as the distribution of wealth, but the spending of well-off households is still disproportionate. Some recent studies suggest that the saving behavior of wealthy households may not be well described by standard versions of the lifecycle model. Work on the wealth

effect suggests that, for understanding the behavior of aggregate consumption, this question may matter more than has tradition ally been assumed.

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