Financial portfolio choice: Do business cycle regimes matter? Panel evidence from international household surveys

Nicholas Apergis [*]

Department of Economics and Property, Curtin University, Perth, Australia

ARTICLE INFO

ABSTRACT

This study investigates how business cycles regimes can explain financial portfolio decisions across investors and countries, given a number of idiosyncratic characteristics. In particular, the empirical strategy studies the relationship between risky asset shares and linear and nonlinear business cycles. The empirical part employs data from household surveys in the U.K., France, Germany, Japan, the Netherlands, Sweden, Norway, Denmark, Italy, Switzerland, Canada, Australia and New Zealand for the period of 1998–2012. The analysis provides evidence that while a linear framework does not provide a statistically significant association between business cycles and decisions in risky investments, a nonlinear business cycles context leads investors to decrease their risky investments stronger during recessions than they increase them during booms, lending support to the hypothesis of interaction between financial risks and other determinants. The results are expected to signal interesting flashing points not only to market participants and portfolio managers, but mainly to policy makers and the way their economic policy decisions affect the working of financial markets.

© 2014 Elsevier B.V. All rights reserved.

1. Introduction

Over the last several years, there has been increased interest in portfolio choice across different types of households. It is generally evident that portfolios differ by wealth, the country in which the households and investors live, and a number of other idiosyncratic characteristics, such as education. The majority of households appear to have maintained very simple portfolios, with fewer than five assets or accounts, despite the substantial proliferation of asset types available over the last 20 years (Bertaut and Starr-Mccluer, 2002). According to the portfolio choice approach, the more risk averse a household is, the lower the degree of risk involved in its portfolio (Cchiappori et al., 2013). According to the standard portfolio choice approach, a large fraction of the population (in both developed and emerging capital markets) does not invest in risky assets, such as stocks. The reason is that increased participation in risky assets adds more responsibility to households, who have to decide how to invest and diversify their wealth. Given the high risk premium earned usually by investors in riskier assets in the long run, the problem of allocating wealth between risky and safe assets is crucial for consumers' future standard of living. It is also potentially one of the most complex financial decisions they must make. Investors must also ask themselves how much risk they are ready to take, which requires an accurate appraisal of their own risk tolerance in a complex stochastic environment.

[*] Tel.: +61892664034.
E-mail address: Nick.Apergis@curtin.edu.au (N. Apergis).

In the business cycle literature, many empirical works have confirmed the different characteristics of the business cycle across regimes. A large number of economic papers stress that such a differentiated behavior leads to nonlinear behavior in the observed variables (Van Dijk and Franses, 1999; Skalin and Terasvirta, 2002; Cancelo and Mourelle, 2005; Cancelo, 2007). Therefore, we must resort to models able to capture the nonlinear pattern of the cycle, wherein phases of negative evolution of the variable are generally deeper, but shorter, than those of positive behavior. These dynamics clearly suggest that the motion of economic activity is different for booming and slow-down phases (Terasvirta and Anderson, 1992; Zarnowitz, 1992; Granger et al., 1993; Peel and Speight, 2000). From the viewpoint of dynamics, cyclical differentiated patterns across business cycle regimes might arise when the propagation mechanism is based on the intertemporal substitution of the labor supply when an adverse technological shock shifts the economy, as in real business cycle models.

Given that previous empirical work documenting the role of business cycle differentiation pattern across business cycle regimes in financial portfolio decisions is quite sparse, our goal is to analyze the impact of business cycle regimes on financial portfolio decisions in a nonlinear context. Although our initial intent was to also consider other types of assets, such as real estate and private business assets, we focus only on financial portfolios given the non-availability of data in the majority of the countries in our sample.

The empirical analysis considers a panel of 13 countries after controlling for a number of demographic and economic idiosyncratic characteristics related to households. The empirical strategy consists of analyzing the relationship between the share of investments in risky assets, business cycles, and the characteristics of investors both in a linear and in a nonlinear context. The share invested in risky funds is a good and simple measure of the riskiness of a portfolio allocation and has frequently been taken as the dependent variable in the literature on individual portfolio behavior (Agnew et al., 2003; Parke, 1998).

The recent global financial crisis has revealed not only regulatory failure in financial markets and the need to more solid microprudential policies, but also the greater need for sufficient macroprudential policies aimed at increasing the stability of the financial sector as a whole. Therefore, the role of both the central banks and fiscal authorities in determining the course of the economy is significantly critical. Given that our (non-linear) findings signify the presence of a statistically significant link between business cycles characteristics and portfolio decisions, the role of economic policy makers to overcome economic slumps and to revive a sustainable long-term growth path in their economies is more than critical for the apparent sustainability of financial markets along with the growth process.

The remaining paper is organized as follows. Section 2 provides a literature review of (financial) portfolio choice, while Section 3 describes the data used. Section 4 presents the empirical analysis, and Section 5 concludes.

2. Literature review

A number of studies document that the features of investors' behavior change in times of crisis (Moore and Palumbo, 2010; Alan et al., 2012; Crossley et al., 2013; Banks et al., 2013). In particular, Crossley et al. (2013) analyze the trends in households' saving behavior in the U.K. across three recessions, and their results reveal that the savings ratio rises when the economy goes into recession. Moore and Palumbo (2010) find that U.S. households reevaluate their holdings of corporate equity and housing when they experience problems related to the service of their debt account. These results are also confirmed by Alan et al. (2012), who argue that savings increases are justified by the rise in the uncertainty associated with future income, the contraction of credit supply and the crashes in the prices of risky assets. Hoffmann et al. (2013) also attempt to study the investor's perceptions and behavior during the financial crisis for the case of the Netherlands. They find that investors' risk perception fluctuates significantly during the crisis period. Additionally, they show that investors continue to trade and do not de-risk their investment portfolios during crises but use the depressed asset prices as a signal to enter the stock market. The explanation provided is related to the argument that time-varying risk tolerance and its impact on risk-taking behavior can be masked and overcompensated by the impact of investor inertia. Necker and Ziegelmeyer (2013) analyze of risk attitudes for German households and emphasize that an event that generates 'wealth shocks', such as the recent financial crisis, seems to affect risk taking but directly via (return) expectations or changes of risk-taking behaviors rather than changes in risk attitudes. In the same direction, Weber et al. (2013), who investigate repeated surveys in a sample of Barclays' online brokerage personal investors over the period September 2008–June 2009, find that risk attitudes seem to be fairly stable, but there are substantial changes in risk taking over time. The cause of these changes is related to changes in subjective feelings about future market risks and returns as a result of recent (crisis) events.

In line with the argument that future income uncertainty could influence households' savings behavior, Amromin and Sharpe (2009) examine the stock market beliefs of investors and find that the more optimistic macroeconomic conditions for the coming years are, the higher the returns are expected to be but the lower the investor's risk perception is. An additional finding is that equity exposures tend to increase along with self-reported expected returns and to decline along with perceived risk, implying that forward-looking Sharpe ratios are pro-cyclical. Lynch and Tan (2011) find that the predictability of labor income growth plays an important role in a young agent's decision making about her portfolio's stock holding. Banks et al. (2013) analyze the responses of older households (people just retired or approaching their retirement) in the U.K. during crisis periods. Despite the great losses incurred on average, they show that the distribution of such losses varies across households as a result of variations in wealth levels.

Bateman et al. (2011) investigate the effect of a switch from tranquil (early 2007) to crisis (late 2008) conditions on risk attitudes and allocation decisions by retirement savers. The profiles of the participant households show that the preference