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Marriage and other risky assets: A portfolio approach

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ABSTRACT

We study the joint impact of gender and marital status on financial investments by testing the hypothesis that marriage represents – in a portfolio framework – a sort of safe asset and that this attribute may change over time. We show that married individuals have a higher propensity to invest in risky assets than single ones, that this marital status gap is stronger for women and that, for women only, it evolves and declines at the end of the sample period. Next we explore a number of possible explanations of the observed gender differences by controlling for background factors that capture the evolution of family and society. We find that both the higher female marital status gap and its time variability vanish for those women who are employed. Our empirical investigation is based on a dataset drawn from the 1993–2006 Bank of Italy Survey of Household Income and Wealth.

1. Introduction

The goal of this paper is to investigate the joint impact of gender and marital status on portfolio decisions, as well as its evolution and its potential determinants. The relevance of gender and marital status is established for a variety of related issues, ranging from political choices (Edlund and Pande, 2002) and preferences toward the size of government (Lott and Kenny, 1999) to wealth accumulation and saving behavior. The financial literature assesses the link between gender, risk aversion and economic decisions in various contexts. Examples are Schubert et al. (1999), Lusardi and Mitchell (2008), Cardak and Wilkins (2009), Croson and Gneezy (2009), Fan and Zhao (2009), Dohmen et al. (2011). This mainly empirical research generally reveals for women a higher degree of risk aversion and a lower propensity to undertake risky projects. Besides, a parallel strand focuses on the impact of marital status on financial choices (e.g. Lupton and Smith, 2003), showing that single individuals are more risk averse than married. Nevertheless, only a few studies consider marital status and gender jointly when analyzing their implications on financial decisions. The following are noteworthy exceptions. Sundén and Surette (1998) point to the interaction between gender and marital status in determining the allocation of assets in retirement savings plans, with single women exhibiting a more cautious attitude. Jianakopolos and Bernasek (1998) find that single women show relatively more risk aversion in financial decision making than single men. Barber and Odean (2001) report that the differences in portfolio turnover and net return performance are larger between the accounts of single men and single women than between the accounts of married men and married women. Schmidt and Sevak (2006) document large differences in American households' wealth accumulation by gender and marital status. Zissimopoulos et al. (2008) show that the large differences in wealth accumulation between single and married women cannot be explained by observable characteristics. While the above studies focus on the United States, Guiso and Jappelli (2002) gauge the relevance of gender and marital status, although as separate dimensions, for portfolio decisions of Italian households, while Christiansen et al. (2010) take into account their joint effects using data for Denmark.

In this paper we aim to investigate how these gaps, and in particular the one between married and single women, evolve over time. In other words, we test the hypothesis that marriage represents – in a broad portfolio framework – a sort of safe asset and that this effect is stronger for women. The idea of marriage as a source of financial security, particularly for women, is based on the fact that women tend to have a more insecure societal role.

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Compare the asset position of a single woman with that of a married one and focus on two components of wealth: financial assets and the present value of labor income. The latter introduces background risk into the picture and thus a lower propensity to invest in risky financial assets. By getting married, a woman becomes entitled to at least a portion of the gender gap in labor income. When no risks are associated with the married status and with the size of the gender income gap, or when such risks are uncorrelated with the risks on financial returns, marriage can decrease the overall risk of a married woman's asset position and increase the share of risky financial assets in her portfolio, if compared to that of a single woman. The safer position of married women introduces a marital status gap between married and single women. Thus, marriage can be viewed as a sort of safe asset, in the sense that it is perceived as a substitute for it. The marital status gap, however, may well evolve over time, under the influence of a variety of factors. In recent times, the perception of being married as a risk free status may have changed in the face of the observed evolution of intra-family dynamics and women's professional careers. The increasing diffusion of divorce and the decline of marriage have caused a progressive dissolution of the traditional family structure, while the growing participation of women to the labor market has provoked a parallel gradual reduction in the gender income gap. All these factors are likely to be more relevant for women, suggesting that for them marriage may no longer represent a safe asset. Thus, we also test the hypothesis that, for women, the marital status gap evolves over time. Furthermore, we explore a number of possible explanations of this evolution.

We estimate a binary choice model for the decision to participate, i.e., to invest in risky assets, to test two main hypotheses and possible explanations for the results obtained. The first hypothesis is that the impact of the marital status on portfolio choices, i.e., the marital status gap, is stronger for women. The second hypothesis is that the marital status gap for women is not time invariant. Finally, we explore possible determinants of the marital status gap and its evolution. We control first for aggregate factors, such as divorce risk and labor market structure. Next we focus on individual factors, including risk aversion, granular measures of marital instability and employment status.

Our empirical analysis tests the above predictions on a dataset drawn from the 1993–2006 Bank of Italy Survey of Household Income and Wealth. Italy provides an ideal setting for our investigation. On the one hand, the last decade of the sample period witnesses significant developments, along both the gender and the marital status dimensions, in the financial behavior of Italian households: the number of females in charge of financial decisions registers a substantial increase, while figures for marital status display a parallel increase in single decision makers. On the other hand, the Italian society experiences a particularly fast evolution, with a pronounced transformation of its family structure: while divorce became legal in Italy only in 1974, divorce figures boost in the last 10 years of our sample. At the same time, the post-war period witnesses an almost uninterrupted expansion of women's participation in the labor market, which alters profoundly the role of women in the Italian society. As a consequence, our sample can fully capture the evolving role of gender and marital status for financial choices.

The rest of the paper is organized as follows. Section 2 introduces the theoretical framework underlying our empirical investigation. Section 3 illustrates the evolution of marriage, divorce and female labor force participation in Italy. Section 4 describes our dataset. Section 5 presents a first set of empirical findings highlighting the differential behavior of the marital status gap for men vs. women. Based on further empirical evidence, Section 6 discusses possible explanations. Section 7 concludes and suggests directions for future research. Appendix A provides information about the data we employed, while Appendix B reports results of some robustness tests.

2. A theoretical framework

In this section we develop a conceptual framework that highlights the potential effect of gender and marital status on portfolio choice and that can generate testable implications. We build on the basic Arrow-Debreu portfolio decision problem summarized for example in Gollier (2002). In a contest where financial investment opportunities are represented by risky assets and a risk free one, preferences associated with higher risk aversion induce a lower proportion of risky assets in the optimal portfolio holdings. Since most of the observed volatility of households' earnings comes from variations in labor income, we consider a version of the model which also includes, beside financial risk, background risk, i.e., those uninsurable sources of risk that affect human capital and thus labor income (see Pratt and Zeckhauser, 1987). For simplicity we assume that human capital risk is independent of financial risk. Total wealth now equals the sum of the value of the financial portfolio and labor income. In the resulting setting, for a broad class of conventional utility specifications, households that are subject to a larger uncertainty about their labor income should be more conservative on their financial portfolios, i.e., more background risk leads to a lower propensity to invest in risky assets.

The amount of background risk borne by agents may differ on the basis of individual characteristics. For instance, age matters, since younger people tend to face a larger background risk to human capital. In this paper we are especially interested in those individual characteristics that reflect gender and marital status. Therefore, following the literature on family formation and economic decisions (see Cubeddu and Rios-Rull, 2003; Stevenson and Wolfers, 2007 and Love, 2009), we build on the above framework in three steps. First, we introduce a distinction among individuals on the basis of gender. Second, we add a further distinction of the basis of marital status. Third, we acknowledge the fact that marital status can change over time.

2.1. Gender

We initially assume that individuals differ only on the basis of gender. Gender differences can enter the picture through two channels. First, they can affect preferences. As reported in the previous section, the available empirical evidence indeed shows that women tend to be more risk averse than men. Second, gender can affect the nature of background risk. It is realistic to assume that women, being in a more vulnerable position in the labor market, tend to bear more labor risk and therefore more background risk.[1] Moreover, women's preferences may respond to background risk in a way that differs from men's. These general implications of gender differences point in the same direction, with women choosing portfolios with a larger share of the risk free asset, if compared to men.

2.2. Marital status

Next we introduce another crucial distinction, in the marital status of individuals. For simplicity, we distinguish between married and single individuals. Single individuals of either gender face a standard decision problem, while married couples solve a joint maximization problem with given weights on the husband's and the wife's preferences, under a common budget constraint reflect-

[1] Edlund and Pande (2002) and Lott and Kenny (1999) provide suggestive evidence. Del Boca and Pasqua (2003) reach similar conclusions for the case of Italy.