



# Unemployment and portfolio choice: Does persistence matter? ☆



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## ABSTRACT

Households can rely on private savings or on public unemployment insurance to hedge against the risk of becoming unemployed. These hedging mechanisms are used differently across countries. In this paper, we use a life cycle model to study the effects of unemployment on the portfolio choice of households in the US and in Germany. We distinguish short- and long-term unemployment and find that, in case of short-term unemployment, unemployment insurance offsets the negative impact of unemployment risk on households' equity holdings. When incorporating long-term unemployment, the US-equity share drops. This negative effect of unemployment is mainly driven by its high expected duration. In Germany, however, long-term unemployment does not significantly alter portfolio decisions. We show that different responses of portfolios to unemployment risk can be attributed to both differences in social security payments and different age-income profiles.

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## 1. Introduction

In the aftermath of the global financial crisis, more and more people in the US have been unemployed an extended period of time. While long-term unemployment has been a long-standing issue on the German policy agenda, with roughly 50% of the unemployed being jobless for more than one year (Fig. 1), it has become an issue in the US as well: between 2008 and 2011, the share of those who are unemployed for more than a year in total unemployment has significantly increased from 10% to more than 30%. Moreover, the average duration of unemployment has increased to a long-term high (Ilg, 2010). At the same time, the need to reduce budget deficits makes it harder to provide income support by extending unemployment benefits.

Besides relying on unemployment insurance, households can insure against unemployment risk by accumulating wealth through private savings. The extent to which households use unemployment insurance or private savings to hedge labor income risk significantly differs across countries. The aim of this study is to theoretically analyze the impact of an increase

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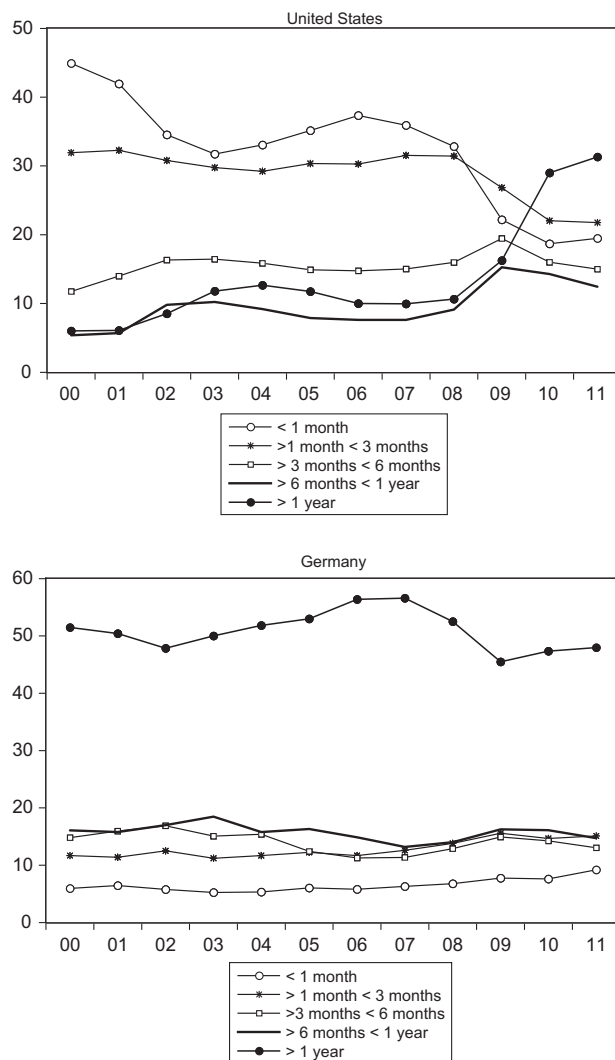


Fig. 1. Incidence of unemployment by duration, source: OECD.

in unemployment risk on the optimal portfolio decisions of households in the US and in Germany. In the presence of greater labor income risk and longer average durations of unemployment, how do individuals change their share of savings invested in risky stocks? And how do these effects vary for different levels of unemployment insurance and durations of unemployment? Studying the effects of labor market frictions and social security on the portfolio decisions of households is important for two reasons. On the one hand, individual portfolio choice allows agents to share consumption risks, to build up wealth and, hence, to smooth consumption paths over life. Consequently, it is relevant for policymakers to know how investment behavior and thus precautionary savings and preparedness for retirement are affected by increased unemployment risk. On the other hand, portfolio choice drives the demand for risky versus risk-free assets at the aggregate level. It thereby influences the refinancing conditions of firms and governments.

Our paper contributes to the literature on the effects of labor income risk on portfolio choice<sup>1</sup> in three main respects. First, we explicitly model the unemployment process in a life cycle model of consumption and portfolio choice using Markov-chains. The setup is similar to the one presented by Cocco et al. (2005) and Gomes and Michaelides (2003), who consider the optimal allocation of savings between riskless and risky assets over the life cycle in a model of consumption and portfolio choice. We augment their setup by introducing unemployment risk following Engen and Gruber (2001) and Imrohorglu et al. (1995), Imrohorglu et al. (1999). We show that modeling unemployment risk explicitly yields results that are similar to those obtained

<sup>1</sup> See for example Guiso et al. (1996), Campbell and Viceira (2002), Gomes and Michaelides (2003), Cocco et al. (2005), Polkovnichenko (2007), Maurer et al. (2010) and Sanchez-Martin et al. (2012).

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