Optimal unemployment insurance: transitional dynamics vs. steady state

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Abstract

In this study, we ask whether the presence of precautionary savings substantially reduces the optimal replacement rate in an European economy type characterized by high unemployment benefits and moral hazard. We build a simple job search model calibrated on French data and, in line with previous studies, find that the optimality criterion based on comparisons of steady states leads to a low optimal ratio. Yet, this result ignores potential transitional costs due to the necessity for agents to increase their savings and reduce their consumption whenever the ratio is cut. We therefore build a dynamic model taking full account of the transition, and show that a reduction in benefits reduces welfare. Even though the long-run optimal replacement rate is lower than the current one, transitional costs dominate long-run gains.
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1. Introduction

The purpose of this paper is to study the effect of a reduction in unemployment benefits when risk adverse individuals are subject to idiosyncratic employment shocks, cannot borrow, but can accumulate wealth to smooth their consumption. We argue that even in an economy characterized by a low steady state optimal replacement rate, such a policy could reduce welfare when the transition between steady states is taken into account.

The analysis of unemployment insurance (UI) has given rise to a rich empirical literature on the potential moral hazard effect of unemployment benefits. However, no true consensus has been found, as to the quantitative impact of benefits on unemployment (Atkinson and Micklewright, 1991; Holmlund, 1998). Other studies have pointed out that unemployment insurance significantly helps agents smooth their consumption, at least for those who are often liquidity-constrained (see Gruber, 1997 or Browning and Crossley, 2001).

The first theoretical models have addressed the trade-off between insurance and efficiency through analytical models in which saving was precluded (Shavell and Weiss, 1979 and Hopenhayn and Nicolini, 1997). They show that the optimal time-profile of benefits is decreasing over time.[3] In these approaches, agents are risk-averse, but have access neither to financial markets, nor to a storage technology. When allowing for access to financial markets, agents are inclined to accumulate assets as a precautionary device. Deaton (1991) shows that even low asset buffer stocks considerably help smooth consumption. Therefore, assessing the optimal level of benefits ought to take this self-insurance mechanism into account.

Hansen and Imrohoroglu (1992) describe an economy where agents face exogenous idiosyncratic employment shocks, can neither borrow nor have access to a private insurance market, but can accumulate a non-interest-bearing asset. Moral hazard is modeled by the possibility for unemployed agents to accept or reject job offers and, in case of rejection, continue to receive benefits unless being detected, which occurs with a probability less than one. Costain (1997) builds a dynamic general equilibrium job search model with endogenous search intensity. His numerical simulations lead to a low value for the optimal insurance scheme. Indeed, a low replacement rate is not too costly in terms of insurance, since agents can self-insure through their precautionary savings. However, the welfare gains are quite small, because the actual and the optimal replacement rate are quite close (see also Wang and Williamson, 1999). In all these papers, the optimal level of unemployment benefits is determined by comparing different steady state equilibria corresponding to different UI schemes in the US context. We here intend to model explicitly the transition between steady states, in order to verify whether the previous results still hold.

We consider a simple model of job search, as presented by Mortensen (1986), with full moral hazard.[4] Workers can save or dissave, but cannot borrow, and when unemployed, choose their search intensity. This specification departs from that of Hansen

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[3] Other developments include Fredriksson and Holmlund (2001) and Cahuc and Lehmann (2000).

[4] In fact, in all European countries, unemployment benefits are submitted to certain behavior rules from the unemployed. However, the legislation is only loosely applied, and unemployed are rarely punished (see OECD, 2000).