Worker Heterogeneity and Labor Market Frictions

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Abstract

This dissertation contains several lines of research in macroeconomics and labor economics conducted during the course of my PhD. The unifying theme of this research is the study of labor markets that are subject to macro-search frictions and are populated by heterogeneous workers. Combining these features is important for our understanding of the functioning of labor markets, both from a positive and normative standpoint. The first chapter of this dissertation is resolutely on the positive side. It analyzes how the combination of labor market frictions and worker heterogeneity in skills can shed light on the observed fluctuations in entries into and exits out of the labor force. The second chapter is also on the positive ground, but it brings labor market policies to the fore of the analysis. Along with heterogeneity in human capital over the lifecycle, it shows how some policy tools have contributed to the divergent employment experiences of older workers in Europe and in the United States since the 1980s. The third chapter more naturally lends itself to policy implications. It provides a quantitative study of the employment and welfare effects of statutory severance payments in an economy with wealth heterogeneity reflecting the absence of perfect insurance markets faced by risk-averse workers.

Another unifying feature of the research in this dissertation is to analyze models with no *ex ante* heterogeneity across workers and where the degree of *ex post* heterogeneity may result partly from their own decisions. The organization of the three chapters also follows from this theme. In the first chapter, heterogeneity in skills originates from random shocks and is thus purely exogenous to the worker. In the second chapter, workers are heterogeneous along several dimensions and have partial control over some of them. Through their labor market decisions, they indirectly choose their levels of human capital and entitlement to various publicly-provided benefits. In the third chapter, the extent to which heterogeneity is under the control of workers is one key question for the quantitative results. That is, individuals engage into precautionary savings and the potential welfare effects of severance payments therefore depend on workers' ability to self-insure against idiosyncratic risk. Since chapters two and three emphasize more subtle types of heterogeneity relative to the first chapter, they also allow for a rich interaction between labor market frictions and worker heterogeneity.

One last unifying characteristic of the research gathered in this dissertation is the use of dynamic, quantitative models of the labor market. The focus on labor market frictions makes the canonical job-search model a natural workhorse for this research. Each chapter thus builds around this model and accommodates it according to the type of worker heterogeneity under study. A significant part of the analysis is then devoted to anchoring such models to the data. To do so, chapter one relies on microdata for the United States, chapter two draws on aggregate cross-country data and finally chapter three disciplines the model with statistics characterizing the long-run behavior of the U.S. labor market. Informed by real-world data on labor market outcomes, the different models may in turn enhance our understanding of the functioning of actual labor markets. The remainder of this general introduction summarizes the contribution of each chapter to this objective.

Chapter 1 is entitled "Understanding Fluctuations in the Ins and Outs of the Labor Force". It contributes to studies of the behavior of worker flows over the business cycle. The starting point of the analysis is the observation that worker flows between employment and unemployment on the one hand and inactivity on the other hand fluctuate significantly over the business cycle. After reviewing these facts, the chapter lays out a job-search model to uncover the determinants of worker flows between employment, unemployment and inactivity. However rudimentary, the proposed model reproduces the steady-state value of these flows remarkably well. The model further shows that, if aggregate conditions are not a first-order determinant of workers' labor force decisions, then a substantial part of the observed fluctuations in the ins and outs of the labor force can be attributed to two composition effects. First, workers who join the labor force irrespective of the business cycle are more likely to find themselves immediately unemployed rather than employed when the aggregate job-finding rate is below trend. Hence the countercylicality of the probability to move from inactivity into unemployment. Second, high-productivity workers who are less likely to drop from the labor force are more numerous to be drawn into unemployment in times of high job destruction. They thereby contribute to the fall in the probability to leave the labor force from unemployment during recessions. Both mechanisms are supported by microdata from the Current Population Survey.

Chapter 2 is entitled "Obsolescence, Discouraged Workers and the Aggregate Labor Market". It contributes to the analysis of transatlantic differences in labor market outcomes, with a focus on the employment experiences of older workers. The motivating empirical evidence is well-known: while labor force participation rates among these workers were identical on the two sides of the Atlantic in the 1960s and 1970s, they have been consistently lower by 10 percentage points in Europe relative to the United States since the 1980s. The chapter draws on Ljungqvist and Sargent [Journal of Political Economy, 1998]'s skill obsolescence theory, nests it into a general equilibrium model and shows that this can explain the bulk of differences in labor force participation rates among older workers. A byproduct of the analysis is to show that this obsolescence theory does not account for the "European unemployment puzzle", contrary to the much-debated claim of these authors. That is, the diminished ability of the Welfare state to cope with more turbulent times rationalizes the fact that less individuals are willing to participate in the labor force but cannot explain why more workers in Europe are unable to find jobs despite active job-seeking.

Chapter 3 is entitled “Matching Frictions, Self-Insurance and Severance Payments”. It contributes to the literature on employment protection by developing a general equilibrium model to study the employment and welfare implications of statutory severance payments. In the proposed setting, the labor market features congestion externalities, firms face stochastic production costs that cannot be passed onto wages and insurance markets are imperfect. Severance pay can thus enhance efficiency by making firms internalize the social costs of their firing decisions, and also workers’ welfare by helping them cope with idiosyncratic employment risk. The model calibrated on U.S. data reveals the following implications of severance pay. First, their effect on welfare is hump-shaped, peaking for payments around three months’ wages. In consumption terms, the welfare gains barely exceed half a percent, which is an order of magnitude lower than computed by previous studies. Second, workers do not benefit from reduced congestion externalities since those tend to be offset by diminished job creation. Third, the peak in welfare effects is obtained when the layoff rate is driven to a value only slightly below its constrained-efficient level, defined as the optimal layoff rate in the equivalent economy with complete-markets. This reflects the fact that workers smooth consumption well even in the absence of perfect insurance markets.