Education and employment protection ☆

Olivier Charlot [a,*], Franck Malherbet [b]

[a] Université de Cergy-Pontoise, THEMA and CIRPEE, France
[b] Université de Rouen, CREST, Ecole Polytechnique, IZA and fRDB, France

HIGHLIGHTS

► We study the link between education and labor turnover.
► This generalizes on Laing et al. (1995) and Burdett and Smith (2002).
► Firing costs and temporary contracts have opposite effects on education investments.
► In a *laissez-faire* economy, education investments are inadequate.
► Firing costs could increase education and lead to welfare and productivity gains.

ARTICLE INFO

ABSTRACT

In this paper, we generalize the study of the return to education undertaken in e.g. Laing et al. (1995) and Burdett and Smith (2002) to an environment where the link between education and job destruction is taken into account. This enables us to study how a European-type Employment Protection Legislation (EPL) with heavily regulated long-term contracts and more flexible short-term contracts affects the return to schooling, equilibrium unemployment and welfare. In this context, we show that firing costs and temporary employment have opposite effects on the rate of use of human capital and thus, on educational investments. We furthermore demonstrate that a *laissez-faire* economy with no regulation is inefficient as it is characterized by insufficient educational investments leading to excess job destruction and inadequate job creation. By stabilizing employment, firing costs could spur educational investments and therefore lead to gains in welfare and productivity, though a first-best policy would be to subsidize education. However, there is little chance that a rise in firing costs in a dual (European-type) EPL context would raise the incentives to schooling and aggregate welfare.

© 2012 Elsevier B.V. All rights reserved.

1. Introduction

Many European countries are characterized by dual employment protection, which can be defined as the coexistence of both stable/long-term jobs (hereafter, LTJ), which benefit from stringent protection, and unstable/short-term jobs (STJ) of short duration and with little or no protection. In this paper we study the link between education and job destruction when the economy is regulated by a European-type employment protection legislation (EPL). Our aim is to answer the following questions: What are the effects of this type of dual EPL on education investments, and how do the various features of European EPL distort the return to education? What are the effects of dual EPL on aggregate unemployment and welfare when the reaction of education investments is taken into account?

To the best of our knowledge, the consequences of the links between education and the various aspects of labor turnover on the return to education have been neglected so far. The objective of this paper is to fill this gap.

Our motivations for this study are twofold. First, the seminal work by Jacob Mincer (1991) shows that one of the benefits of education is a lower probability of being fired, i.e. the higher a worker's education level, the lower the chance of job destruction. Additional evidence of a similar link are documented in various studies, e.g. Cohen et al. (1997) for France and the US. Second, dual EPL is prevalent in many European countries. Regulations such as these introduce counteracting effects on labor turnover, as they reduce job destruction for stable jobs, but increase churning for temporary jobs. At the same time, education investments are linked to labor turnover and react to changes in regulations.

With these features in mind, we develop an analysis of the return to education in an equilibrium search-matching model similar in spirit to that of Laing et al. (1995) or Burdett and Smith (2002). We depart from these authors by introducing endogenous job destruction in a framework *à la* Mortensen and Pissarides (1994), further extended to account for the main characteristics of EPL in Europe: firms can hire only a fraction of the workers on a short-term (rather than long-term) basis due to legal restrictions, with virtually no firing penalty when STJ are not converted into LTJ.[1] Thus, the two main features of dual EPL are captured through two simple policy parameters, the proportion of new hires on STJ that can be converted into LTJ after a certain duration, and the stringency of red-tape and legal procedures which applies only to LTJ. This enables us to study the impact of dual labor market institutions on job creation, job destruction and human capital investments, and consequently appears relevant to our purpose. In addition, our framework admits the competitive equilibrium without frictions as a limit case when search frictions die down. In this particular case, the labor market is similar to the competitive market considered in Becker (1964), where the only incentive to invest in education is to increase one's productivity and wage, and where full efficiency obtains. In the more general (frictional) case considered here, we bring together two strands of the literature, which can be broadly depicted as follows:

i. the literature on education and unemployment highlights a number of benefits from education and the existence of various distortions related to education decisions in frictional labor markets. This literature generally investigates the link between education and exit from, rather than entry into, unemployment (see among others, Saint-Paul, 1996; Snower, 1996; Moen, 1999; Charlot et al., 2005) as is the case in this paper.

ii. the literature dealing with labor market regulations generally concentrates on exogenous education/skill level (e.g. Mortensen and Pissarides, 1999a; Blanchard and Landier, 2002; Cahuc and Postel-Vinay, 2002; Bentolila et al., 2012; Sala et al., 2012).

To begin with, we complement the first strand by focusing on the link between general education and entry into unemployment. Our analysis shows that one of the beneficial effects of employment protection is to stabilize employment relationships which, by increasing the rate of use of human capital, can be beneficial to human capital investments. However, a rise in the share of entries into temporary employment reduces the incentives to schooling: temporary jobs are more likely to be destroyed, and labor turnover reduces the rate of use of human capital, which is detrimental to human capital investments. In addition, a more stringent employment protection reduces the incentives to convert temporary jobs into permanent contracts, which further increases labor turnover and reduces the incentives to schooling. This means that a European-type EPL exerts conflicting effects on the workforce education level: firing costs can be beneficial to equilibrium human capital investments, while a rise in the share of entries into short-term employment can be detrimental. We provide some fairly reasonable numerical configurations where this is the case. It also means that the beneficial impact of firing costs on education would be larger in the absence of short-term jobs.

We complement the second strand by focusing on the effects of a dual EPL on equilibrium and welfare when education investments are taken into account. We thus bring to light a new education effect, and our (positive and normative) results can then be compared with the literature which considers a given productivity/education level.

On the positive side, we show that the effect of firing costs on job creation is found to be ambiguous in general, because the usual negative effect on job creation can sometimes be outweighed by a positive effect on education and productivity which fosters job creation. The usual positive impact of EPL on job duration can be further reinforced by the fact that reducing labor turnover spurs educational investments, which adds to job stability. In addition, the global effect of firing costs on unemployment is ambiguous in general, but could lead to a fall in unemployment, especially when the positive education effect dominates, as education stimulates job creation and reduces job destruction. The usual (negative) effect of firing costs on job creation dominates when education investments are not very responsive to changes in labor turnover, while the positive effect may dominate in cases where education is more responsive.

On the normative side, it is also worth noting that our education effect can offer an explicit rationale for labor market policies. We thus investigate the welfare properties of the equilibrium. We show that the *laissez-faire* equilibrium without EPL is inefficient, characterized by insufficient educational investment leading to too few job creations and too many job destructions. This is at odds with a large part of the literature where education is not considered and where there are in general too few job destructions in comparison to the optimum when the Hosios (1990) condition does not hold.[2] Therefore, in some cases, EPL in the form of firing costs can improve welfare by stabilizing employment relationships and stimulate human capital investments, though the first best policy remains an education policy aimed at subsidizing education efforts. Note however that there is little chance for firing costs to be welfare-improving in a dual labor market, given that the rise in firing costs will increase labor turnover for STJ, which induces a negative impact on education investments. In this respect, the conclusion of Blanchard and Landier (2002) and Cahuc and Postel-Vinay (2002) on the negative impact of dual employment protection on welfare seems to be relatively robust.

The organization of the paper is as follows: Section 2 discusses a few stylized facts relevant to our study, while Section 3 offers a review of the related literature. Section 4 depicts the basic setup. Section 5 studies the partial equilibrium properties of the model and Section 6 its general equilibrium properties. In Section 7 we provide some numerical exercises aimed at quantifying the various effects. Section 8 studies the normative properties of the model. Finally, Section 9 concludes.

2. Stylized facts

Temporary contracts arise for a number of supply and demand reasons. On the supply side, the job itself might be seasonal or for a fixed duration known beforehand for a particular project. Alternatively, the job may have a potentially infinite duration, but the employer may (a) need somebody to fill in for a while, (b) want to learn more about the worker or the match through a probationary period,[3] (c) hope to find someone better later on, or (d) be responsive lo legislation or tax incentives. The focus of our paper is on (d) above.

Namely, the extensive recourse to temporary employment is a striking feature of labor markets with rigorous EPL. This type of contract accounts for 10 to 30% of total employment and for a substantial proportion of new hires, representing up to 90% in heavily regulated countries such as France or Spain. It is now widely acknowledged that the specific regulations of (Continental) European labor markets have increased labor turnover through a series of marginal reforms that liberalized the use of fixed-term and atypical employment contracts (OECD, 2004; Boeri, 2011).

As the scatter-plot below illustrates (see Fig. 1), the share of STJ are positively correlated with the strictness of employment

---

[1] This modelization of dual EPL has become quite conventional. See e.g. Cahuc and Postel-Vinay (2002), Cahuc and Malherbet (2004), Sala et al. (2012), Bentolila et al. (2012). Further discussions on alternative modeling assumptions of STJ are provided in Section 3.

[2] see e.g. Caballero and Hammour (1996) and Pissarides (2000).
[3] See e.g. Bucher (2010) and Faccini (2011).