Transition with heterogeneous labor

Katalin Balla [a,1], János Köllő [b], András Simonovits [c,*]

[a] *Institute of Automation and Computer Science, Hungarian Academy of Sciences, Hungary*
[b] *Pannon University, Institute of Economics, Hungarian Academy of Sciences, Hungary*
[c] *Institute of Economics, Hungarian Academy of Sciences, Budapest University of Technology and CEU, Hungary*

Abstract

We extend the benchmark model of Aghion and Blanchard [Aghion, P., Blanchard, O.J., 1994. On the speed of transition in Central Europe, NBER Macroecon. Ann. 9, 283–319] assuming that the private sector emerging during the post-communist transition consists of two segments employing high and low-productivity labor, respectively. We assume that the segments are isolated in terms of labor mobility but connected by a national system of taxation. We look at how the key policy variables – the speed of closing the state sector, unemployment benefits and subsidies to the low-productivity segment – affect the paths of employment, wages, aggregate income and equity during and after the transition. We find that the effects of benefit generosity and the job destruction rate are ambiguous and heavily depend on how the other two policy instruments are set. A subsidy can enhance equity without reducing aggregate employment in the whole range of the other two policy parameters. The subsidy has the strongest marginal effect on aggregate employment (income) and equity when the pace of job destruction is high and benefits are generous.
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1. Introduction

In this paper we build a simple model of the post-communist transition showing how the combinations of privatization, welfare and tax policies could affect inequalities and aggregate labor market performance during and after the elimination of the state sector. We extend the benchmark model of Aghion and Blanchard (1994, A–B henceforth) by allowing for worker heterogeneity in terms of productivity.

Worker heterogeneity did exist but remained invisible under socialism as firms had no incentive to lay off their less productive employees and they were also constrained in adjusting wages to marginal products. Under the transition, by contrast, as the state sector was closed and workers entered the labor market their probability of being hired by private firms depended on their productivity and labor costs (wages and taxes). The absorption of unemployment was affected by government policies through a 'wage push' channel and a fiscal channel. We have several reasons to believe that

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* Corresponding author.
  E-mail address: simonov@econ.core.hu (A. Simonovits).
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this setting was conducive to severe inequalities and poor aggregate labor market performance unless a proper *mix* of policies was applied.

In the transition setting, the risk of high inequality emerges from differences in the speed of wage adjustment. Low-productivity workers initially tend to set 'too' high reservation wages because their unemployment benefits are high relative to their prospective wages (irrespective of whether the benefits are flat-rate or set as a fraction of previous earnings). Workers learn this indirectly, from having poor prospects of being re-hired: they adjust their reservation wages under the pressure of unemployment with an inevitable delay. At the same time, as the demand for labor is affected by labor costs rather than net wages, much depends on how the fiscal burden is allocated across types of labor. The government can aggravate or mitigate the growth of inequalities by shifting the burden onto low versus high-productivity groups.

We plant these points into a formal model by assuming that under socialism all workers were employed in state-owned enterprises (SOEs) and received the same wage. During the transition, jobs in the state sector are destroyed at a rate determined by political decisions. The private sector has two segments differing in their levels of value added per worker (constant marginal product). We assume that workers are confined to one or another segment and the job creation rates are determined in each segment by expected profits per worker in that segment. The segments, however, are connected by a national system of taxes, welfare provisions and business support: benefits and other transfers such as wage subsidies are financed from taxes levied on all employees.

In the model the effects of the policy variables vary with the relative importance of the 'wage push' channel versus the fiscal channel. When benefits are low a faster destruction of the state sector increases aggregate employment without strongly reducing equity. When benefits are high (so the fiscal burden is substantial) the employment gain from speeding up the transition is smaller and its adverse effect on equity is stronger. *Vice versa*, when the transition is fast the impact of the benefit on aggregate employment is stronger and its equity-enhancing effect is weaker. We find that a properly chosen subsidy to the low-productivity sector can help to overcome these trade-offs by improving both aggregate performance and equity. A subsidy is particularly useful if at the outset of the transition the government opted for fast destruction of the state sector and generous compensation of the job losers.

The model cannot provide exhaustive explanation of why regional and skills-related differences are large and persistent in the CEEs. Inequalities were and still are fed by several factors including de-industrialization, institutional rigidities and skill-biased technological change. What this model attempts to clarify is the possible contribution of the transition process thought of as the rise of a market economy (inhibited by profit-maximizing firms unconstrained in wage setting) from scratch.

Following a brief discussion of the antecedents and assumptions of our model in Section 2, in Sections 3 and 4 we introduce and analyze the model. The analysis yields a series of meaningful results on viability (the ability of the system to transform itself from a socialist economy into a capitalist one) and the effects of the key variables, but proves insufficient to answer a *series* of important questions. Therefore Section 5 goes on with numerical simulations including robustness checks. Our conclusion on the benevolent role of employment tax credits supports the proposal by Akerlof et al. (1991) to subsidize East German employees after the unification and have similarities with Castanheira's (2003) model of optimal tax regimes. We discuss the relation of our results to these papers, and draw conclusions in Section 6. The difficult theorems and proofs are relegated to Appendix A.

2. Theoretical premises and empirical considerations

While this paper focuses on the interactive effects of policy instruments rather than the optimal pace of closing the state sector it draws heavily from a family of 'optimal speed of transition' (OST) models. The OST literature emanated from the seminal paper of A–B albeit similar models were developed to study the pace of restructuring and the political support of the reforms (Dewatripont and Roland, 1992; Freeman, 1994). The strength of the A–B model, we believe, lay in making non-standard but realistic assumptions about the nature of post-communist transition as opposed to usual economic shocks. First, the model considered that the closing of SOEs generated a steady stream of inflows to unemployment, one that had little to do with the changes of trade and technology: there was a multitude of firms past recovery that had to be liquidated or drastically down-sized. Second, the model took into account that the transition started with severely distorted wages that failed to reflect marginal productivity and scarcities. The process of wage adjustment did not happen overnight: it took a period of trial and error until workers and firms learned what they could