LOW-SKILLED MIGRATION INTO 2-TIER WELFARE STATES AND THE CONSEQUENCES OF UNION BEHAVIOUR IN THE EU-27

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Abstract:

The freedom of movement for workers in the enlarged EU is a challenge for nationally organized trade unions representing the interests of native low-skilled. In addition, negative budgetary effects through unemployment insurance systems in EU-15 countries are feared as a result of low-skilled migration. We apply a right-to-manage model of a labor market for low-skilled work and analyze employment, wage and budgetary effects of an influx of migrants. First, we show that, because of the existence of a 2-tier welfare system, an increase in the native population has more negative effects on employment and wage levels than an increase of the population due to immigration. Secondly, we find that welfare migration has less negative effects on employment and wages than partial replacement of native workers since replaced workers have on average higher claims for benefits. Thus, we conclude that migration-induced replacement of workers results in a crowding-out effect larger than 1. Thirdly, we show that under the hypothesis of a trade union that accommodates an influx of migrant labor, the overall economic effect of low-skilled migration can still be positive despite of an imperfect labor market and negative budgetary effects.

JEL classification: F2, H2, J2, J5, J6

Keywords: migration, welfare system, trade union, migration policy, unemployment benefits

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I. Introduction

The Eastern enlargement rounds in 2004 and 2007 significantly increased the size of the population in the European Union. The EU grew from about 400 million by roughly 25% to about 500 million inhabitants (Eurostat, 2011). Due to the far reaching implications of an EU membership regarding cross-national labor mobility, the enlargement also marks a major expansion of the European labor market. According to the European treaties, citizens of an EU member state can work in another member state without applying for a work permit. In addition, workers are granted full access to the welfare system after a short period of employment in the member state. Thus, since the Eastern European member states are characterized by lower wage and benefit levels than the EU-15 member states, the opening of the labor markets for Eastern European citizens creates major migration incentives.

While the immigration of high-skilled workers is rather uncontroversial, the effects of low-skilled migration are intensively discussed in the host countries. As a result of national public discourse, a multi-speed realization of the freedom of movement for workers from the EU-10 and EU-2 can be observed. Countries like the UK and Ireland which did not apply tough restrictions on the freedom of movement were able to attract qualified migrant workers from 2004 onwards. Other countries like Germany and Austria restricted the access for foreign workers applying the 2+3+2 temporary restriction rule for a maximum length of 7 years. However, since the 1st of May 2011 marked the end of the application of temporary restrictions, workers from the EU-10 countries are allowed to take up jobs in every EU-27 country without work permit. On the 1st of January 2014 the latest, the restrictions for workers from the EU-2 (Rumania and Bulgaria) also have to expire in every EU-15 country.

In the field of the economics of immigration, the analysis of determinants of migration decisions is a central topic of research. Going back to the seminal work by Sjastaad (1962), migration decisions can be modeled as a way for individuals to maximize the return on their human capital. While a higher wage differential between the source and the host country increases the expected gains from migration, institutional barriers like restricted access to labor markets constitute costs for the potential migrant. The introduction of the freedom of movement clearly reduces migration costs as it simplifies the integration in the labor market of the host country. Consequently, given fixed wage differentials in the short-run, this institutional change magnifies the individual gains of international labor mobility within the EU-27.

But which determinants influence the direction of these flows and what are the consequences for the host countries? Abstracting from all other incentive factors beside
the returns on human capital, the theory of international factor mobility gives a clear-cut answer. Labor migrates from labor-abundant countries to capital-abundant countries since, given the same technology in the countries, the marginal returns on labor are higher in the capital-abundant countries. Higher marginal returns on labor translate into higher real wages and, thus, create a migration incentive. Under the assumption of markets without institutional rigidities, factor mobility should result in an equalization of factor returns across countries in the long-run.

Although the output level in the host country is expected to increase with human capital inflows, resistance against immigration persists in many countries. This phenomenon can also be explained by theory. Fiercer competition among the workers leads to lower wage levels in equilibrium. This means that the efficiency increases in production comes at the cost of redistribution from the now more available factor labor to the factor capital. Borjas (2001) simply summarizes the logic of factor price equalization with respect to immigration with the words: “No pain, no gain!” He calculates that in 2000 immigration to the US increased the GDP by around 21.5 billion dollar, but at the same time this “immigration surplus” implied a redistribution of around 258 billion dollar (in 2002 dollars) from native workers to employers (Borjas, 2006).

However, most empirical studies challenge the conclusions of the theory of international trade since they do not find evidence for wage depression or massive reductions in native employment in labor-receiving countries. The fact that especially labor economists put an enormous effort on the empirical analysis of labor market effects and that they do not detect significant negative effects of immigration on wage levels and native employment undermines the validity of the implications arising from economic theory. In the most recent overview, Longhi, Nijkamp and Poot (2011) summarize the results of 18 empirical studies and conclude in line with Borjas (2006) that the wage effects of migration move around 0 with high variation.

The “immigration surplus” or the increase of the “economic pie” due to higher employment levels can only be realized if the labor markets of the host country are flexible enough to reap the benefits of the influx of human capital. In a seminal paper, Berry and Soligo (1969) examine the welfare effects of labor inflows into a flexible market and come to the conclusion that migration is, under these assumptions, beneficial for the host country. But labor markets for low-skilled in the EU-15 cannot be regarded as perfectly flexible. Firstly, wages are often set above the equilibrium level by trade unions. Secondly, the existence of basic income support and unemployment insurance systems distorts the efficiency of the market.

Trade unions in particular have an ambivalent opinion about the freedom of movement within the EU-27 (The Economist, 2011). The fear of the unions that mainly represent
the interest of organized low-skilled natives is the substitution of domestic workers with migrants and migration-induced depression of the wages. The “immigration surplus” that is welcomed by economists with respect to overall economic efficiency is rather seen as a threat to the interests of the union members. But since the unions also argue that they protect the poorest from social hardships, they are confronted with a dilemma due to the freedom of movement in the EU-27. The OECD International Migration Outlook (2011) highlights empirical findings that especially migrants in Europe were hit hard by the recent economic crisis since unemployment among them increased disproportionately. However, an initiative of the German trade union for construction workers IG BAU to establish the EMWU (European Migrant Workers Union) was not very successful. The organization exists, but does not play an active role in the bargaining process about migrant worker’s wages and working conditions. Powerful nationally organized unions still dominate the playing field.

Surprisingly, most of the theoretical literature on the effects of low-skilled migration focus on systems with competitive labor markets and ignore the interaction of imperfect labor markets, welfare systems and migration. In an institutional setting with perfect labor markets, it is easy to show that on the one hand migration increases the efficiency of allocation, but on the other hand that it affects the distribution of the social product. Generally speaking, domestic workers lose and capital owner benefit from migration.1 This type of modeling approach might adequately describe the situation in the US, but it lacks important institutional features that distinguish e.g. welfare states in the EU from other countries in the world. Only a small number of researchers implement trade unions or other labor market frictions. Brecher and Choudhri (1987), for instance, model migration into a labor market that is characterized by unemployment due to legal wage floors. Consequently, their arguments go along the line that migration flows should be minimized in order to avoid immigration into unemployment.

Analyzing the effects of migration in the presence of a labor union, Schmidt et al. (1994) conclude that the question whether the union embraces the interests of the migrant labor supply or not is crucial for the labor market effects of the inflows. A union that represents the interests of the whole labor force lowers the nominal wage in order to foster employment. In contrast, Fuest and Thum (2000) model a dual labor market, where the labor market in one sector is competitive, while the workers in the other sector are represented by a labor union. Since the wage rate in the competitive labor market equals the union’s outside option, immigration reduces the outside option and the wages, but increases employment. Because both mechanisms determine the net

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welfare effect on natives, the relationship of the labor demand elasticity in both sectors is decisive. Furthermore, the role of a redistributing welfare state is discussed in the literature. Razin and Sadka (1995) conclude that the costs of unemployed low-skilled migrants can outweigh the benefits via the labor market if migrants cannot be perfectly excluded from participation in welfare programs. Pointing in the same direction, Sinn (2002) argues that the receiving countries could start a competition of deterrence in order to avoid the attraction of net benefit receivers. This could lead to a successive depletion of the welfare state or, like Kvist (2004) puts it, to a race to the bottom.

Kemnitz (2003a) theoretically examines the effects of unskilled migration into a welfare state and a PAYG pension system. He concludes that unskilled immigration has adverse effects on employment and wages of the native unskilled. However, those loses are more than compensated by the gains of the skilled and the pensioners. In consequence, the immigration of low-skilled workers might have a negative effect on the welfare in the host country via the unemployment insurance system. In Kemnitz (2003b), the effect of migration under different policy goals is studied. Here, it is shown that the impact of migration on native income crucially depends on the skill inflow and the design of the social policy. Modeling a pension system in a dynamic setup, Razin and Sadka (2000) show that low-skilled migration is beneficial to all income and age groups if the country has free access to the international capital market. However, this result is weakened or revoked if access to capital markets is restricted.

Though, all these modeling approaches lack an important detail of most European welfare states, namely the distinction of different levels of unemployment benefits. In our analysis, we fill this gap in the literature by implementing a 2-tier unemployment benefit system into a right-to-manage bargaining model with migration. Our main focus lies on the induced labor market effects of a labor supply increase via the tax channel of a balanced budget. To be more precisely, our analysis compares a variety of scenarios by allowing for different assumptions about migrant labor market participation rates and union behavior. Thus, we are able to evaluate the employment and wage effects of low-skilled migration into an imperfect labor market.

In order to keep the model tractable, we forgo the implementation of demand effects through a migration-induced increase in the number of consumers. We assume that the economy is small and open so that an increase in the local demand for goods does not translate into an expansion of the local labor demand. For an empirical analysis of

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2 Implementing duration dependent unemployment benefit systems for short-term and long-term unemployed in a standard trade union model, Kreiner and Whitta-Jacobsen (2002) conclude that a system with positive duration dependence Pareto dominates systems with negative duration dependence. However, in their model, the budget is not balanced and it is abstracted from migration.
demand effects, we refer to the work of Bodvarsson, van den Berg and Lewer (2008) who study the local demand effects of the Mariel boat lift. In addition, we abstract from any dynamic effects e.g. migration-induced capital inflows, endogenous skill formation or out-migration of replaced native workers. However, we are convinced that our framework best suits to answer the questions related to this paper despite its short-term, static nature.

We proceed as follows. Section II presents the basic framework. In Section III we analyze the effects of immigration under different labor market participation rates of migrants. Section IV is devoted to the differential effects of migration-induced supply increases under the framework of an accommodating trade union. A conclusion and a brief discussion are presented in Section V.

II. The basic framework

We assume that in our host economy a representative firm produces a final good by solely using labor. The technology of production is represented by a production function with constant returns to scale

\[ F = L, \]  

where \( L \) characterizes the deployed low-skilled labor. To guarantee room for wage bargaining, we thus implement a decreasing product demand \( p = F^{-\sigma} \), where \( 0 < \sigma < 1 \) characterizes the price elasticity.\(^3\) We consider that labor is homogenous and that the overall population \( N \) is organized in a labor union, while each worker inelastically supplies one unit of labor. Concerning the firm-union-relationship, we follow the right-to-manage approach, where the firm determines employment according to its labor demand after knowing the bargained wage. Thus the firm’s problem is characterized by

\[ \max_L \pi = p \cdot F - w \cdot L, \]  

where \( w \) denotes the wage before taxes. Solving the maximization problem (2) leads to the standard result that employment is set where the value of the marginal product

\(^3\) Another way would be to implement a production function with decreasing returns to scale. However, our setting allows us to keep in mind the potential role of product market competition. Our specification is similar to Dixit and Stiglitz (1977).
equals the nominal gross wage rate. From the first-order condition, we obtain as labor demand
\[
L(w) = (1-\sigma)^{1/\sigma} w^{-1/\sigma}.
\] (3)

The labor adaption of the firm concerning wage changes is expressed by the wage elasticity of labor demand, which can be written as:
\[
\varepsilon = -\frac{\partial L}{\partial w} = \frac{1}{\sigma} > 1.
\]

Obviously, via the wage-price mechanism, this elasticity is just the inverse of the price elasticity of product demand. Due to the assumption of imperfect labor markets, not all potential workers in the economy are employed. In line with most Western European countries, we consider an unemployment benefit system that consists of two elements. The first is the classical unemployment benefit \( b_1 \), which is granted to the short-term unemployed, while the second one, \( b_2 \), is the social assistance and granted to long-term unemployed. Since \( b_1 \) is larger than \( b_2 \), short-term unemployed are financially better off than long-term unemployed. To distinguish between both groups of unemployed, we assume that the proportion of long-term unemployed to short-term unemployed is constant. Thus, \( \phi \) describes the fraction of unemployed workers that are long-term unemployed and \( \phi^{-1} \) is the fraction of workers that is short-term unemployed. In order to finance the unemployment benefits and keep the budget balanced, the government levies a tax on labor.

Modeling the wage formation, we build on the monopoly union case (see Cahuc and Zylberberg, 2004). In addition, we assume that the union is small and, consequently, does not take into account the effects of its action on the tax rate and the unemployment rate.

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4 For notational convenience we use in the next calculations the subscript as a characterization of the first derivative, i.e. \( L = \partial L/\partial w \).

5 We are aware of the fact that this is a rather crude assumption, since empirical studies show that the fraction of long-term unemployed increases with the level of the overall unemployment rate in the economy. However, as a first starting point of analysis and in order to reduce model complexity, we assume a fixed fraction independent from the level of unemployment. Additional, this assumption can be economical explained by the modeling a small labor union, which doesn’t take into account its effect on unemployment via the bargained wage and take the unemployment rate and thus the fraction of long-term and short-term unemployed as given.

6 See e.g. Schmidt et al. (1994), Fuest and Thum (2000) or Kemnitz (2003a,b), where also no strategic interaction between the union and the welfare state is implemented.
The union’s calculus is described by

$$\max_w U = (1-t) \cdot w \cdot L + (N-L) \cdot b, \quad (4)$$

where $b = (1-\phi) \cdot b_1 + \phi \cdot b_2$ is the exogenous expected unemployment benefit for the domestic labor union members $N$ and $t$ denotes the wage tax to finance the welfare system. By substituting (3) into the union’s calculus (4), solving the equation and rearranging, we obtain as first-order condition

$$U_w = (1-t) \left( \frac{w}{L} L_w + 1 \right) - \frac{L_w}{L} \cdot b = 0.$$ 

Analogue to e.g. Kemnitz (2003a, b), the net wage rate is expressed as a function of the wage elasticity of labor demand $\sigma^{-1}$ and the average benefit level $b$:

$$(1-t) \cdot w = \frac{1}{1-\sigma} \cdot b. \quad (5)$$

This is the standard result that the wage rate consists of the outside option and a mark-up. The corresponding level of employment is given by

$$L(b,t) = (1-\sigma)^{\frac{1}{\sigma}} \left[ \frac{b}{(1-t) \cdot (1-\sigma)} \right]^\frac{1}{\sigma}. \quad (6)$$

As described above, the unemployment benefits are financed by a wage tax balancing the government budget. Economically speaking, the welfare system works as an insurance against unemployment that is financed with contributions from the working population. A balanced budget requires that the aggregate contributions to the system equal the costs of unemployment benefits so that

$$t \cdot w \cdot L = (N-L) \cdot b. \quad (7)$$

By substituting (5) and (6) in the budget equation (7), we are able to determine the equilibrium contribution rate when both employer and union behave optimally. Rearranging leads to
\[
[1 - \sigma \cdot (1 - t)] \cdot (1 - \sigma) \cdot (1 - t) \cdot 1 - \frac{1}{\sigma} = N. 
\] (8)

The tax effect of an increase in the native population is shown by the total differential with respect to the tax rate \( t \) and the number of natives \( N \):

\[
\frac{dt}{dN} = \frac{1}{(1 - \sigma) \cdot (1 - t) \cdot 1 - \frac{1}{\sigma} \cdot \left(1 - \frac{1 - \sigma}{\sigma \cdot (1 - t)}\right)}
\] (9)

The effect of an increase in native labor supply on the tax rate is positive if \((2\sigma - 1)/\sigma > t\) holds. As long as the tax rate fulfills this condition, the price effect of an increase in the tax rate and the tax-rise-induced wage increase dominate the quantity effect of the decrease in the employment level. Then, the tax rate set by the government is efficient. In the alternative case, a government could generate a budget surplus, higher employment and output by decreasing the tax rate. However, since setting a tax level at first place that allows for such an improvement violates the rationality assumption for the government, we exclusively consider cases where the price effect dominates.

Note that for all positive values of the tax this assumption means that \(\sigma > 0.5\) and thus the wage elasticity of labor demand is not too elastic. If this were the case, there would be an incentive to decrease the tax as a response to an expansion of the workforce \(N\).

\[\text{III. Low-skilled migration and the unemployment insurance system}\]

In the following section we introduce migration in our model framework. As the participation rate of migrants in the labor market of the host country is considered as a key indicator for successful integration, we differentiate between various scenarios of participation. In order to evaluate the employment and wage effects under a balanced budget regime with a non-accommodating monopoly union, we firstly analyze the implications of pure welfare migration into the social security system and secondly of partial participation in the host country’s labor market.

\[\text{III.1. Migration into the unemployment system}\]

As a first migration scenario, we consider the case where migrant workers are no substitutes for natives. Since the unions do not consider the economy wide labor supply in their decision on the nominal gross wage level if migrants are no perfect substitutes
or union members, an influx of low-skilled migrants does neither change the nominal gross wage level nor the employment level via the channel of the optimizing union. However, migration has an effect on employment and wages via the budgetary channel. An increase in the number of recipients of benefits increases the budgetary costs and has to be countervailed by an increase in the contribution rate respective tax rate under the assumption of reasonable labor demand elasticity (see calculations in the previous chapter). Since, in our setting, newly arrived migrants have no employment record in the receiving country, they only receive the minimum living standard $b_2$ in case of unemployment.

Incorporating these features in our model, the bargained wage (5) and the employment level (6) are not affected. However, the government budget constraint has to be redefined as

$$ t \cdot w \cdot L = (N - L) \cdot b + b_2 \cdot M. \tag{10} $$

Analogue to the case without migration, we substitute (5) and (6) in the modified budget equation and obtain an expression for the balancing contribution rate:

$$ [1 - \sigma \cdot (1 - t)] \cdot \left(1 - \frac{2}{\sigma}\right) \cdot \left(1 - \frac{1}{\sigma}\right) \cdot b \cdot \sigma^{-1} = N + \frac{b_2}{b} \cdot M. \tag{11} $$

Similar to the previous section, we can determine the tax effect of migration by total differentiation, which yields

$$ \frac{dt}{dM} = \frac{b_2 / b}{(1 - \sigma)^2 \cdot (1 - t) \cdot \frac{1 - \sigma}{\sigma} \cdot b \cdot \sigma^{-1} \cdot \left(1 - \frac{1 - \sigma}{\sigma \cdot (1 - t)}\right)} \tag{12} $$

whereby the term in brackets is positive for $(2\sigma - 1)/\sigma > t$. Starting from a given equilibrium and, thus, under the condition of a certain tax level and $\sigma > 0.5$, we can compare the quantitative effect of migration on the tax rate in comparison to an increase in the native population of the same scale. Using equation (9) and (12), we find that

$$ \frac{dt}{dM} = \frac{b_2}{b} \cdot \frac{dt}{dN} < \frac{dt}{dN}. \tag{13} $$
Proposition 1:

Migration leads to a lower distortion of the wage tax than an increase in the native population due to the different levels of benefit claims.

This is an intuitive result, since it is driven by our assumption. While we assume that the native population is divided in long \((1-\phi)\) and short-term \(\phi\) unemployed with an expected unemployment benefit of \(b = \phi \cdot b_1 + (1-\phi) \cdot b_2\), the migrants only receive the minimum standard \(b_2\). Thus, migrants are treated as long-term unemployed. Since the payment for long-term unemployed is less than the benefit for short-term unemployed, i.e. \(b_1 > b_2\), the reservation wage and therefore the governmental benefit is lower. This implies that the increase in the tax rate is weaker.

III.2. Partial replacement of natives through migrant workers

In the following, we relax our restrictive assumption of no workforce participation of migrant workers by assuming that migrant workers are partly integrated into the labor market. Migrants are perfect substitutes to native workers and the employer chooses workers independent of their origin. Although the union only cares about the domestic workforce by setting the gross wage rate, we assume that all employed workers, whether they are migrants or natives, receive the bargained wage. We ignore possible wage discrimination by the firm and other labor markets as outside option for workers.\(^7\)

Since the firm’s problem is unaffected, the labor demand (5) is unchanged. However, since the union cares only about the native worker, the union’s calculus has to account for the fact that only a part of the employment consists of natives. Thus, problem (4) has to be modified to

\[
\max_w U = (1-t) \cdot w \cdot \theta \cdot L + (N-\theta \cdot L) \cdot b, \tag{14}
\]

where \(\theta\) characterizes the constant fraction of native employment.\(^8\) From the resulting first-order condition

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\(^7\) This restrictive assumption can be justified by implemented laws that forbid the exclusion of workers from labor union wages, whether they are members or not. If all workers are to be paid the same wage level for the same range of tasks by law, our assumption of substitutability is not implausible.

\(^8\) Another possibility is that, analogue to Schmidt et al. (1994), the fraction of employed natives depends on the size of migration, e.g. \(\theta = N/(N+M)\) holds. However, to keep the analysis simple, we neglect this characterization for the moment.
it is easy to see that solving this problem leads to the same net wage as expressed in equation (5). Given a fix average benefit level of \( b \), this shows that a partly substitution does not change the net income of domestic employed.

In contrast to this result, the gross wage will change since the number of welfare recipients and therefore the tax level is affected. On the one hand, the number of unemployed natives increases due to partial replacement which raises benefit costs. On the other hand, the number of employed migrants increases which lowers welfare expenditures. Algebraically, the balanced budget of the welfare program has to be rewritten to

\[
t \cdot w \cdot L = (N - \theta \cdot L) \cdot b + (N - (1 - \theta) \cdot L) \cdot b_2.
\]  

Using wage equation (5) and the corresponding employment decision (6), the equilibrium tax rate fulfills

\[
\left[ \frac{t}{(1-t) \cdot (1-\sigma)} + \theta + (1-\theta) \cdot \frac{b_2}{b} \right] \cdot (1-\sigma)^{\frac{2}{\sigma}} \cdot (1-t)^{\frac{1}{\sigma}} \cdot b^{-\frac{1}{\sigma}} = N + \frac{b_2}{b} \cdot M.
\]  

We again calculate the total differential to show the effect of migration on the contribution rate under partial replacement and to compare it with the effect in the previous section.

The total differential of (15) is given by

\[
\frac{dt}{dM} = \frac{b_2}{b} \cdot \frac{(1-\sigma)^{\frac{2}{\sigma}} \cdot (1-t)^{\frac{1}{\sigma}} \cdot b^{-\frac{1}{\sigma}}}{\left(1-(\theta + (1-\theta) \cdot b_2/b) \cdot \frac{1}{\sigma} \cdot \frac{t}{(1-t) + \lambda} \cdot \frac{1-\sigma}{\sigma} \right)}
\]  

where \( \lambda = \theta + (1-\theta) \cdot b_2/b \in (0;1) \). Knowing this, we are able to determine the condition for a migration-induced increase in the contribution rate. Looking at the term in brackets in the denominator, we can conclude that \( dt/dM > 0 \) definitively holds for \( \sigma > t \).

However, the aim of the analysis is not only to present the tax effect of migration under different assumptions concerning the labor market participation. Using the notation in
(12) and (16) we are also able to compare the size of the taxation effect in a static sense, where the starting point is the given equilibrium characterized by a certain tax rate. In both expressions, the size of the denominator is decisive for the dimension of the tax effect. Comparing the denominator in both cases under the assumption of the same tax rate, it is easy to show that the denominator in (12) is larger than the denominator in (16) and, therefore, the increase in the contribution rate in the case of partial participation is higher than in the case of migration into the welfare system.

**Proposition 2:**
No labor market participation of migrants is beneficial compared to a partial participation due to a lower distortion of the contribution rate. The crowding-out effect through a low-skilled migrant worker is larger than 1 due to budgetary repercussions of the replacement.

Although this seems to be a counter-intuitive result, it can be easily explained by the underlying model setting. In case of partial participation of migrants, we assume that the substituted natives receive the average unemployment benefit level $b$, since some replaced can claim the higher benefit level for short-term unemployed due to the employment history. In contrast, in case of no crowding-out of native workers, migrants can only claim the lower long-term unemployment benefit. Thus, the expenditures of the insurance are higher in case of labor market participation of migrants.

**IV. Model implications of an accommodating union**

In the previous chapter, we have shown the potential negative effects of migration on employment and wages via the budgetary channel. However, since trade unionists are often also members of parliament and, thus, incorporate the wider economic interests of the electorate, unions arguably accommodate their behavior to an increase of the labor supply due to immigration. In order to model such behavior, we again include a weighting factor. We define the utility function in such a way that it represents the interests of all workers in the economy, be they native or migrant, and the interest of the native unemployed. The utility function is described as

$$U = w \cdot (1 - t) \cdot L + (N - \theta \cdot L) \cdot b$$

(17)
In contrast to the case of a non-accommodating union, now, the net wage equation includes the weighting factor and is smaller than the net wage in equation (5):

$$w = (1-t)^{-1} \cdot (1-\sigma)^{-1} \cdot \theta \cdot b$$ \hspace{1cm} (18)

The employment level is higher than in the previous chapter since the union considers the interest of the migrant workers and moderates its wage claims. It is given by

$$L = (1-t)^{\frac{1}{\sigma}} \cdot (1-\sigma)^{\frac{2}{\sigma}} \cdot \frac{1}{\theta} \cdot b^{-\frac{1}{\sigma}}$$ \hspace{1cm} (19)

Substituting (18) and (19) in the budget equation (14), we get the following equilibrium condition:

$$\left[ t \cdot (1-t)^{-1} \cdot (1-\sigma)^{-1} \cdot \theta + \theta + (1-\theta) \cdot \frac{b_2}{b} \right] \cdot (1-\sigma)^{\frac{2}{\sigma}} \cdot (1-t)^{\frac{1}{\sigma}} \cdot b^{-\frac{1}{\sigma}} \cdot \theta^{-\frac{1}{\sigma}} = N + \frac{b_2}{b} \cdot M$$ \hspace{1cm} (20)

Under the assumption of a constant fraction of migrants in the workforce ($\theta$ fix), total differentiation leads to the following expression:

$$\frac{dt}{dM} = \frac{b_2 / b}{(1-\sigma)^{\frac{2}{\sigma}} \cdot (1-t)^{\frac{1}{\sigma}} \cdot b^{-\frac{1}{\sigma}} \cdot \theta^{-\frac{1}{\sigma}} \cdot \theta \left( \frac{t}{(1-t)} \cdot \theta + \lambda \right) \cdot \frac{1-\sigma}{\sigma}}$$ \hspace{1cm} (21)

Comparing this expression with the total differential in equation (16), we get the result that the tax-increasing effect of low-skilled migration is smaller with an accommodating union than with a non-accommodating if the following inequality holds:

$$\left[ 1 - \left( \frac{t}{(1-t)} + \lambda \right) \cdot \frac{1-\sigma}{\sigma} \right] < \theta^{-\frac{1}{\sigma}} \cdot \theta \left( \frac{t}{(1-t)} \cdot \theta + \lambda \right) \cdot \frac{1-\sigma}{\sigma}$$ \hspace{1cm} (22)

This leads us to our last proposition.
**Proposition 3:**
Under the assumption of an accommodating monopoly union that takes the interests of the migrant workers into account, low-skilled migration results in higher employment and lower wage levels than with a non-accommodating union. The integration of the migrant worker’s interest in the union’s utility depresses the wage claims. Under certain conditions, this might even result in higher employment levels than without low-skilled migration if the fraction of migrant workers in the workforce \( \theta \) is not set constant when differentiating.

V. **Conclusion**

The introduction of the freedom of movement in the EU-27 reduces migration costs and, given a certain wage differential between 2 countries, creates or intensifies migration incentives. Those incentives result in increasing migration flows to attractive host countries. High-skilled migration is usually not a major issue of public concern since positive contributions to the host economy are expected. With respect to low-skilled migration, public opinion is more ambivalent. Especially for trade unions representing the interests of the native employed and unemployed, the opening of the labor market is regarded as a challenge. According to very narrow definitions, unions only concentrate on the individual interests of their members and should only be worried about net wage reductions through higher social security contributions. However, in reality, wage decisions of unions do reflect a variety of different social interests since their bargaining activities do not take place in a vacuum. Thus, it is reasonable to assume that unions also embody the interests of native unemployed or of migrant workers. The representation of the interests of new workers coming to the country as migrants leads to wage accommodation and higher employment.

We have shown in a right-to-manage model that under the assumption of a non-accommodating monopoly union, low-skilled migration has negative effects on the wage level and the employment level as the increase of the labor supply leads to negative distortions. Contrary to intuition, those distortions are smaller in a scenario where migrants are no substitutes to natives and migrate into unemployment than in a scenario where migrants partially enter the labor market and replace native workers. This is simply due to the modeling of the empirical observation that in many European welfare states workers acquire higher benefit claims over the years of their employment history. Under these circumstances, each replaced native worker can on average claim higher benefits than a recently immigrated worker.
In case of an accommodating union that embodies the interests of both, native and migrant workers, and the native unemployed, two countervailing effects can be observed in our model setup. On the hand, additional migrant workers reduce employment and wage levels via the budgetary channel since they pose a burden as potential benefit recipients. On the other hand, additional migrants increase the weight on employment in the utility function of the union which depresses the union’s wage claims. We can show that in this restrictive model setup, low-skilled migration with accommodation leads to a smaller increase in the tax rate than without. However, the reduction in the negative employment effect comes at the costs of a reduced net wage level for all unionized workers.

References


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