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The effects of employment policy measures on the labour demand of persons with changed working abilities

Rita KOROSECZNÉ PAVLIN
Kaposvár University, Faculty of Economic Science,
Department of Economics and Finance, Assistant Professor, PhD;
e-mail: koroseczne.rita@ke.hu

Anett PARÁDI-DOLGOS
Kaposvár University, Faculty of Economic Science,
Department of Economics and Finance, Associate Professor, PhD;
e-mail: dolgos.anett@ke.hu

Diána KOPONICSNÉ GYÖRKE
Kaposvár University, Faculty of Economic Science,
Institution of Regional and Agricultural Economics, Assistant Professor, PhD;
e-mail: gyorke.diana@ke.hu

Abstract. Based on the methods used by economic theory, the study analyses the labour demand of companies and pays special attention to people with changed working ability. The European Union emphasizes the development of active employment policy programmes in line with the wide range of benefits linked to additional labour force utilization in our country. Tax liabilities and tax allowances related to additional labour force utilization significantly affect the profitability of companies. For this reason, the study examines the effects of the use of the production factor in certain cases on the profit based on the example of a 25-person company. Despite active employment policy measures, experience shows that the labour demand of companies is less directed towards people with changed working abilities. However, in this situation, besides the estimated lower labour productivity, infrastructural and sociological factors also play an important role.

Keywords: labour market, effects of fiscal policy
JEL Classification: D2 (Production and Organizations); J2 (Demand and Supply of Labour); J3 (Wages, Compensation, and Labour Costs); H2 (Taxation, Subsidies, and Revenue)

1. Introduction

In the former socialist countries, in the early 1990s, people with changed working abilities were forced into passive care (state transfers) and were permanently excluded from the labour market. From the employment policy's point of view, a number of measures were adopted only in the period of 1998–2007 alone, which contributed to the establishment of the employment rehabilitation system (Csillag–Szilas, 2009).

Based on the labour market data of 2015 (KSH, 2015. Munkaerőpiaci helyzetkép), 11.3% of the active-aged population (680,700 persons) can be considered as persons with changed working abilities. While in 2011 the employment rate of people with changed working ability was 47.3% on average in the European Union, this number was only 23.7% in Hungary. According to the data of the Hungarian public finance in 2008, 2.9% of the GDP was spent on the benefits for active-aged persons with changed working abilities (Pulay, 2009). The costs of passive benefits is currently covered by the so-called "rehabilitation contribution". An employer engaging more than 25 employees must employ at least 5% (quota) labour force with disabilities. In the absence of this, a rehabilitation contribution must be paid after the missing number of employees specified in the quota. Nevertheless, if the employer fulfils the employment obligation (quota), they are exempted from the payment of the rehabilitation contribution (articles 22–23, Act 2011/191), from which an employment incentive effect can be expected.

The European Disability Strategy (2010–2020) emphasizes the priority of active programmes. It defines the direction of the support (active, passive) for the measures, for the tools and directly for the employment and the proportion of the expenditures as well. EU documents mean training, development, professional consultancy, and selective job recruitment below "employment rehabilitation". The measures of the special programmes are extremely diverse in the Member States, the most widespread among them being as follows:

– wage subsidies compensating for lower productivity,
– supporting the necessary transformation of the workplace,
– support for employment services, and
– trial employment, transit employment.

The general objective of the EU is to integrate as many people with disabilities as possible into the labour market through active employment policies and at the same time reduce the burden on Member States' budgets on paying transfers. Unfortunately, it is not clear how to implement the effective EU regulations in practice. Among the 28 EU Member States, we can find less good examples as well (Hyde, 2000).

In our country, in line with EU regulations, in 2017, a call for proposals entitled *Promoting Group and Individual Employment of People with Disabilities*

was published in Hungary under EFOP-1.1.6-17. In addition, the demand of the labour force of people with disabilities is influenced by various government programmes as well. There are a lot of international studies on factors influencing the labour demand of such persons too (Roulstone, 2013). In our study, we would like to introduce the impact of the government intervention in force in 2017 from the perspective of the companies in Hungary with at least 25 employees.

In Section 2, we introduce the labour demand as production factor. The main focus is on the effects of the increasing employment on the cost and revenues of the company. In Section 3, we introduce the fiscal policy methods that are taken into account during our analysis both on the cost and the revenue sides. Section 4 presents the analysis of the cost in connection with additional labour force use. In Section 5, we draw conclusions based on our analysis.

2. The Demand of Labour as Production Factor

2.1. The Effect of Increasing Employment on Company Revenue

We start our study from the microeconomic principles. Accordingly, we will first analyse the value of the marginal product of labour. Businesses' demand for labour is derivative as the quantity produced by the company depends on the quantity demanded by the market. In this case, we assume that it is rational to increase production by employing a new labour force. The impact of the new labour force on revenue can be expressed by the marginal product revenue indicator, which shows how many units the total revenue of a company changes with when the amount of the given input factor's use changes by one unit.[1]

$$MRP_L = \frac{\Delta TR}{\Delta L} \tag{2.1}$$

So, the marginal product revenue shows how much the company's revenue increases as a result of the recruitment of an additional employee. Basically, microeconomics examines the revenue generated by production (TR = PxQ), which is the net revenue of an enterprise from the accounting point of view. However, in a market economy, as a result of state intervention, we face with several other revenue categories that have a significant impact on the level of employment. From the point of view of the topic under examination, state subsidy for rehabilitation employment is considered to be such income. Therefore, we analyse the impact of the employment of persons with disabilities on the total revenue of the enterprise (turnover and other income).

1 Where MRP_L is the marginal product revenue of labour, ΔTR is the change of the revenue, and ΔL is the change of use of labour force.

2.2. The Effect of Increasing Employment on the Cost of the Company

In addition to revenue, the business decisions are also influenced by labour-related costs. The impact of additional input consumption on costs can be expressed by the marginal cost of production factor (MFC_L), which shows with how many units the total cost changes as a result of the change in the volume of the used input (Kopányi, 2009).[2]

$$MFC_L = \Delta L * P_L \; ; \; MFC_L = \frac{\Delta TC}{\Delta L} \tag{2.2}$$

The additional cost can be determined by two methods: on the one hand, as multiplication of wages and the change of labour force usage and, on the other hand, it can be examined by calculating how much the total cost of a company will change if it increases the number of its employees by one unit. In this case, only the costs directly related to the production are examined by microeconomics; however, labour costs are also linked to taxes and contributions as well besides wages. Therefore, in our analysis, we also take into account the amount of wage contributions when examining total costs. Typically, the obligation to pay rehabilitation contribution is considered as such a wage contribution in the case of companies with more than 25 employees.

In order to determine the optimum level of labour consumption, a revenue and a cost indicator are also needed since the use of a production factor is optimal if the marginal product revenue of the given input factor is equal with the marginal cost of the factor:

$$\begin{gathered} MRP_L = MFC_L \\ MRP_L = \frac{\Delta TR}{\Delta L} \\ MFC_L = \frac{\Delta TC}{\Delta L} \\ MR = MC \end{gathered} \tag{2.3}$$

Using the above mentioned contexts, we can state that the company is going to employ new employees as long as the increase of the total revenue and the total cost of the business are going to be the same. If these two values are equal, we can say that the total profit will be zero. So, the conditions of perfect competition are fulfilled. That is why entrepreneurs increase their demand at the perfect labour market because of the profit maximization goal until the marginal product revenue is higher than the cost of using an additional unit of labour force. The use

2 Where MFC_L is the marginal cost of labour force, ΔL is the change of use of labour force, P_L is the price of labour force (wage), m and ΔTC is the change of total costs.

of a new input factor, ceteris paribus, reduces the level of the marginal product of labour, and so the decreasing marginal product revenue gradually reaches the marginal cost level. This equality expresses the limit of the company's demand for labour force (Oroszi, 1996).

3. Fiscal Policy Measures Taken into Account during the Analysis

3.1. Cost-Side Analysis

Wage costs: Wage is not differentiated, and so all employees receive the same amount of wage, which is the level of the guaranteed minimum wage.

Wage contributions: Employers (currently in Hungary) are required to pay social contribution tax (22%) and vocational training contribution (1.5%) based on gross wages. In addition, every employer is obliged to pay a rehabilitation contribution according to Act 191 of 2011 if the number of employees is more than 25 and the number of people with disabilities employed by the company is less than 5%. The amount to be paid is the missing number multiplied by the amount of the rehabilitation contribution (which is 1,147,500 HUF/person/year from 1 January 2017).

3.2. Revenue-Side Analysis

Revenue is unchanged because we assume that the employees can perform their task with the same efficiency. This may be in the case when a disabled employee performs mental work.

Analysis of other revenues: In connection with the employment of disabled persons, the employer is entitled to a contribution allowance as budget support, which is recorded as other revenue in the accounting records. Currently, the following benefits are available in connection with employing people with disabilities:

Social contribution tax allowance: In 2017, the social contribution tax was 22 percent of the gross wage. According to Act 156 of 2011 on social contribution tax, the 22 percent social contribution tax must be payed based on the taxable income which generates tax liability. The Act allows the employer to get benefits. Allowance can be used in the employment of the following categories: mothers of children under the age of 3, entrants under the age of 25, long-term job seekers over the age of 55, agricultural and non-skilled jobs, and people with disabilities.

4. Analysis of the Cost in Connection with Additional Labour Force Use

Analysis terms:

– the enterprise has 25 employees,

– the monthly gross wage is 161,000 HUF/person,

– they wish to employ +1 person for a monthly wage of 161,000 HUF,

– work with the same effectiveness can also be performed by a person with a disability.

As a first step, we analyse how the measure of the total cost will change as a result of the increase in employee number.

Table 1. *Costs related to the use of additional labour force in the case of employing an employee with normal working capacity*

Number of employees	Annual wage (HUF/capita)	Annual wage cost (HUF)	Annual wage contribution (HUF)	Rehabilitation contribution
25	1 932 000	48 300 000	11 350 500	
1	1 932 000	1 932 000	454 020	
Total:		50 232 000	11 804 520	1 147 500

Source: own construction

In addition to wage and contribution costs related to wages, the employer is also required to pay a rehabilitation contribution if the number of employees is at least 25 per year on average. So, the annual wage and contribution costs shown in the above introduced table increase by 1,147,500 HUF according to the 2017 regulations.[3] Based on these, the total cost of employment (TC) is 63,184,020 HUF.[4]

According to the regulation, the wages of persons with disabilities (up to twice as much as the minimum wage) are not connected with the obligation for the company to pay wage contribution. The State grants this benefit to enterprises in the form of a "de minimis" subsidy and should therefore be considered as other revenue.

3 Year 2017.

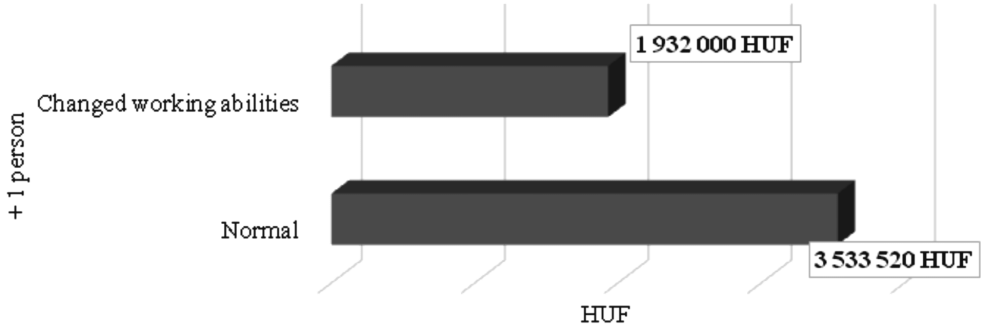
4 50,232,000 + 11,804,520 + 1,147,500 = 63,184,020.

Table 2. *Costs related to the use of additional labour force in the case of employment of disabled worker*

Number of employees	Annual wage (HUF/capita)	Annual wage cost (HUF)	Annual wage contribution (HUF)	Rehabilitation contribution
25	1 932 000	48 300 000	11 350 500	
1	1 932 000	1 932 000		
Total:		50 232 000	11 350 500	0

Source: own compilation

The new employee (who has a disability in this case) has only wage cost connected to his/her wage because in his/her case wage contribution cost is not involved. So, the annual wage and wage contribution costs shown in the table above increase with the value of the gross wage. Based on these, the total cost to the employer (TC) amounts to 61,582,500 HUF.[5]



Source: own compilation

Figure 1. *Yearly costs related to additional labour force usage (HUF)*

In connection with the employment of the new labour force, the marginal cost is the increase in wage and wage contributions. We assume that the 26 persons employed would result optimal labour utilization, which also means that the marginal cost and marginal revenue are equal with the use of the new labour force. In this case, we can say that an additional employee (with normal abilities) means that the marginal cost and the marginal revenue would be 3,533,520 HUF.

Let us suppose that an employee with a disability is able to perform the same task with the same efficiency. Based on the data in the table below, it can be seen that in this case the marginal cost is also 3,533,520 HUF, but as a result of government intervention the marginal revenue is 5,135,040 HUF, which is 1,601,520 HUF higher than the marginal cost.

5 50,232,000 + 11,350,500 = 61,582,500.

Table 3. *The change of additional cost and revenue in connection with the increase of employment in the case of employees with different working abilities*

	Net sales income	**Wage cost**	**Wage contribution cost**	**Subsidies**	**Total**
Normal employee					
Marginal cost		1 932 000	1 601 520		3 533 520
Marginal revenue	3 533 520			0	3 533 520
Balance					0
	Net sales income	**Wage cost**	**Wage contribution cost**	**Subsidies**	**Total**
Employee with changed working abilities					
Marginal cost		1 932 000	1 601 520		3 533 520
Marginal revenue	3 533 520			1 601 520	5 135 040
Balance					1 601 520

Source: own compilation

From the analysis and the data shown in the figure above, we can conclude that:

In a case when an enterprise employs 25 persons and wants to employ an additional labour force, it is worth examining whether the person with a disability can work with the same efficiency. If so, the person with a disability is the rational choice for the employer.

5. Conclusions Based on the Analysis

In our analysis, based on basic microeconomics contexts, we have provided empirical proof of the impact of employing disabled people in their active age on the revenue situation. Of course, the operation and decision-making mechanism of an enterprise are greatly influenced by its external and internal environment. The infrastructure that can be considered as a facility often limits the selection of employees. The change of these factors is, of course, in progress, but let us face the fact that it is a long process and can be changed to a limited degree in the case of small and medium-sized enterprises. Here we can think not only about the mobility of the disabled person but also about the distance between home and the workplace and the inflexibility of working time.

This is proved by the model of Könczei–Komáromi in 2002, based on the data of the 200 largest Hungarian companies, illustrating the motivation of employing

disabled people. According to their theory, the size of the company, the alternative employment opportunities, and the level of development of its operating region determine the employment of disabled persons. A very serious issue is employers' attitude to employment. According to Berde and Dajnoki (2007), the obstacle to employment is the employer's prejudice and discriminatory decision. However, business owners should not be condemned for this as their decision is not only financial but also a risk factor. In 2004, after asking 213 companies in the South Transdanubia region, experts came to the finding that more than half of the companies surveyed did not plan to employ a person with disability (Horváth et al., 2005). The reason for this was mainly the higher probability of sick leave and the lower performance, as they assumed. On the other hand, we know that employees' opinion, motivation, and helpfulness greatly determine the efficiency of employment (Csányi–Mihala, 2013). If we compare our findings with international studies, we can say that employer reluctance to employ disabled people narrows the economic and vocational opportunities of these persons. Based on Hemphill and Kulik's (2016) findings, a further step can be identifying which mainstream employers are most likely to hire disabled people in Hungary.

We can see, however, that as a result of the current demographic and economic processes, the labour supply of companies with 25 employees is becoming unstable in rural areas – the impact of preponderance in labour demand on the labour market has recently emerged perhaps most strongly in these cases. In our opinion, the processes on the labour market may make it necessary and provide an opportunity to employ people with disabilities.

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