# 7.2 CHANGES IN DISABILITY BENEFITS AND THEIR IMPACTS

### **JUDIT KREKÓ & ÁGOTA SCHARLE**

Since the regime change, the system of disability and rehabilitation benefits has undergone profound transformations. During the recession following the regime change, the number of beneficiaries doubled between 1990 and 2003 as a result of lenient regulation and by 2003 it had exceeded 713 thousand persons, which amounts to 12 per cent of the working-age population.<sup>1</sup>

Following the cautious and largely ineffective attempts to tighten up legislation starting in the late 1990s, the first noteworthy reform took place in 2008, which introduced assessment based on remaining work capacity and legislation to encourage rehabilitation and which also extended rehabilitation services (*Scharle*, 2008b). The next reform, in 2012, took a different approach to cutting the costs of the system: it focused on restricting access and reducing benefit levels (*Kovács*, 2019, *Nagy*, 2014).

The number of those receiving benefits based on their reduced work capacity (disability) fell dramatically, by over 60 per cent, to 290 thousand persons, that is below 5 per cent of the working age population, between 2003 and 2019. By international comparison, the proportion of beneficiaries of disability benefit relative to the active age population dropped from the top of the OECD ranking to its lower half (*OECD*, 2010, 2016). In terms of expenses as a share of the GDP, Hungary moved from the mid-range of the EU to the group of member states spending the least: expenses have halved since 2007 and fell to 1 per cent of the GDP, one of the lowest in the EU.

What is behind this profound change? The number of beneficiaries is mainly influenced by regulating the access to, and extent of, benefits as well as the demographic composition and the health of the population. In the following, first we provide a brief overview of the measures introduced in 2008 and 2012. (Changes in the most important disability cash benefits are summarised in *Table 7.2.1.*) Then, based on an analysis of administrative data, we present the trends in inflows and outflows of disability and rehabilitation benefits as well as the amount thereof.

We do not undertake to assess changes in the general health condition of the population. However, we calculate changes in the health indicators of new beneficiaries compared to those of the total population to show the evolution of targeting and rigour of disability benefits. Additionally, we also investigate the impact of demographic changes on inflows into benefits.

Cash benefits have to fulfil several, partly opposing objectives. The primary function of disability benefits is to provide a livelihood for those who have

1 Köllő-Nacsa (2004) and Scharle (2008a) report that the share of receiving disability pension is higher in regions where labour market conditions are unfavourable. Bíró-Elek (2020) shows that job loss significantly increases the probability of disability retirement, probably partly due to the impact of job loss on health and partly due to disability retirement being an alternative to unemployment.

partly or completely lost their income from work because of their health conditions. Nevertheless, benefits should also encourage beneficiaries to return to the labour market as soon as possible, using their remaining work capacity. In addition to cash benefits, rehabilitation services play a key role in this process, since they may support the restoration of work capacity, the finding of a job suitable for the health condition and preparation for this job.

Regulation faces a serious dilemma: several empirical studies (for example *Bound*, 1989, *Autor–Duggan*, 2003, *Scharle*, 2008b) report that low barriers to entry and excessive benefits significantly reduce labour supply, while an overly restrictive system is not able to fulfil its primary role of income support. When presenting the changes to the benefit system, this subchapter will also address the above aspects.

### Reforms of the system of disability benefits in 2008

The stated purpose of reforming cash benefits in 2008 was, in line with international trends, to promote rehabilitation, the restoration of work capacity and exploiting the remaining work capacity to the fullest extent possible instead of focusing on disability, and also to encourage the labour market integration of recipients by strengthening the system of rehabilitation services (*OECD*, 2010, *Csillag–Scharle*, 2016).

A new, complex appraisal system was introduced on 1 January 2008, which is still in place (see *Box K7.2*). The new system has linked eligibility to the extent of total damage to health (instead of the reduction in work capacity), and assigned new thresholds to levels of severity. This did not necessarily imply tightening: assessment now focused on skills that can be developed, changes in occupational work capacity and the chances of rehabilitation. Accordingly, the other key element of the reform was the introduction of a rehabilitation benefit granted for up to three years, which considerably restricted the probability of becoming immediately eligible for a permanent disability benefit. Those with health damage of at least 50 per cent and assessed as rehabilitable were eligible for a rehabilitation benefit. They were also offered employment rehabilitation services and the law even stipulated that beneficiaries were to cooperate with the Public Employment Service (PES) although it did not specify any sanctions. Rehabilitation services were provided by the PES and non-profit service providers under contract within an EU-funded programme, at a larger scale than previously (Adamecz-Völgyi et al, 2018). The reform also maximised wages received for working in addition to receiving regular social benefits at 80 per cent of the minimum wage as opposed to the previous 80 per cent of earlier wages.

### Reforms of disability and rehabilitation benefits in 2012

Reforms in  $2012^2$  profoundly transformed the system of cash benefits (*Table 7.2.1*). Disability and rehabilitation benefits were removed from the pension

2 Act CXCI of 2011 on the Benefits for Persons with Reduced Work Capacity.

system, while former benefit types (disability pension, accident disability pension, regular social benefit and bridging allowance as well as rehabilitation allowance) were replaced by the newly introduced disability and rehabilitation benefits. Recipients of former benefits, except for beneficiaries of rehabilitation benefits, were automatically transferred on 1 January 2012 to one of the new benefit types, while those aged over 62 were reclassified as old-age pensioners.

The stated objectives of the reforms in 2012 included giving more focus to rehabilitation and social welfare aspects in addition to medical assessment and to encouraging those able to return to the labour market to do so. Accordingly, those with a health condition of 31–60 per cent and employability that may be restored through rehabilitation (or who are able to work assisted by occupational rehabilitation) are granted a rehabilitation benefit for a maximum of three years. The amount of the rehabilitation benefit is substantially lower (up to HUF 50.3 thousand in 2020) than the rehabilitation allowance it replaced. Disability pension is only granted to those whose rehabilitation is not recommended.

In principle, all beneficiaries who may be rehabilitated are entitled to services enhancing their employability and supporting job search; however, access to and the quality of these services did not improve during the years following the reforms (and in some regions they may have even deteriorated). Rehabilitation services were provided by the National Office for Rehabilitation and Social Affairs between 2012 and 2015 and then, since its dissolution, they have been provided by three different types of institutions: Human Resource Development OP or Competitive Central Hungary OP offices in two or three cities in each county (49 offices altogether, whereas the Public Employment Service has 170 offices throughout the country), one or two rehabilitation counsellors of the Public Employment Service in each county and NGOs. NGOs tend to offer more personalised and more diverse services<sup>3</sup> but their funding is more uncertain: application requirements change annually and state subsidies are often disbursed after several months of delay (Scharle, 2016). They also have restricted capacities: for example in the project titled 'Rehabilitation - Value - Change' (Hungarian abbreviation: RÉV), implemented between 2014 and 2017, NGOs assisted a total of 3,500 persons to return to the labour market.

Employment rehabilitation is also provided by accredited employers; however, the subsidies granted for this (called transitional employment by the legislation) do not encourage either real rehabilitation or finding employment in the open labour market.<sup>4</sup>

As opposed to earlier reforms (and reforms introduced by other countries), reforms in 2012 both changed the requirements of claiming the new benefits and called for a revision of earlier benefits. The extent of health damage and entitlement to benefits were assessed through a complex appraisal in the case of disability pensioners below age 57 with health damage of less than 79 per cent (or a less than 100 percent reduction in work capacity according to cat-

<sup>3</sup> NGOs provide various services that help job seekers and employers find one another and reduce the costs and prejudices of employers. They assess existing skills and motivations, prepare individual action plans, provide training or preparation for obtaining employment if needed, search for an appropriate job, provide initial training or sensitisation for future colleagues and assist with the difficulties after starting a new job.

<sup>4</sup> Workers in transitional employment may stay up to three years in supported employment and then they have to find a job in the open labour market with the help of their employers within three years. However, failure to do this is not sanctioned by the law.

egories prior to 2008) and the recipients of regular social benefit below age 57. Beneficiaries had to declare until 31 March 2012 whether they wished to undergo the appraisal: if they failed to make a declaration or they did not request the appraisal, they lost their entitlement in May 2012. Based on data from CERS Admin3 database (see below), this obligation concerned about 200 thousand beneficiaries.

Table 7.2.1: The main insured a cash benefits for persons with reduced work capacity b

Benefit	Extent of health damage	Other entitlement conditions	Amount	Earnings limit <sup>d</sup>
1 January 2008 - 31 December 2011				
Disability pension, Group I	Over 79 per cent and needs assistance	Length of service (de- pendent on age)	Comparable to pension <sup>c</sup>	None
Disability pension, Group II	Over 79 per cent but needs no assistance	Length of service (de- pendent on age)	Comparable to pension c	None
Disability pension, Group III	50-79 per cent and is not possible to rehabili- tate	Length of service (dependent on age)	Comparable to pension °	On net average wages: 90 per cent of the monthly average wage, which is the basis for disability pension, duly updated with pension increases (the average of six consecutive months); On gross average wages since January 2009: twice the amount of disability pension (the average of six consecutive months)
Regular social benefit	Min. 40 per cent	Half of the length of service required for disability pension	Fixed amount (HUF 27 thousand in 2011)	80 per cent of the minimum wage (the average of six consecutive months)
Bridging allowance	Min. 40 per cent	Half of the length of service required for disability pension; Maximum 5 years left until retirement age	75 per cent of old-age pension at the time of entitlement	80 per cent of the minimum wage (the average of six consecutive months)
Rehabilitation allowance	50-79 per cent	May be rehabilitated Min. 30 per cent reduc- tion of wages Payable for a maximum of 3 years	120 per cent of dis- ability pension in Group III	The allowance is reduced by 50 per cent if the wage reaches 90 per cent of the former average wage
Since 1 January 2012				
Disability benefit	Maximum 60 percent health condition <sup>e</sup>	Length of service; Rehabilitation not rec- ommended	Dependent on former wages, length of ser- vice, health	150 per cent of the minimum wage (2012-2013: the average of three consecutive months, since 2014: over three consecutive months)
Rehabilitation benefit	Maximum 60 percent health condition	Length of service; Employability may be restored by rehabilita- tion	Dependent on former wages, length of ser- vice, health (HUF 30,470-50,780 in 2020)	2012: the cash benefit is suspended during gainful employment, 1 January 2013 – 30 April 2016: 20 hours weekly, without an earnings limit, Since 1 May 2016: 150 per cent of the minimum wage (over three consecutive months)

<sup>&</sup>lt;sup>a</sup> The two most important non-insured benefits are the disability allowance and invalidity allowance. Persons with severe disabilities over 18 are entitled to the disability allowance, which has been HUF 20,982–25,825 since 2017. Persons with a permanent health damage of at least 70 per cent, incurred before the age of 25, who do not receive disability or rehabilitation benefits, are entitled to invalidity allowance. It is a flat rate benefit (HUF 38,670 since 1 January 2020).

- <sup>b</sup> Prior to 1 January 2008, all of these benefits were available except for the rehabilitation allowance. Entitlement was linked to the extent of loss of work capacity and earning limits varied by benefit type. The table does not include the insured health damage benefit of miners, introduced in 1991, for persons with a health damage of at least 29 per cent incurred because of their work as miners.
- <sup>c</sup> The amount depends on prior wages, length of service and the extent of reduction in work capacity and it is higher than the pension available in the case of identical length of service and former wages.
- <sup>d</sup> It concerns gainful employment undertaken during the disbursement of the benefit and new beneficiaries. Beneficiaries who had already been entitled to it prior to the reforms, were typically subject to transitional or earlier legislation.
- <sup>e</sup> Since 2012, health condition has been determined as a percentage of health instead of the extent of health damage. The minimum of 40 percent health damage, assessed prior to 2012, corresponds to a maximum of 60 percent health condition after 2012.

## Changes in the share of benefit recipients among persons with reduced work capacity

In this section we describe the accessibility of cash benefits for persons with reduced work capacity (RWC) using the Admin3 database, compiled by the Databank of the Centre for Economic and Regional Studies (CERS), which contains anonymised, individual-level data of 50 per cent of the Hungarian population between 2003 and 2017.<sup>5</sup> Data on entry into disability and rehabilitation benefits are available until June 2017 for the age group 20–60.

Figure 7.2.1 presents the share of the age group 20–60 receiving or entering benefits for reduced work capacity as well as the share of those exiting the benefits (the number of benefits terminated in a given month relative to the number of beneficiaries of the previous month). The vertical lines mark the reforms in 2008 and 2012. The analysis only includes insured disability and rehabilitation benefits.

5 A brief description of the database is provided in the Annex of this *In Focus* volume, for more detail see *Sebők* (2019).

a) 0.12 0.008 Share of recipient stock 0.10 share of new entrants 0.0008 0.006 Share of exits 0.0006 0.08 0.004 0.0004 0.06 0.002 0.0002 0.04 0.000 2004 2006 2008 2010 2012 2014 2016 2004 2006 2008 2010 2012 2014 2016 2004 2006 2008 2010 2012 2014 2016

Figure 7.2.1: Recipients of insurance based disability benefits a) stock b) inflow c) outflow

Note: Recipients include disability pension, rehabilitation allowance, regular social benefit, bridging allowance and the health damage benefit of miners until December 2011 and disability and rehabilitation benefits as well as the phasing out of rehabilitation allowance from 2012 onwards. The stock and inflow are shown relative to the population of age 20–60, while the outflow is shown as a share of the previous month's beneficiaries. Source: Authors' calculation based on Admin3.

In the period between 2003 and 2017, the share of beneficiaries fell steadily. In the period until 2008, inflow gradually declined primarily because of

a drop in the inflow into regular social benefit. It is also discernible that before the 2008 reform, expecting a tightening of the assessment system, many brought forward and submitted their claims for disability pension before the amendment.

The reform in 2008 primarily caused a sharp decrease in the number of entrants, while the number of exits did not change significantly. As a result of the reform in 2012, the number of entrants diminished substantially and the number of exits surged, therefore the number of beneficiaries dropped considerably. The number of exiters was especially high in May 2012, when beneficiaries not requesting the complex assessment lost their entitlement. A similarly massive wave of exit happened in 2016: the entitlement of many beneficiaries who were granted a rehabilitation benefit for three years expired in that year.

After the reform in 2008 the average amount of benefits (relative to the effective minimum wage) did not change substantially (*Figure 7.2.2*). Abolishing the 13<sup>th</sup> pension in 2009 resulted in a drop in disability pension levels. Following the 2012 reform, several factors contributed to the decrease in benefits relative to the minimum wage. On the one hand, rehabilitation benefit as opposed to rehabilitation allowance prior to 2012 was particularly low. On the other hand, the amount of benefits followed neither the 20 percent increase in the minimum wage in 2012, nor the increases of the following years.

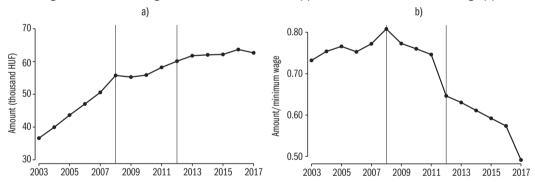


Figure 7.2.2: The average amount of benefits in HUF (a) and relative to the minimum wage (b)

Note: The figure presents the annual averages of benefits. Source: Authors' calculation based on Admin 3.

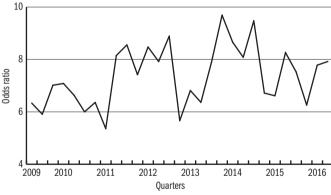
### Health indicators of new entrants to disability and rehabilitation benefits relative to the total population

In the following, we will compare the health condition of working age new beneficiaries to the similar age group of the active population. The relative health condition of entrants provides information on the targeting of benefits and also on what role the changing regulation had in decreasing the share of beneficiaries. The following figures indicate changes in the health indicators of entrants to disability or rehabilitation benefits of those aged 20–60 compared with the total population aged 20–60. The following health indicators are included: expenditure on prescription-only medicines (both own spending and social security subsidies), number of outpatient and inpatient visits financed by social security as well as visits to the general practitioner over the 12 months preceding entry. (Visits to the general practitioner exclude the month immediately preceding the entry to disability benefit so that the administrative visits related to the complex assessment procedure do not distort results.) In addition, the death rate in the first year after entry was also included. Although this indicator may also be affected by the period of receiving the benefit, we considered it to be mainly determined by the health condition prior to entry to the benefit.

Since healthcare data are available from Admin3 from 2009 onwards, comparison was only possible to undertake for the period between January 2010 and June 2017, which primarily reveals how the reform in 2012 influenced the relative health condition of entrants.

Figure 7.2.3. shows the odds ratio of death of entrants within a year after entry, controlled for gender and age, in the population aged 20–60 during the period 2009–2016. Entrants to the benefit are 6–10 times more likely to die within a year than persons of the same age and gender not entering the benefit scheme, and their relative mortality has slightly increased since 2009.

Figure 7.2.3: Mortality of entrants to disability benefits, controlled for gender and age relative to the total population aged 20–60 (at 12 months after entry), 2009–2016



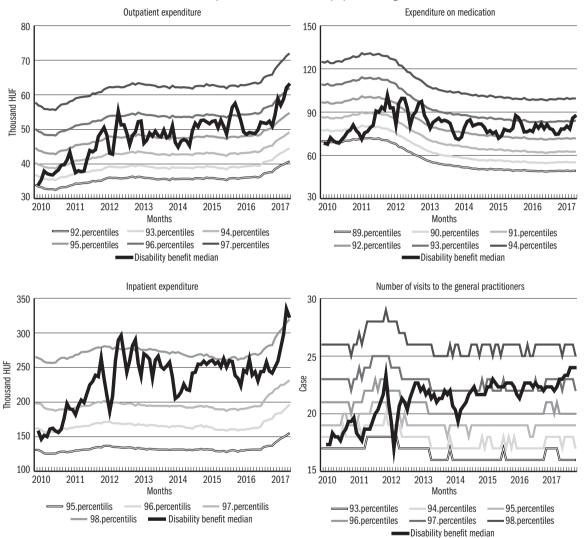
Note: The figure shows the odds ratio of the dummy variable for those entering the benefit, from a logit model on mortality with a one-year lag in the population aged 20–60. The logit model includes those aged between 20–60 years broken down by 10-year age groups and gender as an explanatory variable.

Source: Authors' calculation based on Admin3.

Figure 7.2.4 reveals that entrants to the disability benefit are in the top 5–10 percentile in terms of health indicators. There is a slow deterioration between 2010 and 2016, while most of the increases took place before 2012. All this

suggests that benefits became more targeted: the decreasing share of recipients of rehabilitation and disability benefits is partly due to the reforms in 2008 and 2012, which granted benefit access to those of relatively poorer health.

Figure 7.2.4.: Median healthcare expenditure of disability benefit entrants over the past 12 months relative to the percentiles of the total population aged 20–60



Note: Changes in the age and gender composition of entrants were controlled for. The raw figures are very similar to the figures above.

Source: Authors' calculation based on Admin 3.

Essentially there may be two factors behind the deterioration of the relative health of beneficiaries, which cannot be disentangled on the basis of available data. One explanation may be that the appraisal has become stricter, that is the minimum damage to health required for granting the benefit has been raised. In addition to stricter appraisal, declining demand may also have contributed to a reduced inflow. The decrease in the rate of benefits to wages (the replacement ratio) may have discouraged many potential applicants from claiming a benefit. In addition to the lower amount of the benefit, one factor which may have also contributed to the drop in claims is that the limit on earnings from employment in addition to receiving a benefit was lowered for those with high prior wages.<sup>6</sup>

In order to assess the impact of demographic changes on inflows, the population aged 20–60 was divided into five-year age groups. We assessed how high the inflow would be in 2016 if the odds of entry in 2016, broken down by age groups, were calculated based on the age composition of 2003. The results indicate that with the age composition of 2003 of the population aged 20–60 the number of new entrants in 2016 would be 4 per cent higher, revealing that demographic changes had a marginal impact on the drop in the inflow between 2003 and 2016.

## Employability of beneficiaries of disability and rehabilitation benefits

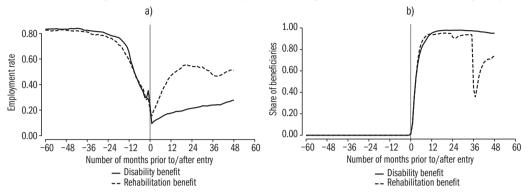
In the following, the employment probabilities of recipients of disability and rehabilitation benefits are discussed. Those entering rehabilitation benefit between 2012 and 2014 returned to the labour market sooner than those entering disability benefit (*Figure 7.2.5*). However, the share of employees is still only about 50 per cent among them three years after entry, even though the stated objective of the rehabilitation benefit is to reintegrate beneficiaries into the labour market within three years. However, the right-hand panel of the figure reveals that a large proportion of those entering the benefit still receive disability or rehabilitation benefits, either because they were transferred to disability benefit or because they were repeatedly granted rehabilitation benefit. On the whole, the proportion of entrants to rehabilitation benefit is small and has been decreasing: between 2012 and 2017 the share of entrants to rehabilitation benefits among beneficiaries fell from about 25 per cent to 15 per cent.

The left-hand side of *Figure 7.2.6* shows that proportionately more of those entering the benefit after the reforms in 2012 are in employment than those entering in 2008. However, trends in the employment rate relative to the population aged 20–60 show that the employment lag of entrants to disability and rehabilitation benefits did not decrease significantly after the reforms in 2012 (part b) of *Figure 7.2.6*).<sup>7</sup>

6 For those entering disability benefit after 1 January 2012 the limit has been 150 per cent of the minimum wage, while until 2012 it was dependent on prior wages.

7 Examined by regression analysis, the probability of employment 12, 24 and 36 months after entry is not significantly different for those entering in 2008 and in 2012, even when controlling for gender, age and region.

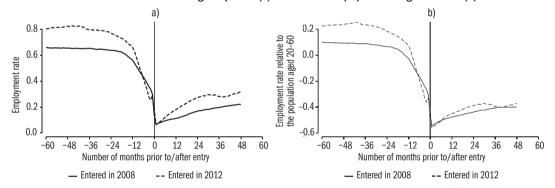
Figure 7.2.5: The employment rate (a) and the share of beneficiaries (b) among those entering rehabilitation and disability benefit during 2012–2013 over time following entry



Note: Those with a gross wage over HUF 10,000 in the given month qualify as employees. On the horizontal axis, entry indicates the start of entitlement, which does not necessarily coincide with the start of disbursement.

Source: Authors' calculation based on Admin3.

Figure 7.2.6: Employment of those entering the disability and rehabilitation benefits in 2008 and 2012 among recipients (a) relative to the population aged 20-60 (b)



Note: Those with a gross wage over HUF 10,000 in the given month qualify as employees. On the horizontal axis, entry indicates the start of entitlement, which does not necessarily coincide with the start of disbursement. The right-hand panel shows the difference from the employment rate of the population aged 20–60. Source: Authors' calculation based on Admin3.

#### Summary

While the Hungarian system of disability and rehabilitation benefits was one of the most generous in Europe in the early 2000's, today it has one of the lowest expenditures; the share of beneficiaries in the working age population is less than half of the figure in the early 2000's. The stricter assessment and the lower replacement rate of benefits reduced inflows through both the demand and supply side and the reform in 2012 terminated the entitlement of numerous beneficiaries. The targeting of the benefits increased, while the abuse of

the benefit system and the impact of disability benefits reducing labour supply probably declined considerably. However, it is unclear as to what extent the system guarantees decent living conditions during rehabilitation and to what extent it is able to support the use of remaining work capacity, rehabilitation and return to the labour market. Only a small proportion of beneficiaries are found rehabilitable in the complex assessment and the activating, rehabilitating elements of the system have not been appropriately expanded.

#### References

- ADAMECZ-VÖLGYI, A.-LÉVAY, P. ZS.-BÖRDŐS, K.-SCHARLE, Á. (2018): Impact of a personalised active labour market programme for persons with disabilities. Scandinavian Journal of Public Health, Vol. 46, No. 19, pp. 32–48.
- AUTOR, D.-DUGGAN, M. G. (2003): The rise in the disability rolls and the decline in unemployment. The Quarterly Journal of Economics, Vol. 118, pp. 157–205.
- BÍRÓ, A.-ELEK, P. (2020): Job loss, disability insurance and health expenditure. Labour Economics, Vol. 65, 101856.
- BOUND, J. (1989): The Health and Earnings of Rejected Disability Insurance Applicants. American Economic Review, Vol. 79, No. 3, pp. 482–503.
- OECD (2010): Sickness, Disability and Work: Breaking the Barriers. A Synthesis of Findings across OECD Countries. OECD Publishing.
- CSILLAG, M.-SCHARLE, Á. (2016): Disability and labour market integration. Analytical Paper. Directorate-General for Employment, Social Affairs and Inclusion (European Commission) ICF.
- KÖLLŐ, J.-NACSA, B. (2006): Rugalmasság és biztonság a munkaerőpiacon. Magyarországi tapasztalatok. [Flexicurity in the labor market. Experiences in Hungary.] ILO Flexicurity Paper, 2004/2, International Labour Office, Budapest.
- KOVÁCS, G. (2019): A rokkantság, megváltozott munkaképesség, rehabilitációs ellátások változása Magyarországon 1990 és 2015 között. [Changes in disability, reduced working ability and rehabilitation benefits in Hungary between 1990 and 2015, 2016]. Orvosi Hetilap, Vol. 160. No. 1. Suppl. pp. 29–36.
- NAGY, Z. É. (2014): Van-e út a munkába? A rokkantellátásban részt vevő emberek munkaerő-piaci esélyeinek vizsgálata, különös tekintettel a személyes jel-

- lemzőikre. [Is there a way to work? Examining the labor market opportunities of people in disability care, with special regard to their personal characteristics]. Metszetek, Vol. 2. No. 1. pp. 239–264.
- OECD (2016): Economic Policy Reforms 2016. Going for Growth Interim Report. OECD Publishing.
- SCHARLE, Á. (2008a): Labour Market Explanation for the Rise in Disability Claims. In: Fazekas, K.–Cseres-Gergely, Zs.–Scharle, Á. (eds.): The Hungarian Labour Market. Review and Analysis, 2008. Institute of Economics, HAS–Hungarian Employment Foundation, Budapest, pp. 91–100.
- SCHARLE, Á. (2008b): Korai nyugdíjba vonulás. [Early retirement.] In: Nagy. Gy. (ed.): Jóléti ellátások, szakképzés és munkakínálat. [Welfare benefits, vocational training and labor supply.] KTI Könyvek, 10. MTA Közgazdaságtudományi Intézet, Budapest, pp. 81–103.
- SCHARLE, Á. (2016): Labour Market Policy Tools (May 2015 March 2016). In: Blaskó, Zs.–Fazekas, K. (eds.): The Hungarian Labour Market, 2016. Institute of Economics, Centre for Economic and Regional Studies, Budapest, Institute of Economics, CERS HAS, Budapest, pp. 171–177.
- SEBŐK, A. (2019): The Panel of Linked Administrative Data of KRTK Databank. Working Papers on the Labour Market (BWP) 2019/2. Institute of Economics, Centre for Economic and Regional Studies, Budapest.
- SZIKRA, D. (2017): A magyar nyugdíjrendszer a rendszerváltás óta. [The Hungarian Pension System since the Fall of Communism in Hungarian.] In: Ferge, Zs. (ed.) Magyar társadalom- és szociálpolitika, 1990–2015. [Hungarian Social- and Societal Policy, 1990–2015] Osiris, Budapest, pp. 288–309.