Cseres-Gergely et al. (2012) conclude that short run benefits exceed the cost if deadweight loss – that is the share of those who would have found a job without the subsidy – is below 20% of subsidised jobs. As a crude measure of the latter, the number of subsidised job entries as recorded by the Tax Authority is compared to the number of entries by potentially eligible job seekers as observed in the dataset. Results suggest that there may be some deadweight in the programme but that it is not very large.

Conclusions and policy implications

Wage subsidies are often promoted as an efficient means of increasing demand for low skilled workers, however, existing evidence on their employment effects is somewhat mixed, especially in the case of transition economies. A recent evaluation of the Hungarian *Start extra* scheme for older workers suggests that well designed targeted wage subsidies can be effective in a transitional context as well. The Hungarian *Start extra* subsidy for jobseekers with at least secondary education and aged over 50 appears to be cost effective for men, even considering its short term benefits only.

The overall efficiency of this programme could be improved by narrowing the target group to jobseekers with less than upper secondary education and possibly by supplementing it with incentives for job search, especially for women. The fact that *Cseres-Gergely et al.* (2012) found no significant effect for educated jobseekers also implies that the recent government plans to cut social security contributions for all workers aged over 50 (regardless of education) is likely to carry considerable deadweight loss. Restricting the measure to those with at most secondary education would improve its cost efficiency.

5.4 The pros and cons of differentiating the minimum wage in Hungary

ÁGOTA SCHARLE & BALÁZS VÁRADI

This subchapter does not present new findings, but aims to summarise what we could expect of a targeted reduction of the minimum wage as a tool for increasing employment, based on existing Hungarian and international literature. The suggested introduction of a lower minimum wage for school leavers, proposed by the Hungarian minister for national economy in June 2012, gives immediate relevance to the subject. We begin with an overview of the functions and effects of the minimum wage as well as the main characteristics of its domestic regulation, with a special focus on the idea of differentiation. We then aim to reconstruct and analyse the reasoning that may buttress the governmental and expert proposals "regarding the differential" modification of the gross minimum wage.[12] Finally, we briefly outline the proposal of Scharle and Váradi (2009), arguing for a regional differentiation of the minimum wage.

12 *Gábor* (2012) and *Köllő* (2012) provide a more comprehensive summary. For a general overview, see *Neumark and Wascher* (2008), for a Hungarian language outline see *Gábor* (2012).

The minimum wage and its effects

The minimum wage is a policy instrument that is widely (though not universally) applied in the developed world. The relevant international literature generally distinguishes between three social functions of minimum wage regulations: 1) achieving social equity, 2) fostering employment and 3) minimising income inequalities. Hungarian national policy often cites a fourth point justifying minimum wage increases: that of reducing tax avoidance.

The first point encapsulates the social expectation that the state should support the most vulnerable employees and that there is a certain amount of remuneration for human labour that employers must not fall short of. According to the International Labour and Employment Relations Association, the basic purpose of the minimum wage is to satisfy this demand (*ILO,* 2009). This function, however, is difficult to describe with the models and empirical analyses of economics. Consequently, the labour economics literature primarily focuses on the effects that changes to the minimum wage have on employment and distributive justice.

The theory regrettably does not provide a definitive answer concerning employment. The simplest among the models of labour economics is the textbook equilibrium model that supposes perfect competition, a positive wage elasticity of labour supply and a negative elasticity of labour demand, applying the Marshallian cross to the labour market. Within this framework there is a definitive impact on employment: the minimum wage is either not binding (if it stays below the equilibrium wage level that is socially optimal), or it causes unemployment and deadweight loss. This is because those employer-employee pairs for whom it would only be worthwhile to sign a contract if they could agree on a wage that is lower than the minimum wage would be deprived of the possibility of such a mutually beneficial transaction. In this model, then, the minimum wage is ineffective or downright harmful in terms of employment growth.

However, as soon as we allow for market failures in our models, the introduction or increase of the minimum wage has the ability to improve social welfare and employment levels to a certain point. This holds true even if the employer is monopsonistic (or multiple employers form a cartel), as well as in the more plausible case where an employer hiring several employees *ceteris paribus* has to pay a higher wage than its competitor that works with fewer employees. There are models with multiple equilibria, one characterised by low wages and low performance, and another by high wages and high performance. In these scenarios, the introduction or increase of the minimum wage may push the economy over the tipping point from the former into the latter, creating a more advantageous social welfare climate. Yet other models that consider the effects of company training, friction and job search produce results that enable an increase of the minimum wage to raise employment rates within a cer-

149

tain interval. The models that examine factors with ripple effects prove even less conclusive than the predictions based on partial equilibrium models (for a more detailed overview see *Köllő*, 2012, *Gábor*, 2012).

Concerning the third social function, under certain circumstances in their perfect competition model *Lee and Saez* (2012) find that by way of improving the income status of some of the poor, the positive distributive impact outweighs the social harm caused by the reduction in employment that the minimum wage necessarily entails, if distributive justice has enough weight on the social agenda. The income inequality reducing impact of the minimum wage strongly depends on more than one factor: the way minimum wage rise affects income distribution through some employees losing their jobs and others starting to earn more, as well as to what extent may the concepts of "minimum wage earner", "low wage earner" and "low productivity worker" be equated.

If the actors of the economy can also adapt to the minimum wage rise by tax avoidance, the impact is going to look different. The relative cost of formal (registered) employment will increase and there is a greater motivation toward partially (grey) or fully informal employment (black market jobs). This may alleviate the potential negative employment tendencies but it simultaneously decreases the extra income that a surge in formal employment would reasonably entail. (Even if the tax avoidance tendencies of grey market workers decrease, the ratio of grey or black market workers will grow.) The subject is discussed in greater detail in *Chapter 6* of this *In Focus – I*.

If the main message of the theory proves to be: "it depends", we have to turn to empirical research. Do econometric analyses provide unequivocal replies to the question of whether the minimum wage rise grows or shrinks employment rates and income inequalities?

Lamentably, gauging the impact minimum wage has on employment is charged with statistical and methodological issues. Until the beginning of the 90s there was a collectively accepted view based on econometric analyses, stating that minimum wage rise affects employment figures negatively, the only question being its extent. However, when *Card and Kruger* (1994) published their groundbreaking study, the acceptance of the theory was replaced by animated disputes. Nonetheless, according to the overview of *Gábor* (2012), 60 to 80 per cent of current studies continue to find significant negative employment tendencies, with only 20 to 40 per cent of articles rating the impact on employment as not significant or positive.

The minimum wage rises of 2001 and 2002 provided a good opportunity for domestic empirical analyses in Hungary. The increase was substantial on an international scale: within two years, the minimum wage rate jumped from 29 per cent of the average wage to 41 per cent, surpassing even Canadian and British levels. Though the aggregated figures do not show a decline in this period of the increased labour demand, econometric studies found employment effects to be

negative, in unison with most of the international findings. *Kertesi and Köllő* (2004) demonstrated that among companies with 5–20 employees 12 thousand workers were made redundant after the first rise. *Elek et al.* (2012) analysed the impact that the increase of average wage (entailed by the minimum wage rise) had on employment up to 2003. According to their study, in the companies that were strongly affected by the rises the average wage rate grew significantly faster, while employment levels rose significantly slower (or shrunk faster).

According to Köllő's 2012 findings, minimum wage rise on a grand scale alleviated *income inequalities*, even if only short term. The Gini coefficient of gross income went back from the 0.39 pre-increase levels to 0.36 (though by 2005 it reached 0.38 again). This temporary decrease in inequality is not insignificant: it roughly corresponds to the 2005 differences between "old" and "new" EU member states.[13] The impact on *household income inequalities* was weaker, however, explained by the fact that minimum wage earners are typically not the first earners in the household. At the time of the great rises less than 20 per cent of them belonged to the lowest income quartile (*Benedek et al.* 2006, *Szabó,* 2007).

Regulating the minimum wage in Hungary

In Hungarian regulation the rate of the minimum wage is established annually, without a straightforward formula or clear criteria. It is determined by the government, with representatives of employment organisations involved to a varying degree: sometimes to a large extent, at other times merely in a consulting role (*Gábor,* 2012, *Neumann and Váradi,* 2012). Before the latest public work regulations came into effect, the minimum wage was almost universally extended to a large group of employees. Differentiating between job-seeker qualities (such as age, education, experience, ability to work etc.) has not been part of Hungarian minimum wage regulation for long. With the 2006 introduction and 2007 enforcement of guaranteed minimum income the Hungarian minimum wage regulation also introduced an (upwards) differentiation; but it was the 2012 labour code that allowed for differentiation of guaranteed minimum income levels between "certain groups of employees" (article 153 clause 2). As emphasised by *Gábor* (2012), none of the instances of the above-mentioned practice are exceptional. For all of them, we can find a varying number of European countries practicing a similar differentiation.

Arguments for the selective downward modification of the minimum wage

As demonstrated above, both Hungarian and international empirical evidence suggests that if we can identify labour market segments where the gross wage cost of the guaranteed minimum income is "too high" (compared to the average or median income, for instance), in other words, where the supposed employment reducing impact of the minimum wage is significant, the general

employment situation can be improved by reducing the minimum wage levels pertaining to these groups. If the positive impact is large enough, and the social costs (of a political, budget-related, or administrative nature or originating from boosting the black economy or creating arbitrage opportunities) and side effects of downward reduction are not too significant, a modification of this kind may serve to improve social welfare even if the other two functions of the guaranteed minimum income (fairness and equity) are somewhat hurt by it.

Modifications of this kind are not a rarity in the developed world: a number of European countries apply downwardly modified minimum wage policies (see *Benedek et al.* 2006, Table 1), according to age (youth: the Netherlands, Slovakia, France, Ireland, Belgium, Great Britain), time in service (entry level jobs: Czech Republic, Poland, Cyprus), altered work capacity (Czech Republic, Slovakia) or casual worker status (Spain). These modifications typically target groups with a low average wage level, among whom the value of the (universal) minimum wage would be comparatively high. This is, in fact, the environment where the minimum wage reduction can be expected to yield significant positive employment effects.

Whether this is beneficial for the society on the whole can only be determined after carefully weighing the sum of its effects. To illustrate the considerations associated with selective differentiation, let us summarise the reasoning of a related policy proposal.
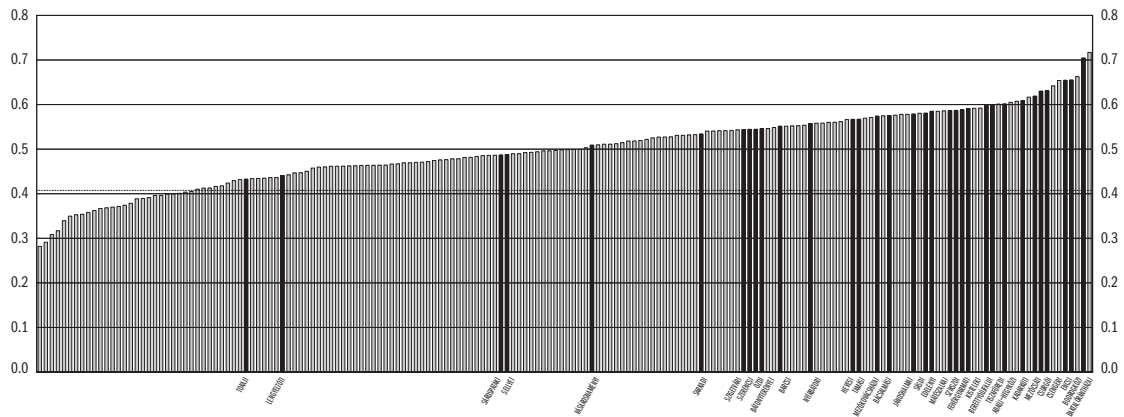
Regional minimum wage in Hungary

Scharle and Váradi (2009) point out that even though *Rutkowski* (2003) and *Smith* (2007) suggest its application if there is significant territorial dispersion between wages and price levels, the regional modification of the minimum wage is not common practice in Europe. However, the 2005 OECD country review of Hungary explicitly suggests its implementation (*OECD,* 2005). The recommendation is based on the idea that uniform minimum wage levels impact underdeveloped areas more strongly, for two reasons. Firstly, the price and wage levels are typically lower, therefore the countrywide minimum wage is higher both in real value and compared to the local average wage. Secondly, the proportion of unskilled workers is characteristically higher in these territories. Hence, supposing that the net employment impact of the minimum wage is greater on the unskilled than on the skilled, the underdeveloped regions are going to be affected much harder. Regional differentiation (a minimum wage rate that is lower than the national level) is suggested in the hope of counterbalancing this effect. This proposal is nuanced, but, on the whole, strengthened by the findings in *Chapter 6* of this *In Focus – I*. Benedek et al. describe the distribution of disguised minimum wage earners (arguing that there is a higher volume of this kind of tax avoidance practice in the capital, as well as among those with a higher effective income, under-represented in the regions in question). But the region-

by-region separation of actual minimum wage earners from the disguised ones would require further study, utilising the findings in the above mentioned article.

We know relatively little of the territorial differences between price levels in Hungary, though the time series of *Dusek and Szalka* (2008) largely reinforce the positive correlation between income levels and price levels; a connection that is in line with the theoretical prediction. This implies that the differences between nominal sub-region average wages overstate the difference between real wages (the problems entailed by regional price level differences and taxing nominal income were also touched upon in the introductory 1st chapter eaarlier). At the same time, considering that the territory of a median sub-region is no more than 480 square kilometers, geographic mobility and product arbitrage prevent the emergence of substantial differences in price levels between small and densely populated sub-regions.

The data in *Figure 5.4.1* suggests that a minimum wage policy that is efficient on a national level may affect underdeveloped regions more strongly. This coincides with calculations by *Kertesi and Köllő* (2004) stating that the wage shock implied by the minimum wage rises of 2001 and 2002 was largest for young persons, unskilled workers and those living in high unemployment regions.

Figure 5.4.1: Minimum wage rates in proportion to sub-region average wage rates, 2008

Note: The 33 sub-regions with the worst conditions are marked black; the dashed line denotes the national average. The weighted wage tariff data underestimate the average wage, therefore the above ratio is somewhat rounded up; however, this has little bearing on the relative situation of sub-regions.
Source: *Scharle and Váradi* (2009), Figure 2.

If we consider territorial differentiation, the first point to address is what territorial unit it should apply to. *Scharle and Váradi* (2009) suggest sub-regional differentiation since a significant part of inequalities is not reflected on a county level. Taking commuting into account, a sub-region largely corresponds to the area delineated as the local labour market. On a sub-regional level, if there

are enough competitors present, wages will level out in the short term, without movement of workforce or capital. In this milieu the political and administrative framework necessary for differentiation can also be set up.

The proposal identifies four plausible groups of criteria to establish the extent of moderation:

– indicators demonstrating the high presence of a low productivity work force especially affected by the minimum wage level (the rate of registered unemployed people and the proportion of the permanently unemployed and the young jobless; the ratio of people with altered labour capacity and the proportion of unskilled workers in the active population),

– as an indicator of the demand for unskilled labour, the proportion of the employed in the unskilled population,

– the proportion of minimum wage/average wage ratio, measuring the efficiency of the minimum wage; the so-called Kaitz index[14] that includes the proportion of those employed on minimum wage and the shock measured at the 2001 rise,

– and tax payments per capita, measuring the income status.

The various indicators highlight various sub-regions as severely disadvantaged. Structured in a table, *Scharle and Váradi* (2009) identify the few sub-regions that seem to be the most likely candidates for differentiation.

They then move on to confront the political difficulties of regional differentiation and, taking the aims and interests of the stake-holders into consideration, attempt to develop a politically viable arrangement. They thus compare three different potential solutions, presenting the advantages and disadvantages of each, as well as the foreseeable reaction of stake-holders:

– allowing for the reduction of the minimum wage by modifying the labour code, with sub-regional development councils retaining the right to establish the exact extent thereof,

– reducing the gross cost of the minimum wage by utilising EU development funds, inspired by the example of the *Start* card for entry level employees,

– reducing the gross cost of the minimum wage by relief from social security contributions, employing budget resources.

Finally, through an international comparison they conduct calculations on the desirable extent of differentiation. They also suggest rules aimed at decreasing the risk of arbitrage and, inasmuch as possible, present the budget and employment related impact of a few imaginable scenarios. According to their calculations based on earlier empirical estimations, in these sub-regions a 30 per cent decrease of the minimum wage could boost unskilled employment levels by 6–12 per cent within 2 or 3 years. The developments of the past two years, especially the strengthening of the administrative role of the district, and the proposed amendment to the labour code make even the first version of the proposal (which seemed somewhat far-fetched in 2009) feasible.

14 The Katz index is the ratio of the minimum wage and the average wage, multiplied by the number of people employed on minimum wage.