THE HUNGARIAN LABOUR MARKET
IN 2010–2011

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The Hungarian labour market between the summers of 2010 and 2011 can be characterised by the situation that evolved as the aftermath of the crisis of 2008 and in which economic activity was mainly triggered by export. Economic growth continued to remain moderate with a low level of employment combined with a high rate of unemployment, and the economy seems to have stabilized at a lower steady state than the preceding one. Accordingly, the labour market was unable to surpass its own former output levels or to exceed the performance of similar countries. In contrast to market processes, the increased government activity went through major changes. Policy measures such as the abolition of the former public work program or the radical restructuring of the unemployment benefit system can have a direct effect on the labour market. On the other hand, the restructuring of the tax system, the introduction of the new public work program or the institutional reforms might also exert their influence in an indirect way. The exact effect of the numerous provisions can only be analysed next year when in full possession of the corresponding data.

THE ECONOMIC ENVIRONMENT AND EMPLOYMENT[1]

The recession, brought about by the global financial crisis hitting Hungary in the second half of 2008, touched bottom in the middle of 2009. The period following is marked by a constant recovery, which is generally observable in the countries of the region (*Figure 1*). This rise can mainly be attributed to the instant economic stimulus measures implemented by the national governments (*MNB,* 2010*a*). However, the effects of the programs proved to be temporary as shown by the stagnant growth rates of the last one and a half years. Apart from this, growth was heavily supported by the dynamic growth of the developing – mainly Asian – countries. The expansion of their demand for import had a positive effect on the countries of the European Union, especially on the growth of the German economy. The German growth indirectly provoked the rise of orders in manufacturing sectors in the countries of the region (*MNB,* 2011).

In contrast to the rest of the region, whose higher growth rates at the beginning of 2011 still have not achieved the former levels of 5 to 7 percent, the annual 1–2 percent growth rate of Hungary last year roughly corresponds to its performance prior to the crisis. The GDP growth of Poland during the crisis was unparalleled in the European Union and its growth rate of 3.5 – 4 percent continued to be the highest in the region during the last year. The possible reasons for this include the relatively low level of residential debt (even in the case

1 The manuscript was closed on 15th of October, 2011.

of debt denominated in foreign currencies) and public debt, and the compara-tively low exposure to export (*NBP,* 2010).

Figure 1: The development of real GDP in the Visegrád countries by quarter (per cent)
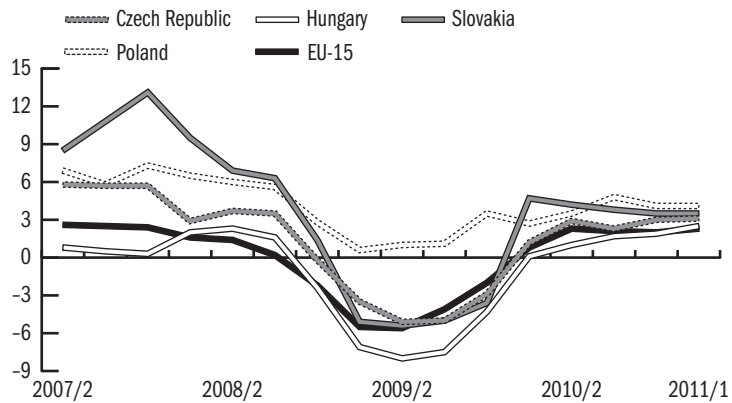
Note: Percentage changes relative to the corresponding period of the previous year.
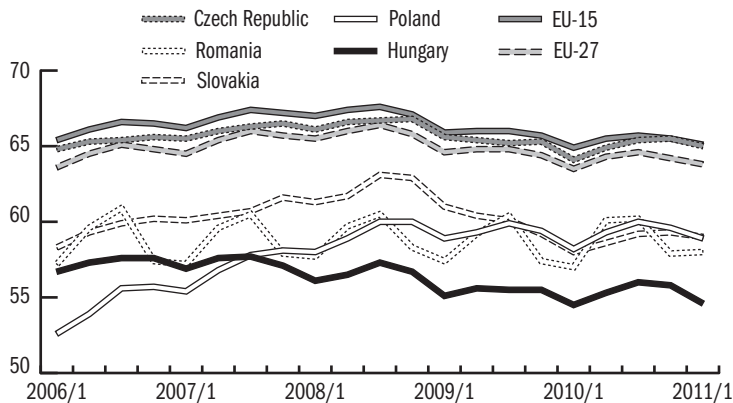Source: *Eurostat* on-line database (teina011).

The slowdown was greatest in the second quarter of 2009 in Hungary, with a drop of 8 percent compared to its previous value for the same period in the pre-vious year. Considering the annual growth rates over the entire period, Hun-gary was not only below the other Visegrád countries, but the EU-15 average as well. The figures of 2010 at the same time show that a slow recovery process is observable compared to the EU-15 average.

The upturn, however, still displays a dual structure. While the export ori-ented manufacturing industry has been growing steadily since 2009 due to the strength of international demand, the domestic demand is only capable of a slow recovery, which still induces weak performance in the service industries. The scarce internal demand originates from the stagnant household consump-tion and the weak credit market activity that can be traced back to the declin-ing investment activity of the private sector. The latter was able to increase af-ter two years in the first quarter of 2011, which growth, however, can mostly be attributed to a few major manufacturing enterprises such as Mercedes or Hankook (*MNB,* 2011).

The shock hitting the real economy exerted its influence rather quickly on the labour market; the relative upsurge on the other hand didn't appear at such a speed. Even though the fall in employment in Hungary did not differ sig-nificantly either in extent or in tendency from other European countries, the absolute numbers show remarkable differences (*Figure 2*). Whilst the current employment levels of other countries approximate the 2006 values, in the case of Hungary the current level of 55 percent is below both the 2008 and 2006

values. As a result, the level difference compared to the EU-27 average grew from 7 percent to a current level of 9 percent over the last four years. Another significant achievement of Poland in this regard is that, in spite of the crisis, it was able to retain the employment advantage acquired earlier.

Figure 2: Employment rates in the Visegrád countries by quarter, 15–64 year-old population (per cent)


Source: *Eurostat* online database (lfsq_ergan).

The fall in employment might partly be attenuated by the accommodation of wages, which was indeed implemented both in the public and private sectors. The wage advantage of approximately 40 percent present from 2006 onwards in the public sector was decreasing gradually over the period, and after its disappearance in 2009–2010, it turned into a wage disadvantage compared to the wages of the private sector (*Figure 3*). This phenomenon was mainly triggered by the distinct way in which the two sectors reacted to the crisis. The adjustment in the private sector took place via the employment channel, while in the public sector the adjustment was predominantly through the moderation of wages (*Köllő*, 2011). The fall in employment was the largest among workers with primary level education or less in the private sector (a total of 5.4 percentage points between the third quarters of 2008 and 2010), while the fall was much smaller among employees in jobs requiring higher levels of education. The employment of workers having vocational education in the same period decreased by 1.9 percentage points, of employees with upper secondary education by 4.4 percentage points, and with higher education by 3.2 percentage points. In the meantime, employment in the public sector grew by 2.7 percentage points among the less qualified, and decreased by 1.1, 0.3 and 0.2 percentage points respectively among the three categories of higher education.

On the whole, stagnant wages and a decrease in employment can be observed in the private sector, and decreasing real wages with an increase in employment are present in the public sector until the first quarter of 2011 (*Figures*

3 and *4*). The extended public work schemes however played a crucial role in the adaptation of the public sector by employing mostly unskilled labour force with low wages, and thus this might have been pushing the average real wage of the sector downwards through the composition effect. This phenomenon is indicated by the fact that in the first three quarters of 2010 the employment of workers having primary education or less grew by 3.5, 0.6 and 0.8 percentage points respectively compared to the same period in the previous year. On the other hand, in the case of employees in jobs requiring a vocational or general secondary education the observable tendency was regressive. At the same time, it is also worth mentioning that the growth in the employment of higher education graduates proved to be more stable as, contrary to the growth in unskilled employment, it continued at the end of 2010 and the beginning of 2011 (approximately 0.5 percentage points).

Figure 3: Major economic indicators in Hungary by quarter from 2006 (per cent)
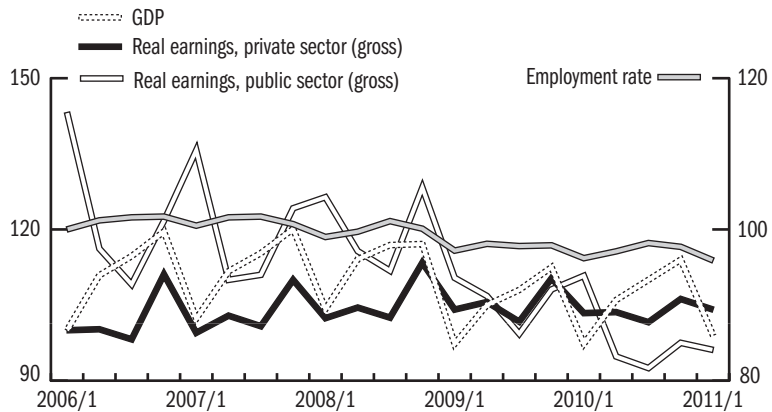
Note: Employment rate shown on the y axis on the right. GDP volume: Q1 2006 = 100, GDP production at average prices in 2000.

Earnings: average gross earnings in private sector in Q1 2006 = 100, real earnings deflated by the Consumer Price Index.

Source: GDP, earnings: authors' calculations based on HCSO Stadat; level of employment: authors' calculation based on the Hungarian Central Statistical Office (HSCO) Labour Force Survey.

The employment rate has decreased from its former equilibrium level by 4 percent (approximately 2 percentage points) since the beginning of 2009 and seems to have stabilized at this level. Similar processes have taken place with regard to unemployment as well. The unemployment rate, which was rising, from 2009 onwards, as a result of the crisis reached its peak at 11.9 percent in the first quarter of 2010 and has not fallen below 11 percent ever since, even reaching 11.7 percent again in the first quarter of 2011.[2] Due to the lack of radical changes, the post-crisis equilibrium level is set 3–4 percentage points higher than earlier. This process is further facilitated by the fact that parallel

2 This effect can partly be attributed to the seasonality of the indicator, and partly to the impact of the public work schemes observable in connection with inactivity (see also *Figures 5, 6* and *18*).

to the fall in employment, economic activity has risen by 4 percent since the first quarter of 2009, a tendency which might continue to persist due to government measures aimed at increasing the labour supply. Due to the strict credit conditions and the labour hoarding observed during the crisis, the continually rising labour supply can be trailed only slowly by demand, thus leading to a higher unemployment rate in the long run as well (*MNB*, 2011).

Figure 4: Major labour market indicators by quarter, 2006–2011
(2006 Q1 = 100, unemployment rate in percentages)
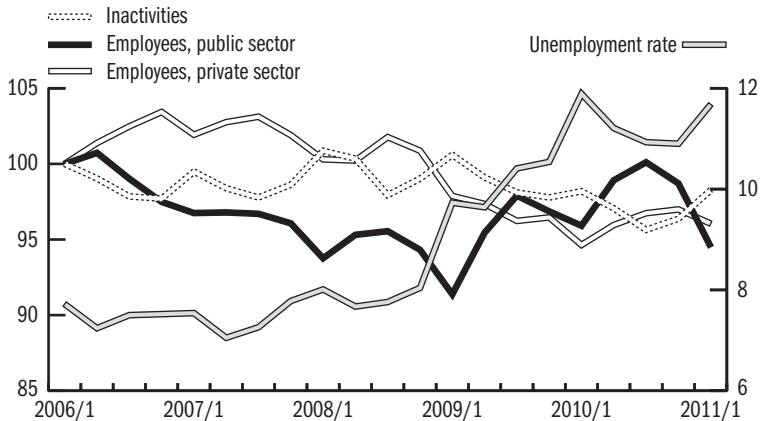
Note: Unemployment rate shown on the y axis on the right.
Source: Authors' calculation based on HCSO Labour Force Survey data, 15–64 year-old population.

Based on experience from previous years, the decrease in inactivity is a positive phenomenon on the whole, but the decrease must be complemented by the fact that the underlying mechanism is rather growing unemployment and not a rise in employment (*Figure 4*). *Figures 5* and *6* display stock-flow consistent calculations of labour-market status transitions based on Cseres-Gergely (2011). In this paper, unsubsidised employment or subsidised private sector employment (hereafter: unsubsidised), and subsidised public sector employment (hereafter: subsidised) are discussed separately.[3]

According to the figures, the dynamics of status transitions that shifted in 2009 seems to be resettling. We find a significantly increased flow from unsubsidised employment to unemployment compared to the previous year in the first quarter of 2010, which was balanced during the following quarters by the (unusually) high number of new entrants onto the labour market. The dynamics of the first quarter of 2011 however resemble the period before 2007: the remarkable increase in unemployment that characterised the winters of 2009 and 2010 didn't arise in 2011. On the other hand, subsidised employment, which includes participants in public work schemes, shows signs of drastic changes (*Figure 6*). As a joint result of the decreasing inflow and increasing outflow of

3 Cseres-Gergely (2011) discusses in detail the advantages and disadvantages of the method applied herein. Still, three features should certainly be emphasised. First of all, the reported stock-flow data are consistent with stock changes, yet they are to be handled as estimations and not as facts. Secondly, analyses tend to omit flows related to demographic changes, which are definitely needed to create consistency. Thirdly, we emphasise that subsidised employment includes workers in the public sector and the local government.

employment, the sharp rise in mid-2009 and mid-2010 turned into an abrupt fall in the first quarter of 2011 (reporting a loss of about 35.000 people). These changes were mainly attributed to the delay in public work schemes and roughly offset the rise in subsidised employment during the previous two years.
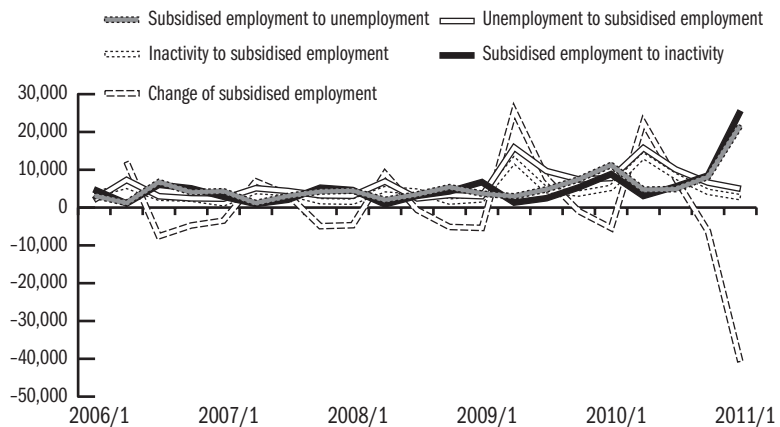
Figure 5: Quarter to quarter changes in unsubsidised employment, and its components: flows between employment and unemployment, inactivity (omitted direction: subsidised employment), 15–64 year-old population, 2007–2011
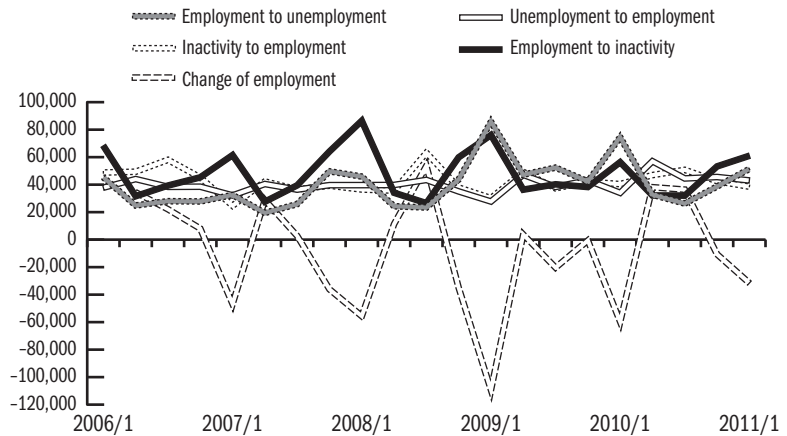
Note: Unemployed: registered unemployed.
Source: Authors' calculation based on HCSO Labour Force Survey micro-data, stock-flow consistent model.

Figure 6: Quarter to quarter changes in subsidised employment, and its components: flows between employment and unemployment, inactivity (omitted direction: unsubsidised employment), 15–64 year-old population, 2007–2011
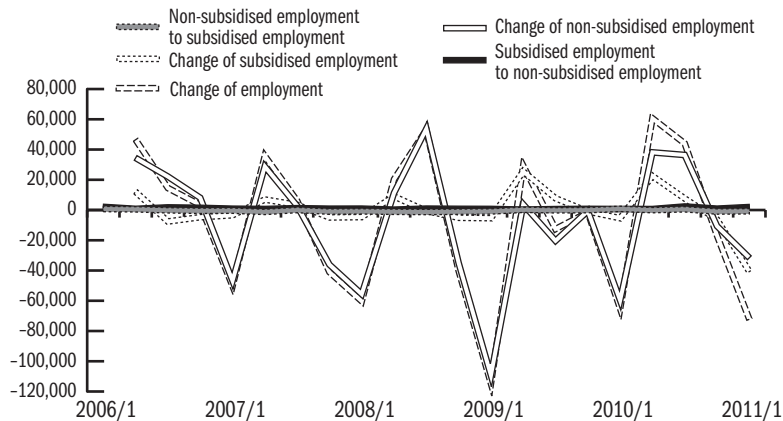

Note: Unemployed: registered unemployed.
Source: Authors' calculation based on HCSO Labour Force Survey micro-data, stock-flow consistent model.

In spite of the significant growth of the public sector, the transitions in employment are just narrowly influenced by it; *Figure 7* shows that it had a substantive impact on the aggregate level of employment only in the first half of the last couple of years. The figure also displays that the transition between the subsidised sector and other employment groups is extremely restricted; a topic which will be discussed later on.

Figure 7: Quarter to quarter changes in subsidised and unsubsidised employment and its components: flows between subsidised and unsubsidised employment (omitted directions: inactivity and unemployment), 15–64 year-old population, 2007–2011


Note: Unemployed: registered unemployed.
Source: calculation based on HCSO Labour Force Survey micro-data, stock-flow consistent model.

Even though the latest statistics on employment (*KSH,* 2011) published by the Hungarian Central Statistical Office is not directly comparable to data from previous years, the tendencies derived might provide some valuable information. According to these figures, the relatively low employment rate of 56.1 per cent among the 15–64 year-old population in May-July 2011 was 0.6 percentage points higher than in the same period in the previous year. Another favourable development is that the activity rate reflects an increasing trend, accompanied by the decreasing number of unemployed people. Its value of 62.9 per cent was 0.5 percentage points higher between May and July 2011 than the previous year (representing an increase of 39,000 people). In the meantime the unemployment rate fell from 11.1 percent to 10.9 percent (a decrease of 3,900 people). All of the above might give grounds for optimism, albeit official HCSO data do not make it possible to distinguish between subsidised and unsubsidised employment.

Large-scale heterogeneity of worker groups accompanies the new lower level of aggregate employment. The population most heavily affected by job losses at

the onset of the crisis were skilled workers (*Cseres-Gergely and Scharle,* 2010). The same process seems to persist in 2010; the employment rate between the first quarters of 2007 and 2011 fell by a total of 6 percentage points from 68.7 to 62.6 percent, out of which 1 percentage point has arisen since 2009. The effects of the crisis became apparent among workers with primary level education or less with a slight delay, appearing only at the beginning of 2009. The drop in employment in their case is around a stable 1 percentage point (*Figure 8*). However, due to the lower initial level among this group, such a drop is still remarkable.

Figure 8: Employment rates among the 15–64 year-old population by education from Q1 2006 to Q1 2011 by quarter
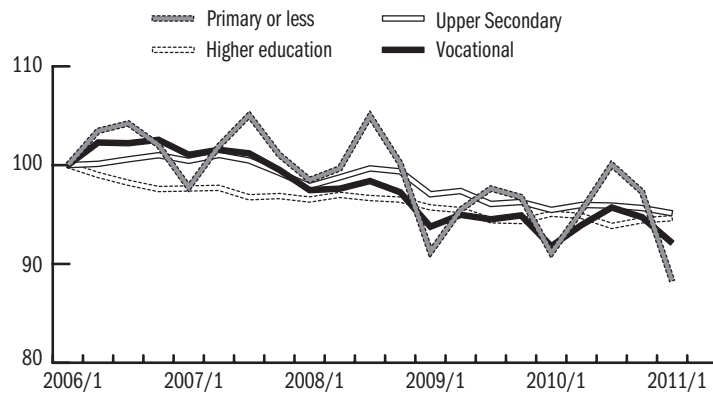

Note: Q1 2006 = 100.

Source*:* Authors' calculations based on HCSO Labour Force Survey micro-data.

Skilled workers, and especially higher education graduates, seem to be more resistant to the effects of the crisis. Among these groups, the decrease in employment had already begun before the onset of the crisis and can largely be attributed to the mass layoffs in the public sector after 2006. The corresponding employment rate in the public sector fell by a total of 6.7 percentage points between the first quarters of 2006 and 2009. The private sector started to show the same tendency from the second half of 2008 onwards: the period between the first quarters of 2008 and 2011 saw a decline of about 3 percentage points.

During a period of falling demand, restrictions put on labour expansion by entrepreneurs hit the employment of young cohorts most heavily. The substantial drop in men's employment as the direct effect of the crisis seems to be overturned in the case of the new labour market entrants (left panel of *Figure 9*), whose situation (that is the relative difference between employment rates) has clearly been improving in the past two years compared to non-new labour market participants, with the exception of the 20–24 year-old cohort (*Figure 9*). However, the fall in employment is still most severe in the youngest cohort, both among new entrants and non-new labour market participants.

Figure 9: Employment rates among younger cohorts by gender and new entrant status in the first quarter of 2008, 2009, 2010 and 2011
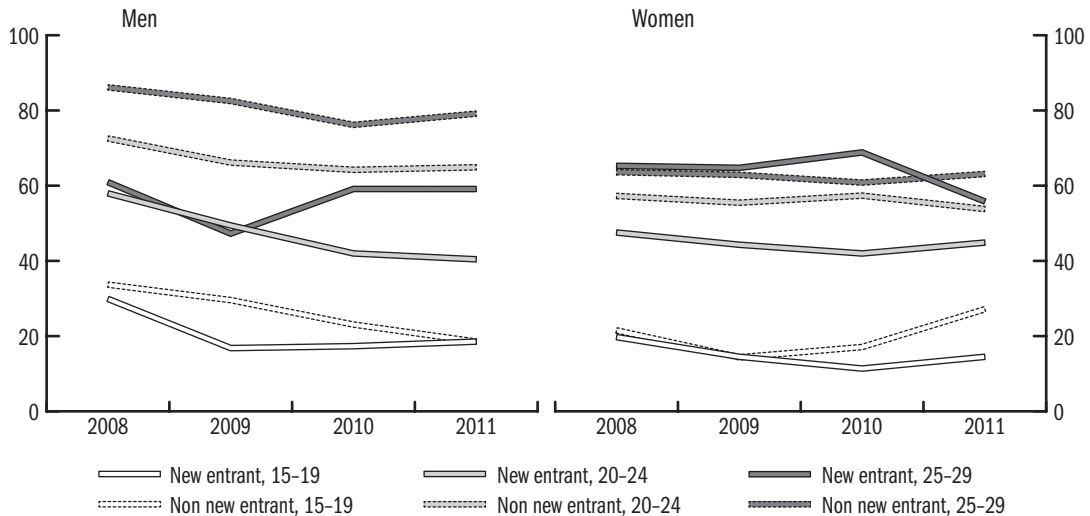
Note: A new employment entrant is defined as a worker in employment and not in full-time education who was a student a year before data collection. A new labour market entrant is defined as a person not in full-time education who was a student preceding data collection. The non-new employed are those in employment and not in full-time education who were not students one year before data collection. Non-new labour market participants are those not in full-time education who were not students preceding data collection. The figures for 30−34 year-old new labour market entrants are omitted because of the large error margin associated with low cell counts.

Source: Authors' calculations based on HCSO Labour Force Survey micro-data.

Looking at women, the employment rates are invariably lower than among men in all cohorts and statuses. On the other hand, the effect of the crisis on their employment was less substantial and there have been favourable processes taking place ever since (right panel of *Figure 9*). The employment rate of 27.1 percent among the cohort of 15–19 year-old non-new entrants was 13 percentage points higher at the beginning of 2011 than at its lowest level in 2009. However, it must be taken into consideration that this cohort is relatively small and that the spectacular growth can rather be ascribed to a decrease in the denominator of the calculated ratio.[4]

LABOUR DEMAND

The crisis and the ensuing recovery process affected the different sectors of the economy in a distinct way. The changes in labour demand further intensified the already existing heterogeneity. The general setback of 2008–2009 was followed by an upsurge only in the industrial sector, especially in the heavily export oriented manufacturing industry (*Figure 10*). The contraction of the manufacturing industry that had commenced before the crisis contin-

4 The number of non-new entrant women in the 15–19 year-old cohort fell from 13,500 to 9,500 between 2009 and 2011.

25

ued, although at a slower pace. As a result of the decline of the domestic demand, the performance of the service industry fell during the crisis, and has been stagnant ever since. The only industry that was able to grow extensively within the service sector is the transportation industry, whose performance is heavily correlated with industrial production. At the same time, retail sales didn't proliferate as they were expected to as the income tax reduction failed to provoke a satisfactory growth in consumption. The moderate lending activity in Hungary continues to create barriers to the further expansion of the service sector (*MNB*, 2011).

Figure 10: Quarterly real output by industry, 2006–2011
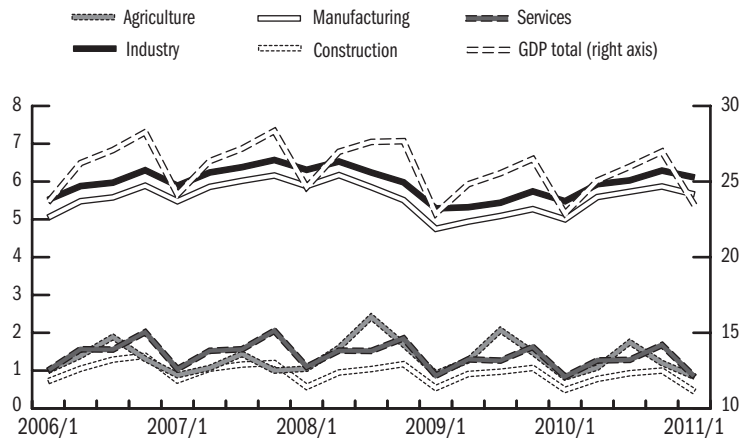
Note: At constant prices (base year: 2000), agriculture GDP in Q1, 2006 = 100. The GDP contributions shown in the figure are relative to the contribution of agriculture, e.g., in the first quarter of 2006 services contributed more than ten times, and manufacturing contributed more than four times the contribution of agriculture.
Source: Authors' calculations based on HCSO Stadat.

The boom in the different industries had its influence upon the evolution of the labour demand as well, but the reactions evoked may differ by industries due to the heterogeneity of the production elasticities (*Kőrösi,* 2005). The fall provoked by the crisis was the largest in the industrial sector, and as a result of its relatively high production elasticity, it also induced a significant decline in employment (*Figure 11*). Employment has expanded rapidly in the manufacturing industry, increasing by 2.7 percent between the first quarters of 2010 and 2011, yet it could not reach pre-crisis levels. Meanwhile, employment in the construction industry continued to decrease (a total change of –2.4 percent between the first quarters of 2010 and 2011). It is worth mentioning that in spite of its weak performance, employment in service industries rose steadily to its 2006 level during 2010. This can primarily be ascribed to the expansion of employment in administrative, engineering and catering services (*MNB*, 2010b).

Figure 11: Employment by sector (Q1 2006 = 100)
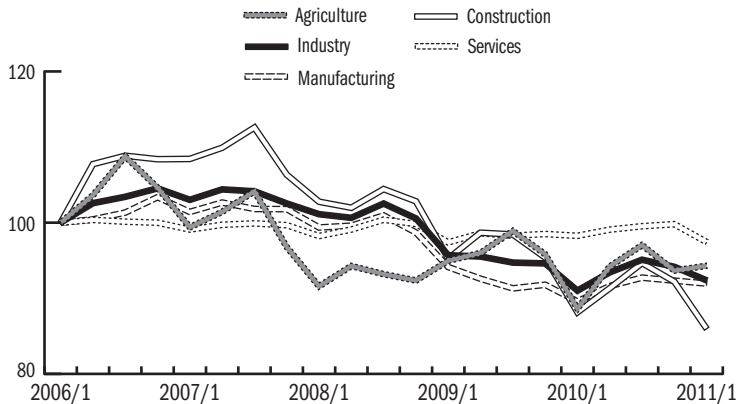
Source: Authors' calculations based on HCSO Labour Force Survey.

The deflections might have been caused to a great extent by the low flexibility of the Hungarian labour market, meaning that the firm adjustment happens mainly at the extensive margin. However, this does not necessarily mean mass layoffs as the regular hiring of new labour may result in a decrease of the magnitude of two-digits and the corresponding data seem to confirm that the same has been happening in the Hungarian labour market (see *Köllő*, 2011 and *Cseres-Gergely*, 2010). The available data suggest that the expansion of hiring started at manufacturing firms as a response to the improvement of export perspectives. Similar to the decomposition of changes in the case of the employment as a whole, the effect of the creation and destruction of jobs on labour demand should be examined properly. Unfortunately, there is no direct data available on the destruction of jobs, while the main (but not entirely satisfactory) indicator of job creation is the reported number of empty jobs at the National Employment Service.[5] The former seasonality of the reported number of jobs changed dramatically in 2009 and its volatility rose considerably (*Figure 12*). The decrease in the number of unsubsidised jobs at the end of 2008 was soon followed by stabilization at a lower level and later on, at the beginning of 2010 by a slight increase that resulted in being only temporary. The majority of registered new jobs at the beginning of 2011 were subsidised, clearly indicating that the tendency starting at the bottom of the crisis still persists. According to this, the number of reported new jobs is influenced principally by the number of subsidised jobs, especially by jobs created within public work schemes.

Another, perhaps more refined adjustment strategy of labour demand is through working time reduction, which is indicated by the growing amount of part-time employment during the crisis. Though the same process seemed to persist between the first quarters of 2010 and 2011 with the further 0.5 percentage point increase of the rate, the degree of the growth is far less than it was

5 The Public Employment Service was renamed as the National Employment Service in 2011.

27

in 2009. The observed differences by gender have been growing steadily since the beginning of 2010; still, the share of part-time employment among women continues to be higher and is growing even further (*Figure 13*). Between the same periods of 2010 and 2011, part-time employment among women grew by 1 percentage point, while considering men the corresponding rate is only 0.4 percentage points. This might mean that while part-time employment is only an adjustment strategy for men, it is of a long-term increasing trend in the case of women. The majority of the growth might be attributed to the private sector, where the rate of part-time employment among women grew by 1.1 percentage points between 2010 and 2011, but the growth of 0.4 percentage points in the public sector is notable too. Bálint, Cseres-Gergely and Scharle (2011) attributed this effect to the introduction of obligatory part-time employment offered to mothers returning to the public sector from maternity leave since the 1st of January 2010. This hypothesis, however, is not supported by the data having become available.

Figure 12: Number of registered subsidised and non-subsidised vacancies
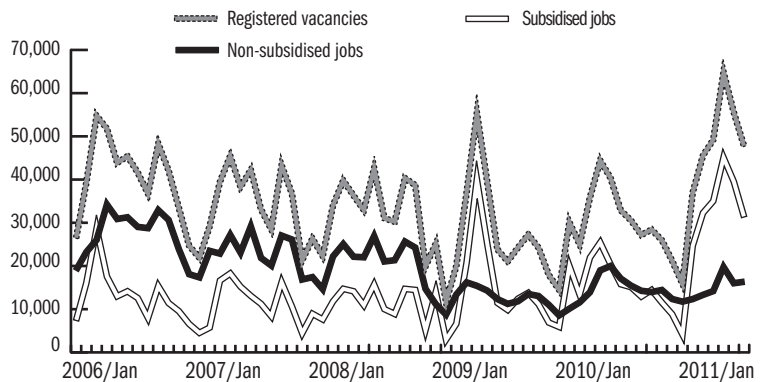
Source: National Employment Service.

Figure 13: Share of part-timers in total employment, 2006–2011
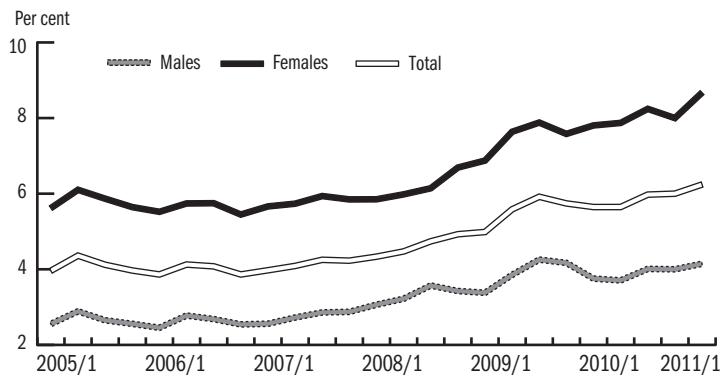
Source: CSHO Labour Force Survey.

28

We have examined the motives of the expansion of part-time employment using several simple methods. Looking at part-time employment by gender and age (15–24, 25–44, 44+), we find that its rate has increased most heavily among the 15–24 year-old cohort of women and the 25–44 year-old cohort of men. The former saw an increase from 4.2 to 14.2 percent between 2006 and 2011, while the latter from 1.4 to 2.9 percent. Based solely on this, the decisive importance of returning from maternity leave cannot be excluded just yet, thus we examined transitions between the fourth quarters of 2006, 2007, 2008 and the first quarters of the following year. If the scope of employment statuses consisting of employed, unemployed and inactive is complemented by the fourth category of inactive due to maternity leave, the ratio of entrants from the latter group into part-time employment did not rise significantly among either of the cohorts. As a result, two different processes had been taking place during the examined period.

The first pair of years reflects the influence of the crisis. During this period, the stability of part-time employment under the age of 24 has somewhat risen (the rate of workers who were part-time employees in earlier periods grew from 87 to 91 percent in the category of part-time employment). However, this might also refer to the slowing integration to full-time employment of this employment group. A similar process has been taking place for those above the age of 45 where the rate of 89 percent rose to 94 percent. Based on the magnitude of the changes, the first process seems to be more robust: part-time employment increased most among the younger cohort with primary level education or less and in the public sector. The direction of the changes was the opposite between the ages of 35 and 45, where transitions from full employment increased substantially. As a result, the rate of new entrants arriving from full-time employment grew from 3 to 7 percent. Extensive change was observable only among the younger and older population between 2009 and 2011: the ratio of entrants from inactivity but not on maternity leave rose considerably.

A possible conclusion might be that the above transitions are mainly the results of the different public work schemes. Nevertheless, the data calculated from the HCSO Labour Force Survey disprove this theory by revealing that the share of part-time employment in subsidised public sector employment does not exceed 10 percent among any of the age or gender groups. Accordingly, the roots of this effect do not lie in regulation, supply-demand changes or public work schemes, but is rather evoked by a market mechanism that requires further thorough examination.

Besides the quantitative adjusments in labour, the price adjusments, namely the changes in wages, should be emphasised as well, being a crucial determinant of labour demand. As a consequence of the measures provoked by the crisis, the wage advantage of the public sector melted completely in 2009 and even turned into a wage disadvantage during 2010 (*Figure 14*). Apart from the

already mentioned distinctions in the adjusment of the two sectors, another dominant factor might have been that the layoffs in the private sector mainly affected the blue-collar workers. Therefore, the so called composition effect in itself resulted in higher average wages.

Figure 14: Gross real wages in the public and the private sector by quarter, 2006–2011 (Q1, 2006 prices)
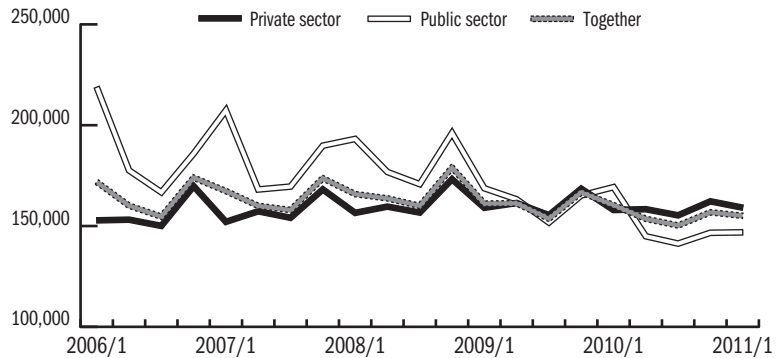
Note: Monthly wages in Hungarian forints (HUF). 100,000HUF ≈ 379EUR (calculated on 2006 yearly average rates, 1EUR = 264HUF).
Source: Authors' calculation based on *HCSO Stadat*.

Policies affecting labour demand

Labour demand was heavily shaped by government measures including public work schemes, development programs and the transformation of the tax system (further details in Chapter IV of *In Focus*). As we have already mentioned, the first months of 2010 saw a considerable drop in public employment; more precisely, the falling number of public jobs offered as part of the *Pathway to Work* program. The regime of public employment was reshaped in two steps by the government during 2011, the first of which mostly affects the part related to social security benefits, thus having no direct effect on labour demand. Detailed information on the progress of development programs in the framework of the Széchenyi-plan is not available, thus no estimate can be given on its short-term effects on the economy and on labour demand.

Two major effects prevail among taxes levied on businesses. Firstly, the tax rate on profits has been changed automatically to 10 percent instead of the general rate of 19 percent after the 1st of July 2010 (consequently in 2011 as well) for firms with revenues less than HUF 500 million. As there are no further conditions for obtaining this allowance, the decrease of administrative burdens might have a positive effect on micro- and small businesses.

Secondly, the government laid claims to revenue from additional taxes (so called "crisis taxes") during the whole period under discussion, levied on large companies in financial, telecom, energy and trade sectors. By diminishing the

profitability of these firms, and especially due to its degree and timing, this extra tax might oblige firms in the private sector to compensate for the losses with layoffs or the delay of regular labour expansion. In absence of detailed analysis, the extent of this effect cannot be determined.

Notable changes took place in the wage and tax policies during the last one and a half years. Among these, one of the most important is the introduction of the flat-rate personal income tax instead of the progressive personal taxation system from the 1st of January 2011. However, the effect on labour demand could be realised only indirectly, through the change of the wage costs, if the employees were ready to give up the increase in their gross wages in return for a decrease in tax burdens. Even though *Figure 14* displays the moderation of wage dynamics, we cannot be sure about the permanence of this effect, especially as the only sector reporting significant changes in employment is the export-oriented manufacturing industry.

According to the analysis of the *OECD* (2011), the extent to which average tax wedge was reduced in Hungary was one of the largest during the last ten years: the drop was approximately 6–8 percentage points among worker groups with different marital and income statuses (54.5 percent to 46.4 percent between 2000 and 2010 in the case of single workers with average wages, for example). However, its average value was still 9–13 percentage points higher than the OECD average in 2010 (which was 34.9 percent in the same category).

Figure 15: Tax wedge at the minimum wage and for an average wage in manufacturing, 2008–2011, bi-annual series (percent)
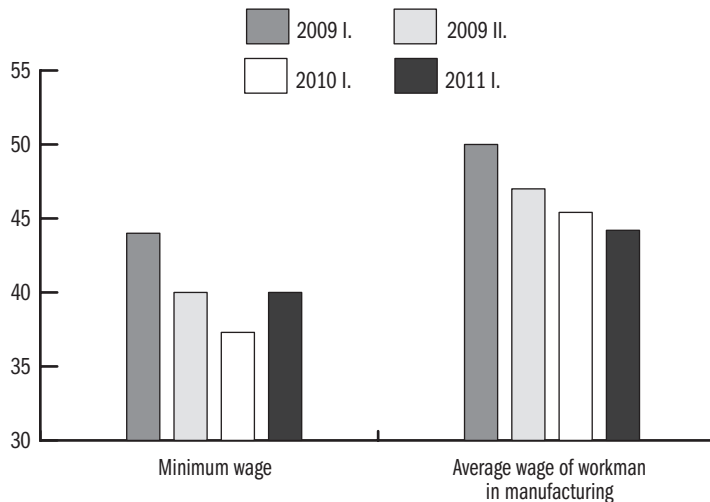
Note: The tax wedge is expressed as a percentage of the total wage cost.
Source: Taxes and contributions from Hungarian Tax Authority data; gross wages HCSO institutional statistics.

Figure 15 shows that the tax wedge of a worker in manufacturing with average wages decreased in 2011, primarily due to the moderation of the personal income tax. Meanwhile, the tax wedge has grew considerably for minimum wages (from 37.3 to 40.1 percent), which came about due to the phasing out of tax allowance and which elevated the figure to the former level of the second half of 2009. As a result of the higher wage elasticity of unskilled workers, this could reduce the demand for this group considerably.

The minimum wage and the skilled workers' wage minimum are instruments that affected wage costs to a smaller extent. Following their drop in real value on 2010 prices, the increase of both the minimum wage and the skilled workers' wage minimum exceeded the expected inflation of 3.9 percent in 2011, as a result of which the former rose approximately by 2 percent and the latter by 1 percent in real value (*Figure 16*). All these changes may encumber the adjustment in labour demand among unskilled workers even further.

Figure 16: The minimum wage and skilled workers' wage minimum in real value, 1997–2011


Note: HUF at 1997 level, in 2011 using the Hungarian National Bank's 3.9 per cent inflation projection (*MNB*, 2011). The values for 2009 were weighted with reference to changes in employer contributions during the year. The skilled workers' wage minimum is the lowest wage payable to employees in jobs requiring general or vocational secondary education (before July 2009 the pay could be slightly lower if the employee had less than two years' experience). 100,000HUF ≈ 463EUR (calculated on 1997 yearly average rates, 1EUR = 211HUF).

LABOUR SUPPLY

As opposed to the massive negative effects of the demand shock that has already been alluded to, the crisis emerged in a more temperate way on the supply side of the labour market (*Bálint, Cseres-Gergely and Scharle*, 2011). The changes arose mostly as intended or unintended consequences of policy measures.

As has already been shown, the labour activity of the population did not change considerably after the crisis. The principal reason for this is that the government did not open the way that could have helped the passing to inactivity, and moreover, the *Pathway to Work* program activated a large part of the inactive, long-term unemployed population for a certain period. The labour market dynamics of the inactive population changed during this time, as the typical cyclic fluctuations of earlier periods turned into a continuous fall until the end of 2010 (*Figure 17*). A possible explanation is the retarded influence of the elevated statutory retirement age and the aggravation on the conditions of the disability pension (*Kátay and Nobilis*, 2009).

Figure 17: Quarter to quarter changes in inactivity, and its components: flows between unsubsidised employment and unemployment, 15–64 year-old population, 2007–2011 (omitted direction: subsidised employment)
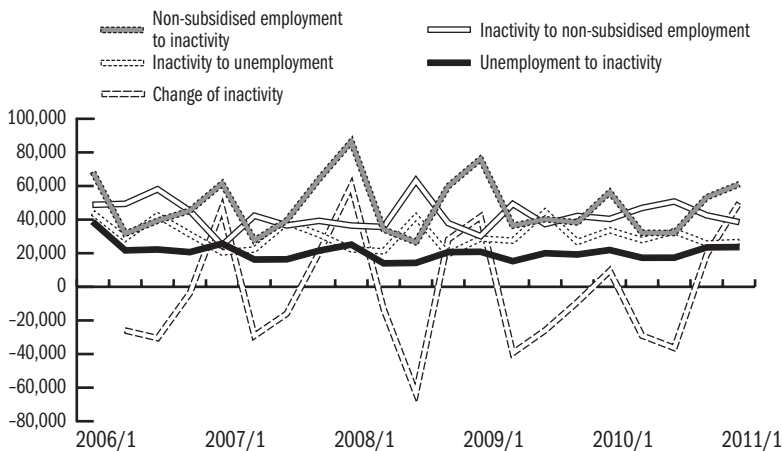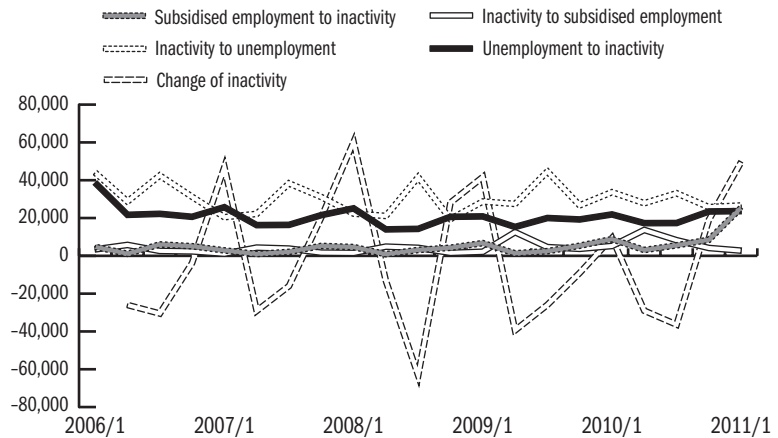

Note: Unemployed: Registered unemployed.
Source: Authors' calculations based on HCSO Labour Force Survey micro-data, stock-flow consistent model.

However, at the end of the period, a different influence becomes more powerful: the increased expansion of the public work schemes which activates a number of the long-term unemployed for a certain period. Consequently, the number of transitions from inactivity to subsidised employment increased in mid-2010. In the first quarter of 2011 inactivity unusually rose again, which could be attributed to the delay in the public work schemes appropriated for 2011 (*Figure 18*). Revisiting *Figure 7,* it can be seen that the public work schemes fulfil a primordial role in employment policy; however, they only facilitate temporary employment and not stable long-term work opportunities for the affected groups.

Figure 18: Quarter to quarter changes in inactivity, and its components: flows between subsidised employment and unemployment, 15–64 year-old population, 2007–2011 (omitted direction: unsubsidised employment)

Note: *Unemployed*: Registered unemployed.
Source: Authors' calculations based on HCSO Labour Force Survey micro-data, stock-flow consistent model.

Policies affecting labour supply

One of the fundamental purposes of the government's economic policy is the expansion of the labour supply, and several policy measures were implemented during the second half of 2010 and the first half of 2011 to support this. Out of these, ushering beneficiaries of pre-retirement and disability pensions to the labour market had perhaps the most indirect and uncertain effects, given the relatively low education of those affected. The case of disability pensioners is discussed in detail in the paper of the Hungarian National Bank (*MNB*, 2011, p. 76–79). According to their analysis, among the returners with higher education, approximately every second person has a chance of becoming employed. However, a remarkable part of this returning group, about 40%, is of lower educational level (primary education or less), and they are expected to contribute to a smaller extent to the expansion of employment in the private sector. Even though the rehabilitation of this group is feasible (*Scharle*, 2011), the majority of people with changed workability do not find employment in this way. Whether the activated people become employed or unemployed depends on the possible solutions of this situation in the future.

Another significant change was the restructuring of the tax system to a flat-rate personal income tax system from 2011. There are no detailed empirical analyses available on the labour market effects of this measure, and there are no demonstrable signs of short-term effects among the limited data at our disposal (data of the first quarter of 2011 from the HCSO Labour Force Survey). Based on preliminary research, however, a few consequences can be drawn. The

adjustment could be realised either through working time or by bringing to work people who were not employed earlier. In addition, no identical effect is expected among groups with different educational or income levels. According to *Bakos et al.* (2008), the adjustment through working time is negligible in the case of income levels under the average wage level, while above this level it equates to the strong sensitivity usually experienced in the international literature.[6] Possibilities of adjustment through entering the labour market are discussed in *Galasi* (2003), showing that the elasticity both on wages and non-labour income is small. *MNB* (2010a) recites related results which state that the change of the average tax wedge has only a moderate impact on entering and quitting [a drop of 1 percentage point implicates an increase of approximately 0.1 percentage point (p. 49)], but the effect is somewhat greater among the unskilled than the skilled workers.

Given that higher earners are most affected by the tax changes (*Cseres-Gergely and Simonovits*, 2011 and *Tóth*, 2011), the already employed skilled workers are expected to work more (in number of hours worked). The opposite is expected on the extensive margin, as the sensitivity of unskilled lower income groups is higher; however, due to the fact that the new tax system affected them in a negative way, their labour supply is expected to decrease.
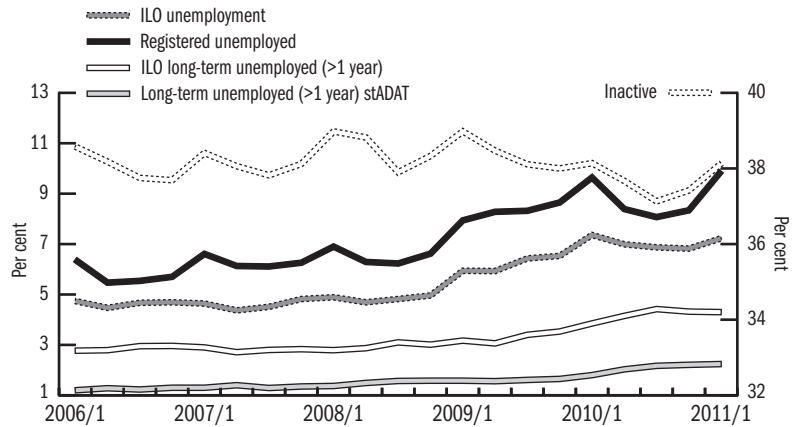
UNEMPLOYMENT

The unemployment rate as defined by the ILO[7] increased sharply from the stable pre-crisis level of 7–8 percent to 11 percent in 2010 and seems to have stabilized at this new higher equilibrium level. The share of jobseekers registered with the National Employment Service among the 15–64 year-old population has been continuously moving above the rate of unemployment. However, the co-movement of the two figures experienced during previous years broke up in 2010 (*Figure 19*).

The split between the statuses of unemployment and registered unemployment is mainly the result of the timing of the public work schemes, which raise the possibility of entering employment from the status of registered unemployment in the second quarter of the year. This powerful effect can be observed in 2010 (which was present in previous years as well, but less powerfully), but not yet seen in 2011 (*Figure 20*). As a result of a delay in the programs, the number of unemployed not seeking jobs even increased in this period. This is also shown by the fact that based upon the ILO definition, the number of registered unemployed is continuously increasing among the unemployed, while the ratio of job seekers among registered unemployed has been sharply falling since the winter of 2010. In the light of previous results, this can be ascribed to the effect of the inactive registered unemployed who are waiting for the public work schemes.

6 A 1 percent change of the marginal tax rate increases the taxable income by approximately 0.3–0.4 percentage points.

7 This is the general definition of unemployment rate. We try to emphasize the source of the definition to clarify the difference between unemployment rate and registered unemployment.

Figure 19: Non-employed subpopulations (partially overlapping)
among the 15–64 year old population after 2006 by quarter

Source: ILO-unemployed, long-term unemployed, inactive: authors' calculations based on HCSO Labour Force Survey; registered job seekers: authors' calculations based on Office for Employment and Social Affairs data.

Figure 20: Quarter to quarter changes in unemployment, and its components:
flows between employment and inactivity, 15–64 year-old population, 2006–2011
(including subsidised and unsubsidised employment)
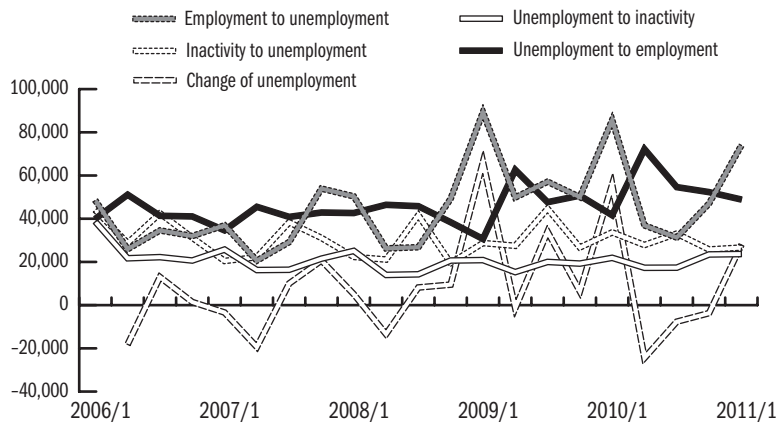
Note: Unemployed: Registered unemployed.
Source: Authors' calculations based on HCSO Labour Force Survey micro-data, stock-flow consistent model.

Contrary to earlier periods, the number of unemployed is shaped by movements inside the group of actives and not by the flow from inactivity to unemployment as in the spring of 2008 and 2009. The considerable quarter to quarter changes have been persistent since the onset of the crisis, induced by the flow between (unsubsidised) employment and unemployment, both of which are at a continuously high level. Accordingly, the attachment of active workers to

the labour market remained strong and, what is more, in the case of unemployment and inactivity the balance is positive in the short run.

The situation is more alarming among the most sensitive groups such as the young labour market entrants. According to the data of the National Employment Service (2011), the number of long-term job seekers (registered for more than one year) was 11,500 among the new labour market entrants in 2010, which represents 21.9 percent of the whole registered stock of new entrants. Though this figure is smaller than the overall ratio of 28.3 percent of long-term job seekers among the totality of the registered, taking into account that the affected group is of people who have not yet been able to integrate to the labour market, the rate seems to be extremely large.

The growth in long-term unemployment did not localize to unskilled workers with a low level of education. Comparing the monthly average values of 2009 and 2010, it appears that the largest growth of 38.2 percent was among higher education graduates, while the increase among workers with secondary education was 32.4 percent, with vocational education 21.7 percent, and with primary education or less 1.9 percent. Due to the differing number of the groups, the percentage changes might be misleading; the corresponding absolute changes are 1.6, 7.7, 9 and 1.4 thousand people.

The regional distribution of long-term unemployment is representative: half of the long-term job seekers in 2010 (51.7 percent) lived in the north of Hungary (especially in the county of Borsod-Abaúj-Zemplém) and in the northern part of the Great Plain (Szabolcs-Szatmár-Bereg county). The number of registered long-term job seekers in these two counties separately was 21,630 and 18,222, while the third place is occupied by the South-Transdanubian region with 11,133 people (*NFSZ*, 2011).

Policy measures

We have already mentioned that the restructuring of the public work schemes was presumably the main reason for the changes that can be observed in the number of registered unemployed. In the meantime, no policy measures have been taken that could have substantially affected the changes in the number of unemployed in the short run. There are various changes, however, that are expected to exert influence on the size and structure of unemployment in the following year. Such changes are the radical reduction in unemployment benefits; the cutback in active labour market programs, alongside with the expansion of public work schemes to a much larger scale than earlier; and the fact that half of the human resources of the National Employment Service will be devoted to the handling of the public work schemes. The details of these changes are further discussed later in this volume which deals with institutional changes.

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