

**THE HUNGARIAN  
LABOUR MARKET  
IN 2011-2012**

**ZSOMBOR CSERES-GERGELY**

**GÁBOR KÁTAY**

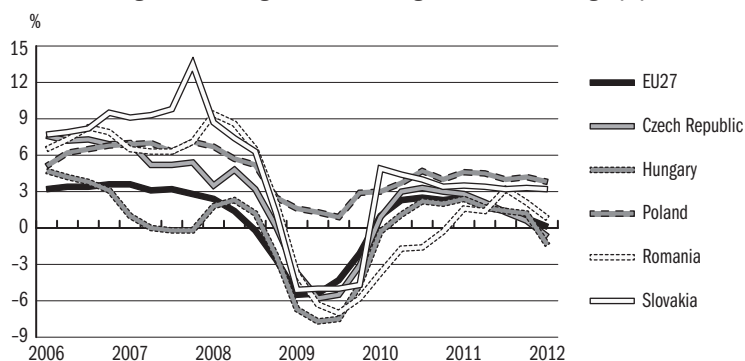
**BÉLA SZÖRFI**



## THE ECONOMIC ENVIRONMENT AND EMPLOYMENT

The global economic recovery that started in the middle of 2009, continued in 2011. The outlook has gradually improved and the majority of the European economies expanded (*Figure 1*); however, budgetary responses to the crisis and the immediate aid to the banking sector have led to a significant hike in debt levels. The European banking crisis gradually transformed into a sovereign debt crisis, affecting mainly Portugal, Ireland, Italy, Greece and Spain, i.e. the peripheral EU member countries. As a consequence, most of the European countries have followed a restrictive fiscal policy; however, initial budgetary positions and the size of the fiscal adjustments differ from country to country. The impact of the budget cuts on aggregate demand and the concerns about the debt crisis weakened confidence in the recovery and the economic outlook has been deteriorating since the beginning of 2011. In the second half of 2011, international economic activity decelerated significantly and at the beginning of 2012 several countries' economic output declined. In early 2012, with uncertainty surrounding the sustainability of sovereign debt levels, the tight credit conditions and the fiscal consolidation measures, economic growth came to a halt in the Eurozone, while data on industrial production point towards a recession. Hungary's most important trade partner, Germany – despite the slowdown of the Eurozone – is likely to maintain its higher growth rate. However, in line with the global debt deleveraging, the engine of growth may shift from exports to domestic consumption, which could affect the Central and Eastern European region's export demand negatively (*MNB, 2012a*).

Figure 1: GDP-growth in the region, annual change (%)



Source: Eurostat.

In line with the economic performance of their European trade partners, the economic growth of the countries in the Central and Eastern European region gained momentum in the first half of 2011, but is still below the pre-crisis growth rates. Debt deleveraging of Hungary and Romania, countries which were characterised by severe indebtedness prior to the crisis, was stronger and as a consequence, domestic demand and economic growth was lower than that of other countries in the region. The growth rate in the Czech Republic has been gradually deteriorating in the last two years due to declining domestic demand and fiscal consolidation measures; the economy even declined in early 2012. In Poland, the least open economy in the region, therefore the least exposed to fluctuations in foreign demand, domestic demand is able to positively contribute to growth, which is also due to a lower level of household indebtedness. Therefore, Poland is the most dynamic country of the region; however, the growth rate lags behind its pre-crisis level. With the introduction of the single currency in 2009, Slovakia avoided problems arising from foreign currency lending, while the structure and scale of the car industry supported the rapid recovery.

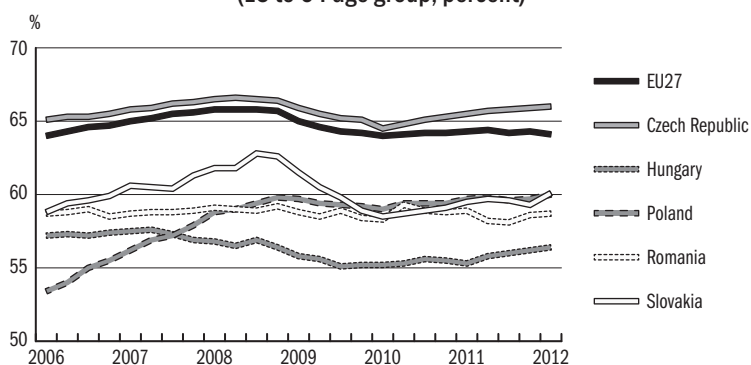
In Hungary, the outbreak of the crisis hit the exporting sector the hardest in the short run, but as external demand picked-up in 2009 and 2010, this sector's recovery launched first. With high debt levels accumulated earlier, the consumption and the investment of households declined. In the course of firms' adjustment, falling real wages and rising unemployment lowered disposable income. Meanwhile, the exchange rate, weaker as it was than prior to the crisis, raised the payments of households with foreign exchange denominated debt. As a consequence of these factors, domestic demand permanently fell back: consumption has been stagnating even in 2012 and investments decreased further. As a result, the output of firms producing for the domestic market still lags behind its pre-crisis trend.

Labour demand is subdued in all countries of the region. Labour hoarding characterised all countries to a greater or lesser extent: firms laid off less workers than would follow from the drop of output and tried to reserve the more skilled and more productive workers. This practice was supported in several countries by government programs: firms received support if they committed to keeping their employees. During the recovery, firms previously hoarding labour increased their labour demand more slowly, while using the existing labour force more intensively. As a result, employment rates in the Central and Eastern European region as well as in the whole of the EU lag behind their pre-crisis levels. The only exception is Poland where economic activity did not fall and is still relatively dynamic. In Hungary, the employment rate is still behind its 2005–2006 level, in spite of the fact that intensifying public working schemes counterbalanced the drop in private sector employment to a large extent (*Figure 2*).

Over crisis periods, labour supply might be influenced by two counteracting cyclical phenomena. On the one hand, facing permanently low labour demand, those who lose their jobs may give up job search after a while and exit the labour

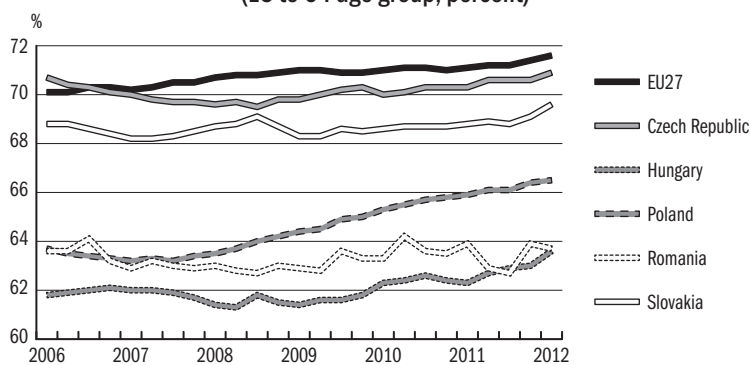
market. This in turn decreases the participation rate. On the other hand, in order to substitute for the absent income of the household, previously inactive secondary earners of a household might return to the labour market as the primary earners lose their job. In Hungary and Poland, structural measures also contributed to the rise in the participation rate: both countries tightened the conditions of retirement; Hungary in addition applies stricter conditions to disability pensions and also revises the status of the current disability pensioners. In Poland, those who were born in the baby boom of the early eighties are just entering the labour market (*OECD, 2012*).

**Figure 2: Employment rates in the Central and Eastern European region  
(15 to 64 age group, percent)**



Source: Eurostat.

**Figure 3: Participation rates in the Central and Eastern European region  
(15 to 64 age group, percent)**



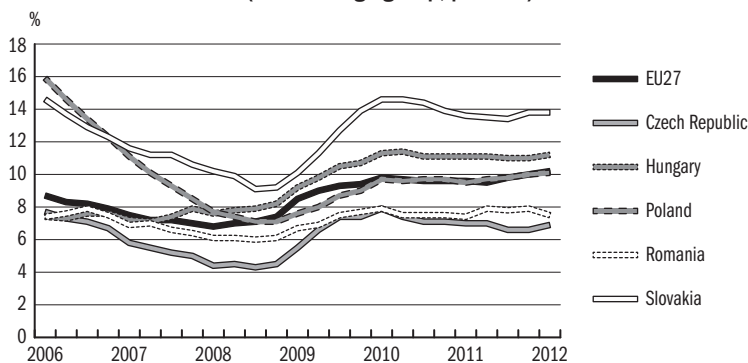
Source: Eurostat.

Due to the large or increasing labour supply and subdued labour demand, unemployment rates across Europe rose and continued increasing even after the recovery started. High unemployment is noticeable in the Southern European countries with the most severe debt problems, but the rates are also close to levels around the early nineties' transition period in the Central and Eastern European

economies. The prolonged crisis also leads to a permanent fall in labour demand, and as a result, the job finding probabilities of the unemployed remain low. As a consequence, the number of long-term unemployed, i.e. those who have been looking for a job for more than one year, also rises. In the case of the long-term unemployed, there is a risk that they lose their skills and competencies and will not be able to find a job even when the crisis is over. This increases the equilibrium unemployment rate as well (see e.g. *Ball, 2009*).

Hungary differs considerably from the other countries of the region in a sense that in the past few years, a significant positive labour supply and negative labour demand shocks have been prevailing at the same time. Labour supply increases as an effect of tightening conditions of disability pensions, and as a result by early 2012, the participation rate increased to a level not seen since the transition. Economic restructuring in the 2000s (depression of textile industry and construction, upswing of manufacturing) and weak economic activity since the outbreak of the crisis, caused a shift and then a fall in labour demand. As a consequence, the unemployment rate has been continuously increasing since the middle of the 2000s (*Figure 4*). The issue of unemployment was deepened further by the crisis, and as a result – despite the intense public working scheme programs –, since 2009 Hungary has the second highest unemployment rate in the region behind that of Slovakia.

**Figure 4: Unemployment rate in the Central and Eastern European region (15 to 64 age group, percent)**



Source: Eurostat.

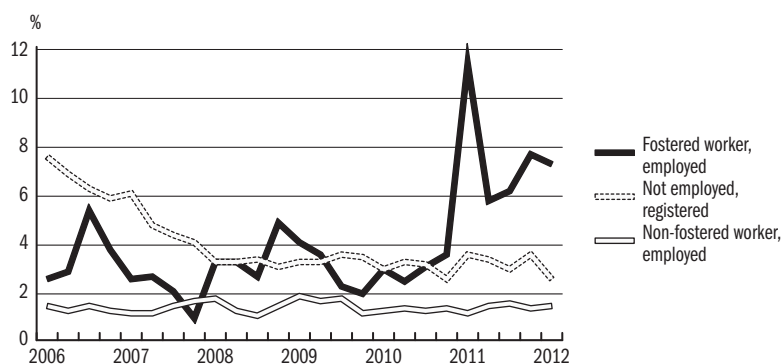
In the following chapters, we introduce the labour demand and supply shocks, and additionally the analysis is also extended to wage developments.

## LABOUR SUPPLY

The increase in the participation rate has gained new momentum over recent years. By early 2012, the participation rate of the 15 to 64 age group almost reached 64 percent, a value last seen in early 1993. By decomposing the change in participa-

tion using the method of *Kátay and Nobilis* (2009), it is evident that since 2009, the rise in participation was mainly caused by a severity of social transfers and by change in the composition of the active population. During the crisis, the residual component – which mainly contains the cyclical component of labour market participation – contributed negatively to participation. According to data on flows between different groups, the flow directly from employment rather than from unemployment into inactivity strengthened (*Figure 5*). The sharp rise in the flow from subsidised employment into inactivity might be a consequence of the restructuring of the public working schemes. Those who temporarily lost their fostered worker status in the 2011 short term programs and were not working and seeking for another job during the period in which they were waiting to be placed into the program again, were counted as inactive according to the ILO methodology (*Figure 6*).

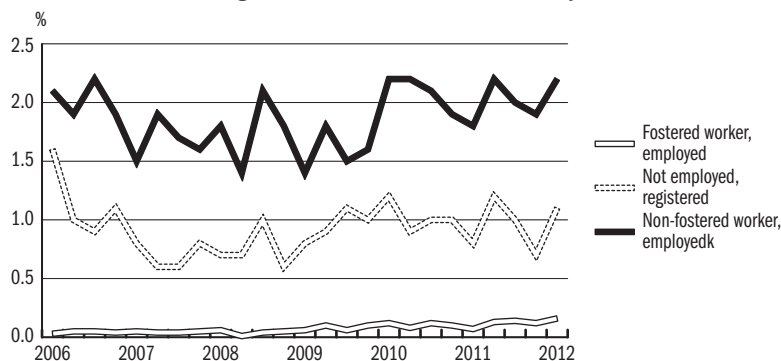
Figure 5: Inflow rates into inactivity



Note: Public workers include all types of subsidised public workers and not only fostered workers.

Source: Own calculations based on the Labour Force Survey of the *HCSO*.

Figure 6: Outflow rate from inactivity

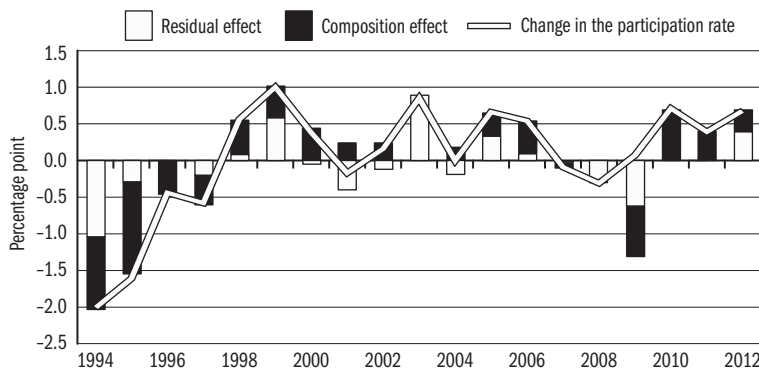


Source: Own calculations based on the Labour Force Survey of the *HCSO*.

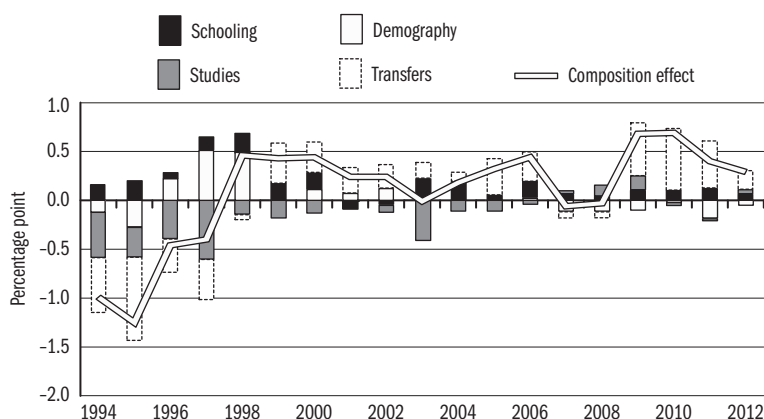
In recent years, demographic developments also decreased participation: the so called Ratkó-children are now reaching retirement age and their outflow from the labour market might have already begun. In the short run, the effect of schooling and education offset each other. Since the early 2000s, more and more individuals extend their studies and this temporarily decreases participation. However, after completing school, the higher educational level leads to a higher participation in the long run. It is worth noting that the change in the educational level changes participation only over a limited horizon. According to *Hermann and Varga* (2012), the change in the average educational level slowed down over the past two years and they forecast that until the end of the decade its growth will be even slower, and it is likely that education will contribute less to the rise in participation. However, a more favourable average level of education increases the participation rate permanently.

Since the early 2000s, the continuous severity of social transfers affected participation positively, and this process accelerated considerably since 2008, the reasons being the rise in the retirement age and the restrictions of entitlement for disability pensions. According to flow data, the rise in activity is due to the fact that while in 2006, 6–7 percent of the unemployed became inactive, this rate decreased to 3 percent by the end of 2008. In spite of the intention of the government, outflow from inactivity into activity has not yet changed considerably; restrictions of entitlement for disability pensions only resulted in a slowdown of inflow into inactivity. It is worth noting that with the restructuring of the public working programs towards a shortened period and part-time employment, a large number of fostered workers flow into inactivity. The reason might be that fostered workers knew that within a short period of time, they would become employed again in the program, and they neither worked nor searched actively for jobs whilst being temporarily inactive. Due to the methodology of the Labour Force Survey, they are considered as inactive. *Figures 7–9* present the decomposition of the change in activity.

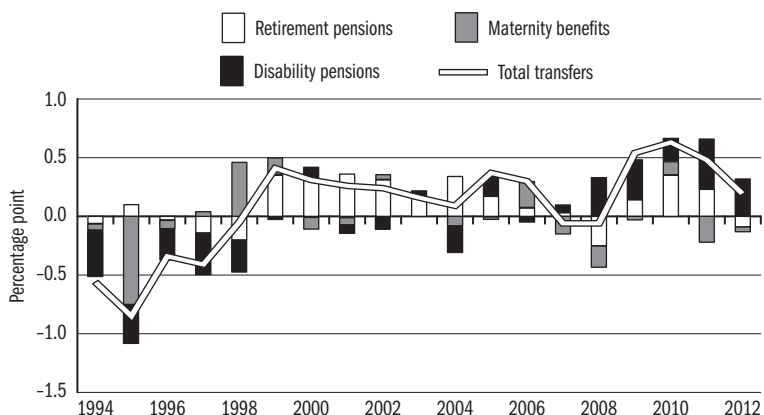
**Figure 7: Decomposition of the change in the participation rate**



Source: Own calculations based on the Labour Force Survey of the HCSO.

**Figure 8: Decomposition of the composition effect**

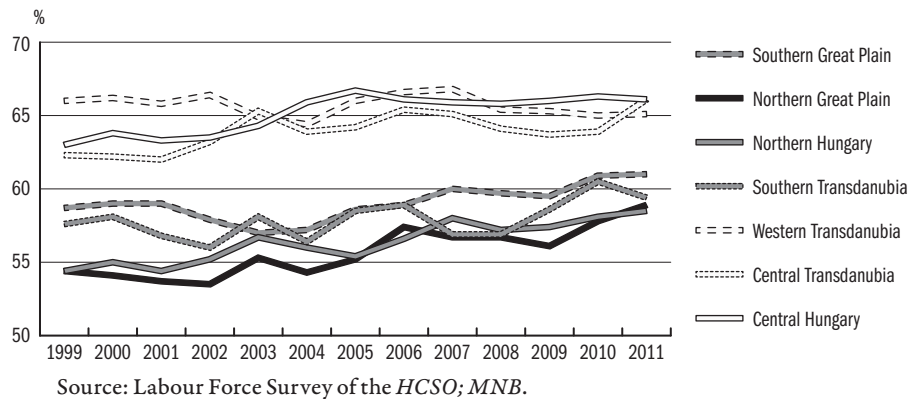
Source: Own calculations based on the Labour Force Survey of the *HCSO*.

**Figure 9: Decomposition of the transfer-effect**

Source: Own calculations based on the Labour Force Survey of the *HCSO*.

Developments in the participation rate are rather heterogeneous amongst the regions (*Figure 10*). In the regions with the highest 65–66 percent participation rates amongst the 15 to 64 age group – Central Hungary and Southern Transdanubia – participation did not increase in recent years. The aggregate increase in the participation is due to the rise in the labour supply in those regions with less favourable conditions. In 2011, the number of inactive persons rose considerably in the Southern Transdanubian region, which might be the consequence of the restructuring of the public working schemes. Southern Transdanubia had the most fostered workers in 2010 and flow data indicate a large outflow from public work into inactivity.

Figure 10: Participation rates in the Hungarian regions (15 to 64 age group, percent)

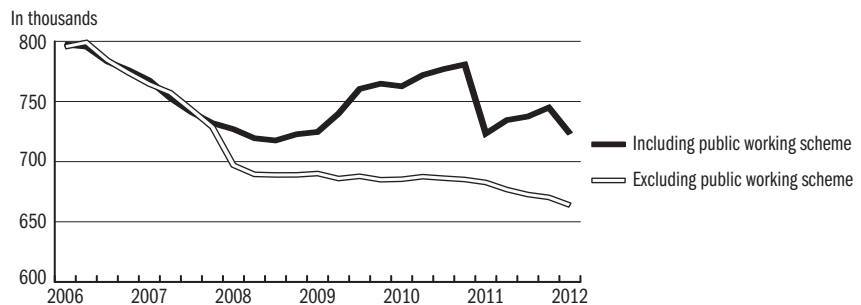


## LABOUR DEMAND

In Hungary, employment had already started to decline in early 2007, prior to the crisis. Taking this fact into account, by mid-2009, at the trough of the crisis, output had fallen more than employment, as firms hoarded labour, i.e. tried not to lay off their more productive and more skilled workers. The reason behind labour hoarding might be that firms projected the fall in demand to be only temporary and tried to save on hiring and firing costs, especially of skilled workers who are more difficult to find on the labour market. In 2009, labour hoarding, part-time employment and training was also subsidised by the government.

Labour demand in the public sector was influenced by two factors. Debt accumulated earlier and the aim to fulfil deficit targets made it necessary to rationalise public sector employment (*Figure 11*). As a consequence, the number of public and civil servants has been continuously decreasing since the outbreak of the crisis.

Figure 11: Employment in the public sector (thousand persons)



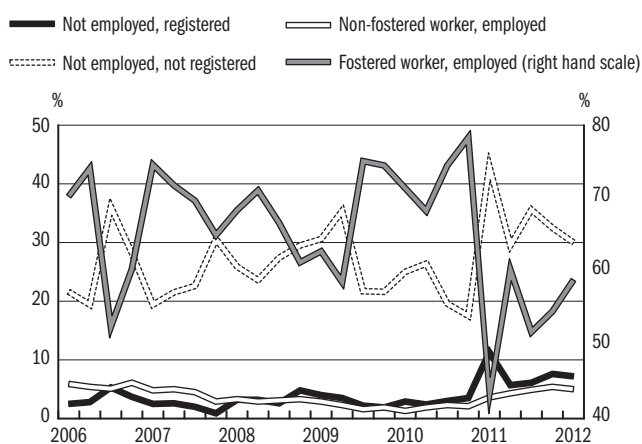
In line with the above, public working schemes gained importance. The public working program of 2011, which replaced the “Pathway to work” program of 2009, unified the former three types of community work. The new program of

ferred employment for a short period, in general for 2–4 months and typically part time. The social benefits related to the programs were also modified. During 2011, about 300 thousand persons were involved in the restructured programs and the highest number of workers employed at any one time was about 70–80 thousand.

In 2012, the programs changed again. More emphasis was put on full time employment and the average duration of employment increased to eight months. The government calculates that in 2012, about 200 thousand persons are involved in the programs, while the number of those employed at the same time exceeded 100 thousand by the middle of the year.

According to the flow data of the Labour Force Survey of the HCSO, the number of permanent fostered workers is considerable. Those who exit community work, mostly become fostered workers again or turn into unemployed; however, from 2011, the number of those leaving the labour market also increased – presumably only temporarily until they get back into the program. It is favourable that about 5 percent of the fostered workers are able to find a job outside of the programs. This ratio is similar to the one observed in the early 2000s, but includes many more people given the nature of the current programs. As labour demand improves, a rise in this job finding rate can be expected, thus the programs become of significant importance (*Figures 12–13*).

**Figure 12: Outflow rate from community working**

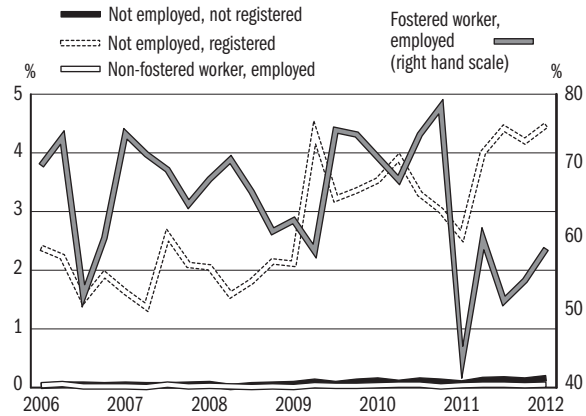


Source: Labour Force Survey of the HCSO, own calculations.

The labour demand of the private sector can be characterised by the same heterogeneity as economic developments. In line with the recovery from the crisis, manufacturing firms affected positively by the rebound of external demand started to expand their employment. Several one-off investments, mainly in the automotive industry (the establishing of the Mercedes factory, expansion of Audi, Opel and Hankook) contributed to this development, which working through the supply chain could also have had a positive effect on the labour demand of smaller

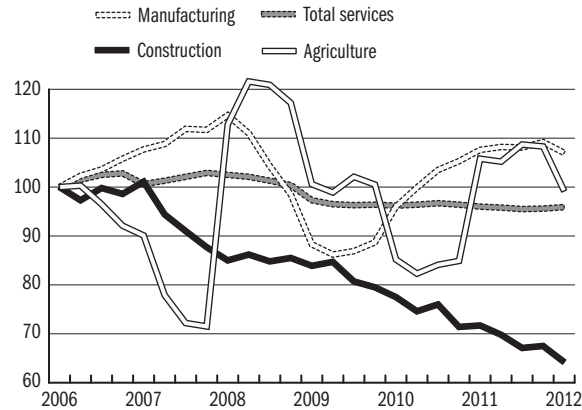
manufacturing firms. Employment in those market services closely related to domestic demand is stagnating and some improvement can only be observed in tourism and in transport. The decline in construction has been continuous and as a result, the number of those employed in this area decreased considerably. The number of those employed in agriculture is on the other hand increasing, and the earlier downward trend in the ratio of employed in agriculture to the total private sector employment seems to have reverted (*Figure 14*).

**Figure 13: Inflow rate into community working**



Source: Labour Force Survey of the HCSO, own calculations.

**Figure 14: Value added in different branches of the economy (2006 Q1 = 100)**

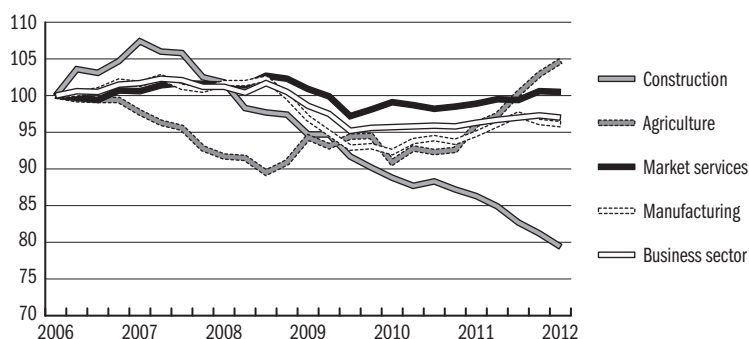


Source: HCSO.

According to the institutional statistics employment in the private sector decreased sharply in early 2012 by about 30 thousand persons (*Figure 15*). The National Bank of Hungary (NBH) pointed out in its analysis that the sharp fall in employment affected firms with less than 50 employees, while employment amongst firms with more than 50 employees diminished only moderately

(MNB, 2012a). Looking at disaggregated data, the fall in employment seem to be independent of the wage developments of early 2012, thus it is unlikely that the rise in the minimum wage caused sudden lay-offs. The NBH shows that the presented fall in employment might cover the annual change in the sample of firms with 5–49 employees in the HCSO's institutional statistics. This does not mean that the fall in employment is not a real development; it rather implies that smaller firms in the private sector might have already decreased their employment in 2011. However due to statistical properties, the fall in employment appeared suddenly in the statistics.

Figure 15: Employment in the private sector (2006 Q1 = 100)



Source: Institutional statistics of the HCSO.

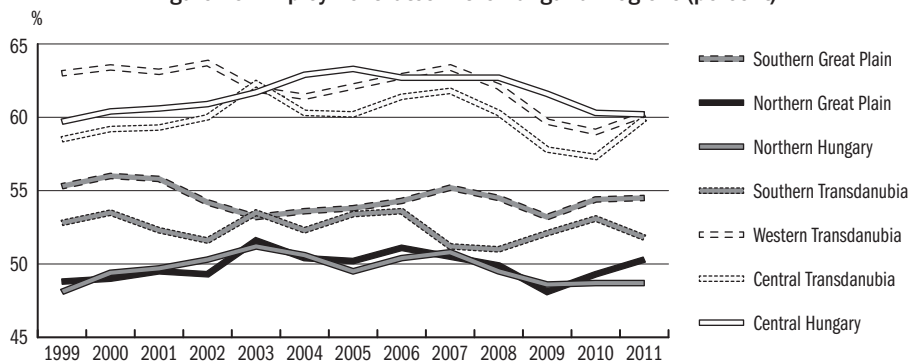
Data from the Labour Force Survey of the HCSO show a somewhat different picture. Total employment has been increasing since the trough of the crises in 2009, and according to the LFS data, this was not only caused by the public working schemes but also by private sector employment. The difference in the two statistics can be explained by the fact that the LFS also covers firms with less than 5 employees, self-employed persons and those employed in the grey economy. Besides, developments in the LFS-employment generally lag behind economic developments and the changes in employment in the institutional statistics. As a consequence, it is possible that the rise in the LFS employment is a result of the recovery of 2009 and 2010 and does not reflect a deteriorating economic outlook of the second half of 2011 (MNB, 2012b).

As a consequence of the crisis, falling labour demand affected all regions of Hungary (Figure 16). However the employment rate decreased the most in the most developed regions. Public workingschemes concentrating on less developed regions with less favourable employment rates contributed to more favourable employment trends in these regions.

Since early 2010, the size of mass lay-offs fell back to its pre-crisis level. However, at the end of 2011 – early 2012, bankruptcy and a cut-back in the production capacities of some large firms (Malév, Budapest Airport, Nokia) led to significant mass lay-offs. The number of non-subsidised vacancies increased somewhat in

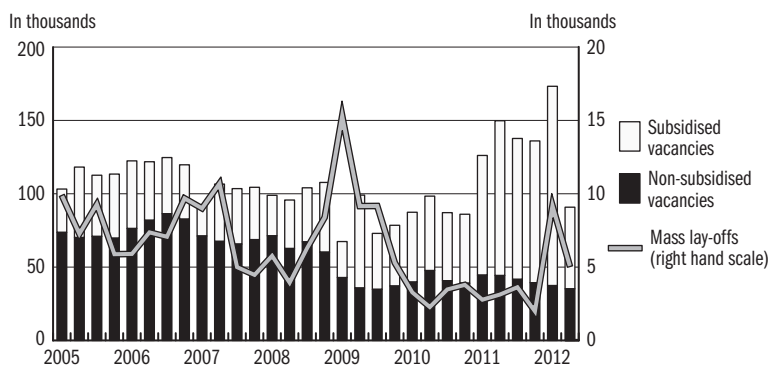
2010; however from mid-2011, as the economic outlook worsened, the labour demand of firms once again started to decrease (*Figure 17*). By early 2012, the vacancy inflow fell back to a level experienced at the trough of the crisis. Meanwhile, despite the public working programs, the number of unemployed did not diminish. As a result of the two, the Beveridge-curve – based on the relationship between vacancies and unemployment – shifted inwards (*Figure 18*).

**Figure 16: Employment rates in the Hungarian regions (percent)**



Source: Labour Force Survey of the HCSO.

**Figure 17: Developments in mass lay-offs and vacancies**

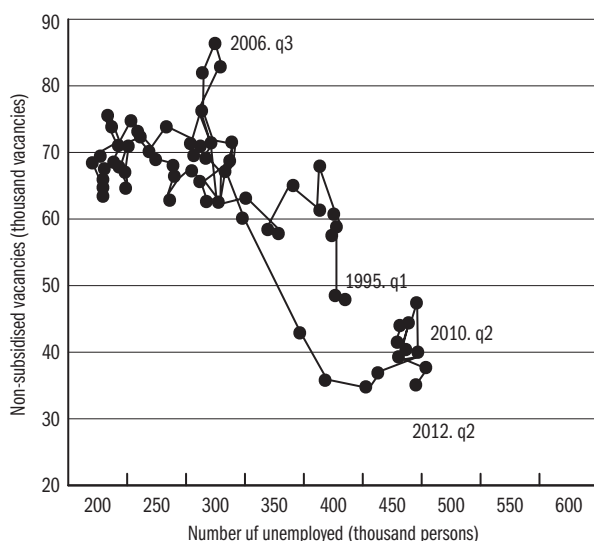


Source: National Employment Office, NBH.

According to labour theory, if a negative cyclical productivity shock hits the economy, the Beveridge-curve first shifts towards the origin (the number of newly posted vacancies are not increasing, but unemployment still does not increase either), then we move downward along the curve (the number of vacancies is decreasing while unemployment is increasing – see the period 2008–2009). Positive productivity shocks result in the opposite (see 2009 and the first half of 2010). The shift of the curve towards the origin might be also a sign of unfavourable structural processes, when the number of vacancies and labour demand decrease permanently and unemployment also stays permanently high. It is hard to tell

yet if developments in 2011–2012 are of cyclical or structural origin, nevertheless, the Beveridge-curve signals unfavourable developments (see e.g. *Mortensen and Pissarides, 1994, Shimer, 2000*).

Figure 18: The Beveridge-curve



Source: National Employment Office, NBH.

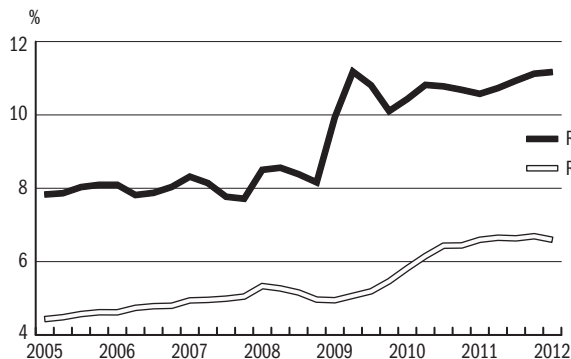
Besides the developments in non-subsidised vacancies, more factors indicate that labour demand is not only low because of cyclical reasons but also has fallen back permanently. The decline of construction has been present for years and no reversal can be seen so far (see *Figure 14*). Corporate investment rates are remarkably low, which means that no future production capacities are being built up. More average-sized companies disappear than are born. The permanent decrease in labour demand in line with the rise in trend labour supply implies that the unemployment rate might remain high for an extended period and an improvement can be only brought about by the public working programs (*MNB, 2012b*).

The outbreak of the crisis reinforced atypical employment. Part-time employment spread first in manufacturing but then grew dynamically in market services as well. According to the institutional statistics, amongst firms with more than 5 employees, the ratio of part-time employment in the total employment figure rose from 8 percent prior to the crisis to above 11 percent by early 2012 (*Figure 19*).

Temporary staffing has become more and more popular: amongst firms with more than 5 employees the ratio of temporary staff increased to above 7 percent by 2011. According to the 2012 publication of the National Employment Office, more than 7 thousand firms contracted with companies which offer temporary staffing, 3,900 of them operating in manufacturing. The average number of temporary staff at companies was 16; temporary staffing was the most intense in the

Eastern part of the country: in Szabolcs-Szatmár-Bereg, temporary staff reached 146 persons per company on average. In 2011, about 111 thousand employees had legal contracts with companies organising temporary staffing; however, only one third of them was actually hired at the same time. About two thirds of the employees were hired in manufacturing. Within market services, information and communication technologies (5.8 percent) and administrative services (4.9 percent) used temporary staffing intensively as means of hiring (*NSZF, 2012b*).

**Figure 19: The ratio of part time workers and temporary staff in full time employment**



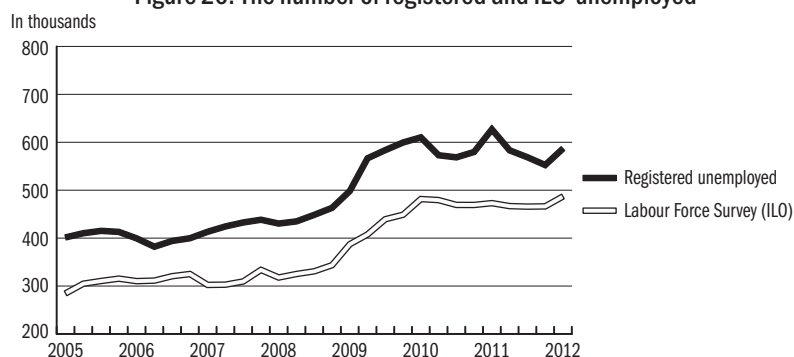
Source: *HCSO* institutional statistics.

Since 2011, companies offering temporary staffing have the opportunity to place fostered workers into private companies. The opportunity has not been taken advantage of so far: only five companies have gained the permit, but none of them mediated fostered workers (*NSZF, 2012b*).

## UNEMPLOYMENT

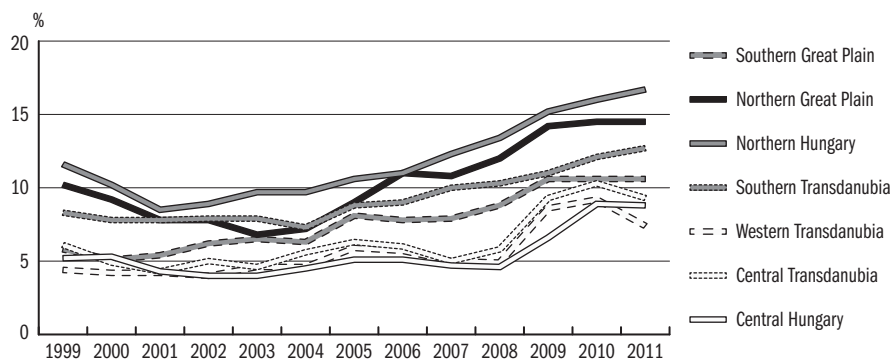
As a result of increasing labour supply in recent years and of the falling labour demand during the crisis, the unemployment rate as defined by the ILO rose steeply to 11% in 2008 and 2009, and has not diminished since. (*Figure 20*). As a result of government policies to expand participation, less and less unemployed leave the labour market, and in turn, public working schemes only hinder the rise in unemployment, but fail to lower it.

The number of registered unemployed rose similarly to the number of unemployed in the *HCSO's* Labour Force Survey; however, the former proved to be more volatile. With the annual restructuring of the public working schemes, the number of fostered workers drops to its lowest in the first months of the year, while the previous fostered workers re-registered at the labour offices, which in turn leads to an increase in the number of unemployed. By the middle of the year, as public working schemes wind down, the number of registered unemployed drops again.

**Figure 20: The number of registered and ILO-unemployed**

Source: *National Employment Office; HCSO Labour Force Survey.*

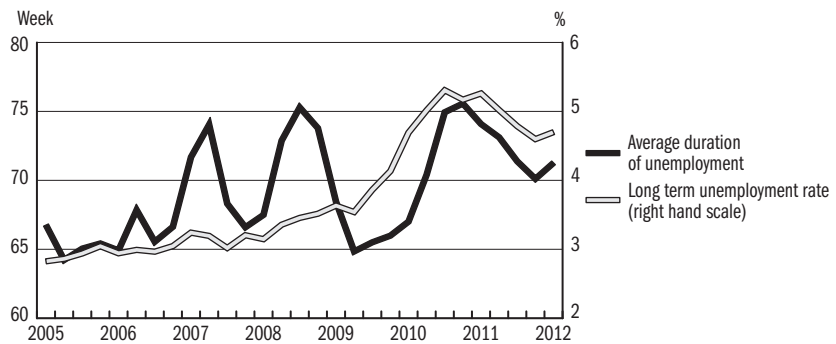
Although with significant differences, the unemployment rate increased in all regions (*Figure 21*). Prior to the crisis, Central Hungary had the lowest unemployment rate (4–5%), but the rate rose sharply in 2009 and is still stuck around 6–7%. In the central region, the underlying reason for the non-decreasing unemployment – despite the economic recovery – is the fact that the number of public – but not fostered – workers is the highest in the capital and the lay-offs in public administration affected this region the most. In Western and Central Transdanubia – due to the geographical concentration of the car and manufacturing industry – unemployment rose rapidly from 6–7% in 2008 to nearly 10%; however, with the fast recovery of the industry, unemployment decreased in 2011. In the Southern Great Plain, Southern Transdanubia, and in the regions with the highest unemployment – the Northern Great Plain and Northern Hungary, unemployment rates have been increasing since the early 2000s, which was reinforced by the outbreak of the crisis. Since 2010, public working schemes focused on these regions; however, as labour market participation was also increasing, the unemployment rate could not diminish and even increased in Northern Hungary and Southern Transdanubia.

**Figure 21: Unemployment rate in the Hungarian regions**

Source: *HCSO Labour Force Survey.*

As the fall in labour demand proved to be permanent, the long-term unemployment rate has also been continuously increasing. In 2011, the number of long-term unemployed dropped, which was due to the nature of the public working programs, since the long-term unemployed entered the short-term programs. In 2012, as the programs were again restructured, the number of unemployed involved in the programs dropped by about a hundred thousand and those losing the opportunity to participate in these programs have even less chances to find jobs in the private sector. As a consequence, long term unemployment has been rising again since the beginning of 2012. The duration of unemployment showed an increasing trend even before the crisis, while the crisis first shortened duration as the inflow into unemployed status intensified. By 2011, the duration of unemployment increased significantly, signalling that those who lost their job during the crisis are not able to find a job for an extended period. In 2011, due to the short term community work programs that involved a large number of unemployed, duration fell (*Figure 22*).

**Figure 22: Average duration of unemployment and the long-term unemployment rate**



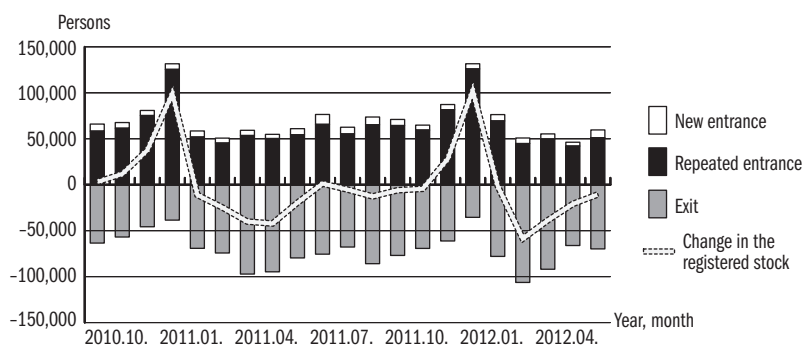
Source: HCSO Labour Force Survey.

One of the most important changes of 2011 was the change in unemployment benefits. The effect of these changes on unemployment is less well known today. Before September 2011, the registered unemployed were entitled to a job seeker's allowance for 270 days, then for another 90 days (in the case of the unemployed above age 50 for 180 days) to job seeker's assistance. Then the current form of social care and public working scheme commenced. Since September 2011, the unemployed are entitled to job seeker's allowance only for three months, while unemployment benefit is only available for unemployed persons not more than 5 years younger than the retirement age. After this point, the unemployed must participate in either the public working scheme or in active labour market programs in order not to lose the entitlement to future unemployment benefits. Thus changes in the regulation did not only cover the duration of benefits but also the period after the benefits expire and the conditions of the benefits.

The narrowing conditions of unemployment benefits might affect unemployment through several channels. The shortening of the period covered unconditionally and spent on job search might deteriorate the chances of job finding; on the other hand, this could be offset by the cut in the benefits. Not only the duration of job search, but also the quality of the job obtained might change. If the duration of job search is shorter, there are higher chances that the unemployed person would take up a job with a salary less than optimal or with worse working conditions. Finally, the change in the complete unemployment benefit system might have selection effects. If job seekers are almost certain that they will not receive any help in the job search during the registration period, are entitled to low benefits and do not want to participate in the public work programs, it can happen that they do not want to register at the labour offices at all.

Figure 23 again illustrates the fact that the yearly average stock of the registered unemployed stabilised around 580 thousand persons after 2010. Within the year, this number varies due to the winding up or down of the public working programs and the inflow into, and outflow from, the stock of registered unemployment.

**Figure 23: The number of registered unemployed (persons, monthly data)**

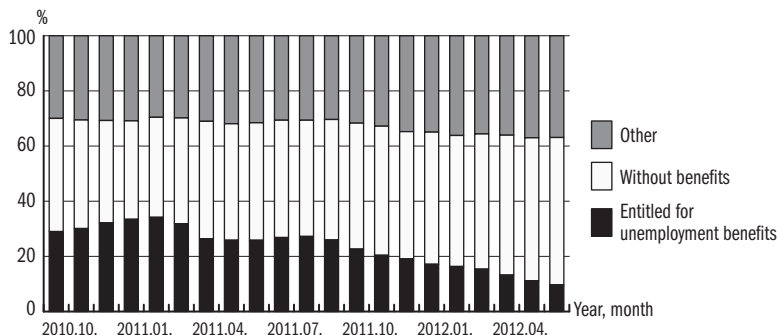


Source: *National Employment Office*.

As the figure shows, the changes in the number of unemployed cover the inflow of unemployed who were already registered at the National Employment Office previously (although not necessarily shortly before the re-registration), while the ratio of the new entrants is low. There is a noticeable correlation between the change in the stock of the registered unemployed and the duration of the registration. However, due to the lack of micro data, one cannot draw safe conclusions based on this correlation, as fostered employment breaks the continuity of the registration and restarts the calculation of the duration. After September 2011, none of the indicators show noticeable changes in the developments observed earlier. The outflow as a ratio of the total stock increases every month when compared to the previous year, this does include several effects though.

The effects of the above mentioned changes are better reflected in the data on the ratio of those unemployed who receive unemployment benefits. As *Figure 24* shows, this ratio was earlier well above 20 percent (and even reached 30 percent in early 2011), but decreased to 10 percent by the summer of 2012. Although the decrease affected mainly those without any benefits, the ratio of those who receive other kinds of social care also decreased.

**Figure 24: The distribution of registered unemployed by the type of entitlement (per cent, monthly data)**

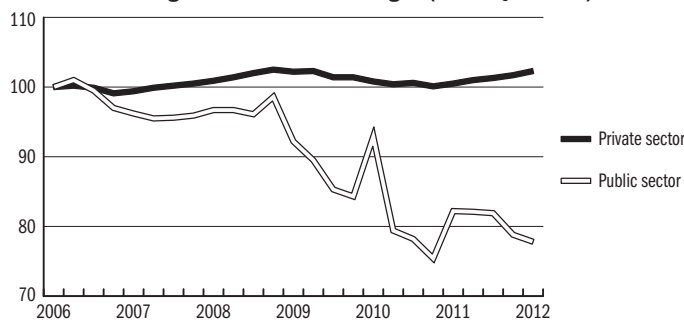


Source: *National Employment Office*.

## WAGES AND EARNINGS

The outbreak of the financial crisis also broke the previously high nominal wage dynamics. Real wages also decreased in the total economy; however, different branches of the economy experienced heterogeneous wage dynamics. In the public sector, wage adjustment has been stronger as real wages have been falling continuously since the outbreak of the crisis. Real wages in the private sector though did not diminish when compared to their pre-crisis levels (*Figure 25*).

**Figure 25: Gross real wages (2006 Q1 = 100)**

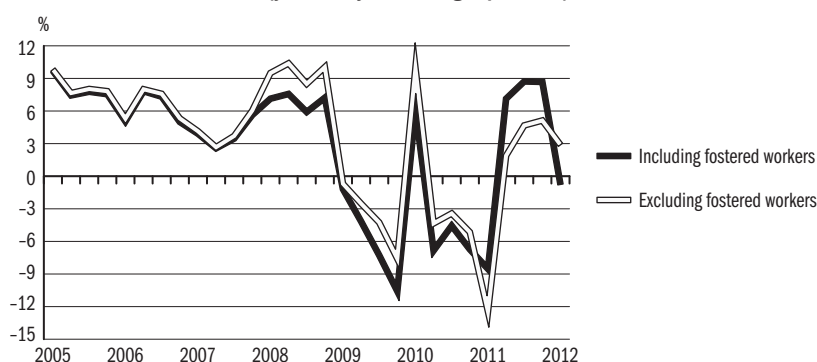


Source: *HCSO institutional statistics*.

In order to comply with fiscal deficit targets, the public sector was forced to set back wage costs strongly. Disregarding fostered workers, public employment di-

minished and nominal wages have been practically unchanged since 2008. As a consequence, by early 2012, real wages fell by about 25 percent when compared to 2007 (*Figure 25*). Data on nominal gross wages are biased by the restructuring of the public working scheme in 2011. Institutional statistics measures the average wages of full-time workers and in 2011, a large number of low income fostered workers fell out of the sample of the statistics, causing an upward bias in the public sector average wages. Disregarding fostered workers, a one-off completion of public workers' earnings in 2010 led to a somewhat higher wage index, but in general, wage dynamics in the public sector were significantly lower than in the private sector (*Figure 26*).

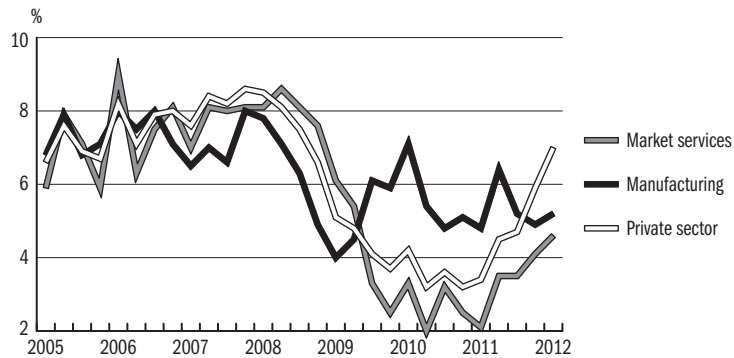
**Figure 26: Gross wages in the public sector with and without fostered workers**  
(year-on-year change, percent)



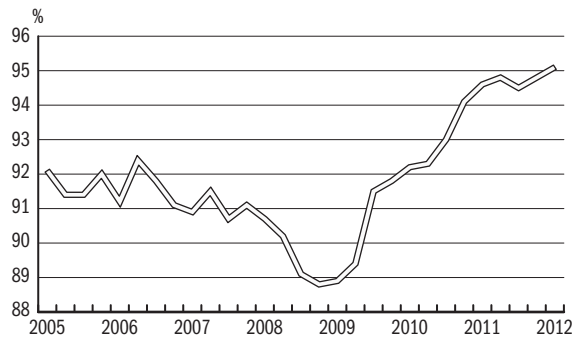
Source: HCSO institutional statistics.

Given the slack labour market, nominal wage dynamics in the private sector have been more moderate since the outbreak of the crisis than they were before. As opposed to the public sector, gross nominal wages proved to be rigid and they did not decrease. In 2011 and 2012, gross wages were also influenced by changes in personal income taxation.

Broadening labour supply in the past few years *ceteris paribus* would put a downward pressure on wage dynamics; however, this process evolves only over the long run. After the moderation of the wage index during the crisis, an improving economic outlook in 2010 accelerated wages. The dual structure of the recovery from the crisis is reflected also in wages. Wages in the relatively well performing manufacturing sector accelerated in line with the improving productivity. In market services, wage dynamics remained at historically low levels until the first half of 2011 and only accelerated somewhat in the second half of the year (*Figure 27*). Due to the sharpening heterogeneity in the structure of economic developments, average wage level in manufacturing has been converging to the average wages in market services (*Figure 28*).

**Figure 27: Gross average wages in the private sector (year-on-year change, percent)**

Source: HCSO institutional statistics.

**Figure 28: The ratio of wages in manufacturing to wages in market services**

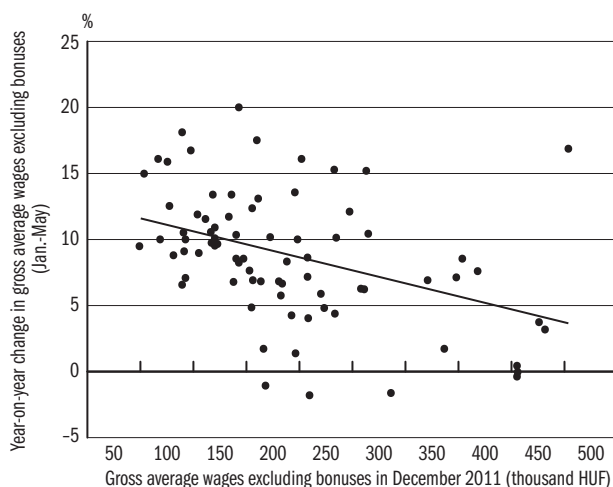
Source: HCSO institutional statistics.

In 2011, the government introduced tax allowances for families as well as a flat tax rate of 16 percent. However, the 27 percent grossed up tax rate remained leaving the effective tax rate at 20.3 percent. The tax deduction of the lower income workers also stayed in effect, but was decreased. The pension contribution of the employees was also raised. These changes in the taxation system diminished the tax burden of families with more than one child and those above the average wage, while increased the tax burden of those without children or below the average wage. According to economic theory, a decrease in the taxes of the high-income workers would lead to an increase in their supply of labour and thus a decrease in gross wages. However, according to disaggregated statistics this did not happen in 2011: wage increases in economic branches with a higher average wage were only slightly below increases in low-wage branches. There might be several reasons behind the lack of wage moderation. It could happen that firms used the decrease in taxation to whiten “wages” paid: actually paid gross wages did not change or even diminish, but firms declared higher gross wages. Due to the decrease in income taxes, net wages of the employed would be able to increase even with unchanged or diminished gross wages. The lack of

moderation could also be a sign of significant structural mismatches between labour demand and supply. During the crisis and the recovery, labour demand of the firms was shifted towards more skilled workers who in general demand higher wages. As the recovery from the crisis began, most skilled workers were the first to be able to find jobs and later on, firms were less able to find skilled workers. Based on these observations, the labour market might be tighter than suggested by the common indicators of tightness, which would explain higher wage dynamics (*MNB*, 2012a).

In 2012, personal income taxation changed again. Tax deduction was abolished, and the grossed up tax base was also erased up to about the average wage. In practice this means a two bracket tax system with tax rates of 16 percent and 20.3 percent. As the abolition of tax deduction would have considerably decreased the net wages of low-income workers, the government increased minimum wages by 20 percent and announced a system of “expected” wage increases. Firms that raise wages as expected by the government and meet the supplementary conditions could apply for a wage compensation covering the rise in wage costs.

**Figure 29: The level and change of wages in the private sector**



Source: *HCSO* institutional statistics.

As presented in *Figure 29*, due to the administrative measures of the government, gross wages in the private sector increased by nearly 10 percent when compared to the previous year. In line with the rise in the minimum wage and the system of the “expected” wage increases, gross wages of low-income workers increased the most, while wage increases amongst high-income workers – affected positively by the changes in taxation – were more moderate. The 5–6 percent rise in gross wages of high-income workers can still be considered as high, especially when one takes into account that tax changes in 2012 favoured employees with

higher than average wages. There is still little information on the reasons for this considerable increase in gross wages; besides structural mismatches, high inflation expectations also might have played a role.

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