

Katalin Bodnár: Part-time employment during the crisis*

Before the recent economic crisis, part-time employment was very low in Hungary. During the crisis, however, the most rapid increase in the number of part-time employees within the European Union was observed in Hungary. Part-time employment increased in a number of European Union countries for cyclical reasons: companies hoarded labour – usually with government assistance – by reducing the number of per capita hours worked instead of laying off workers. At the same time, part-time labour supply also increased during the economic downturn. Such cyclical impacts were also observed in Hungary. This article examines whether the changes in the number of part-time employees were really driven solely by cyclical reasons. What should follow from this assumption is that the per capita number of hours worked would increase in the course of economic recovery, while part-time employment would fall back to the earlier prevailing low levels and the total number of employees would not increase significantly. This assumption, however, is not supported by the available data. The increase in the number of part-time employees – particularly in the market services segment – seems to be more of a trend that may keep the number of part-time jobs higher during economic recovery than before the crisis.

INTRODUCTION

Both the number and the ratio of part-time employees were very low in Hungary before the onset of the economic crisis. This – together with the rarity of other atypical forms of employment – had a negative impact on labour market flexibility as well as on activity and employment rates. Part-time employment increased substantially, from 4.9 per cent to over 7 per cent during the crisis (Chart 1). The current level is still rather low by EU standards, but the growth in the number of part-time employees during the crisis (according to Eurostat data, the average number of part-time employees in 2012 was 67 per cent higher than in 2007) was among the highest in the EU.

The number of employees in the private sector dropped significantly at the beginning of the crisis and bottomed out in 2009 Q3. The rise in employment since the trough of the crisis is primarily the result of growth in the number of part-time jobs, which offset about one-third of the full-time jobs lost. Part-time employment, however, had already started to expand in late 2006 before the onset of the crisis, mainly in market services, while the number of people holding part-time jobs slightly moderated in 2013.

A more marked adjustment was observed in terms of total hours worked than in the number of employees (Chart 2).

Chart 1
Ratio of part-time employees among the economically active population in EU countries

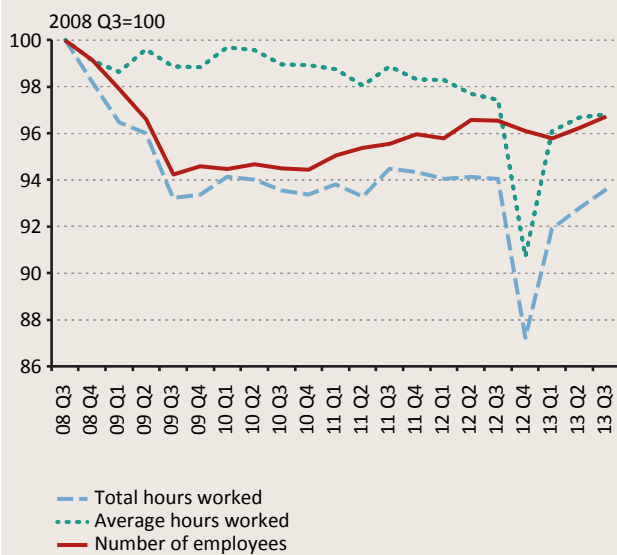


Source: Eurostat.

The total number of hours worked has not increased since the bottom of the crisis, despite a slow rise in the number of employees. Average per capita hours worked have fallen as a combined result of these two impacts. This is explained, for the most part, by changes in the composition of employment

* The views expressed in this article are those of the author(s) and do not necessarily reflect the official view of the Magyar Nemzeti Bank.

Chart 2
Changes in employment and the number of hours worked in the Hungarian private sector



Note: The dip observed in 2012 Q4 is the result of end-of-year production stoppages in factories.
 Source: Labour force survey.

during the crisis, i.e. the replacement of full-time jobs by part-time jobs. At the same time, the number of hours worked by full-time employees has also been diminishing slowly and since 2011 even part-time workers have been, on average, working an ever lower number of hours.

On the whole, much of the Hungarian labour market adjustment during the crisis took place through changes in the number of hours worked per employee (in other words, adjustment occurred in the intensive margin). One form of this adjustment process was an increase in part-time employment, entailing a direct impact on the number of employees and the rate of unutilised capacities on the labour market, and thereby indirectly affecting the tightness of the labour market. This article presents an analysis of the possible causes of and the expected changes in part-time employment.

Using descriptive statistics, this article analyses the null hypothesis, according to which the increase in part-time employment was brought about exclusively by cyclical reasons. The rise in part-time employment enabled a faster increase in employment and a larger fall in the unemployment rate than would have been justified by current economic growth, in other words, the labour market is somewhat tighter than it would have been without adjustment through part-time employment. If this change is exclusively cyclical, then in the course of economic recovery it is the number of hours worked that should first begin to adjust (primarily through employers

employing part-time staff on a full-time basis, but possibly also through an increase in overtime work). In this case, there would be only a modest growth in employment, while the labour market would continue to be slack. If, however, this null hypothesis is incorrect and part-time employment is, at least to a certain extent, a result of trend-like processes, the proportion of part-time employees should remain higher than before the crisis even during recovery, while new full-time jobs would be also created. Accordingly, employment could expand faster and the labour market might be tighter.

The first part of this article presents a brief summary of the possible causes of part-time employment – based on the literature – and then describes domestic trends in the light of international developments. This is followed by a discussion of the characteristics and causes of part-time employment on the basis of two micro databases. The last section sums up the conclusions.

DRIVERS OF PART-TIME EMPLOYMENT – THEORETICAL OVERVIEW

Microeconomic fundamentals

Individuals decide how to split their time between work and leisure in view of the prevailing wages. They decide whether to work (extensive margin), and if so, how much and how intensively (intensive margin). An increase in wages will increase labour supply (income effect), but will also lead to an increase in demand for leisure time (substitution effect). In the case of a change in the level of wages, labour supply is determined by the net result of the income effect and the substitution effect. A continued wage increase above a given level may even reduce labour supply, which is reflected by what is called a backward bending supply curve of labour. Accordingly, the choice between full-time and part-time employment depends – from the aspect of labour supply – on how valuable the individual's leisure time is (e.g. the leisure time of a mother with young children may be more valuable due to family commitments) and on the level of net wages. Adjustment at the intensive margin, however, takes on a variety of other forms as well, including for instance changes in the amount of overtime or in the intensity of work.

On the labour demand side, the question of whether full-time or part-time employees are preferred is determined by companies' profit maximising behaviour. The cost of employment comprises fixed costs (e.g. the cost of the building use, training costs, payroll accounting and human resource administration costs) and variable costs (primarily wages and fringe benefits). A part-time employee has less time to 'compensate' the employer for its fixed costs, consequently,

it is worthwhile for a company to employ people on a part-time basis if their total wage is lower than that of a full timer or this form of employment offers advantages such as improved efficiency or other benefits. Circumstances where part-time employment is warranted:

- the hourly wage is lower on part-time work than on full-time work;
- the fringe benefits provided for part-time employees are lower than those of full-time staff;
- the per-hour performance of part-time employees is higher than that of full-time staff;
- demand fluctuates by season or cycle and part-time employment makes it easier for the employer to adjust to changes (dynamic flexibility);
- demand fluctuates within a day or a week and part-time employment makes it easier for the employer to adjust to changes (organisational flexibility).

Macroeconomic factors underlying part-time employment

Based on the above, the factors explaining the differences in the level and dynamics of part-time employment between countries may be derived.

Economic cycle is the first such factor. Full-time employment is predominantly procyclical (in other words, it increases during economic upswings and diminishes during downturns), while part-time employment is countercyclical (that is, it increases during downturns and diminishes during a recovery). Owing to the decrease in full-time jobs, the proportion of part-time employees relative to full-time employees will appear to be even more markedly countercyclical. An increase in part-time employment during an economic downturn can be explained by a variety of factors. On *the demand side*, companies find it worthwhile to hoard labour during times of recession because when the economy picks up, they can thus reduce the costs of recruitment and training and also prevent the erosion of employee skills and expertise while away from work. This type of adjustment may be more prevalent among market service companies than in the manufacturing sector, particularly

when both are affected at the same time (composition effect).¹ Moreover, governments may also support part-time employment as a solution for unemployment. On the other hand, part-time *labour supply* may also grow during times of recession: job seekers are more likely to accept part-time positions during times of high unemployment and second potential earners of families, who have a higher likelihood of working part-time, become more active during such periods. This may be offset if groups (namely, discouraged workers) that have also tended to primarily apply for part-time jobs are discouraged from active job seeking by the high unemployment rate.

Factors independent of economic cycles may also contribute to the increase in the number of part-time workers. These factors can be broken down into several groups: the first one is made up of labour market regulations and institutions that affect *demand* for part-time labour. Such regulations includes, for example, the laws on work during weekends and night hours or those governing the wages of full-time and part-time employees (e.g. rules prescribing that part-time workers must be paid exactly the same hourly wages and benefits as full-time employees in the same positions). Institutional factors are, for example, the power of trade unions, and the way they relate to part-time employment. Part-time employment of low-earners may also increase in the wake of substantial minimum wage increases, since this is one way for companies to compensate for higher costs of a low-productivity workforce. The second group is comprised of factors affecting *labour supply*. Increased labour activity among women as well as higher fertility rates usually result in increased part-time labour supply as women, particularly mothers, are more likely to seek part-time work. Labour supply is also affected by the laws on social subsidies paid for those with dependent children: if working is allowed while receiving such benefits, part-time labour supply will expand. An increase in schooling within the 15-24 year age group may also entail an increase in part-time labour supply since students are likely to take up part-time jobs to acquire experience or fund their studies. It is difficult to determine, however, whether such factors are causes or consequences of increased part-time employment. Changes to the tax system may also affect labour supply: cutting taxes on labour for higher wage categories may lead to increased labour supply, particularly at the intensive margin.

¹ There are several reasons for part-time employment being more frequent in market services. On the one hand, this is where opening hours have been growing longer, at the same time decoupled from production time. Shops and customer service units increasingly need to be open outside the normal working hours so that they can serve their customers. Part-time workers can help improve the efficiency of service provision during the busiest periods. This may be linked to the part-time employment expansion trend in market services. At the same time, this factor may result in part-time employment playing a more significant role of adjustment during cyclical downturns in market services than in manufacturing.

Table 1
Macroeconomic factors affecting part-time employment

	Drivers of labour demand	Drivers of labour supply
Cyclical drivers	Labour hoarding (-) Composition effect, i.e. relative impact of the crisis on different sectors (?) State subsidies (-)	Level of unemployment (-) Second and third earners entering the labour market (-) Discouraged workers (+)
Non-cyclical drivers	Labour market regulation and institutions Minimum wage increases	Economic activity Fertility rate Family benefits Unemployment benefits Tax system

Note: The nature of the relationship is indicated between brackets after the cyclical causes: '+' indicates that when GDP grows (decreases) the given factor increases (reduces) part-time employment (procyclical), while '-' indicates the contrary (countercyclical).

INTERNATIONAL COMPARISON

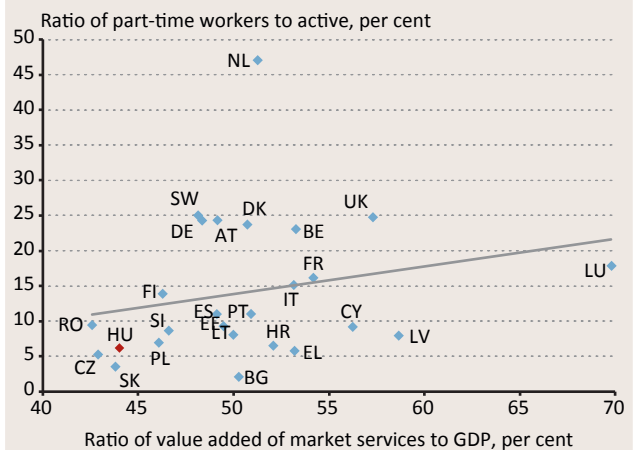
Central and Eastern European countries typically have low levels of part-time employment (accounting for 2-10 per cent of the active population based on 2012 data). Significant differences can be identified among the old European Union member states: part-time employment is less prevalent in peripheral countries, particularly in Greece, while it is more common than the EU average in Austria, Belgium, Denmark, the United Kingdom, Ireland, Germany, Luxembourg, Sweden and particularly in the Netherlands. A similar pattern exists for the share of value added by service sectors within GDP: in the majority of the Central and Eastern European countries it is usually below 50 per cent, whereas it is higher in the older member states (Chart 3). The smaller GDP shares of market service sectors and the lower levels of part-time employment in new member states likely stem from the same factors. According to Buddelmeyer et al. (2004), the differences in the level of part-time employment among the old European Union member states are explained in large part by the relative weight of service sectors, labour market regulations, particularly the rules on part-time employment and on employment under indefinite-term contracts, as well as fertility rates and the ratio of enrollment in higher education. Moreover, the proportion of part-time employees was also higher in countries where regulations allow lower hourly wage rates for part-time employees compared to their full-time peers.

Part-time employment has been on the rise across the European Union ever since the onset of the crisis: on average, nearly half of the full-time jobs lost have been replaced by part-time ones. Accordingly, the level and proportion of part-time employment have followed a countercyclical trend in Europe as a whole, despite the pronounced differences between individual countries (Chart 4). On the labour supply side, labour market entry of second earners in families drove the expansion of part-time employment (*added worker effect*) (European Commission, 2012). As for labour demand, the

Chart 3

Part-time employment and the percentage of market services contribution to GDP in EU countries

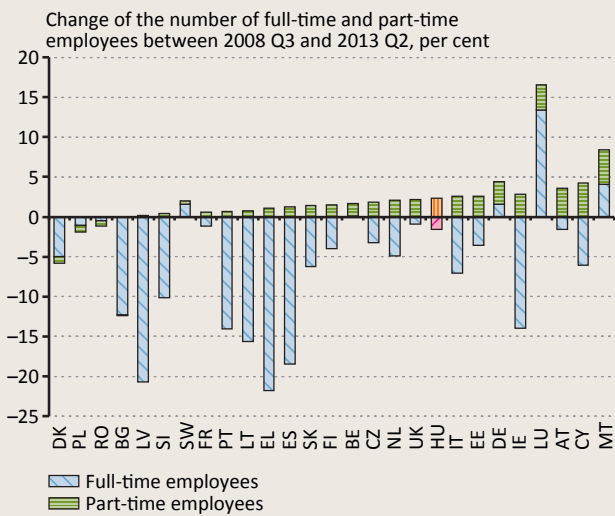
(2012)



Note: The straight line illustrates a positive correlation between the points on the above chart, which remains true even if the two outliers (the Netherlands and Luxembourg) are not taken into account.
Source: Eurostat.

above trend was driven, besides a high level of uncertainty, by short-time working schemes that are operated as part of the unemployment insurance systems, mainly in old member states. These schemes support working shorter hours instead of lay-offs (European Commission, 2010b). In the new member states where no such programmes were in place before the crisis, state-funded programmes supporting part-time employment were introduced after 2008. These programmes contributed to curbing the rise in unemployment during the downturn. However, they carry their own particular risks: they impede restructuring, may result in efficiency losses and may hinder entry of certain groups to the labour market (cyclical shifts towards part-time employment entail decreases in new hiring so groups intending to enter the labour market

Chart 4
Changes in full-time and part-time employees as a percentage of total workforce in 2013 Q2 compared to 2008 Q3, national economy



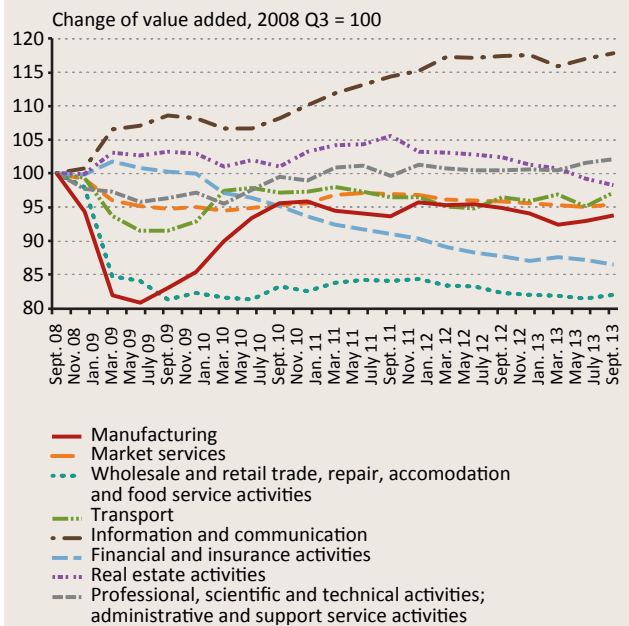
Source: Eurostat, Labour Force Survey.

with little or no working experience may be crowded out of employment). It is worth noting that in Hungary the number of employees was the first to respond to the decrease in GDP (extensive margin) (European Commission, 2010a), and it was only somewhat later that intensive side adjustment followed suit. In the countries where arrangements supporting part-time work were in place before the onset of the crisis, the number of hours worked was the first factor to start decreasing as the crisis unfolded. There are very few countries where part-time employment has dipped below pre-crisis levels, which may be an indication of the fact that this form of intensive side adjustment has been important across the EU as a whole.

A REVIEW OF HUNGARIAN MICRO-DATA

Nearly all of the factors affecting part-time employment have changed in Hungary since 2008, and therefore the increase in the number of part-time employees is likely to have been a result of a combination of factors. GDP has been decreasing, economic activity and unemployment have increased, a number of regulations concerning the labour market and the tax system have been changed, unemployment benefits have been transformed and the minimum wage was significantly increased in 2012. Detailed micro-data on the structure of part-time employment make it much easier to isolate the effects of the various relevant factors. Two databases are used in this article: the labour force survey and the wage-tariff survey (for a brief description of each, see the Appendix).

Chart 5
Changes in value added in the main sectors



Source: HCSO.

In the course of this analysis, it is worth looking at the various sectors individually. The slump in the manufacturing sector was deeper, but more temporary in nature: value added bottomed out in 2009 Q2 and then stabilised, although somewhat below pre-crisis levels. Value added in market services, particularly trade, accommodation and catering, has consistently and substantially lagged behind the pre-crisis level (Chart 5).

The sectoral structure of part-time employment is strongly linked to developments in value added.

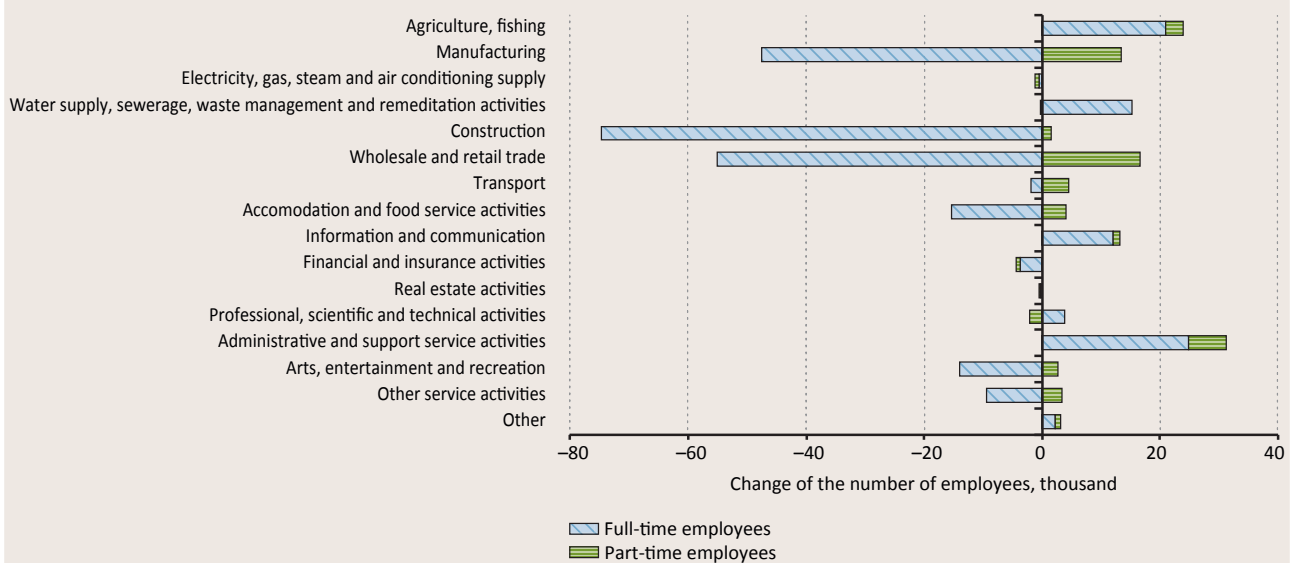
In most countries – including Hungary – the majority of part-time employees work in market service sectors, and these sectors have seen the most pronounced rise in their numbers. Within service sectors, the full-time jobs lost during the crisis were replaced by part-time jobs predominantly in trade, accommodation and catering and the transport and warehousing sectors (Chart 6).

Cyclical labour hoarding may have resulted in an increase in part-time employment primarily in the manufacturing sector, but this effect has partially subsided by now.

Full-time employment decreased, while part-time employment expanded in manufacturing in both 2009 and 2012. During these two years, part-time employment is assumed to have increased in the manufacturing segments as a consequence of cyclical labour hoarding. Meanwhile, market services may have been affected more by trend-like factors, while cyclical impacts might also be involved. Part-time employment expanded in these sectors predominantly among new hires (which may be more of a reflection of trend-like processes), although the conversion of non-new hires from full-time to part-time

Chart 6
Changes in employment by sector between 2008 Q3 and 2013 Q3

(based on seasonally adjusted data)



Source: Labour force survey.

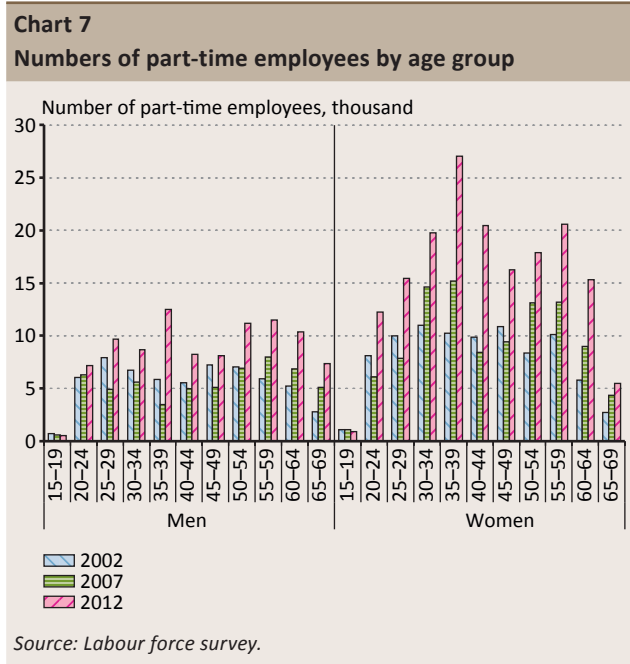
workers was also considerable (which may be a sign of labour hoarding). Part-time employment in market services fell in 2013, primarily among people who do not qualify as 'new hires', i.e. an increase in the number of per-capita working hours may have started.²

In Hungary – just as in other countries – the proportion of women is higher among part-time employees, but during the crisis part-time employment among men increased as well. In 2009 and in early 2010, during the first wave of the crisis, part-time employment began to increase both among men and women, followed by another significant increase from 2012, this time, however, almost exclusively among women. No significant increase in activity or part-time employment was observed, however, among women with small children or among families' second earners. The overall activity rate among women aged 25-40 remained practically unchanged during the crisis, but increased in the 40-65 year age group. The rise in the number of part-time employees is, however, relatively evenly distributed across the various age groups, apart from certain outstanding growth rates in some age

groups (Chart 7). A review in the labour force survey of the number of children raised in families of part-time employees shows that the increase was accounted for mainly by a higher number of part-time employees without children. Therefore, this does not confirm the assumption that the increase in part-time employment was linked to an increase in activity, particularly among women. The majority of part-time employees are holders of secondary qualifications (with vocational qualification or with a high school leaving certificate and vocational qualification), and part-time employment increased for this group most markedly during the crisis.

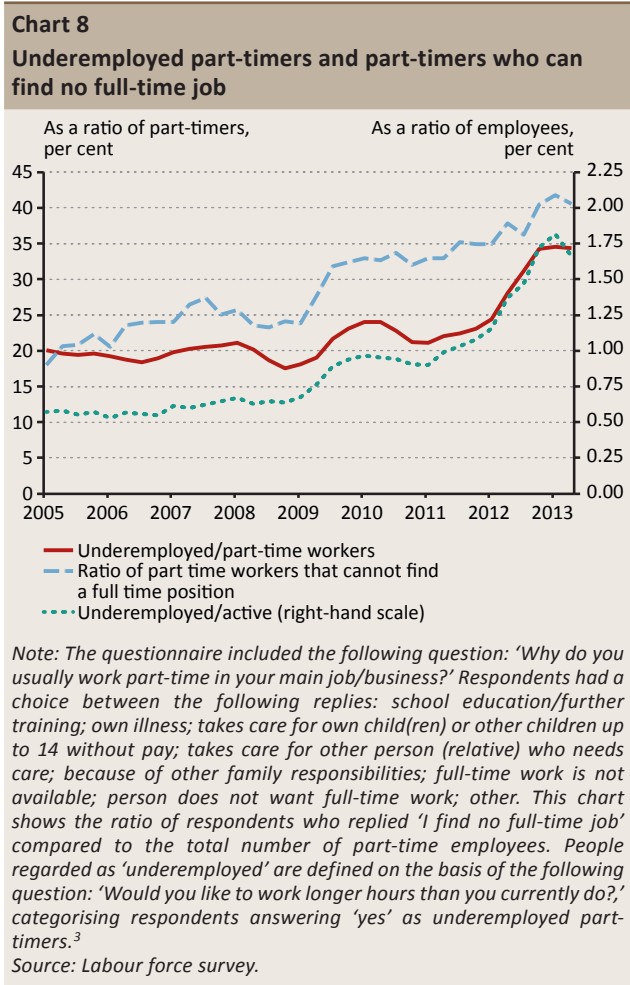
According to the labour force survey, the increase in part-time employment was primarily driven by factors linked to demand for labour. In the labour force survey, respondents are asked about their reasons for working part-time and whether they would like to work longer hours. Job seekers, on the other hand, are asked about the type of work they are looking for (only full-time, preferably full-time, only part-time, preferably part-time or any kind). The answers revealed that, on the whole, part-time employment seems to be driven

² Both the labour survey and the wage-tariff survey contain information on tenure. The wage-tariff survey is filled out by companies in May every year. People hired during the preceding year qualify as 'new hires' in the survey. Respondents in the labour force survey specify the year and month in which they started to work at the given workplace. This information is probably less accurate than those contained in the wage-tariff database. The two sets of data reflect different pictures. According to wage-tariff data, in manufacturing part-time employment increased among employees who do not qualify as new hires and in 2010 it decreased towards the earlier level, while among new hires a slow, gradual increase was observed. In the market services segment part-time employment increased predominantly among new hires. The labour force survey shows similar results for market services, however, its data on the manufacturing sector differ from the above: part-time employment has been growing since the outset of the crisis among both old and new employees.



predominantly by reasons relating to demand for labour. Nearly all job seekers are looking for full-time positions and very few people actually want to work only or preferably part-time. About one third of all part-timers would like to work longer hours and about 40 per cent work part-time just because they cannot find full-time jobs (Chart 8). Much of the increase in part-time employment since the beginning of the crisis – particularly since 2012 – is linked to such non-voluntary part-time positions. In other words, from the list of factors listed above, demand-side factors dominate in explaining developments in part-time employment, while no increase in the part-time labour supply can be identified.

Wage-tariff data reveal that the rise in minimum wages in 2012 did not contribute to the increase in part-time employment among low-paid employees. Part-time employment increased most markedly among those earning 2-2.5 times the minimum wage and this typically held true for 2012 as well (Chart 9). This leads to the conclusion that the minimum wage increase in 2012 failed to have any impact on the number of part-time workers in the low wage categories. The minimum wage increase and the expected pay rise in 2012 was supported by the government in the form of wage compensation. Therefore, companies were not encouraged to reduce the wage costs of their employees with lower productivity by increasing the proportion of part-time employment. The fact that the data of the smallest businesses – among which this type of adjustment may have been the most widely adopted – are not included in the wage tariff

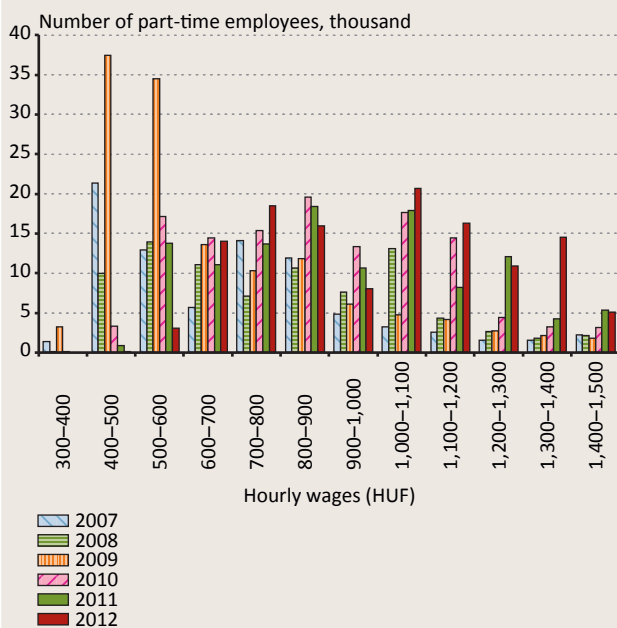


survey might weaken the validity of the above conclusions to some extent.

The hourly wages of part-time employees are not lower than those of their full-time peers. The hourly wages paid and benefits provided for part-time employees may differ in Hungary from those of full-time employees. Empirical studies generally tend to find lower hourly rates and benefits among part-timers. This, however, may not necessarily be the case in Hungary. The hourly rates of part-time workers have, particularly in the market services sector, been similar to those of full-timers (Chart 10) over the recent period (except for 2009). Wage-tariff data show that part-time employees are paid higher average hourly wages than full-timers. This applies not only to regular wages but also to the final, full amounts of wages including non-regular elements. This stems partly from the composition effect (i.e. of the fact that the majority of part-timers work in market service segments where wages tend to be higher), but is also partly an indication of part-time employees having some special positive effect on their

³ On statistics on underemployed persons see the Eurostat website at: http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Underemployment_and_potential_additional_labour_force_statistics.

Chart 9
Number of part-time employees by categories of hourly wages

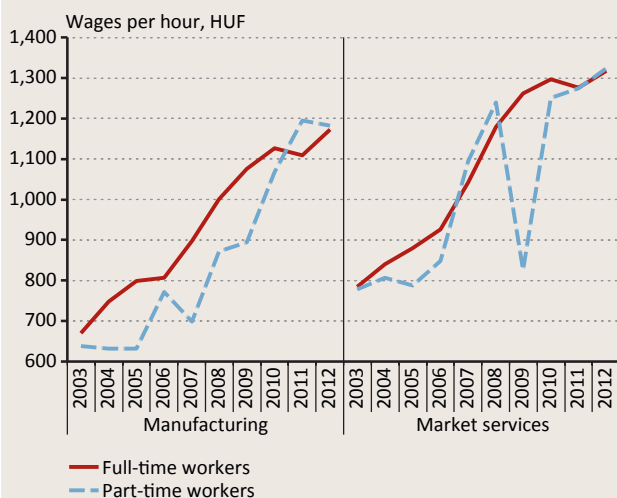


Source: Wage-tariff survey.

employers' activities (e.g. they work outside normal working hours or during busier periods in their respective businesses).

The new Labour Code (LC) was introduced in Hungary in 2012 and 2013, increasing flexibility of the labour market by introducing atypical forms of employment. This may also contribute to an increase in part-time employment. The new LC allows for on-call work (work as required by the tasks on hand, for up to 6 hours a day), job-sharing (several employees

Chart 10
Hourly wages of full-time and part-time employees



Source: Wage tariff survey.

perform the duties of a single job), employment by multiple employers and simplified employment, amongst other options. Moreover, positive experience with part-time employment may also encourage companies to further increase the ratio of this form of employment.

CONCLUSIONS

This article examined the validity of the null hypothesis according to which part-time employment increased only as a result of cyclical factors. Descriptive statistics failed to support this hypothesis, as the data show that the increase in part-time employment was also driven by trend-like factors.

The growth in the number of part-time workers is mainly explained by labour demand factors. The increase in part-time employment since 2008 took place predominantly among non-voluntary (underemployed) part-timers: a significant proportion of part-time workers would like to work full-time. On the other hand, a substantial proportion of part-time employees would not be able to or do not wish to work full-time, thus without part-time jobs they would probably stay out of the labour market.

The increase in the number of part-timers – particularly in the market service sectors – appears to be partially trend-like. This is confirmed by the fact that the number of part-time employees had started to increase in the sectors concerned – particularly in trade, catering and tourism – even before the onset of the crisis, however, the decrease in demand during the crisis may have forced companies to adopt changes to improve efficiency. One such measure may have been to increase part-time employment instead of full-time employment. Accordingly, companies can allocate more staff to the shorter, but busier periods within the week or day. Cyclical factors may have contributed more to the increase in part-time employment in manufacturing, but trend-like impacts may have shaped this sector as well. The 2012 amendments to the Labour Code – which may facilitate the spread of more flexible forms of employment – are also expected to contribute to higher part-time employment in comparison to the pre-crisis period.

During the recovery, part-time employment is not expected to return to the low levels seen before the crisis. Part-time employment that has been expanding since the bottom of the crisis has contributed to an increase in the rate of employment and to a slowing in unemployment growth. Since this analysis has shown that the increase in part-time employment was not only driven by cyclical factors, at least part of these jobs may survive after the recovery, or may even continue to increase. The number of per-capita working hours may also remain below the pre-crisis level.

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APPENDIX

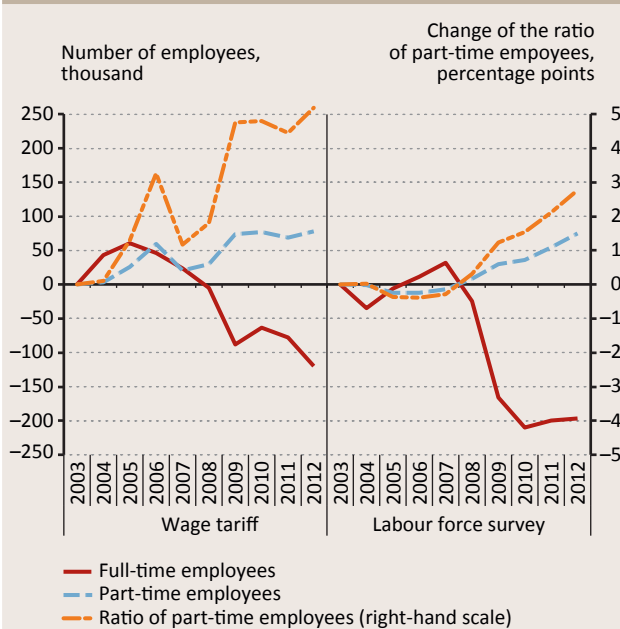
Description of the databases:

Labour force survey:

- Conducted by the Central Statistical Office. The questionnaire is filled out by a representative sample of the population. At the time of the analysis, the latest data available referred to 2013 Q3.
- Data content: labour market status and relevant detailed questions
- individual characteristics: gender, age, schooling attainment, activities one year before, social security benefits, involvement in studies; in the case of employees: the type of work (full-time or part-time), number of working hours, reason for working part-time, whether the

Chart 11

Changes in the number of full-time and part-time employees in the private sector (thousand people, in comparison to 2003), and change in the ratio of part-timers (percentage points, in comparison to 2003)



Source: Wage-tariff, labour force survey.

respondent would like to work longer hours, search for another job; in the case of unemployed persons: the type of work sought, activities immediately before commencing job seeking

– company characteristics: sector, site, size, nationality of owner

Wage-tariff:

- The survey is carried out by the National Employment Service in May each year based on data disclosed by firms. Data are available up to 2012. Only the private sector database is used in the analysis.
- The questionnaire is not filled out by businesses with workforces of under 5; it is filled out by a random sample of enterprises with workforces between 5 and 20, and the whole population of enterprises with workforces of over 20. As regards employees, enterprises with workforces of over 50 provide data on a sample selected by date of birth, but on all part-time employees if their number is not higher than 10. In the case of companies with less than 50 people information is supplied on all employees.

– Data content: wage data and employment details

– individual characteristics: gender, age, schooling attainment, type of contract (full-time or part-time), Hungarian Standard Classification of Occupations (HSCO) code, wage and wage components, working hours and whether or not a new hire.

– company characteristics: sector, company size (number of blue-collar and white-collar workers), share of foreign ownership, share of state ownership, information on collective agreement, place of operation.

Difference: a smaller increase was found in the labour survey in the proportion of part-timers (the total number of

observations is much smaller in the wage tariff survey). There may be two reasons for this:

– different sample: the proportion of part-time employment may be higher for smaller businesses and remuneration data does not include enterprises of less than five employees.

– shadow employment: the wage-tariff database mostly contains information on contracts. In some cases employees with part-time contracts work full-time in reality. By contrast, in the labour force survey respondents actually working less than 40 hours a week probably answer that they are part-timers.