

POTENTIAL OF LABOUR MARKET AND ECONOMIC DEPENDENCY – THE MODELS OF ESTIMATED DEVELOPMENT OF LABOUR MARKET

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Abstract

The future development of labour market will face a challenge of reduction of the negative initial demographic condition. The main problem of the labour market in the Czech Republic is the exclusion of all groups of population due to the lack of flexible jobs, mainly part-time jobs (for example people before retirement, mothers with children of young people in the formal education). The comparison of the pre-productive and post-productive part of the population with the productive part of the population measures the potential of labour market from demographic view – indicator defined as an economic dependency ratio. The other analyse shows a possible way of measuring of reserves on the labour market. The comparison with labour indicator (mainly specific employment rates by gender and age) of other European countries is the aim of this contribution. Assuming that we use a specific employment rate of individual European countries and the number of person in specific age groups in the Czech Republic, the standardization of the number of employed persons is suitable for the purpose of using the potential of workforce.

Keywords: Population ageing, labour force survey, economic dependency ratio

JEL Code: J1, J2, J6

Introduction

Population ageing will influence basic economic and social relations in society. Faster pace of ageing cannot be considered an accidental deviation. It is rather an expression of a new tendency (Koschin, 2005). Population ageing is a new challenge for the society in the 21st century. It changes the model of family patterns and it will be the test of individual societies how to manage the process of doubling the number of the seniors (Rychtaříková, 2011). Population ageing is defined as occurring when the proportion of population aged 65 and over is growing In the Czech Republic, the demographic

projection predicts a rising proportion of the third economic generation to 33.0% in 2060, with further possible increase showing a decreasing share of the first economic generation (people under 15/20 years of age) from 30% to 18%. Consequently, dependency indices reflect this situation and show increase in the economic burden on economically active people (Miskolczi and Langhamrová, 2011, Fiala and Langhamrová, 2007).

Generally, it is possible to define basic demographic indicators characterising the potential of the labour market. Population ageing leads to growing number of persons in post-productive age, in quantitative expression the growing values of indicators of ageing index or economic dependency ratio. If there are not any unforeseeable demographic changes (the growth of fertility, the growth of intensity of migration or worsening of mortality conditions), the labour market will be shortly influenced by a decrease of productive part of the population.

The future development will focus on the reduction of negative initial demographic conditions. The main problem of the labour market in the Czech Republic is an exclusion of all groups of population due to the lack of flexible jobs, mainly part-time jobs. This fact influences the potential of use of workforce. There are three main sources of the future use of workforce in the Czech Republic: students, mothers with children and elderly people. The lack of part-time jobs does not enable to balance the student or family life with work life. Mothers with children are affected by higher risk of unemployment. The lack of flexible jobs leads to a steep employment rate decline after the acquirement of statutory retirement age. Gradual transition from labour market to economically inactivity is a good step how to reduce the negative impact of population ageing. That means, for instance, what the probability value that an employed person would become an economically inactive person during the next period is (for example Ching-Yang and Hiroaki, 2012, Urwin and Shackleton, 1999, O'Connell at al., 2012). It is the important that every individual of the sample bears the weight over the entire reference period (Atkinson and Micklewright, 1991).

Inflexible and not reformed, the labour market can significantly influence the rate of employment or unemployment primarily of young people. This problem is now very common in southern Europe. Labour market is considerably influenced by the social and economic system. Pension or parental leave (benefit) system belongs to basic factors, which have a great impact on participation in the labour market. For example, the system of parental leave can allow for a better reconciliation between family and

work life for young mothers or fathers. The Czech Republic is characterised by a long full-time parental leave with tiny participation in the labour market.

1 Data

Labour Force Survey (LFS) is the main data source for this analysis. LFS is performed in a continuous manner on the territory of the Czech Republic; the evaluation of results is carried out at respective calendar quarters (for example Employment and Unemployment in the Czech Republic, 2013). The aim is to inform about the level and structure of employment, unemployment and underemployment in the Czech Republic measured in compliance with international definitions and recommendations by the International Labour Organization (ILO). The definitions and contents of all Labour Force Survey indicators requested by Eurostat are fully applied and respected in the Czech Labour Force Survey (EU Labour Force Survey. Explanatory Notes, 2013).

For the purpose of the calculation of economic dependency ratio the population projection of the Czech Republic is used (Projection population to 2100, 2014)

2 Potential of labour market and economic dependency

It is possible to measure the potential of labour market from the demographic point of view as the comparison of the pre-productive and post-productive part of the population with the productive part of the population, generally it is this indicator defined as an economic dependency ratio.

$$\text{Economic dependency ratio}^1 = \frac{S_{0-14,65+}}{S_{15-64}} * 100 \quad (1)$$

where $S_{0-14, 65+}$ Population aged 0-14 and 65+ years

S_{15-64} Population aged 15-64 years

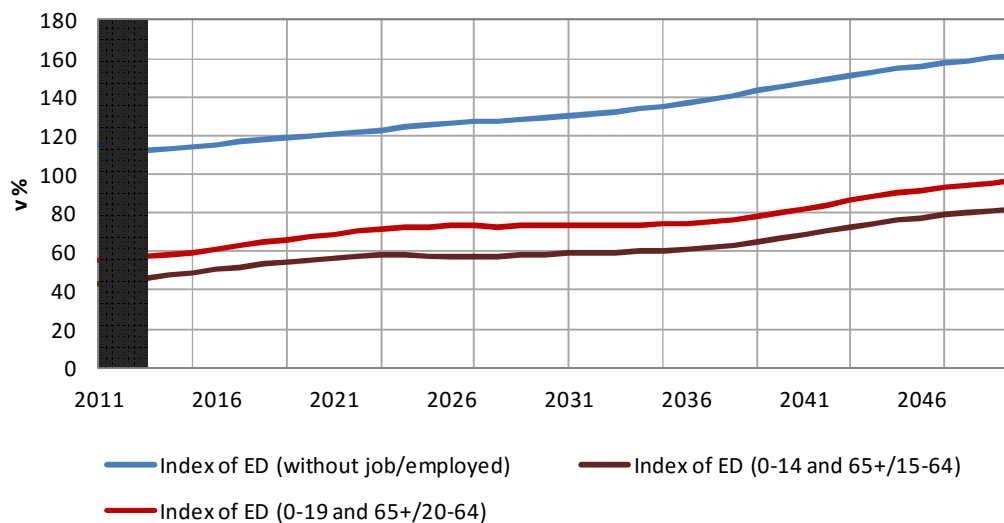
The other indicators are not directly working on the assumption of the ageing differentiation, but from the indicator of Labour status, if the person is employed, unemployed or economically inactive according to the International Labour Organization (ILO) definition. Primarily, we change the indicator economic dependency ratio so that in the numerator there will be substituted the pre-productive and post-productive part of population with the persons without a job. The productive part of the population then will be substituted with the employed persons.

$$\text{Economic dependency ratio}^2 = \frac{S_{unempl+ec.inac}}{S_{emp}} * 100 \quad (2)$$

where $S^{unempl, ec.inac}$ Unemployed (15+) and Economically inactive person (0+)
 S^{emp} Employed (15+)

The economic dependency ratio, which compares the pre-productive and post-productive part of the population with the productive part of population, amounted to 46.3% in the year 2013. This shows a very low ratio of economic dependency in the Czech Republic. It is also given a low number of persons aged 0-14 years. The economic dependency ratio will have slowly grown by the year 2030, but thereafter this variable grows very steeply. Then, in 2050, the economic dependency ratio should reach 82.1%, which is almost double in comparison with 2013. The age specification of the productive population is chosen widely, but the economic activity of a person at the age between 15-19 years has been very low during the last fifteen years. Therefore, the age specification of the productive part of the population to the age group 20-64 years is narrow. This indicator of economic dependency ratio was 57.5% in 2013, in the Czech Republic in 2050 it is expected to reach 96.9%. It shows more negative view of the labour market in the future.

Fig. 1: Economic dependency ratios in the Czech Republic, 2011–2050



Source: Population projection CZSO 2013, CZSO-LFS

In the second option the labour specification substitutes the age (demographic) specification. In this case the variable Labour status is used, which divides the population into the employed (denominator) and the unemployed plus economically inactive persons (numerator). In this case the economic dependency ratio was 112.7% in 2013. If we compare the (labour) indicator with the (demographic) indicator we find considerable differences showing great reserves in the labour market. These reserves

create an unexploited potential of the labour market, how to face the adverse effect of population ageing. After 2014, the values are projected on the base of the same specific employment rates as in 2013. According to this simple method the economic dependency ratio should reach 161.5% already in 2050, which should have a great effect on the economic efficiency of the Czech Republic.

3 The Labour market in the Czech Republic in comparison with other European countries

The employment rate is basic indicator expressing the level of employment when in numerator there is the number of employed persons and in denominator the population is 15 years old and over. However, it is a simple indicator which interpretation is relatively complicated and, in the first place, it is not suitable for finding the potential of workforce.

Assuming that we use a specific employment rate of individual European countries and the number of persons in specific age groups in the Czech Republic, the standardization (the same method as in indirectly standardized mortality – for example Pavlík, 1986) of the number of employed persons is suitable for the purpose of using the potential of workforce. This hypothetical numbers show how many persons would work in the Czech Republic, if there was the level of employment as in Sweden or Italy.

$$\text{Standardized number of employed persons in CR} = \sum_{i=1}^n a_x^{emp,standard} * S_x^{CR} \quad (3)$$

where $a_x^{emp,standard}$ specific rate of employment in the European countries by age groups

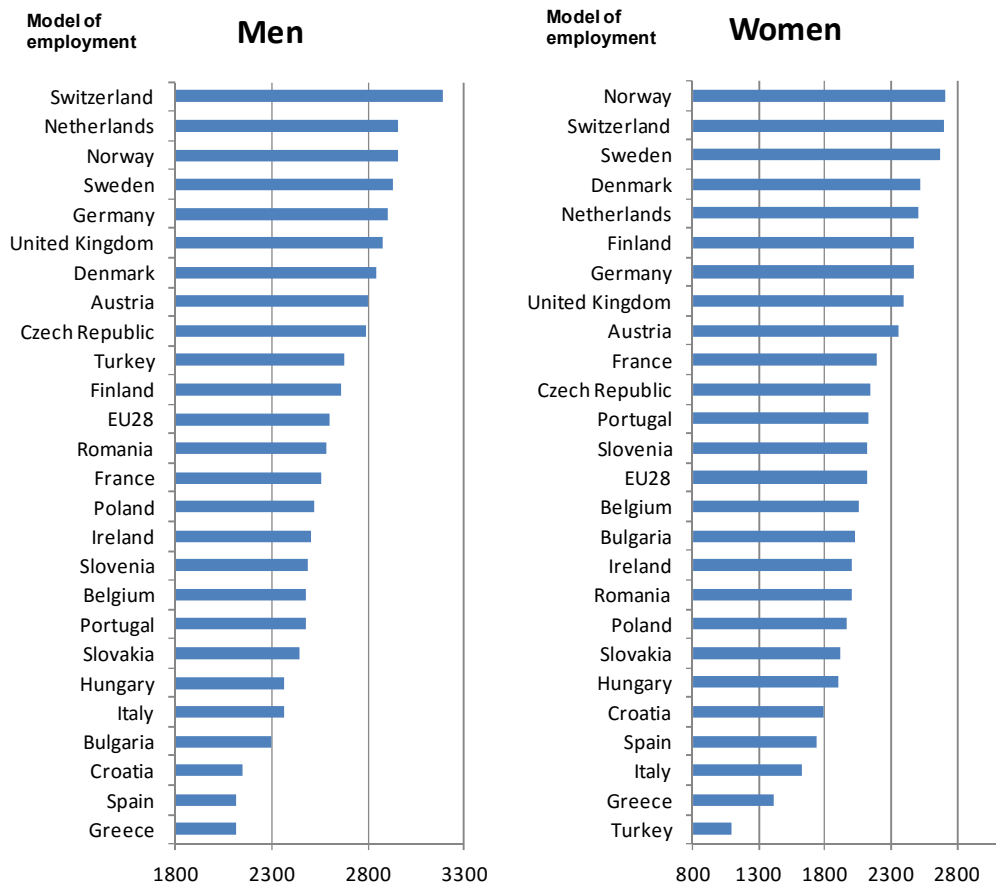
S_x^{CR} population by age groups in the Czech Republic

We construct the hypothetical number of employed persons in the Czech Republic taking specific employment rate of individual selected European countries according to this formula and the population of the Czech Republic. If we rank European countries, there are very different models of the labour market among individual regions of Europe. Generally, southern Europe countries are characterised by bad working conditions in the labour market. This fact is given by combination of negative factors (high level of unemployment, unfavourable position of young people in the labour market, very low economic activity of women with children). On the other

hand, western and northern Europe are characterised by a great participation of men and women on the labour market in the whole age group 20-64 years.

The Czech Republic has a relatively high male employment, mainly due to high male employment in the age group 30-49 years, which is the biggest in the whole Europe. In 2013, 2,794.0 thousand of men were employed in the Czech Republic, if we had had the level of employment as in Spain, it would have been only 2,113.7 thousand of employed men, on the other hand, in case of the Netherlands 2,957.1 thousand of employed men. Now, the Czech Republic is fortunately closer to Netherlands than Spain.

Fig. 2: Hypothetical number of employed persons in the Czech Republic on the condition of level of employment in individual European countries in 2013



Source: Eurostat- LFS, own calculations

If we compare the employment of women, the situation in the Czech Republic is different. A low employment of women with young children and generally unfavourable reconciliation of family and work life (a very low proportion of part-time jobs) in the Czech Republic is different comparing to western and northern Europe. As a

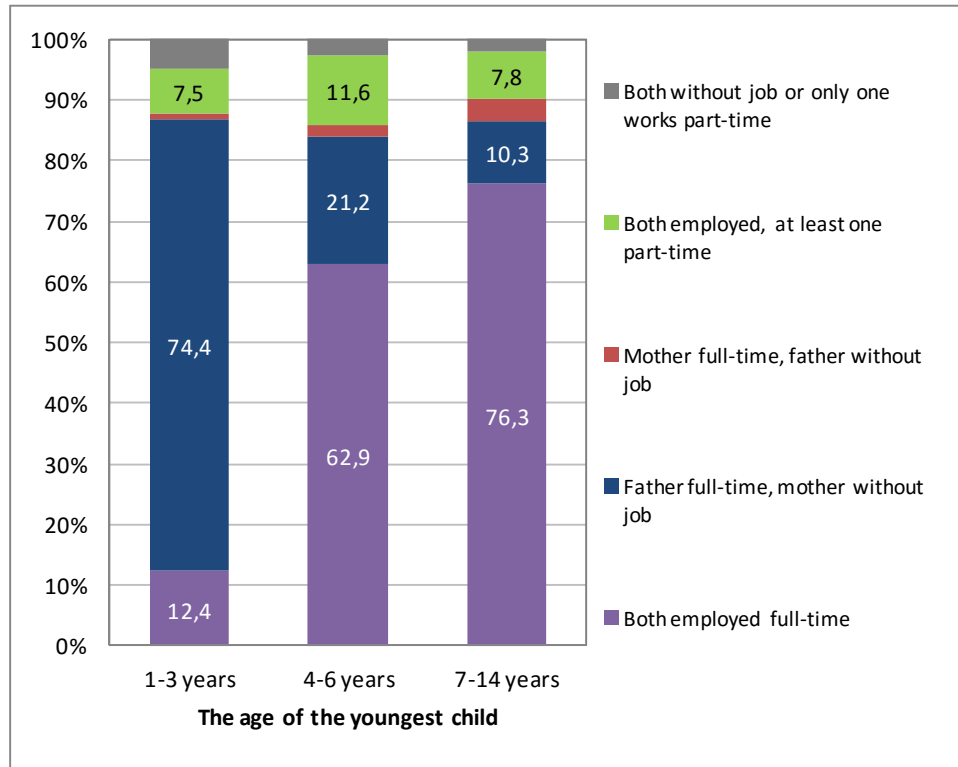
consequence of these factors only 2,143.0 thousand of women worked in the Czech Republic in 2013, but in case of Swedish employment 2,673.9 thousand of women would have worked in the Czech Republic, which is almost 530 thousand more.

4 Young women on the labour market

The labour market can be viewed not only from the perspective of an individual, but we can use the fact that Labour Force Survey is primarily a household survey. A household is defined as a housekeeping unit including all the individuals who have an economic interest in the given household. From this point of view we analyse the economic activity of individual parents in a complete family household or the father or mother in lone-parent family household (Bartoňová and Nývlt, 2011). In the context of work-life balance it is important to analyse the flexibility of work arrangements of each individual parent, especially when mothers take advantage of opportunities for part-time work. The traditionally separated roles in family (mother in household with young children, father at full-time job), a long parental leave and a very low relative number of part-time jobs cause a very long break in the labour market for young mothers. Changing patterns of family life constitutes a qualitative break and provides an alternative basis for the development of a suitable policy (Hakim, 2003). Figure 3 shows that using part-time jobs for young mothers is very low. At the age of the youngest child from 4 to 6 years, when the opportunity for mother to take advantage of part-time jobs is the most suitable, only 11.6% one of a two-parent household works at least part-time. On the other hand, in 62.9% of two-parent household both parents work full time.

The Czech Republic is characterised not only by unsuitable reconciliation between family and work life, but a low participation of students in the labour market as well. It means that from the point of view of students, there are great reserves on the labour market, mainly in comparison with developed countries of northern and western Europe.

Fig. 3: The participation of families on the labour market according to the age of the youngest child in the Czech Republic (average of years 2009-2011) %



Source: Labour Force Survey

Conclusion

The Czech Republic has a specific position on the European labour market. The Czech labour market fully uses the potential of the middle aged persons, mainly men work full time. This group reaches the maximum limit of the employment rate. On the other hand, the lack of flexible jobs causes the decline of participation of persons who combine the care of family (children) and work life. The low number of flexible jobs makes it more difficult for elder people or people with health problems to find a suitable job. The demographic development shows, that the current policy of full-time jobs mainly for persons of middle age is unsustainable in future. The number of the employed persons will steeply decline without a higher participation of younger and older persons and younger mothers in productive age on the Czech labour market. But it is necessary to know that this situation is only possible if we spread the offer of flexible jobs, mainly part-time jobs. In this context it depends on a personal policy of particular companies. The role of state is important in creation of good conditions for participation of a larger number of employed persons on the labour market.

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