INFLUENCE OF INSTITUTIONAL FACTORS ON STRUCTURAL AND CYCLICAL UNEMPLOYMENT IN THE COUNTRIES OF THE VISEGRAD GROUP

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Abstract

The paper aims to show how institutional factors influence labour markets in V4 member countries. Using models for NAIRU forecasting indicators of different groups of institutional factors show their impact on structural and cyclical unemployment. To these institucional factors belong employment protection legislation, wage bargaining structure,active labour market policies, labour tax burden and system of social benefits. Each of them has its own idicators which are used for determining impacts on labour market. NAIRU values will be estimated only using the Kalman filter with the coefficient for smoothing 0.6. Based on results of previous analyses of NAIRU in the conditions of V4 countries, it is a method that provides the most probable results for the unstable environment of a small open economy. Forecasts obtained from the model used are compared with real institutional factors performance and with real rate of unemployment. The impact of institutional factors is either positive or negative and has a significant impact on the level of structural and cyclical unemployment. The impact of institutional factors on structural and cyclical unemployment differs between the V4 countries. This paper offeres data and graphs to support this conclusion.

Key words: Unemployment , institucional factors, NAIRU, V4

JEL Code: E24, E32, E37

Introduction

Analysing the institutional framework of labour market functioning is important in many aspects, one of them being the relation to the competitiveness of the economy.

Institutional factors affecting structural and cyclical unemployment were selected according to world literature and adapted to the conditions of V4. Individual institutional factors on the labour market, the theoretical background of the concept of NAIRU as well as the method of NAIRU estimation are described in part 2 of this article. In part 3 we link institutional factors with indicators, we compare estimates of previously fine-tuned models

with estimates of models extended by institutional factors in V4 countries. We then compare the obtained re-sulting differences in NAIRU development with the actual development of individual institu-tional factors and the unemployment rate. Part 5 provides and overview of the results regard-ing the intensity of institutional factors effect on structural and cyclical unemployment.

1 Theoretical background for classification of institutional aspects of labour market functioning

Economists consider the labour market to be complicated because of the number of cultural, institutional, legislative, political and other factors that affect it. In this article we present the result of the influence of 5 institutional factors on unemployment:

1) Employment protection legislation – EPL – summarizes the rules of hiring and laying off labour force.

2) Wage bargaining structure represents the asymmetry of concluding contracts between workers and employers.

3) Active labour market policies – ALMP – represent various training and retraining pro-grammes, intermediation activities and subsidies to promote employment.

4) Labour tax burden is expressed by the tax wedge .

5) System of social benefits.

In this article we apply the concept of NAIRU according to Tobin (1997). Tobin sees NAIRU as a result of macroeconomic balancing of pressures on inflationary growth created by markets with excess demand and pressures on inflationary decline created by markets with excess supply.

It is necessary to apply econometric methods to estimate NAIRU, as it is an unobservable variable.

In this article, NAIRU values will be estimated only using the Kalman filter with the coefficient for smoothing 0.6. Based on results of previous analyses of NAIRU in the conditions of V4 countries, it is a method that provides the most probable results for the unstable environment of a small open economy.

The price development in the conditions of national economy was expressed by the consump-tion deflator of households according to national accounts in the Czech Republic and accord-ing to the OECD in other V4 countries. Time series have been adjusted to reflect adaptive expectations. The development on the labour market is described by the unemployment rate according to the International Labour Organization (ILO) in %. Other explanatory variables are year-on-year changes of the exchange rate against euro, import

prices (with the exception of Poland), indirect taxes and Brent oil prices (both with the exception of the Czech Repub-lic). The unemployment rate was seasonally adjusted by the multiplicative moving average. All time series were then tested by the Augmented Dickey–Fuller test proving their stationarity. All variables used have a quarterly time frequency.

2 Influence of institutional factors

The basic five institutional factors of the labour market, as defined by the world literature presented in part 2 of this paper, are linked with indicators that are based on relevant statistical data.

a) Linking indicators with individual institutional factors

The EPL institutional factor will be represented in the model by the fixed-term employment indicator (Eurostat, 2014) and the gross minimum wage indicator (Eurostat, 2014; MPSV, 2014a).

The institutional factor structure of wage bargaining will be represented by the total number of employees working for employers who cooperate with trade unions indicator and the total number of employees covered by collective agreements of a higher degree indicator, which in the CR basically corresponds with the data on the coverage of employees by collective agreements in the CR (MPSV, 2014b), Slovakia, Poland and Hungary (ECDB, n.d., ETUI, n.d.).

As for the ALMP institutional factor, the active employment policy expenditures indicator (Eurostat, 2014) will be incorporated in the model.

To map the influence of the tax burden on labour institutional factor we will use the tax wedge indicator (Eurostat, 2014).

The social benefits during unemployment institutional factor will be mapped using the average amount of monthly unemployment benefits indicator (MPSV (2014c) for the CR; Eurostat (2014) for other V4 countries).

b) The influence of institutional factors on structural and cyclical unemployment

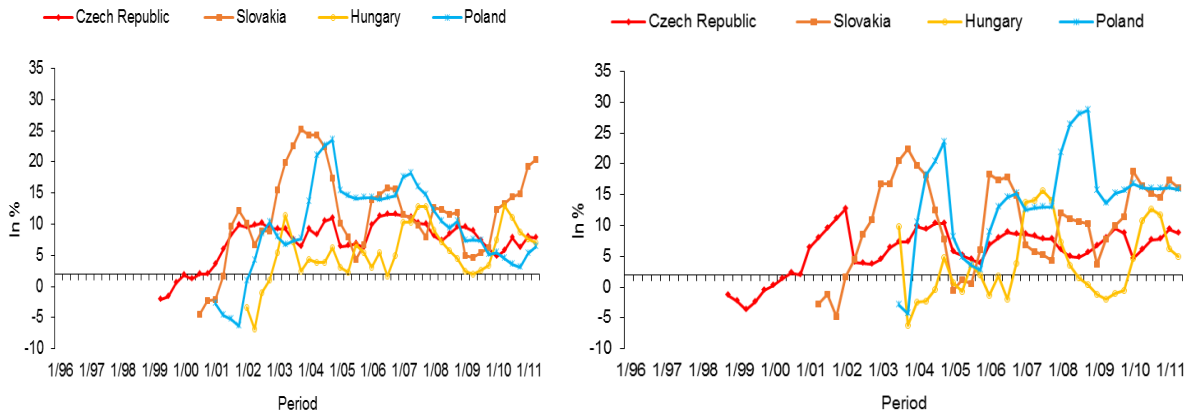
In this part we present NAIRU estimates from previously fine-tuned models and we compare them with estimates extended by selected insitutional factors.

If we link NAIRU with an institutional factor and its value increases, we talk about an influence of the factor on structural unemployment. Before coming to a definitive conclusion that the institutional factor has a negative influence we verify this with the real data

development. The negative influence of the institutional factor on the structural unemployment is proved when the NAIRU value after extension by the institutional factor overlaps with the year-on-year positive change of the institutional factor and the year-on-year unemployment rate.

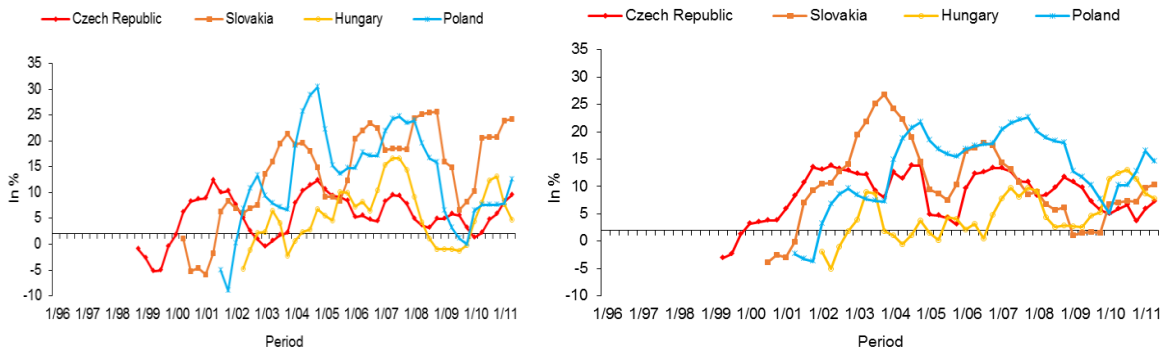
If the NAIRU value after the extension of the model by institutional factors decreases, we talk about the influence of an institutional factor on cyclical unemployment. A year-on-year positive change of the institutional factor and an unemployment growth suggest the institutional factor has a negative impact on cyclical unemployment if the NAIRU value after the extension decreases.

Graph 1: Development of NAIRU with fixed-term employment and minimum wage indicators according to the Kalman filter in V4 countries



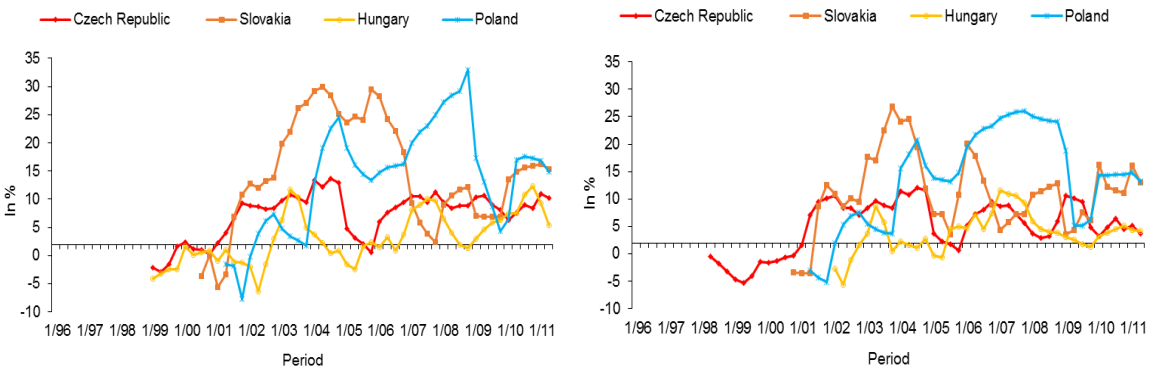
Source: Our own calculation based on the data of the MPSV (2014a), ČNB (2014), ČSÚ (2014), Eurostat (2014), ECDB (n.d.) and ETUI (n.d.).

Graph 2: Development of NAIRU with collective bargaining and active employment policy institutional factors according to the Kalman filter in V4 countrie



Source: Our own calculation based on the data of the MPSV (2014b), ČNB (2014), ČSÚ (2014), Eurostat (2014), ECDB (n.d.) and ETUI (n.d.).

Graph 3: Development of NAIRU with the tax wedge and unemployment benefits institutional factors according to the Kalman filter in V4 countries



Source: Our own calculation based on the data of the MPSV (2014c), ČNB (2014), ČSÚ (2014), Eurostat (2014), ECDB (n.d.) and ETUI (n.d.).

Summary of conclusions from the analysis

a) Legislative employment protection – indicators of the fixed-term employment and the minimum wage indicators

Estimates by the Kalman filter that were compared with the real data development confirmed only a weak negative influence of the legislative employment protection – fixed-term employment and minimum wage institutional aspect on structural unemployment in all V4 countries. A negative influence on cyclical unemployment in all V4 countries was proved only in relation to the fixed-term employment and the minimum wage institutional factors. A negative influence on the cyclical unemployment in all V4 countries was proved only in relation to the fixed-term employment indicator. We assess its intensity as weak in the Czech Republic and as very weak in the other countries. The minimum wage indicator had a negative impact on cyclical unemployment only in the Czech Republic (with a weak intensity), in Slovakia and in Hungary (with a very weak intensity in both the countries). In Poland, nega-tive influence on this type of unemployment was not proved at all. Overall, we assess the negative influence of the minimum wage indicator on the unemployment rate in V4 countries as very weak, which is not inconsistent with the findings of Card and Krueger (1993), Dube, Lester and Reich (2010). A rather close correlation (0.65) between the level of minimum wages and the overall unem-ployment rate in EU27 has also been confirmed by Bösch, Ries and Schweighofer (February 2013).

b) Structure of wage bargaining – the collective bargaining indicator

As for collective bargaining, verification of real data made by the Kalman filter confirmed a negative influence on structural unemployment in the Czech Republic, Hungary and Poland. In the Czech Republic and Poland it was a very weak negative influence. In Hungary the intensity was weak. In Slovakia no negative influence on structural unemployment was proved. As for the cyclical unemployment in all the countries, what was observed was only a weak negative influence of this factor on the labour market. Our conclusions are therefore fully in line with the results of analyses carried out by Bösch, Ries and Schweighofer (February 2013).

c) Active employment policies – the indicator of expenses on these policies

Expenses on active employment policies according to the Kalman filter and the following comparison with the real economy development had only a weak negative influence on structural unemployment in all V4 countries. As for the cyclical unemployment, a very weak negative influence of this institutional factor was detected only in Slovakia and Hungary. No negative influence on the flexibility of the labour market was observed in the Czech Republic and Poland.

d) Tax burden of labour – the tax wedge indicator

Based on the Kalman filter and the real development of some of the indicators of the labour market we can say that in the observed period the tax wedge indicator had only a slight negative influence on structural unemployment in all member states. The influence on the cyclical unemployment of such scope was characteristic for the Czech Republic, Slovakia and Hungary. In Poland the negative influence of this institutional factor on the cyclical unemployment was not proved at all. Jackman, Layard and Nickell (1996) agree that the tax burden does not have a negative impact on the labour market. Our conclusions are consistent with Fiorito and Padrini (2001), who say that a decrease in tax burden increases participation on the la-bour market and employment.

e) System of social benefits during a period of unemployment – the average level of unemployment benefits indicator

According to the Kalman filter the unemployment benefits indicator in the observed period had a very weak negative influence on structural unemployment in all observed countries. No negative influence of social benefits on cyclical unemployment was detected in Slovakia and Poland. As for the Czech Republic and Hungary we can talk about a low intensity of negative influence of social benefits on this type of unemployment. Our empirical results therefore

contradict the conclusions of Jackman, Layard and Nickell (1996), which indicate a direct positive correlation between the duration of benefits and the duration of unemployment. A generous system of social benefits leads to a lower intensity of seeking a job and negotiating a higher wage at the level of unemployment – see Blanchard and Wolfers (1999).

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