Comparative Research of Youth Employment in France and the Czech Republic

[1]Daniel Toth, [2]Mansoor Maitah and [1]Michaela Stefkova
[1]Department of Economic Theories, [2]Department of Economics,
Faculty of Economics and Management,
Czech University of Life Sciences Prague, Prague, Czech Republic

Abstarct: In general, the unemployment rate is currently one of the biggest social and economic problems in the European Union. Comparison is difficult because there are examples of countries with extreme values (Greece and Spain). The problem of low rate employed but remains in other states. At the lowest level values for the last 20 years gets even France, one of the largest countries in the European Union. The aim of the research is based on time series analysis and forecasting of results of the development of employment and other selected indicators in France between the years 2000-2013. Using this information suggestions can be made for qualitative tools of developing employment in the Czech Republic. Another aim is to propose possible procedural changes in the implementation of tools for developing employment and management of social development.

Key words: Unemployment, forecasting, management, development, research

INTRODUCTION

In France, the employment offices total to 956 local sphere which represents the equivalent of 68,020 people in one office. Long-term trends and employment policy in most developed countries xalike and their main objective is to fight against unemployment. Both states are required to regard the European employment strategy and other measures taken by the European Union when creating these programs. Both countries offer their subscribers a variety of contributions to the integration of the unemployed into work. The area of active employment policy in France is slightly wider, focusing primarily on various financial contributions or tax relief. Even passive employment policy instruments do not differ.

In comparison with Spain is not Greece or France in the achievement of the worst jobs but employment remains the priority development of the current president Francois Hollande from 2014-2015. In January, the unemployment rate in France climbed to 11.11%. From the same period of 2013, it increased by 0.6%, leading to 33,00,000 people without employment. Employment in France holds at around 64.51%. It is about 4% points worse than the Czech Republic. It is evident that the values which aimed to Lisbon strategy (70% employed) and the Europe 2020 strategy (75% of the employed population) is unlikely to be achieved. One must ask what values can be realistically achieved with an appropriate combination of active employment policy instruments and how the Czech Republic expects to expand the management of social development with French inspiration?

Aim of the resaerch: The aim of the research is based on time series analysis and forecasting of results of the development of employment and other selected indicators in France between the years 2000-2013. Using this information suggestions can be made for qualitative tools of developing employment in the Czech Republic. Another aim is to propose possible procedural changes in the implementation of tools for developing employment and management of social development.

MATERIALS AND METHODS

Analytical tools are used in the study calculating the trend of time series and comparative tools for comparison with developments in the Czech Republic. The processing of selected indicators were selected methods of time series. Models that allowed short-term prognosis were createdfor individual indicators. This is a classic trend function, exponential smoothing models and ARIMA Models. All data was obtained from the Eurostat database. Secondary data was processed in IBM SPSS Statistical Software.

Corresponding Author: Daniel Toth, Department of Economic Theories, Faculty of Economics and Management,
Czech University of Life Sciences Prague, Prague, Czech Republic

Time series and their methodical application: Time series of the numerical sequence materially and spatially comparable observations (data) which are clearly arranged in time in the direction from past to present. The following is a prediction that is already the result of the analysis. The analysis (or forecast) time series then means a set of methods that are used to describe these series (and possibly to predict their future development) (Svatosova *et al.*, 2004). Time series can be analyzed from different perspectives. The basic division is one of the time series at some point which are numerical values recorded a point in time or on a specific date and time series interval which indicate how many cases or events created, accumulated or is terminated for a certain time interval. In the analysis of time series also appear other factors such as frequency, cyclicality or type of indicators. Frequency divided into short-term time series that are shorter than 1 year and long-term time series, the interval is longer than 1 year (Hindls *et al.*, 2007). Breakdown by type of monitored indicators distinguishes time series of primary (primary) and secondary (derived) characteristics. When analyzing the development of non-periodic time series quite simply a relatively small range of trendy features. They are mathematically simple which means that we follow (Hindls *et al.*, 2007):

- Minimum number of members in the equation
- Minimum possible power argument
- Linearity in the parameters
- Connection
- Minimum number of extremes and inflection points (Svatosova *et al.*, 2004)

In graphic form, then use the equalization curve functions; Linear:

$$T_t = a + bt \qquad (1)$$

Quadratic:

$$T_t = a + bt + ct^2 \qquad (2)$$

Logarithmic:

$$T_t = a + b\log t \qquad (3)$$

Exponencial:

$$T_t = ab^t \qquad (4)$$

Inverse:

$$T_t = a + \frac{b}{t} \qquad (5)$$

Cubic:

$$T_t = a + bt + ct^2 + dt^3 \qquad (6)$$

Selection of the trend function corresponds to the empirical description. Structural parameters of the trend function is estimated using the Least Squares Method. When using this method, it is the sum of squared deviations of the individual values of the time series from the trend, so that was minimal.

$$\sum_{t=1}^{n}(y_t - y'_t)^2 = \min \qquad (7)$$

Where:

$y_t, t = 1, ..., n$ = The observed values of the time series

$y'_t, t = 1, ..., n$ = The expected (theoretical) values of the monitored variables, calculated by using some of the features (Svatosova *et al.*, 2004)

Choosing an appropriate model trend: When constructing mathematical-statistical model is a very important point estimate of the structural parameters of the trend function. However, it is important to estimate include the stochastic structure of the model also called the degree of compliance. The degree of conformity characterize the degree of compliance with the established model of empirical data. Frequently used indicator that isused to describe the degree of conformity of the model with empirical data, the index of determination I^2:

$$I^2 = 1 - \frac{\sum_{t-1}^{n}(y_t - y'_t)^2}{\sum_{t-1}^{n}(y_t - \overline{y})^2} \qquad (8)$$

where, $\overline{y}$ is the arithmetic average of the empirical time series $y_1, ..., y_n$. Determination Index is a dimensionless number satisfying session:

$$0 \leq I^2 \leq 1$$

The model better reflects the phenomenon under review when I^2 close to one. However if the value of I^2 close to zero, suggests that less and less compliance model time series. It is therefore, necessary to select a function which gives the maximum value of the index of determination I^2. This enables functions best and most accurately captures the real evolution of the studied phenomenon in the past and therefore it can be assumed that in the future the same way reflect the fact (Svatosova *et al.*, 2004). In addition to the index determination, we can meet with the index correlation:

$$I = \sqrt{I^2} \qquad (9)$$

Here, the same rules apply as in the correlation analysis. If the correlation value of the index closer to one, then the model better describes the evolution of the

patterns of time series and vice versa. Suitability, trend can also be assessed using the relative error of the forecast:

$$\frac{(P_t - S_t)}{S_t} 100\% \qquad (10)$$

Where:

P = The value prediction over time

S = The fair value at time t

H = Higher the value of the relative error is lower, the trend function more accurate

Modern statistical software have also implemented additional criteria for selection of a suitable model trend estimate of the Mean Error ME:

$$ME = \frac{\sum (y_t - y'_t)}{n} \qquad (11)$$

MSE (Mean Squared Error):

$$MSE = \sum_t \frac{(y_t - y'_t)^2}{n-k} = \frac{e_t^2}{n-k} \qquad (12)$$

Or its root RMSE (Root Mean Squared Error):

$$RMSE = \sqrt{MSE} \qquad (13)$$

MAE (Mean Absolute Error):

$$MAE = \frac{1}{n} \sum_t |y_t - y'_t| \qquad (14)$$

MPE (Mean Percent Error):

$$MPE = \frac{100}{n} \sum_t \left(\frac{y_t - y'_t}{y_t} \right) \qquad (15)$$

MAPE (Mean Absolute Percent Error):

$$MAPE = \frac{100}{n} \sum_t \left| \frac{y_t - y'_t}{y_t} \right| \qquad (16)$$

Each of these calculations, we perform a comparison when we try to prioritize the model with the lowest values of the indicators. For a comparison of alternative models can be used all the presented measures. Assessment of sub-models for different time series is based only on the relative degrees which are variables independent of the units of measurement indicators examined, MPE a MAPE (Svatosova *et al.*, 2004).

Theoretical bases of management of social development and active employment policy: Employment policy in the Czech Republic and France is controlled by several institutions in which the practical application of tools complement each other. The formation of national development concepts of employment and management of the responsible institutions in both countries have to worry relevant ministries (in the Czech Republic for the Ministry of Labour and Social Affairs). However, differences can be seen in the system and organization of the relevant institutions. France has much more experience with the hierarchical structure of the labor offices which is new in the Czech Republic, since 2011, when it began to reform the labor offices which were until then only 77 at the formation of the labour office in Prague. Not only that existing labor offices have lost their legal personality but basically there to centralize decision-making on employment policy at the regional level. The Czech Republic is an established rule that office work is devoted to job placement and payment of unemployment benefits which France introduced in 2008. In the Czech Republic, there are a total of 409 labor offices (including detached and contact centers). Due to the population of the Czech Republic falls as 25,753 people on a working office. In France, the employment office total of 956 local sphere which represents the equivalent of 68,020 people in one office. Long-term trends and employment policy in most developed countries alike and their main objective is to fight against unemployment. Both states are required to take when creating these programs regard to the European employment strategy and other measures taken by the European Union. The main strategic document is then the Europe 2020 strategy which aims to increase employment to 75% of women in the employment level of employment and 60% of people over 55 years to a level of 55%. The document has called for Lisbon Strategy (2000-2010). France and the Czech Republic provide its citizens with differentiated contributions to the integration of the unemployed into work. The area of active employment policy and management of social development in France is slightly wider than the Czech Republic, focusing primarily on various financial contributions or tax relief. It is a suitably selected combination of active and passive support tools. Tools passive employment policies do not differ. System differences can be seen in the fact that France, despite currently being carried out reforms and changes constantly seeks their assistance to specific groups of job seekers (young, elderly, underprivileged, etc.) and has the tools, geared directly to each group. The social assistance system in France can be described as selectively targeted (or addressable) assistance while Czech Republic tools are

mostly designed for unemployed no matter which group belongs. This causes the sensitivity of the social system to improper use or abuse in certain cases. The Employment Act (No. 437/year 2006 Sb.) identifies certain groups who are paid attention and assistance into the labor market and in mediation. Risk groups are the subject of focused assistance. France, unlike the Czech Republic used to increase the success of the integration of the unemployed into the labor market opportunity to provide people who have found employment outside his residence, transport allowance or housing and offers them to help even after returning to work. The unemployment rate in France is long, somewhat higher than in the Czech Republic. Development recorded significant fluctuations in the time of economic changes and thus can be considered stable. Focusing on specific groups of the population, however is applied in France for many years and the amount of government spending on employment policy remains largely without major changes. The explanation for the higher unemployment aid, despite the quality of labor market participants in France may therefore be the fact that this is a country with a significantly larger number of people than the national average and therefore, there exists a greater number of persons who may be considered unemployable. Other differences between employment in the Czech Republic and France seem to stem from the fact that France is concerned with the question of employment a little longer than the Czech Republic and many of the measures in the Czech Republic is still developing, they were introduced during many years of practice. Thus is the situation on the French labor market is more stable, especially in periods of economic reversals. Czech employment policy is starting to currently focus on the example of the development of part of employment relationships, youth unemployment, balancing work and family life or the structure of institutions in the areas of employment, i.e., the measures that are applied in France for many years. France, I currently make the necessary adjustments that would help streamline the activities of active employment policy. In late 2008, for example, there was a big reform of labor offices where their activities were expanded. There has been a procedural and organizational reform not unlike that which took place in the Czech Republic between 2010 and 2011 both countries are currently trying to approach the ideal model of the Danish labor market. The inspiration is flexicurity model which is at maintaining social protection of workers (social security) labor market flexibility (flexibility) (Svatosova *et al.*, 2004).

The model is considered to be the optimal solution of problems in the labor markets in most countries of the European Union. A frequent criticism that it is a social-democratic political opinion does not meet the European institutions with positive acclaim with support for flexicurity is primarily intended to develop the competitiveness of European markets and regions. If we had to establish recommendations for the Czech Republic and France, it would be particularly efforts to implement policies and measures to support growth of labor market flexibility while reforming social security systems. Employment policy does have the ability to a certain extent influence the behavior of individuals and institutions in the labor market in order to optimize employment according to accepted criteria. The actual development of employment policy in most countries, however, depends not only on the actions undertaken by its creators but also on many other factors. Among them we can name, for example, the political situation in the country, world economic development or prevailing mood among citizens and their willingness to actively participate in events on the labor market. Whether, the individual policy tries to fight unemployment, however, the labor market will always find a certain percentage of people out of work because unemployment is a natural phenomenon in any free society based on democracy and the market mechanism. But, the important thing is that the principles of employment policy were set so that the period of economic fluctuations in the labor market situation of the most stable and negative effects of the economic recession were minimal (Marek, 2010).

RESULTS AND DISCUSSION

The development of employment within risk groups (employment in the age group of 15-25 years) is one of the main priorities of the Europe 2020 strategy which not only has a lower "proportion of mortality" of students below 10% but should also increase their employment. Youth employment in the EU is decreasing. The steep decline occurred with the advent of the economic crisis. France is for the whole period under the EU average. The curve shows a very fluctuating trend. It is interesting that in 2013, employment levels back to levels seen in 2000 and to 28.6%. France, therefore, in contrast to the Czech Republic where the reporting period, employment fell by >10%, still maintains the same level. If we research at the long term development of employment in France, we can say that it is the oscillation in the average to other European Union countries. Although, there are profound regional differences but overall employment in France is for the whole period slightly below the EU average. The values showing a rising trend which for 13 years increased by 2% points. France was the peak of employment in 2008 and 64.8% in value but with the

Table 1: Employment of people aged 15-25 years for the period 2000-2013 in France, the EU and the Czech Republic

	Years													
Countries	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
European Union	-	-	36.6	36.0	36.0	35.9	36.5	37.2	37.3	34.9	33.9	33.5	32.7	32.3
Czech Republic	36.4	34.2	32.2	30.0	27.8	27.5	27.7	28.5	28.1	26.5	25.2	24.5	25.2	25.6
France	28.6	29.5	29.9	31.0	30.5	30.2	29.8	31.0	31.3	30.3	30.0	29.5	28.4	28.6

Own processing

dvent of the economic crisis followed the decline that occurred in most EU countries. At present, the values are above the EU average (Fig. 1).

Employment of people within the age group of 15-25 in the period under long-term decline. A slight increase occurred in the last 2 years. In comparison with the years 2000-2001, the decline in employment age groups rather dramatic which is in the Czech Republic, mainly due to the stagnation of new jobs for young high school and college students. Increasing employment is not possible without public support and how to support internships in public administration and support and benefits for companies that hire young graduates without experience. Another way is to support new entrepreneurs. In the Czech Republic, this trend only the beginning (Table 1).

The prediction is due to the volatility rather difficult. Index of determination is 0.436 for the feature. Values employment by the next 2 years should stabilize at around 28.6%. It is therefore necessary to continue reform steps in the area of employment policy for young people to increase the value of future growth (Fig. 2).

How to show the prognosis remains an unfavorable stagnation of employment in the coming years in France, at 28.6%. In France, the situation is worse than in the Czech Republic due to the massive immigration of young people from North Africa and the Orient. These young people compete with their labor force young French. The young generation of Frenchmen come to terms with their situation in the labor market by increasing their skills and prefers higher education. Jobs for these college students but also stagnating (Table 2).

Youth unemployment is currently a major problem across the European Union. Although, there are exceptions such as Germany or Austria and youth unemployment is increasing rapidly. Figure 3 shows that even France replicates this trend. In comparison with the CR values are for the year 2013 nearly 6% points higher and are even above the EU average. It should be noted that the situation is not so critical as to be in Spain or Greece but 24.8% indicates a growing social problem.

The forecast for unemployment Czech Republic is relatively favorable as it shows a decrease in the coming years. Last year in 2013 there was an increased rate of decline in unemployment. In comparison, nearly 2%, compared with the European Union relative success. However, it should also be pointed out that there has been a change in the calculation method when unemployment in the last 2 years as the so-called

Table 2: Forecast of employment rate (age 15-25)

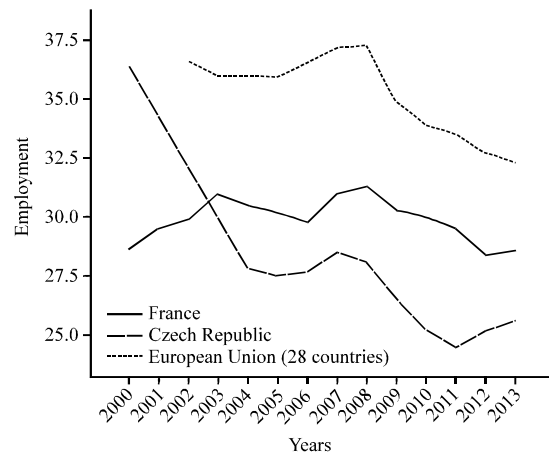| Models	2014	2015
France		
Forecast	28.6	28.6
UCL	30.2	30.8
LCL	27.0	26.4

Own processing

Fig. 1: Employment of people aged 15-25 years in France, the Czech Republic and the EU; own processing
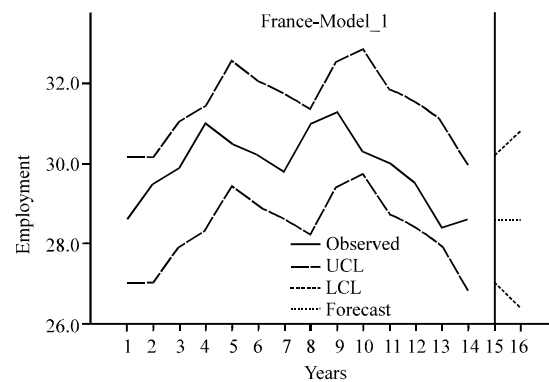

Fig. 2: Forecast of employment of people aged 15-25 years in France for the period 2014-2015 (The x-axis represents years from 2001-2014 onward and forecast 2015); own processing

states. Proportion of the total number of unemployed persons in the age group 15-64 years. It's not a methodological bias but restated figures show a smaller rate of decline than the numbers shown in Fig. 3 and Table 3.

Table 3: Unemployment rate of people aged 15-25 years for the years 2000-2013 in France. EU and Czech Republic

Countries	Years													
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
European Union	17.7	17.4	17.9	18.7	19.0	18.9	17.6	15.7	15.8	20.1	21.1	21.4	22.9	23.4
Czech Republic	17.0	16.6	16.0	17.6	20.4	19.3	17.5	10.7	9.9	16.6	18.3	18.1	19.5	18.9
France	19.6	16.3	17.2	19.0	20.5	21.0	22.0	19.5	19.0	23.6	23.3	22.6	24.4	24.8

Own processing

Table 4: Forecast of employment developming (age 15-25)

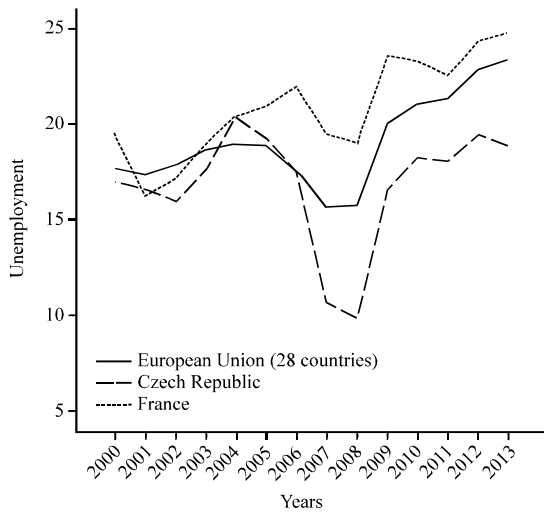| Models	2014	2015
France		
Forecast	24.8	25.3
UCL	28.0	28.6
LCL	21.6	22.1

Own processing

Fig. 3: Unemployment rate of people aged 15-25 years in France, the Czech Republic and the EU; own processing
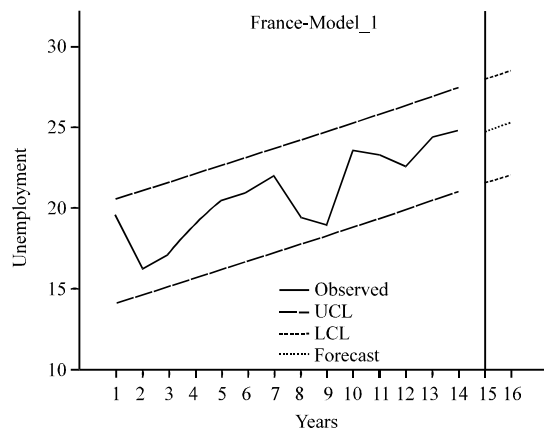

Fig. 4: Forecast of unemployment of people aged 15-25 years in France for the years 2014-2015 (The x-axis represents years from 2001-2014 onward and forecast 2015); own processing

Unemployment should in future years to grow more slowly. In 2015, the values should get over the magic threshold of 25%. The idea of 1/4 of young people out of work is very disturbing and it is necessary to resolve the situation as soon as possible. Index determination for a given function is the value of 0.8.

Forecast of unemployment (Fig. 4) again shows the rise. Data that was used, based on official data from Eurostat. Some estimates of unemployment in Spain, the south of France but also in Greece and southern Italy, however, show an increased rate of average unemployment rate for young people. The prognosis in this case was at almost 30% (Table 4).

CONCLUSION

French employment policy is similar to that of the Czech. Type Continental European Social Model in which both countries ranks, proves to be not very effective and it is necessary that both countries have undergone a number of reforms. The main problem of active employment policy is called. Creaming when the cost of retraining and strengthening preparedness to enter or return to the labor market are not directed at individuals with the highest risk but rather active for those who can responsibly when preparing for changes in the labor market. Employment policies with a more or less German trends which should accelerate the fulfillment of the targets of the EU in this area. The indicators examined to see greater stability France, especially the smaller fluctuations induced in a time of global economic crisis. This is mainly due to long-term comprehensive view of the problem of employment is in the Czech Republic is still in its infancy. The first indicator was examined employment. France has stagnated in recent years and its values are the same as the EU average. In comparison with the Czech Republic, France is about 3% points worse. It is necessary to continue to vigorously promote active employment policy, returned to France on the first rung in the EU. Unemployment is currently in France at historic highs. The values of around 10.3% becoming alarming. The French government fortunately, this unfortunate trend which is so typical for most of the EU is fully aware of and fight with him is one of the main priorities of the ruling parties. In the average annual income is France over EU values. The annual growth is around >500 Euros. The sum of wages for 2013 climbed

to 22,209/year which is two and a half times more revenue than the Czech Republic. You should France keep the trend and continue to raise the wage level. Youth employment in the period do not change much. As evidence of the return to 28.6% after 13 years. Values are not perfect and are below the EU average but France has better targeted assistance to particular groups of the population than the Czech Republic which certainly helps reduce impacts on this population group. A much bigger problem, however, remains unemployment of young people under 25 years of age. The people in the working age population is currently difficult to apply in the labor market (Marek, 2010). France attacking the 25% of people between 15 and 25 years of work. It is necessary to attract this workforce for employers because these groups can escalate very negative social climate. One important step is to connect the private sector or enterprises to reform education in order to better shape the school pupils to follow their profession and requirements that are in demand in the sector. Again, it is possible to make use of knowledge in this area, Germany (Bachmann *et al.*, 2010) and integrate their mechanisms have very good efficiency in combating this problem.

REFERENCES

Bachmann, R. and M.C. Burda, 2010. Sectoral transformation, turbulence and labor market dynamics in Germany. German Econ. Rev., 11: 37-59.

Hindls, R., S. Hronova and J. Seger, 2007. Statistika pro Ekonomy [Statistics for Economists]. 8th Edn., Professional Publishing, Prague.

Marek, L., 2010. Analyza vyvoje mezd v Ceske republice v letech 1995-2008. [Analysis of Wages Development in the Czech Republic in Period 1995-2008]. Politicka Ekonomie, 58: 186-206.

Svatosova, L., B. Kaba and M. Prasilova, 2004. Zdroje a Zpracovani Socialnich a Ekonomickych Dat. [Sources and Processing of Social and Economic Data]. Czech University of Life Sciences, Prague, ISBN: 80-213-1189-4.