ČMKOS study

When will **Czech wages be comparable** to the developed EU?

ČMKOS
[together]
STRONGER

Content

List of abbreviations

ČMKOS - Českomoravská konfederace odborových svazů - Czech-Moravian Confederation of Trade Unions
ČNB - Česká národní banka - Czech National Bank
DEM - German Mark
EIB - European Investment Bank
ERDI - Exchange Rate Deviation Index
EU - European Union
HDP / GDP - Gross Domestic Product
HND / GDI - hrubý národní důchod - Gross Domestic Income
MOP / ILO - Mezinárodní organizace práce - International Labor Organization
NRR - Národní rozpočtová rada - National Budget Council
PPP or PKS – purchasing power parity / parita kupní síly
SVE / CEE - Central and Eastern Europe Countries
SRN - Spolková republika Německo - Federal Republic of Germany
V4 - the Visegrad Four countries (Czech Republic, Slovakia, Hungary, Poland)

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Management summary

The present study builds on the basic programme documents of ČMKOS[1] drafted and released in the recent years. In the study, the Czech-Moravian Confederation of Trade Unions comprehensively formulates its negative attitude towards the current economic model of the Czech Republic and also comes up with a proposal for its fundamental change.

ČMKOS considers the economic model of low-cost economy that has been enforced in the Czech Republic since the beginning of the 90's of the last century as a malicious model, a model which makes the real convergence of the Czech Republic to developed countries impossible, a model of a dependent developing country.

The sacrifice the Czech employees made for the sake of the Czech economy transformation, was wasted by political elites. Economic and social reforms turned the Czech Republic into a dependent developing country. Thirty years after the start of the economic transformation, the level of hourly wage is less than a third of the level of our developer neighbors. The current economic policy does not give any guarantee of economic and social convergence of the Czech Republic towards the most advanced countries of the European Union within a reasonable time. At the current rates, it would take at least another 80 years to catch up with salaries of our closest advanced neighbors. Such a perspective is so distant that its realization is very unlikely.

Moreover, the continuation of the current positive trend of wage convergence (from years 2014 to 2017), supported by 10 - 30% increase of CZK/EUR exchange rate, does not actually offer a time-comprehensible perspective for levelling the labor costs with our advanced neighbors within a period of one human life. The convergence of the Czech Republic towards the most advanced EU countries in the area of wages (labor costs), with the current direction and structure of the Czech economy, does not have a meaningful starting point. Model calculations clearly indicate that the Czech economy finds itself in a moderate income trap. The only change for the Czech Republic, as a moderately advanced country with long industrial tradition, is to change the economic policy –

[1] In these studies, fundamental programme approaches of the largest trade union center in the Czech Republic were formulated based on detailed analyses, both for individual sector policies (budgetary, currency, tax, wage and social) and for the economic policy of the Czech Republic as a whole. These namely include the documents titled as "Vize ČMKOS pro Českou republiku / ČMKOS Vision for the Czech Republic", 2012, "Vize změny hospodářské politiky / Vision for Economic Policy Change", 2015, "Snižování tzv. nemzdových nákladů práce / Reducing the So-called Non-wage Labor Costs", 2016, "Přínosy a náklady přistoupení ČR k eurozone / Benefits and Costs of the Czech Republic Joining of Eurozone", 2017, "Dlouhá pracovní doba a nízké mzdy – dvě tváře hospodářského modelu ČR / Long Working Time and Low Wages – Two Faces of the Czech Republic Economic Model", 2018.

its economic model quickly and fundamentally, otherwise it will remain caught in this trap permanently.

The immediate objective of the ČMKOS policy is to mitigate the negative effects of the low-cost economy model (cheap labor) in the Czech Republic.

What does it mean?

1. To change the unfair distribution of added value

- With their low wages, Czech employees actually subsidize the very high profitability of companies operating in the Czech territory, whereas the total amount of this "subvention" reached CZK 4.5 trillion in the period from 1991 to 2017.
- There is a relatively significant space in the Czech Republic for faster wage growth compared to labor productivity growth, currently moving around the level of 8 percentage points at minimum.

2. To avoid an uncontrolled influx of cheap labor from abroad

- If the labor force import into the Czech Republic continues to grow at the current rate, the demand oversupply in the labor market will disappear in the foreseeable future and the wage convergence will slow down considerably.
- The slowdown or downturn in the economy does not mean the proportional decrease in the number of migrants in the Czech labor market, on the contrary the migrants are staying and competing with domestic employees, as we already experienced during the crisis from 2009 to 2013.
- The Czech labor market is the most liberal of all CEE countries towards foreign workers. The share of foreigners in the total employment in the Czech Republic, that reached 12.5% in 2018, is unusually high. According to the repeating references from the Czech business circles, there is an alleged need for import of another 400 thousand foreigners in the Czech Republic. If this happens, the number of foreigners in the labor market of the Czech Republic would reach approx. 1.1 million, i.e. more than 10% of total population of the Czech Republic (excluding family members) and 21% of total employment.
- Massive import of cheap labor causes and intensifies not only security risks (significant concentration in some regions, different demographic structure, contacts to criminal groups, illegal migration) and health risks (bringing some diseases that were already wiped out in the

Czech Republic), but also political risks (expansion of xenophobia and strengthening of radical movements).

3. To shorten extremely long and harmful working time in the Czech Republic

- The length of working hours is one of the basic indicators of the country's maturity and the performance of its economic model. The most advanced EU countries with an intensive kind of economic growth are countries with the shortest working time, whereas the extensive growth of economy is characteristic for less developed, low-cost economies, that increase their performance by higher employment rate attributable to a unit of product generated and by extension of time worked.
- On the other hand, long working time inhibits negative social consequences resulting from very low hourly wages, but it is a desperate solution, disrupting not only the personal and family life of employees, but also their health or even life when the overstrain of their organism is prolonged.
- As for the length of working time, the Czech Republic is roughly 50 years behind the advanced EU countries. In 2017, the average length of time worked per person employed reached 1784 hours and was, compared to Germany, more than one third longer. Time worked by a Czech employee during his/her entire working life compared to a German employee is about 11 years longer.

4. To significantly strengthen the social partnership and collective bargaining system[2]

- To strengthen the role of the Council of Economic and Social Agreement in preventing and tackling social conflicts.
- To increase support for negotiating higher-level collective agreements and their spreading.
- To increase support for collective bargaining on salaries in the public sector.
- To ensure regular valorization of minimum wage.
- To strengthen the participation of employee representatives in supervisory boards of public limited liability companies.

[2] The impact of collective bargaining on working hours shortening and increase of wages is indisputable. In companies where collective bargaining took place in 2017, compared to companies without any collective bargaining, the annual wage was on average CZK 33,834 higher and the annual working time 46 hours shorter

The fundamental direction of ČMKOS policy is the elimination of cheap labor in the Czech Republic and its substitution by a model of support for modern development. The key conditions for successful change of the Czech Republic economic model are:

- **enforcement of national agreement on the cooperation of major political parties, social partners and the vast majority of society in essential economical and social changes,**
- **intensive fight against corruption, organized crime, tax frauds, money laundering and illegal work, profiteering and profiteers,**
- **preparation of the project for the change of the Czech Republic economic strategy.**

The ČMKOS conception of the change of the Czech Republic economic strategy

I. To strengthen the role of the state, formulate and enforce key infrastructure projects

- to develop high-quality networks of fast internet and optical networks across the entire country as the basis for the development of digitalization;
- to develop nuclear energetics and the related energy industries,
- to prepare and implement projects developing the waterway transportation in the Czech Republic on the axis Vltava – Labe – North Sea, Danube – Odra – Baltic Sea;
- to implement projects aimed at water containment and efficient water management (and fight against drought) and forestation;
- to implement high-speed rail projects;

II. To support education, research and development

- to substantially improve the support to technical education – from apprenticeships, through secondary technical schools to universities – by means of introducing the dual vocational education;
- to substantially improve the support to research and development with the aim to increase the share of technology exports in the Czech export;
- to establish a state export company for the support of the export of Czech technologies;
- to coordinate the development of science-technology parks and innovation centers;

- to direct a significant amount of money into the development of science and research, on the condition of its substantial streamlining and a change in the way it is managed;

III. To support other key areas

- to completely change the current support of the Czech agriculture with the aim to increase the share in the domestic foods consumption to 80–90%;
- to support small and medium-sized businesses – for this purpose it would be necessary to transform the existing ČMZRB (Czech-Moravian Guarantee and Development Bank) or to establish a new bank providing a real support to start-ups and to the segment of small and medium-sized businesses;
- to support the development of tourism, ensure a coordinated approach (by resorts, regions, municipalities) and considerably improve the overall quality;
- to support the development of rental housing – construction of at least 50 thousand flats in rental apartment buildings with reduced rents (similar systems with lower rents have been already operating in Western Europe, e.g. in France);

IV. To restore order and fairness in the area of public finances

- to substantially restructure public finances of the Czech Republic and its tax system in proportion to the tasks mentioned in the previous paragraphs;
- to restore order and ensure elementary tax fairness in the tax system;
- on the revenue side, to change the structure of the tax system, to reinforce direct taxes and property taxes, and to introduce tax progression;
- to equalize all taxpayers (to address distortions in taxation between employees and self-employed persons);
- to extend tax bases in all tax areas;
- to address the abuse of intra-group (transfer) prices and provision of services within groups for tax optimization purposes;
- to develop and implement complex program of combatting the shadow economy, unreported employment and tax evasion;

- on the expenditure side, to carry out a thorough audit of all expenditure items in all areas of public finances and, based on this audit and the priorities chosen, to carefully reduce the expenditure side of public budgets.

Introduction

More than three years ago, ČMKOS published its programme document titled as "Vision for Economic Policy Change."[3] The purpose of this document was to provoke public discussion on fundamental economic and societal changes that will lead to a significant acceleration of economic growth, but above all to the approximation of the standard of living of Czech citizens to the level of the most advanced EU countries. Based on the analysis of the 25-year economic transformation in the Czech Republic, the Vision has clearly demonstrated that **maintaining of the current direction of economic policy of the Czech Republic is unacceptable. It turned out that the present development in the Czech Republic does not give any guarantee for our country to get economically and socially closer to advanced EU within reasonable time frame.**

It is said that human memory is quite short. However, we all remember the beginning of the so-called economic transformation when it was seriously promised to the Czech population that "if we tighten our belts now", we will catch up with Austria in five, at maximum ten years. It is true that for some citizens this promise was fulfilled, and it even did not take so much time. But it is definitely not the case of Czech employees. For those the vision of quick approximation – convergence to the developed countries, just as the number of other promises, has disappeared beyond recall. It is a paradox that the Czech employees supported the so-called radical economic transformation quite strongly, when it was they who had to bear the main burden consisting in a decline in real wages by one third, devaluation of savings and increase of unemployment rate.[4] **Today it is quite clear that the sacrifice the Czech employees made for the sake of the Czech economy transformation, was wasted by political elites. After almost 30 years of their**

[3] Fassmann M., Ungerman J., Vize změny hospodářské politiky ČR (Vision of Change of the Economic Policy of the Czech Republic), Revue Pohledy 2/2015 (December 2015), Prague, p. 48, ISBN 978-8086846-61-3.

[4] The implications of the initial macroeconomic maneuver at the beginning of the economic transformation will be discussed in more detail in the next chapter. In any case, with regard to the costs of employees associated with the economic transformation, we definitely cannot speak in the past tense only!

applications, the allegedly successful economic and social reforms have only brought less than one third of the wage level of Austria or Germany to Czech employees.

Instead of a promising modern competitive economy, a low-cost economy model has been enforced. It was the ČMKOS Vision, which clearly showed that in the Czech Republic the economic model for developing countries has been factually applied in a long-term perspective. All that is happening around us are virtually more or less distinct manifestations of this model; including but not limited to key sectors in hands of multinational corporations, permanent capital outflow from the country, low product valuation, depreciated (bargain) exchange rate of national currency, very low share of labor costs in the added value versus very high share of profit, extremely low taxation of profit and capital vs. extremely high taxation of labor and consumption (in comparison with developed countries). And all this bringing – in a long-term perspective - low wages and long working time, repeated pressure on privatization of lucrative parts of public services (education and health) and transfers (pensions) and efforts to push the parts of social services and transfers, which are not commercially interesting, to the level of care for the poor.

The Vision pointed to the inconclusiveness of the economic policy. The interpretation of the model calculations made was unambiguous. If the Czech Republic proceeds in the same direction in its economic and wage policy as it did in the previous ten (practically even twenty) years, the wage approximation to our German or Austrian neighbors for Czech employees is unrealistic!

This, for economists basically flat finding, caused that the Czech employees were initially surprised and then considerably disillusioned. Above all, however, it meant a definite end to the naïve beliefs that the so-called economic transformation and the subsequent economic "reforms" will finally bring "well-being to everyone". To make things even worse, the so-called "independent analysts" proclaimed that the long-term (and intentionally) maintained very low level of wages in the Czech Republic is the responsibility of the Czech employees who "failed to ask for more". (Someone simply had to be blamed for the clear and indisputable fact of significantly low wages).

It is therefore logical that the Vision and the related programme documents by ČMKOS resonated well with the audience.[5] They have become the theoretical basis of a long-term, and

[5] These are fundamental analyses prepared by ČMKOS in recent years. In these studies, fundamental programme approaches of the largest trade union center in the Czech Republic were formulated based on detailed analyses, both for individual sector policies (budgetary, currency, tax, wage and social), and for the economic policy of the Czech Republic as a whole. Besides the already mentioned Vision, these documents include the following:

today we can also say very successful, campaign of Czech trade unions for raising wages titled as **"The End of Cheap Labor"**. **Thus the Vision fulfilled its immediate activation target.** The fact that after few years we return back to the topic of wage convergence of the Czech Republic to the most advanced EU countries has several reasons.

I. The Vision, related documents and especially "The End of Cheap Labor" campaign have raised, in the professional and lay public of the Czech Republic, besides a significantly positive feedback, a number of questions, misinterpretations and intentional manipulations that can be summed up by a sentence "Czechs do not deserve higher wages because they have less productivity than Germans", or in a journalistic shortcut "Czechs work less compared to Germans". Therefore, the introductory passages of the document are dedicated to a **summary root causes of very low wages in the Czech Republic** and to a detailed analysis of the key macroeconomic indicator – labor productivity and its contexts. Only a correct interpretation of the character and the development of this indicator will allow us to put a series of misleading claims straight.

II. Although the current development of the Czech Republic has clearly shown that the economic model, built primarily on the advantage of geographic "wedging" in the German economic space combined with the model of low-cost economy, has been exhausted many years ago. In no case the efforts to preserve it have been abandoned in the Czech Republic. The focus of the new cheap labor policy has shifted from the methods of direct containment (reduction) of wage growth and total labor cost, which was typical in previous decades[6], to the pressure to maximize open attitude towards **influx of cheap labor, especially from non-EU countries.**

Fassmann M., Snižování tzv. nemzdových nákladů práce – mýty, fakta, souvislosti (Reducing the So-called Non-wage Labor Costs – Myths, Facts, Contexts), Revue Pohledy 1/2016 (February 2016), Praha, p. 41, ISBN 978-8086846-63-7.

Fassmann M., Zkracování pracovní doby a konkurenceschopnost (Reducing Working Hours and Competitiveness). V Dandová E., Fassmann M., et al., Popis současného stavu v oblasti zkracování pracovní doby a zavádění flexibilních forem práce v České republice (Description of the Current State in the Area of Working Hours Shortening and Implementation of Flexible Forms of Work in the Czech Republic), Praha 2016, ČMKOS (ESF), p. 32, ISBN.978-80-86809-13-7.

Fassmann M., Ungerman J., Přínosy a náklady přistoupení ČR k eurozóně (Benefits and Costs of the Czech Republic Joining of Eurozone", Revue Pohledy 1/2018 (February 2018), Praha, p. 71, ISBN 978-8086846-66-8.

Fassmann M., Dlouhá pracovní doba a nízké mzdy – dvě tváře hospodářského modelu ČR (Long Working Time and Low Wages – Two Faces of the Czech Republic Economic Model), Revue Pohledy 2/2018 (November 2018), Praha, p. 6, ISBN978-80-86846-68-2.

[6] These processes are comprehensively described for example in the following documents: Fassmann M., Ungerman J., Vize změny hospodářské politiky ČR (The Vision of Change of the Economic Policy of the Czech Republic), Revue Pohledy 2/2015 (December 2015), Praha, p. 48, ISBN 978-8086846-61-3, Náklady práce a mzdy (Labor Expenses and

III. The Vision for the Economic Policy Change had no ambition to analyze in detail **all the contingencies of the Czech Republic economic convergence towards the advanced EU countries.** Therefore, when it was processed, some issues were pushed aside (the link between the length of working time and level of wages, theoretical and methodical issues related to the process of convergence between advanced and less developed countries, key indicators of the convergence and their quantification, the impact of the potential euro adoption on the convergence of new EU member countries from CEE countries etc.). In this study, we will address these issues in more detail.

IV. Over time, **the Vision has become obsolete in some respects and needs to be updated in a new context.** It should not be just a simple update of the data. The internal and external environment of the Czech Republic has changed considerably over the last three years. In 2014, a new coalition came with a distinctly different economic policy concept, and this policy continues. The policy of the previous and current government coalition and the ČMKOS campaign "The End of Cheap Labor" meant a significant breakthrough in the attitude towards minimum wage and salaries in the public sector. This has subsequently positively affected the **increase of the overall wage level**. After three years and five months, in April 2017, the exchange rate commitment was cancelled by ČNB. (In the Vision, the exchange rate commitment was radically criticized). Unfortunately, so far this cancellation has affected the expected strengthening of the Czech currency only very slightly. However, by releasing the wage and exchange rate channel, we succeeded in overcoming the unfortunate legacy of the budgetary restriction of right-wing governments and the depreciation of the exchange rate due to announcement of the exchange rate commitment – **i.e. the wage divergence of the Czech Republic from the most advanced EU countries**. The key question of this study is, of course, how to support or make this positive trend even stronger.[7]

V. In the context with the previous points, the study is aimed at **search for a new direction of the economic policy of the Czech Republic,** both in terms of shielding the effort to return to the

Wages) (p. 35–42 and also Fassmann M., Snižování tzv. nemzdových nákladů práce – mýty, fakta, souvislosti (Reducing the So-called Non-wage Labor Costs – Myths, Facts, Contexts), Revue Pohledy 1/2016 (February 2016), Praha, p. 41, ISBN 978-8086846-63-7.

[7] This relatively fundamental problem of the current economic policy of the Czech Republic would surely deserve a more detailed analysis of all possible aspects. Given the focus of this study, this topic is mainly addressed in the context of wage convergence of the Czech Republic.

policy of cheap work, and active measures strengthening the convergence of the Czech Republic towards the most advanced EU countries.

The aim of the ČMKOS study, compared to the previous Vision, is to make a more significant contribution to the debate on the economic policy change and (also based on international experience) to assess the chances of the Czech Republic, as a moderately-advanced country with a long industrial tradition resulting from the maximum use of new directions and opportunities for the development of science, technology, digital technologies and new management systems, and to skip the whole development phase and thus get to the level of the most advanced countries much faster (just as for example Finland or Denmark did in the past). It is a question of "rearmament" – a change in the structure of economy, the role of the state in these processes, examples of good and bad practice. These are the issues which are addressed in this study in more detail.[8]

Low wages are not an advantage, but a fundamental problem of the Czech economy and Czech society, we meet every step of our way. They are the cause of the already obvious but also still hidden – but not non-existent – problems of the Czech society and beyond. The chase for an increasingly cheaper labor in order to maintain the very fishy competitive advantage "for a little bit more time" will not bring us among the most advanced European countries, rather the contrary.[9]

Without a rapid economic and social approximation of poorer countries towards the advanced countries, without elimination of steep differences between individual EU member countries, whether in economic or social area, a stable political environment cannot be achieved.

[8] Recently, this matter is very topical not only in countries of our type (here it is necessary to highlight the document titled „Innovation Strategies of the Czech Republic 2019-2030", prepared at the beginning of the year by the Governmental Council for Research, Development and Innovation), but also in advanced countries. In this regard, we must mention as very inspiring the newly formulated German strategy of industrial policy published at the beginning of February this year (see Nationale Industriestrategie 2030, Strategischce Leitlinierfur eine deutsche und europaische Industriepolitik, Bundesministerium Für Wirtschaft und Energie, Februar 2019). We will return to both these materials in more detail in the final chapter.

[9] It should be recalled that despite the significant increase in wages in the last period, the price competitiveness of the Czech Republic (however, build on very low wages, resp. costs of labor) is still very high. In 2017, the ratio of hourly labor productivity (GDP per hour worked based on the purchasing power parity) of the Czech Republic to Germany amounted to 58.4%. However, the ratio of nominal costs of labor to the worked hour in the Czech Republic compared to Germany was only 33.4 %. This means that for the value of 1 working hour in Germany it was possible to buy 3 working hours in the Czech Republic. And during these 3 working hours in the Czech Republic, 75% more real product was generated compared to Germany.

For the Czech Republic, as the westmost of the eastern countries, located in close proximity to the richest regions of the European Union, extreme disparities in the level of employee remuneration create a big problem. The latter – if left unresolved – will grow over time. We cannot recognize many things today, however some problems have already been shown. The fundamental and growing staffing problems in the Czech health sector related to the migration of Czech physicians and nurses abroad for higher earnings, the supply disruptions of some key medicines, the persisting inferior quality of imported foods and other goods (everything relates to the low purchasing power of Czech citizens in relation to foreign countries), pervasion of "western prices" into the real estate sector, energies etc., are actually just the imaginary tip of the iceberg.

1. Don't the Czechs really deserve higher wages?

On 14 May 1996, at the ODS election press conference, Václav Klaus said: "I do not promise, but I say: with our party it is possible to expect that at the turn of the 20th and 21st century, in 2000, the average wage in the Czech Republic will be double in the minimum variant, while in the maximum variant it will be approaching twenty thousand Czech crowns."

On 15 May 1996, at the press conference following a government meeting, he further clarified his previous statement: "In 2000, I foresee a doubling of the average wage to roughly seventeen thousand Czech crowns. I consider this a very serious estimate and, of course, I spoke about nominal wages."[10] Following a fundamental criticism raised mainly by trade unions, the alleged sheer realism of this estimation was supported by a wide range of independent analysts, who, of course, in the same breath rejected the trade unions objections.[11]

And how did that turn out? To get the average wage at the level of CZK 17,000, we had to wait – even at the subsequent policy of significant growth applied by the "rival" party ČSSD – not only four, but nine years. The average wage of CZK 20,000 was reached after twelve years and the average wage of CZK 30,000 (EUR 1,170 - gross wage) only last year, i.e. after 23 years. Moreover, in the last phase, this was achieved with a significant contribution by ČMKOS campaign "The End of Cheap Labor".

But who would expect Václav Klaus to be glad that his old forecasts of rapid wage growth in the "successfully transformed" Czech Republic are finally beginning to come true, would be disappointed. In the middle of the last year he claimed that "the financial valuation is what it is" and that "higher wages are nonsense and Czechs do not deserve them". Even now, like years ago, he found some willing advocates for this attitude.[12] Václav Klaus sadly negated the recent wage

[10] Subject to editorial adaptation, this thesis was published on 15.5.1996 by MFD (Klaus slibuje dvojnásobné platy / Klaus promises double salaries), Telegraf (ODS slibuje dvojnásobné platy / ODS promises double salaries), LN (Klaus slibuje dvojnásobné mzdy / Klaus promises double salaries), Lidové noviny 16. 5. 1996 (Levice viní premiéra z populismu / The left blames the prime minister for populism) etc.

[11] E.g. Odborníci podpořili Klausův odhad (Experts supported Klaus's estimation), MFD 16. 5. 1996. Premiérův odhad je reálný (The prime minister's estimate is real), LN 17. 5., MFD 23. 5. 1996, Ať nás pan odborář nestraší (Do not let the trade unionist to frighten us), NOVA 21. 5. 1996, prime time, „Jde pouze o teoretické spekulace… nebude nebezpečné, pokud v několika příštích letech porostou reálné mzdy rychleji než produktivita práce" (It is only a theoretical speculation… it is not dangerous, if real wages will grow faster than labor productivity in the next few years) , MFD 22. and 23. 5. 1996 etc.

[12] E.g. www.e15.cz 14. 6. 2018, www.byznysnoviny.cz 19. 6. 2018, www.eurozprávy.cz 24. 6. 2018 etc.

growth, thus denying himself when he predicted and advocated the necessity of rapid wage growth in the Czech Republic in the 90's of the last century.

The reservations of Václav Klaus against the current wage growth are actually only the imaginary tip of the iceberg. The current relatively rapid increase in wages and salaries erodes, step by step, the foundations of a long-term built low-cost economy, and in some circles, it does not have a positive response. Especially in those business circles where profits are directly dependent on this obsolete model in a long-term perspective.

Why is the financial appreciation of employees within the EU one of the lowest? To answer this question honestly, we must return to the beginning of the economic transformation and recall what really happened in the wage area at that time.

The essence of the macroeconomic maneuver between 1990 and 1991 was, besides a significant undervaluation of the currency rate against the purchasing power parity ("currency cushion"), also a substantial undervaluation of wages (costs of labor) in national currency against labor productivity ("wage cushion"). The effect of these two cushions was that Czech wages (costs of labor) started to be seen from outside the Czech economy, from the perspective of potential investor, as fractions of wages in advanced countries.[13] Their low level (in relation to abroad) was facilitated by significantly lower level of prices of goods and services on the domestic market compared to prices abroad.

So what was the reality? The purchasing power of Czech wages abroad has fallen to less than a fifth of their purchasing power on the domestic market. After a multiple devaluation of the Czech crown during 1990, the Czech nominal wages (at exchange rate conversion) were at the level of fractions of wage levels in Western Europe. **The Czech crown rate and wage regulation resulted in the compression of the Czech average wage compared to Germany to roughly 10%.**[14]

According to estimates, the level of underestimation of the Czechoslovak crown measured by ERDI (Exchange Rate Deviation Index) based on GDP compared to German Mark (DEM) in 1990

[13] Of course, this basic factor of cost competitiveness is supported by some other factors, such as low level of corporate taxation, low level of environmental protection or factors analyzed in detail in the Vision (2015), such as very low level of social protection and reduction of labor-law standards.

[14] In twenty seven years, i.e. until the year 2017, wages (respectively the costs of labor) in the Czech Republic converged to roughly one third of the German level.

was 5.17. This means that in the former Czechoslovakia DEM had, at official exchange rate, 5.17 times higher purchasing power than in Germany. In fact, it was a "bargain rate" which was very "successfully" manifested at the subsequent large-scale privatization of the Czech economy.[15]

The strong wage squeeze at the beginning of the economic transformation was also evidenced by the fact that Czech wages (at exchange rate conversion) fell even below the wage level of Poland or Hungary, i.e. countries that had a substantially lower economic productivity of work and considerably higher rate of overall economic imbalance at that time. (In 1990, ERDI of the Polish Zloty amounted to 4.1, respectively 3.1 in case of Hungarian Forint)

However, the purchasing power of Czech wages decreased significantly also on the domestic market. In 1991, real wages fell by 26.3% year-over-year (with nominal wages rising by 15.4% and inflation rate of 56.6%). The factual decline in real wages was thus more than 2.5 times higher than the level on which the **general agreement was built, concluded at the beginning of the economic transformation between the federal government, trade unions and employers.**

This agreement, which formulated a fundamental social consensus on the reform measures, assumed an increase of consumer prices by only 30%, increase of nominal wages by 20% at maximum, and thus the minimum decrease of real wages by 10%. These parameters were also a basis for wage regulation, indexation of social transfers and other transformation measures. **Significantly higher than the expected price increase, triggered by the last (unexpected and in calculations not included) devaluation of the Czech crown at the end of 1990, changed these parameters fundamentally. In this respect it was clear that the Czech Republic is entering into the reform year 1991 with unrealistic assumptions. Unfortunately, in the area of wage regulation and indexation of social transfers, no additional adjustments were effected.** Thus, the effects of the transformation maneuver were significantly greater in the area of wages, compared to what was originally claimed by the government.

In addition, however, it must be added that the relatively significant decrease in real wages occurred already in 1990. As a result of so called pre-reform preparations (gradual devaluation of Czech crown, abolition of negative turnover tax), there was a significant increase in prices, in particular the prices of basic necessities of living. The inflation rate reached almost 10% and real

[15] See the social and economic implications of the Czech Republic integration into the European Union, Government Council for Economic and Social Strategy, July 2001, page 112.

wages fell by 5.8%. During the period 1990-91, when the cumulative inflation rate reached 71.7%, real wages fell by 33.6%.[16]

Such a low level of wages in the Czech Republic was further lowered by other measures aimed at deceleration of wage growth and maintaining the wages at the lowest "competitive" level as long as possible. In addition to the restrictive monetary and budgetary policy, these measures mainly included the wage regulation (repealed as late as in the half of 1995), wage regulations determining the setting of individual wages, long-term intentional maintenance of minimum wage below the subsistence level, the use of so called "cold progression" at taxation of wages and specific wage-setting systems in the budgetary sphere. The regulation of wages was also justified by the fact that in the early stages of transformation, the vast majority of enterprises were in state ownership and as such they were still under a direct departmental management and influence. All these "transformational" tools have literally caused long-term and systematic rooting of low wage level in the Czech economy.[17] (In this context the fundamental question is, to which extent the aforementioned expectations of Václav Klaus in 1996 were fair-minded or whether they were just election promises.)

The immediate impact of the macroeconomic maneuver in the decline of real wages was painful and lasted roughly five years before it was leveled, however, its long-term effects are much more serious as we have been facing them everyday even today.

As the following graph clearly shows, **this maneuver has fundamentally redefined the distribution of added value between wages (employee compensations) and profit (operating surplus) in the Czech Republic.**

How did this happen? Quite simply. The main instrument in this case was wage regulation. In the key years after the start of the economic transformation, it ensured that the inflation induced by the economic maneuver did not immediately penetrate in the wage area. Thus, while the inflation was virtually flowing in all price ranges, in the area of wages it was restrained by wage

[16] In parallel, savings of population were significantly depreciated. In four years (1990-1993), their fair value decreased by as much as 56.6%. Thus, by the end of 1993, the purchasing power of CZK 157 billion „evaporated" from the total deposits of Czech citizens, which amounted to CZK 277.6 billion in 1989. Statistical Yearbook of the Czech Republic - 1993, 1994, ČSÚ Praha 1993, 1994, own calculations.

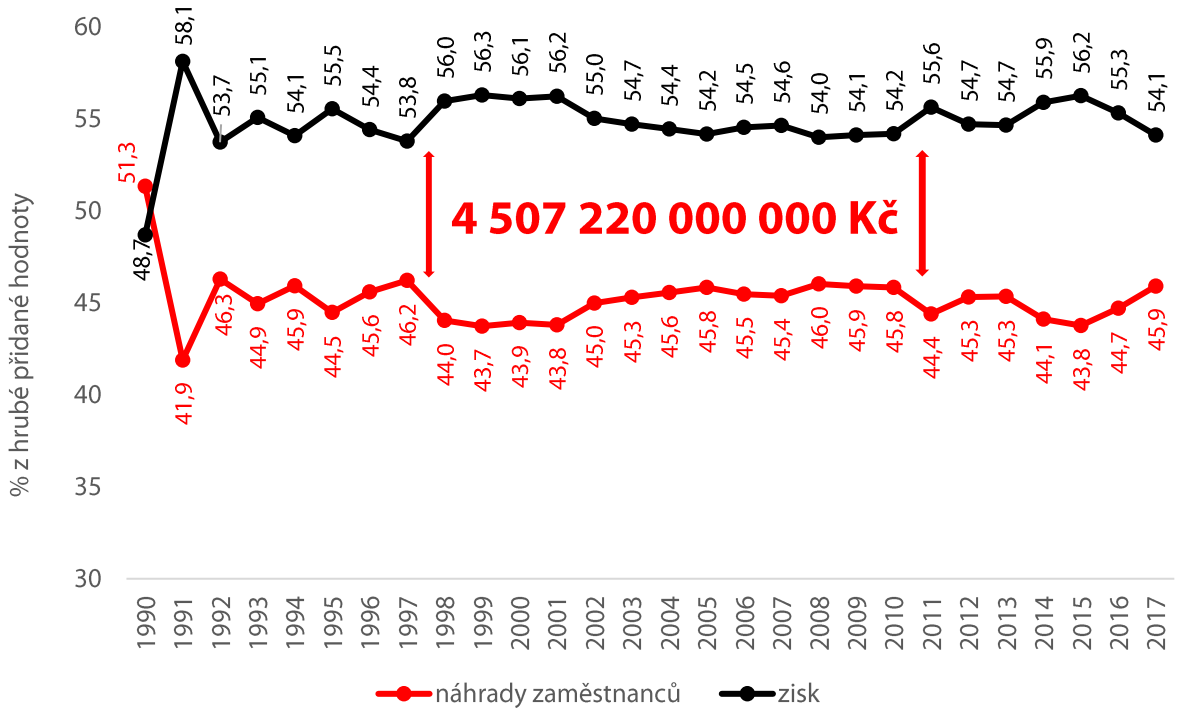
[17] Fassmann M., Rusnok J., The True Effects of Wage Regulations in the Czech Republic, In. Vaughan-Whitehead (ed) Paying the Price – The Wage Crisis in Central and Eastern Europe, London, Macmillan Press 1998, New York St. Martins Press 1998.

regulation and other regulation tools (see above). The year-over-year inflation (56.6%) was therefore covered by the growth of nominal wages to only one quarter! **This resulted in a significant decrease in the share of wages (employee compensations) in the added value and, conversely, a significant increase in profit share (operating surplus).**

The share of wages in the added value, which was very low already in the socialist Czechoslovakia (approx. 5 points under the level of advanced countries), has decreased considerably. Thanks to this operation in 1991, approx. CZK 81 billion were not paid to employees in wages, but ended in the profits of companies. At that time, this amount represented the whole quarter of the total wage volume!

Profits of companies in total are substantially higher than employees' wages

Graph No. 1: History of the share of wages and profit in gross added value in the Czech Republic in the period 1990-2017



% z hrubé přidané hodnoty = % of the gross added value; náhrady zaměstnanců = employee compensations; zisk = profit

Source: own calculations based on ČSÚ data (Historical Yearbook of National Accounts 1990 to 2010, National Accounts Statistics).

The initial distribution of the added value of 51.3% to 48.7% in favor of wages has changed on a year-to-year basis to a ratio of 58.1% to 41.9% in favor of profit. After partial corrections, in 1992, the share of profit and wages in the added value has been stabilized in the long term roughly at 54 : 46 in favor of profit and this distribution remained practically maintained on the average of the following years.

It is not surprising that this fundamental change of one of the key macroeconomic proportions was not emphasized much by the former reformers. Otherwise it would prove that the "tightening of belts" was only for someone – employees. While one was tightening the belt, the other, on the contrary, was loosening it.

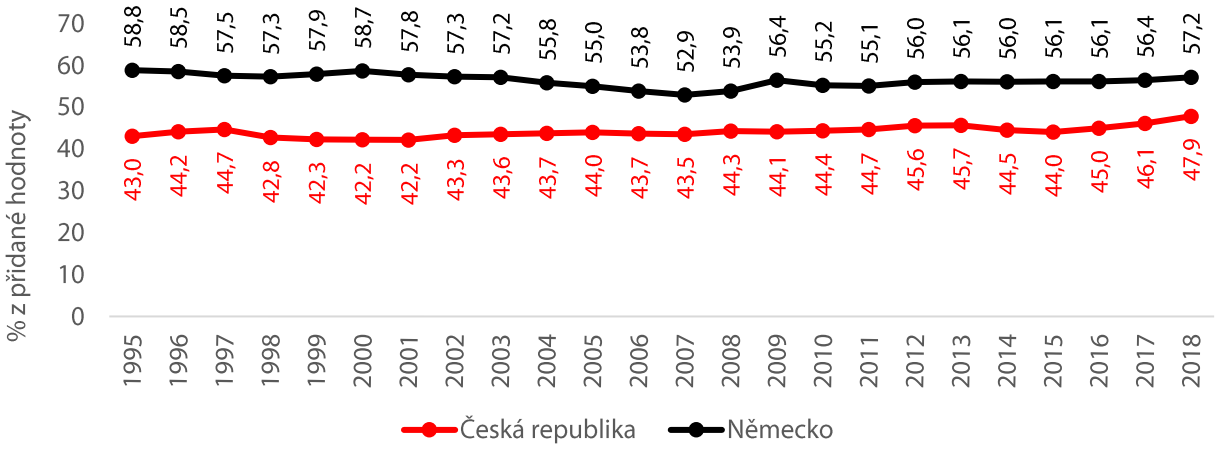
However, the external view is also interesting. **The distribution of the added value in the Czech Republic was fundamentally different from virtually all the developed countries. It seems as if the values of the share of wages and profit in the added value were "mirror-inverted" in these countries compared to the Czech Republic.** For example, the value of the share of labor costs in the added value in the Czech Republic is noticeably similar to the share of profit in the added value in Germany and vice versa. The difference between the shares of labor costs and profit in the added value in the Czech Republic and individual advanced countries is rather big, +-10 to 15 percentage points**. From this it is evident that in the Czech Republic the share of profit in the added value is significantly above average compared to other countries.**

The distribution of gross added value of the Czech Republic between profit and wages – fundamentally different from developed EU countries – has become for another almost thirty years one of the essential and persistent characteristic of the Czech Republic economy.

Practically, it does not mean anything else than the fact that Czech employees, through unpaid wages, actually subsidize very high profitability of companies operating in the Czech territory. In the period 1991 to 2017, over CZK 4.5 trillion was "moved" from wages to profit of companies in this way!

The share of wages in economy is higher in Germany than in the Czech Republic

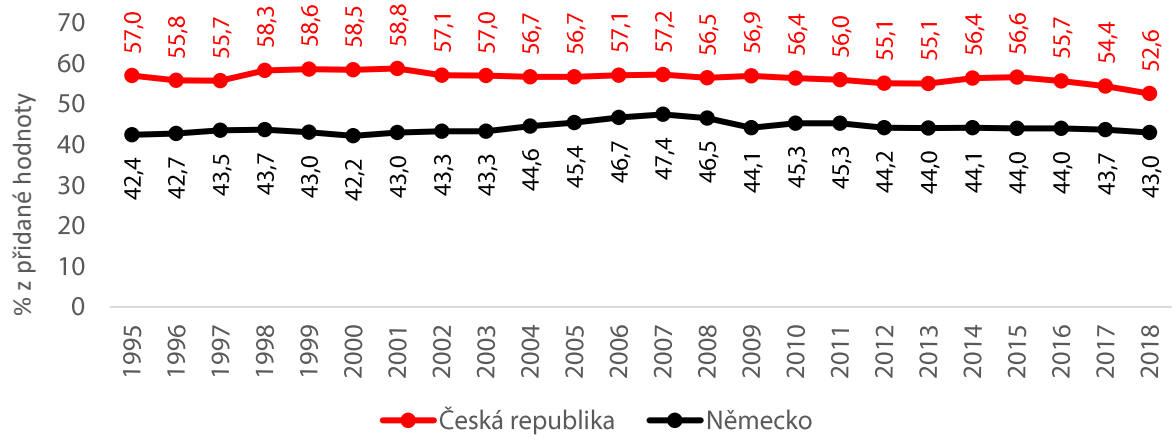
Graph No. 2: Share of employee compensations as percentage of gross added value in the Czech Republic and in Germany[18]



Česká republika = Czech Republic; Německo = Germany; % z přidané hodnoty = % of added value
Source: own calculations, Eurostat (12. 3. 2019).

Conversely, the profit rate of companies is lower in Germany than in the Czech Republic

Graph No. 3: Operating profit rate – share of gross operating surplus and mixed income in the gross added value in the Czech Republic and in Germany

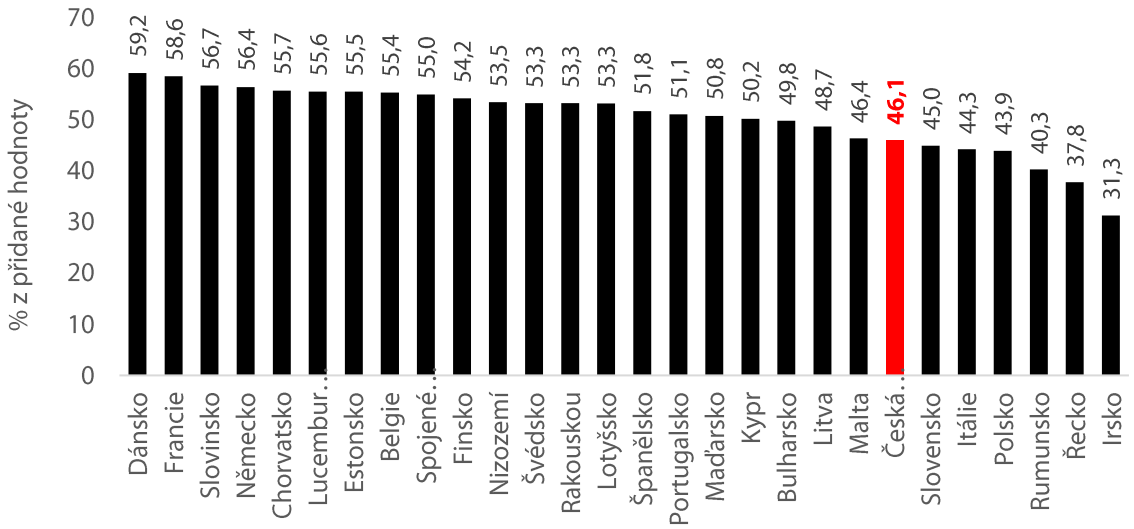


Česká republika = Czech Republic; Německo = Germany; % z přidané hodnoty = % of added value
Source: own calculations, Eurostat (12. 3. 2019).

[18] Small differences between the values in the previous graph, based on data from the Historical Yearbook of National Accounts, and the following graphs (Eurostat database) result from different methodologies.

The share of Czech wages in economy is low compared to the rest of EU

Graph No. 4: Percentage of employee compensations in the gross added value in EU in the year 2017

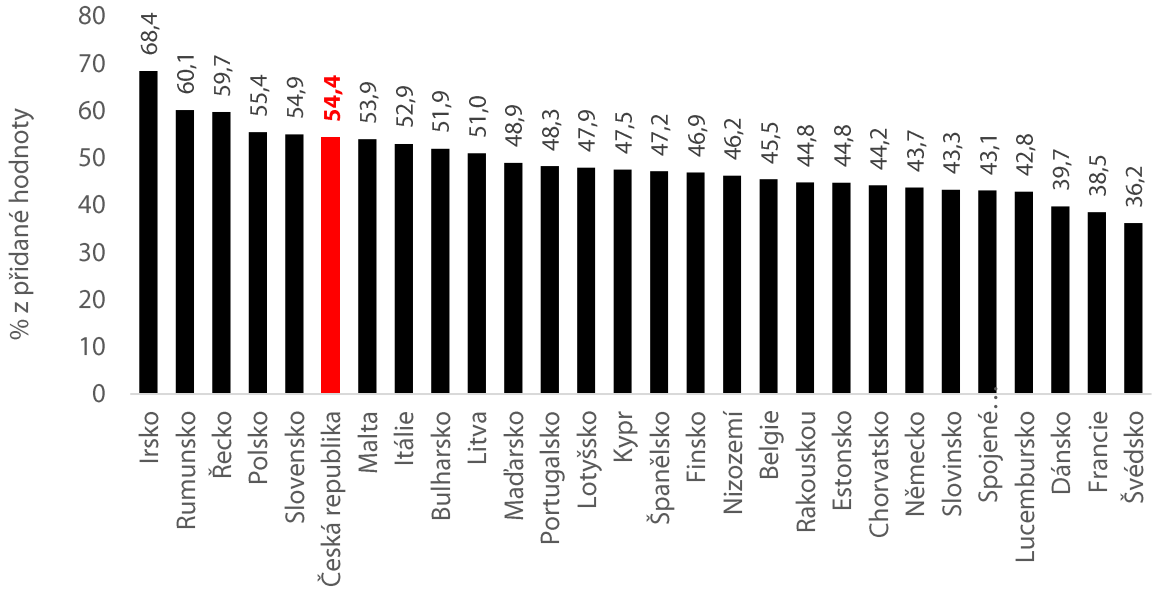


Dánsko = Denmark, Francie = France, Slovinsko = Slovenia, Německo = Germany, Chorvatsko = Croatia, Lucembursko = Luxembourg, Estonsko = Estonia, Belgie = Belgium, Spojené… = UK, Finsko = Finland, Nizozemí = Netherlands, Švédsko = Sweden, Rakousko = Austria, Lotyšsko = Latvia, Španělsko = Spain, Portugalsko = Portugal, Maďarsko = Hungary, Kypr = Cyprus, Bulharsko = Bulgaria, Litva = Lithuania, Malta = Malta, Česká republika = Czech Republic; Slovensko = Slovakia, Itálie = Italy, Polsko = Poland, Rumunsko = Romania, Řecko = Greece, Irsko = Ireland; % z přidané hodnoty = % of added value

Source: own calculations, Eurostat (12. 3. 2019).

Conversely, the profit rate compared to other EU countries is relatively high

Graph No. 5: Operating profit rate – percentage of gross operating surplus and mixed income in the gross added value in EU in the year 2017



Source: own calculations, Eurostat (12. 3. 2019).

In the long-term perspective, this situation raises two key questions:

I. Does the long-term profitability of companies operating in the Czech Republic correspond to the performance, structure and international position and economic perspective of the Czech economy development?

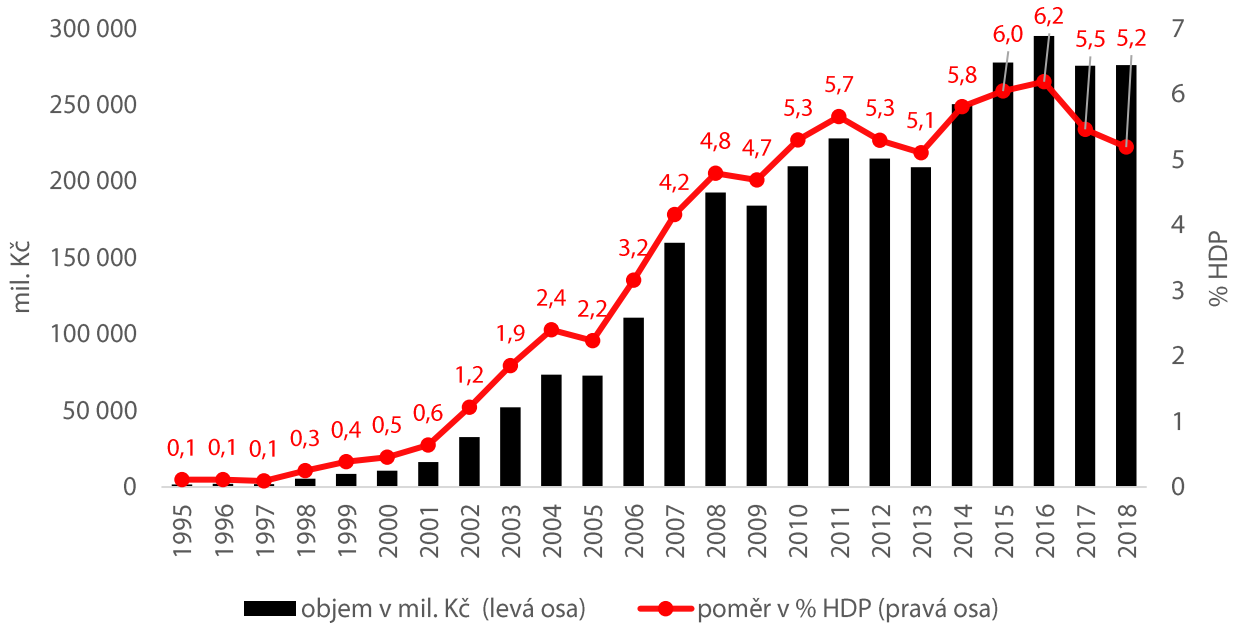
II. Were the thirty years of so-called successful transformation of the Czech economy built on the low-cost economy model really as successful as declared?

If the answer is yes, then why is now, after thirty years of "successful transformation", the former most advanced economy from CEE countries and the economy producing final products, in the position of a supplementary economy, subcontractor economy or a back-up economy space of Germany, or an economy characteristic by a high share of foreign ownership in all decisive spheres, with very low wages in the European as well as global context, and a country with extremely high (legal and semi-legal) outflow of profits from the country…?

Our answer to these questions is quite clear. The low-cost economy model built on a very low share of wages in the added value had enough time to prove its effectiveness. However, during thirty years of its existence in the Czech Republic, it rather proved its hopelessness. **The effect of low wages was wasted. Instead in massive investments and modernized economy, it mostly ended in a non-productive consumption of companies owners and in a massive legal and semi-legal outflow of profits from the Czech Republic.**

Money continuously flows from the Czech economy abroad

Graph No. 6: Outflow of dividends from direct and portfolio investments from the Czech Republic

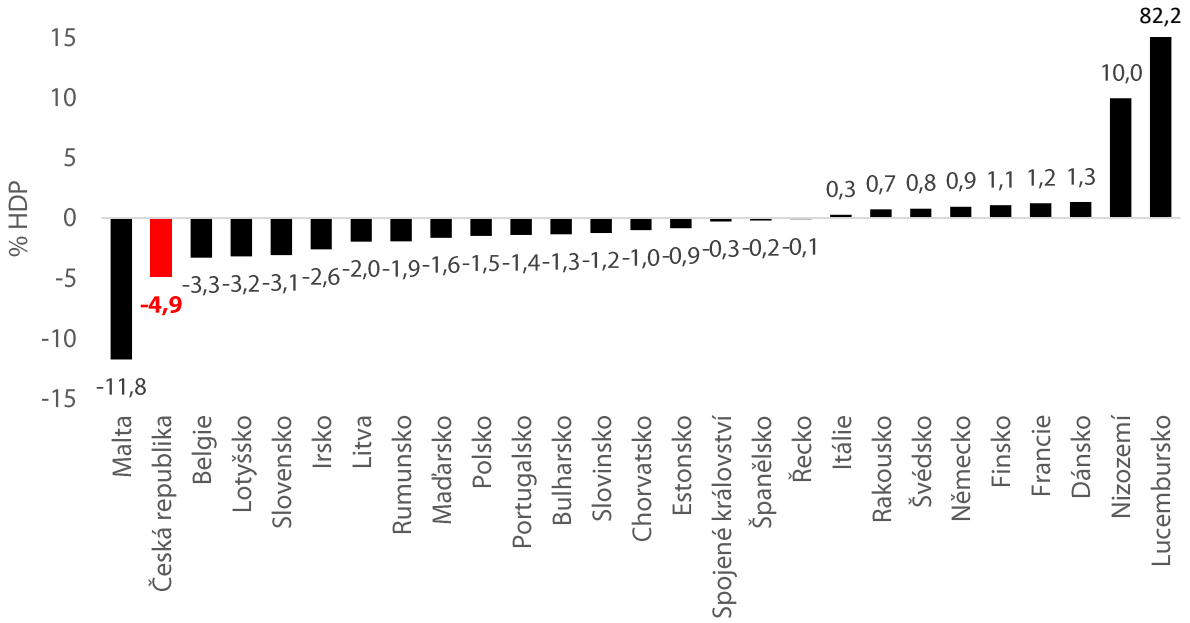


mil. Kč = mil. CZK, objem v mil. Kč (levá osa) = amount in mil. CZK (left axis), poměr v % HDP (pravá osa) = percentage share in GDP (right axis); % HDP = % GDP

Source: Eurostat (BPM6), own calculations (20. 4. 2019).

We are one of the two EU countries with "biggest outflows"

Graph No.7: Balance of dividend flows from direct and portfolio investments as % GDP in 2017



Malta = Malt, Česká republika = Czech Republic, Belgie = Belgium, Lotyšsko = Latvia, Slovensko = Slovakia, Irsko = Ireland, Litva = Lithuania, Rumunsko = Romania, Maďarsko = Hungary, Polsko = Poland, Portugalsko = Portugal, Bulharsko = Bulgaria, Slovinsko = Slovenia, Chorvatsko = Croatia, Estonsko = Estonia, Spojené království = UK,

Španělsko = Spain, Řecko = Greece, Itálie = Italy, Rakousko = Austria, Švédsko = Sweden, Německo = Germany, Finsko = Finland, Francie = France, Dánsko = Denmark, Nizozemí = Netherlands, Lucembursko = Luxembourg
Source: Eurostat (BPM6), own calculations (20. 4. 2019).

It is clear from this that there is no reason why to promote this policy of cheap labor any longer. In our view, the Czech society and trade unions are facing the task of redefining and enforcing a fundamental change in a long-term persisting unfair distribution of the added value of the Czech Republic between profit and wages. From this perspective, in the Czech Republic there is still a considerable space for wages to grow faster than labor productivity. This is the only way how to significantly change ratios in the distribution of the added value between profit and wages. [19]

If we set ourselves a goal to achieve the same distribution of the added value between profit and wages, as was achieved before the start of the economic transformation in 1990 (i.e. from the perspective of wages still considerably lower than in the advanced EU countries), it would mean (based on 2018) to accelerate wage growth in comparison with the increase of labor productivity by approximately 8 percentage points in total. This currently represents approx. CZK 170 billion.

This is not just the conclusion of the Czech trade unions. For example, the National Budget Council, in its report on long-term sustainability of public finances, states: *… we do not expect real wages to grow at the same pace as GDP per worker. The share of employee compensations in GDP is relatively low in the Czech economy in long term, compared to other countries (in 2017 it accounted for only 41.7%). However, even this indicator has gradually increased in recent years.* ***Moreover, we do not see any reason why the share of employee compensations in GDP in the Czech economy should be permanently systematically lower than is normal****".*[20]

[19] This is a completely obvious process, which, given the persisting extreme setting of ratio between wages and profit in the added value, will not have a major impact on the rise of inflation. We are well aware that part of business entities can have difficulties with this absolutely necessary and due to the geographic location of the Czech Republic also unstoppable growth of wages. These can be especially small and medium-sized companies with low productivity achieved. In this respect, it is necessary to prepare and implement, as soon as possible, an economic program for versatile assistance and development of SME. The situation in the labor market is quite appropriate even for some more fundamental restructuring measures. In any case, it is not possible (for example, under the "flag" of protection of small and medium-sized companies) to promote a deadly "way back" to the low-cost economy model.

[20] Report on long-term sustainability of public finances, National Budget Council, October 2018, p. 14 (see: https://unrr.cz/wp-content/uploads/2018/10/Zpráva-o-dlouhodobé-udržitelnosti-veřejných-financí.pdf)

At the end of this chapter, it is necessary to reiterate and answer the simple question: how is it possible that the wage level in the Czech Republic, formerly the most advanced country from the new CEE member states, is one of the lowest in EU?

The root cause of low wage levels currently needs to be sought in ways of performing the economic transformation. Low wage level in the Czech Republic is a direct consequence of the long-term continuation of economic policy based on cheap labor, low taxes and low social standards.

As regards the participation of trade unions in this development, it is necessary to state the following: the wage level in particular companies or industries is factually set according to the overall wage level in the specific country (or region) and not according to the level of productivity achieved in the particular company. Ultimately, it is also the basis for cost calculations etc.

Collective bargaining is never aimed at negotiation of overall wage level, but always at wage increment. Thus, when at the beginning of transformation, the level of Czech wages was set – by means of a macroeconomic maneuver of "exchange rate and wage cushion" – to the level of approximately one tenth of the German level, and the share of wages in the added value at the level of approx. 45%, i.e. ten percentage points below the level of advanced European countries, and, at the same time, during the period of next five years it was accompanied by wage regulation and other administrative tools aimed at restriction of wage growth (incl. the budgetary restriction, which has been enforced in the long term), then obviously trade unions cannot be blamed for the consequences of this policy. Indeed, free collective bargaining was introduced as lately as the wage regulation was cancelled, i.e. at the time when "the cards have long been dealt", i.e. when the basic macroeconomic proportions have been determined and stabilized. In this way the possibilities for collective bargaining we fundamentally predetermined.

The effort to keep wages low as long as possible resulted e.g. in the restraint of the tripartite dialogue at nationwide level, in reserved stance against the ratification of the European Social Charter and some ILO conventions, in opposition to the expansion of higher-level collective agreements, in the attenuation of the socio-economic function of minimum wage etc. This, of course, had to reflect also in the scope and quality of collective bargaining at all levels.

After almost 30 years, with the benefit of hindsight, only one reservation can be mentioned at the address of trade unions. Indeed, the fact that at the beginning of the

economic transformation, just as the vast majority of the nation, trade unions allowed to be deceived in a fundamental way by the former political representatives.

Fig. 1: Protest in 1995 at the Prague's Old Town Square, source: archive

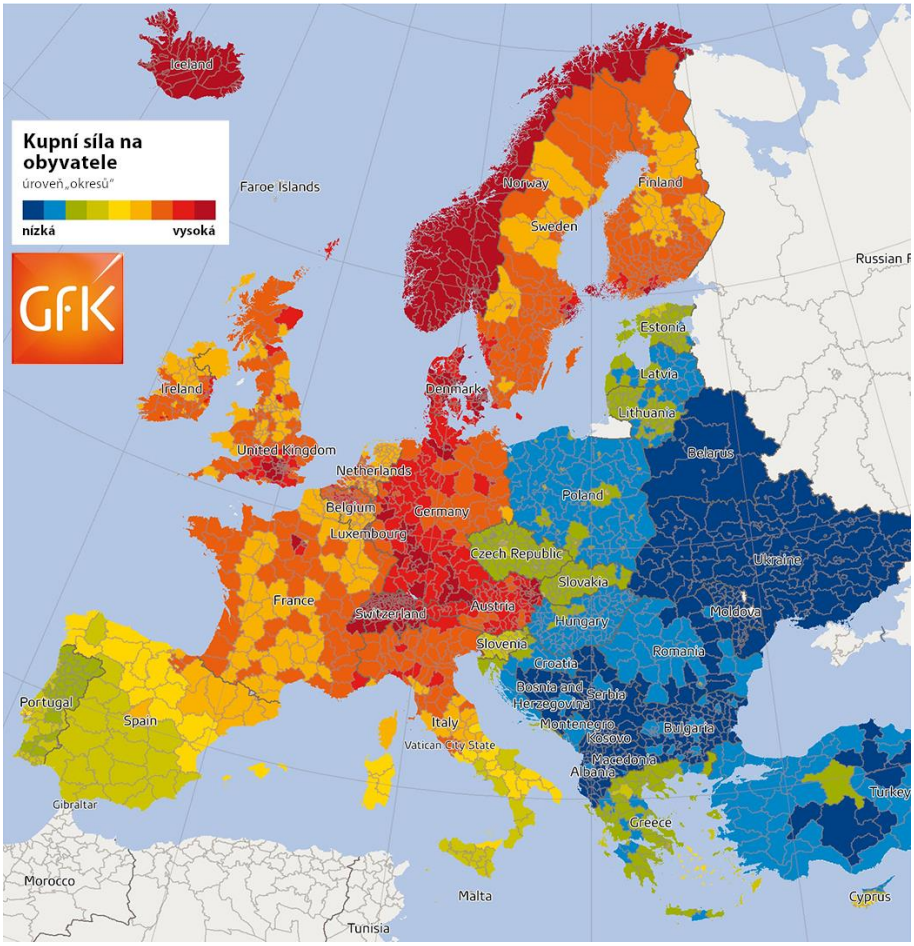
Trade unions were the only force that continually stressed the importance of maintaining the transformation socially bearable. In 1995, under the slogan "Trade unions for a decent life", 90 thousand people demonstrated at the Prague's Old Town Square against bad social laws. It was the first major trade unions protest action. However, the voices that warned before this form of transformation were in the minority which resulted in even greater illusion of the majority consisting in the conviction that in few years we will all be well.

The general agreement concluded in 1990 between the representatives of the government, trade unions and employers, was built on the assumption of 30% increase of inflation rate and 10% decrease of real wages (which was also a basis of the wage regulation system). The Czech crown devaluation at the end of December 1990 has fundamentally changed these parameter without any modification of the terms of general agreement and wage regulation. The result was the increase of inflation rate by 56% and decrease of real wages by almost 30%, but especially a significant fall of the share of wages in the value added.

2. Consequences of low Czech wages

Czech wages and salaries remain low not only nominally, but also in terms of purchasing power, i.e. how many goods and services people can buy for them. Due to the involvement of the country economy in the European and global markets, the prices have been rising faster, in some areas considered as key for living even dramatically. While Czech wages are somewhere below the half of the European average, prices for food represent 83%, prices for energies 87% and prices for clothing and footwear even 93% of such average[21].

Fig. No. 2: Purchasing power in EU, source: GFK, 2018, adjusted



The worst is the situation with regard to housing: a new apartment in the Czech Republic amounts in average to more than 11 annual salaries, which is slightly more than in the UK or France

[21] Životní úroveň Čechů se od vstupu do EU výrazně zvedla. Tuzemské ceny jsou evropskému průměru nicméně blíž než mzdy (The living standards of Czech have risen considerably since joining the EU. Domestic prices are, however, closer to the European average than wages), says Eurostat. *IHned.cz* [online]. [cit. 2019-07-23]. Available at: https://domaci.ihned.cz/c1-66562020-zivotni-uroven-cechu-se-podle-eurostatu-zveda-ceny-jsou-evropskemu-prumeru-bliz-nez-mzdy

and significantly more than in Germany or Belgium, where only five or even less annual salaries are needed. Even with regard to rents, Prague is worse in absolute numbers than Brussel, Berlin or Lisbon[22]. Therefore, it is certainly not true that we have both low wages and low prices that allow us to afford a decent standard of living.

Efforts to figure out how high this wage would have to be for a man to be able to live a modest but decent life, will always be debatable because the views of what such minimum material dignity represents will necessarily be different. Yet it is not irrelevant for the debate on wages that this year the expert platform for minimum decent wage, inspired by the abroad increasingly respected concept of so-called *living wage*[23], came to the conclusion that in order to cover basic expenses, we need a gross wage f roughly CZK 30,000, and in Prague even a little bit more because of higher prices of housing[24]. The expert group counted the usual expenses for housing, food, transport, clothing and footwear, but also – within the scope recommended by experts – for a modest vacation, education of their own or their children, and to a limited extent also expenses associated with a full-fledged participation in the society, such as costs for culture.

The resulting amount roughly corresponds to the current Czech wage median, and it is therefore clear that up to a half of the people do not reach such a modestly defined material quality of life. Obviously, not all of them live in poverty in the narrow sense of the word, that is, for example, they would not have enough money for food. But many of them live in economic uncertainty, under constant stress and frustration that a modest standard of living or the way of life recommended by experts, whether we talk about relax, education, movement, health prevention or saving, is not available to them.

This so far marginalized material deprivation of relatively broad social groups has far-reaching individual and all-societal implications. Obviously, the most evident is the over-indebtedness of households and the fall into execution traps which both ruin lives of individuals

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[22] Czechs save for new housing for the longest in Europe, the study showed. The most expensive rent is in Paris. Prague is more expensive than Vienna or Brussels. *IHned.cz* [online]. [cit. 2019-07-23]. Available at: https://byznys.ihned.cz/c1-66268400-cesi-setri-na-nove-bydleni-nejdele-v-evrope-ukazuje-studie-nejdrazsi-najem-maji-v-parizi-praha-je-pred-vidni-i-bruselem

[23] Stefanova B.M. (2006) The political economy of outsourcing in the European Union and the East-European enlargement, Business and Politics, 8 (2), 1–43. [online]. [cit. 2019-07-23]. Available at: https://www.etui.org/Publications2/Policy-Briefs/European-Economic-Employment-and-Social-Policy/Living-wage-a-relevant-topic-for-Europe

[24] Expertka: Polovina lidí nevydělá na důstojný život, nemá na dovolenou ani tramvajenku (Half of people do not earn enough for a decent life, for a holiday or a tram ticket). *DVTV* [online]. [cit. 2019-07-23]. Available at: https://video.aktualne.cz/dvtv/expertka-polovina-lidi-nevydela-na-dustojny-zivot-nema-na-do/r~7ad29a7271da11e9b9980cc47ab5f122/

and harm the economy, by pushing people into the shadow economy. The situation got so far that in 2017 over 850,000 people in the Czech Republic were in execution and over half of them in multiple executions[25], which makes, together with their family members, over two million of citizens of the Czech Republic concerned. The reason is a lack of regulation of consumer loans or a lack of financial awareness. At the same time, it is evident that at such a massive spread of the problem, it is necessary to focus on the root cause, i.e. the motivation of people to take unfavorable loans – which in the light of the already presented numbers are, without doubts, especially the low wages.

This interpretation is also supported by the Median poll for the Alarm server[26] which implies that in most cases people take out loans to repay their obligations, such as paying for rent, energies or phone, but also to buy large household appliances such as washing machines or refrigerators. Given the fact that these categories of expenditures are the real necessities of living, we must conclude that the true reason for borrowing is not the availability of loans, but rather the fact that people are struggling to make ends meet so they need to take out a loan. Therefore all debates about easier debt relief simply by curing the symptoms, or tightening the conditions for consumer credits or improving the financial literacy will not change anything on the true causes of indebtedness. When a washing machine breaks and you have not enough money to buy a new one, which was the case in almost a quarter of Czech households in 2018, as they reportedly did not have enough money to cover an unexpected expense of CZK 10,700[27], even the best financial literacy will not change anything.

However, indebtedness, which often leads to a debt trap, is not the only improper strategy of coping with missing money. In the Czech context we often see accepting jobs that brings more money in a short term, because lower deductions, such as working as a fake self-employed person or a platform work, but in the long term, such jobs are not very advantageous for workers as they do not qualify for parental leave, sickness leave or pension. As for the platform work, i.e. one-off mediation of jobs through digital platforms, such as for example Uber, the new survey conducted in 13 European countries[28] shows that its expansion, which is the largest in the Czech Republic from

[25] *Map of executions* [online]. [cit. 2019-07-23]. Available here: http://mapaexekuci.cz/mapa/index.html
[26] *Exekuce: černé svědomí Česka (Executions, the guilty conscience of the Czech Republic)* [online]. [cit. 2019-07-23]. Available at: https://a2larm.cz/2018/12/exekuce-cerne-svedomi-ceska/
[27] Příjmy a životní podmínky domácností (Incomes and living conditions of households) - 2018. *ČSÚ* [online]. [cit. 2019-07-23]. Available at: https://www.czso.cz/csu/czso/prijmy-a-zivotni-podminky-domacnosti-kf03f95ff5
[28] The platformisation of work in Europe. *FEPS* [online]. [cit. 2019-07-23]. Available at: https://www.feps-europe.eu/resources/publications/686-the-platformisation-of-work-in-europe.html

all countries surveyed, copies the distribution of wealth, and the amount of wages. The lower they are, the more wide-spread this precarious type of work, which lacks a clear legal anchoring, is, typically as a supplement to other regular work.

Various forms of supplementary jobs are generally considered as another "survival strategy". They are one of the manifestations of the constantly spreading "*working poor*" phenomenon, when earnings of people working full-time are not sufficient for a decent living. The negatives of this strategy are obvious: people lack the necessary rest and free time to spend with their families, friends, hobbies or civil engagement, which can negatively affect their health, interpersonal relations, but also the state of democracy in the long term.

Surely the most common way to make ends meet are savings. Obviously, some budget items are less essential, so people typically skimp on rest, culture, education and mobility, as well as on all sorts of preventative measures, from health care to paying insurances or savings. Quite often they also save money by giving priority to lower prices instead of more expensive quality which can be more expensive in the long term, and complicate life to people with lower incomes, because low-quality products may have shorter lifespan and must be changed more frequently. But it can also have long-term implications for health or environment, because even these criteria are completely excluded from the decision-making of a poor customer. Priority can be also given to low-quality cheap products from global chains at the expense of supporting more expensive domestic or local production, which ultimately has a detrimental effect on the Czech economy. In a tight budget there is also no room for special needs, health or other items, or even small pleasures.

However, above all, the need to implement all these survival strategies with low wages is a frustrating and exhausting matter that costs time and energy that could be invested more meaningfully – in resting and caring for own health, the failure of which is later paid by all of us from the solidarity systems, but also, for example, in care for children. The statistical link between the social origin and success in education, which we fail to reverse in the Czech Republic in the long term, has nothing to do only with the fact that low-income parents can hardly afford anything extra for their children, beyond the standard school attendance, such as hobby groups, tutor classes, but sometimes even books, as well as with the fact that nervous and exhausted or even – because of permanent work – absent parents cannot provide their children with the needed non-financial support, such as reading or assistance with homework.

The consequences of low wages in the long term, which do not allow wide ranges of Czech citizens to afford materially decent life free of economic uncertainties and necessity to constantly save money, are not only individual, but also all-society. Low wages are compensated by the society both directly in the form of social benefits substituting insufficient incomes, such as housing allowance. Or by financing health damaged due to lack of prevention, stress or hard work with no rest, as well as by public subsidization of failure in the education system caused by insufficient capacity of busy parents to support their children. As a society we also pay for low wages, because they steal the opportunity from Czech companies and farmers to produce quality products for the Czech market in a sustainable way, as well as to better reward their employees. To some extent, low wages are thereby reproducing themselves.

But the social consequences of low wages are even broader – they have an indirect influence on the political attitudes of people and how they approach individual challenges we are facing. It is evident that material deprivation does not contribute to optimism, stability and cohesion of the society. The think-tank of the German trade unionists Hans-Böckler-Stiftung showed in the study that the support of national authoritarian party AfD correlates with the feeling of economic uncertainty: those who feel that their welfare is threatened, that their children will be doing worse, tend to opt for self-containment, strong-hand government and return to seemingly more harmonious past[29].

The feeling of economic uncertainty and poverty that is contained in these arguments should be taken seriously, especially because there will be likely more and more similar stress tests for the stability of society coming in the near future from outside, without being able to immediately influence that. New migration waves may result from crop failures, natural disasters due to the advancing climate change or escalation of any of the recent geopolitical disputes. Besides the need for a collective solution for all the parties concerned, there will be new challenges coming, such as the emergence of artificial intelligence and associated radical changes in the labor market, or the need of transition to a sustainable way of farming. Such challenges can only be faced by a society in which certain level of welfare is ensured.

One of the guarantees for stability is – and this applies to the period of rebirth and especially to a small country – also the anchoring into the structures of international cooperation. The most

[29] KOHLRAUSCH, Bettina. Abstiegsängste in Deutschland: Ausmaß und Ursachenin Zeiten des erstarkenden Rechtspopulismus. *FORSCHUNGSFÖRDERUNG*. 2018, **2018** (058). ISSN 2509-2359. Available at: https://www.boeckler.de/pdf/p_fofoe_WP_058_2018.pdf

important structure like this for the Czech Republic is the European Union, which has been a target of increasing skepticism amongst the Czech citizens in the long term. Obviously, one of the reasons for this are low wages, when one of the most important promises of the European integration was the levelling of the conditions of living. 15 years after joining the EU, the hopes for a swift catch-up with the Western Europe have been definitely trampled, and the Czech citizens can legitimately feel in the Europe as second-class citizens. Paradoxically, this feeling is getting even stronger as the free movement in Europe allows everyone to travel and observe the differences in the conditions of living by their own eyes – including comparable or even lower price levels than in our country, higher quality and obviously higher purchasing power of people. It is not surprising that this disappointment and the feeling of injustice turns against the European Union.

From this brief sketch of the broader socio-economic and socio-political consequences of low wages, it is evident that their increase is a crucial prerequisite for prosperity and material as well as immaterial quality of life. This also applies to those who are not immediately affected by low wages, because in some form they are problem for all of us, even from a political standpoint. The well-known phrase says that for the functioning democracy, certain material preconditions must be fulfilled – obviously, we cannot expect any active participation in stable, cohesive society from exhausted, nervous people living in constant economic uncertainty.

3. What is behind the productivity of work in the Czech Republic?

A certain paradox of the debate about wages in the Czech Republic is the fact that even in 2014, i.e. 25 years since the start of the economic transformation, the transformation was still evaluated as unambiguously successful. In the discussions at that time, all at once held the opinion that there was no need to change anything in the transformation.

At the same time, none of the politicians decided to show the development of the Czech economy position in international comparison and, of course, in wages as well. Obviously, none of the political representations at that time, but even from the economic mainstream, wanted to come before the citizens – voters and say how far the Czech wage development broke up with the trends of other countries and that this is an inevitable consequence of the transformation of the Czech economy.

The previous chapter emphases the disproportion in the distribution of added value between wages and profit. While the alignment of this disproportion may somewhat contribute to alleviating the significant differences in wage levels between "old" and "new" EU member states, in no case these differences can be completely eliminated.

The solution really consists in the field of labor productivity growth in the Czech Republic. But in no way it means – primitively said – that Czechs should work more than today. The purpose of these statements is clear – to subliminally impose a general idea to the Czech society that our employees are solely responsible for their low wages. Such ideas must be rejected in principle, as they are a complete nonsense. If we accept and continue with this "logic", we would have to conclude from the fact that the employee in the Czech Republic has about one third of German wage, that the German employee must work three times more than the Czech one, which is not true. Let's have a look at this problem in more detail. We will start with the labor productivity, the level of which is often discussed during the debate on wage growth in the Czech Republic.

Labor productivity at the national economic level is most often expressed as GDP share (in purchasing power parity) per hour worked.[30] At present it reaches a level of roughly

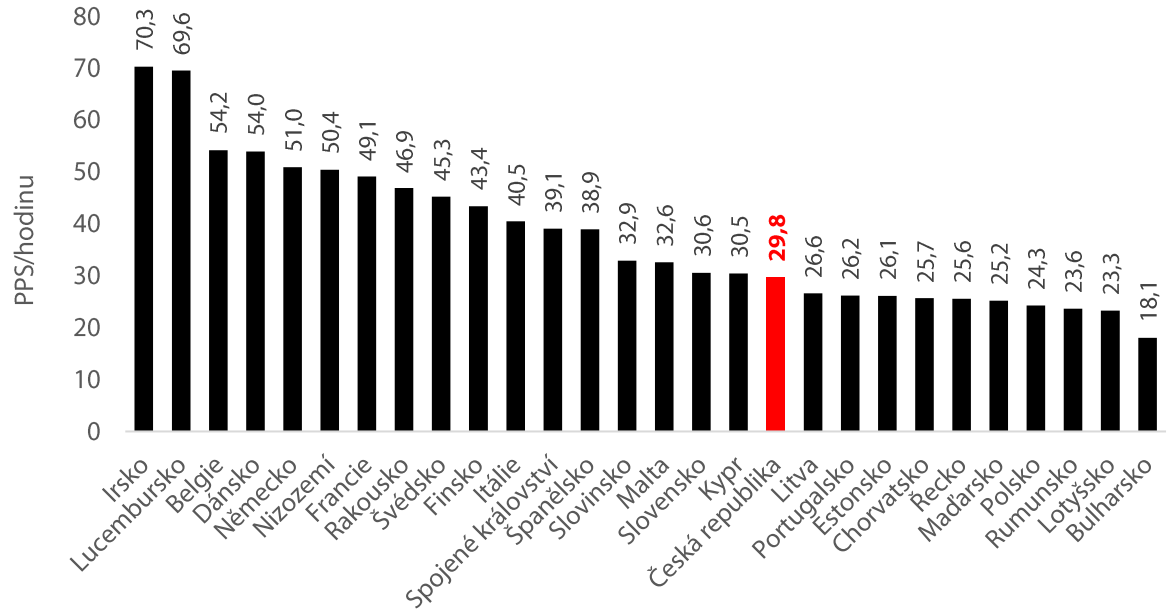
[30] However, there are also other labor productivity indicators, which differ from this indicator that is most used for international comparisons, in both numerator and denominator. The indicator of nominal labor productivity (GDP in current prices per hour worked) as well as labor productivity per employee (in purchasing power parity or nominal

58.4% compared to the neighboring Germany and over the last 10 years it has been stagnating. Similar development may be noted when compared to other developed countries.

However, the values of labor productivity reported in real practice often raise significant doubts. Especially in specific companies or in disciplines where this level of reported "financial" productivity can be compared to **"natural productivity", i.e. quantity of products or services provided per unit of time.**

Are we really less productive?

Graph No. 8: GDP per hour worked in the purchasing power parity in 2017[31]



Irsko = Ireland, Lucembursko = Luxembourg, Belgie = Belgium, Dánsko = Denmark, Německo = Germany, Nizozemí = Netherlands, Francie = France, Rakousko = Austria, Švédsko = Sweden, Finsko = Finland, Itálie = Italy, Spojené království = UK, Španělsko = Spain, Slovinsko = Slovenia, Malta = Malta, Slovensko = Slovakia, Kypr = Cyprus, Česká republika = Czech Republic, Litva = Lithuania, Portugalsko = Portugal, Estonsko = Estonia, Chorvatsko = Croatia, Řecko = Greece, Maďarsko = Hungary, Polsko = Poland, Rumunsko = Romania, Lotyšsko = Latvia, Bulharsko = Bulgaria
Source: own calculations, Eurostat (2. 3. 2019).

value) may be used. Selection of the indicator always depends on the context in which the labor productivity indicator is used.

[31] In international comparisons, labor productivity is measured by GDP per employee or hour worked to exclude differences in price levels of individual countries, but the methods used for international comparisons take account of these influences only partially, and are therefore only approximate. At the level of aggregated productivity (GDP per employee), a 5% error is not considered to be statistically significant. At the level of sub (sectoral) disaggregation, it may be even greater. (OECD Purchasing Power Parity and Real Expenditures, Paris 1999)

Therefore, it is clear that we need to look more closely at the problem of labor productivity lagging. Especially when the overall wage level in the Czech Republic is derived from the low productivity.

How to measure labor productivity

Firstly, let's have a look at relatively simple situation where a Czech employee produces a comparable quantity of products per shift as his foreign colleague. "Physical productivity" is essentially the same and it cannot be increased (e.g. due to technological reasons). However, the productivity expressed by a financial indicator is fundamentally different for these two employees. This is a very real problem evident today for example in automotive industry, where productivity of production lines in Czech companies is identical (sometimes even higher) as in companies abroad, products are of the same quality, but wages are far below the level in the parent company somewhere in western Europe.

In the example above, two problems are blended together. The first general problem is how to measure productivity at national economic level. It is obvious that at this level the economy performance cannot be expressed in a comprehensible manner (per employee or hour worked), by a specific set of some physical products or services. Therefore, a financial indicator must be used, which assigns "its financial valuation" to each of these physical products (value added). Its advantage is that this indicator can be cumulated even for some factually heterogenous commodities.

The second problem is what "valuation" should be assigned to the product. And it is this **different valuation of product, which is a fundamental cause of extreme differences in the level of productivity achieved in various countries.**

What influences Czech labor productivity?

In the previous graph 8, we expressed productivity in purchasing power parity (i.e. with certain elimination of difference in valuation of products). In this way, productivity should be somehow closer to its fair value. However, this is not a labor productivity indicator, the wage level is based on. The wage level is based on the indicator of "nominal" labor productivity, where the numerator is expressed by gross domestic product in normal market valuation – in current prices.

It is clear at first glance that the differences between the two graphs (No. 8 and No. 9) are significant, both at the level of one country and between countries. The question is: why? What is

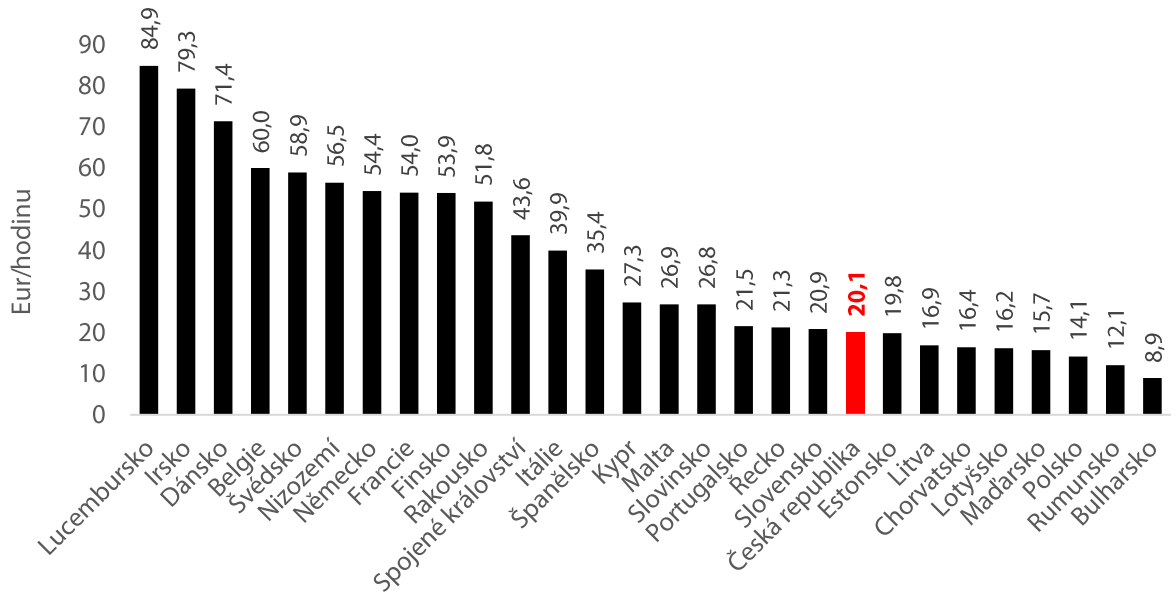
the specific cause of such a significant difference in product valuation between the Czech Republic and the most advanced countries of the European Union? Although it is theoretically possible to find a number of causes of these price differences, the decisive factors are mostly considered (especially in the current post-industrial sphere) to be the following two:

The first factor is mainly the lower level of knowledge transfer of science and technology development into the product. As a general rule, the price for technical excellence of the product grows considerably faster than the main technical parameters that can be used to express it. Conversely, a low level of implementation of recent knowledge of science and technology in products leads to a sharp fall in price and in extreme cases it essentially makes the product unsalable. The dependence of price on product parameters is undoubtedly important in particular in evaluating the level of competitiveness.

So, how important this factor is in the Czech Republic? It is a well-known fact that almost two fifths of the Czech production are exported, of which nearly 85% to markets of EU countries. Around three quarters of export is represented by products of higher processing levels of the processing industry (mechanical engineering, consumer industry, semi-finished goods etc.).

Eastern countries are in a price-dependent position

Graph No. 9: Gross domestic product per hour worked in euros in 2017 (current prices)



Lucembursko = Luxembourg, Irsko = Ireland, Dánsko = Denmark, Belgie = Belgium, Švédsko = Sweden, Nizozemí = Netherlands, Německo = Germany, Francie = France, Finsko = Finland, Rakousko = Austria, Spojené království = UK, Itálie = Italy, Španělsko = Spain, Kypr = Cyprus, Malta = Malta, Slovinsko = Slovenia, Portugalsko = Portugal, Řecko = Greece, Slovensko = Slovakia, Česká republika = Czech Republic, Estonsko = Estonia, Litva = Lithuania, Chorvatsko = Croatia, Lotyšsko = Latvia, Maďarsko = Hungary, Polsko = Poland, Rumunsko = Romania, Bulharsko = Bulgaria;
Eur/hodinu = euros per hour
Source: own calculations, Eurostat (2. 3. 2019).

If we realize that part of GDP (much of the service sector, as well as food industry production etc.) cannot be exported, it is a relatively high level of participation in international trade. Would such a high level of engagement in international trade be possible if they were low-grade products, obsolete products etc.?

A considerable part of the Czech export consists of e.g. products of automotive industry, both cars themselves – qualitatively fully comparable with competition – as well as various assemblies and parts. Also in this case, they must be products which meet strict requirements in terms of quality, utility characteristics but also materialization of scientific and technical knowledge. It not, they could not be imported and mounted in cars of the world's most renown brands. Also, it is a well-known truth that Czech companies often make products that are in the end declared as products of a prominent foreign companies, without actually passing through these companies. This is also the case of some other export products. In no case we can speak about any technical lag behind the competition.

Therefore, the second and in our opinion the decisive factor determining the price of the product are the implementation prices, or more widely expressed, terms of sale.

In the contemporary world, markets are largely occupied. A substantial part of the market of goods is dominated by multinational companies that control it and determine the prices.[32] Moreover, the demand side is affected by a habit of respecting the continuity and orientation on proven brands and companies with tradition and reputation (goodwill), all escalated even more by aggressive advertising. The Czech companies (but practically all companies from the countries of Central and Eastern Europe), if they supply final products in the same segment as multinational companies, are then often in the role of an outsider in the market, given mainly by the "tag" of a company coming from unknown country somewhere in the east, which is generally a sign of low quality and consumer mistrust. Entering the occupied markets therefore implies the need for significant price compromises, even for products that do not fall short of their competing analogs in terms of their parameters.

Cooperating companies, which have their customers abroad and receive not only contracts, but often also materials from them, are in a similar position. These companies assume a dependent position towards their customers and are considered as a "price-taker", i.e. the one who must accept prevailing prices in a market.

Other price tools can be found in companies located in the Czech Republic, which are part of multinational companies. These companies are characteristic by significant application of non-market intra-group prices, e.g. at export of products or components from the Czech Republic and similarly at their import to the Czech Republic. These prices, including the profit rate, may be lower at export and higher at import than actual prices. Likewise, it is possible that the product is realized by a trading company outside the Czech Republic, and therefore most of the profit goes out. The possibilities how to move the profit to a different place are countless. The cause can be sought mainly in the redistribution processes within these groups, which aim primarily at tax optimization within the group. Also political factors cannot be ruled out.

Similarly, and for similar reasons, the "**non-price redistribution of added value" works, which affects the reported productivity in the Czech Republic, like the price redistribution.** It

[32] Intra-company deliveries of multinational companies and supplies under cooperation agreements represent, according to estimations, more than two thirds of the global trade.

is an outflow of the Czech added value among companies, from a subsidiary in the Czech Republic to its foreign parent company or other subsidiary through various intra-corporate loans, expensive consultancy services and number of other channels. Again, this is mainly due to tax optimization within the whole group. Profit is transferred mainly to locations with a tax shield, i.e. where no taxes are paid. [33]

The total volume of the two latter methods of outflow of the added value from the Czech Republic is unknown. Estimates of unofficial outflow of capital are roughly at the level of the official outflow of capital from the Czech Republic, i.e. approx. 8% of GDP[34].

The level of productivity expressed in this way includes also the subjective factors of "unequal" valuation of products. Its implications are now substantially more significant for producers, although in many cases this impact is "balanced" within the group, where these producers operate, than the implications of lower level of technical parameters and quality of products.

In summary, all these factors lead to a lower realization price and therefore, in the national economic perspective, to lesser contribution to GDP and, ultimately, to low productivity. It should be noted that this realization price is lower by 20-25%, and in many cases even more, than the price of a comparable competitor product.

The finding, that the lagging of productivity of less developed countries – and in particular the Czech Republic – is largely due to the lag in prices achieved, was indirectly confirmed by STEM survey in 205 selected companies, from that 74 companies with a predominance of export. This

[33] In the past, notions that this phenomenon could be prevented by significantly lower taxation has been often presented. In the countries of our type, including the Czech Republic, this has resulted in the participation in tax pandering, with the aim of the lowest possible taxation of corporations. In fact, for this type of operation, tax pandering (which significantly oppresses public finances) is virtually ineffective, since any – even the smallest – taxation will always be higher than zero. Unfortunately, even in case of this method of taxation (similarly to other types of taxes), it is common that once the tax rate is actually reduced and individual entities adopt to the new taxation, it is very difficult to "go back", especially by changing the tax rate. The general rule which is applicable to taxation of incomes and corporate taxation applies here too – adjustments in the area of tax base are always much more effective.

[34] Here, the outflow of profits of foreign owners of corporations, which includes paid-out dividends, but also reinvested profits, were meant (see the Czech Statistical Office here: https://www.czso.cz/csu/czso/cri/ctvrtletni-sektorove-ucty-4-ctvrtleti-2018). The value stated here is not identical to the value shown in Graph No. 6, as it only covered dividends from direct and portfolio investments (without reinvested profit, but also paid-out interests). This is also the reason why the values in Graph No. 6 differ for example from values of profit outflow, published by the Czech Republic Government Office in 2016 (see: https://www.vlada.cz/assets/evropske-zalezitosti/analyzy-EU/Analyza-odlivu-zisku.pdf)

survey estimated the level of productivity to roughly 72% of Germany and Austria, and the rate of price lagging achieved also to 75%.[35]

However, when evaluating productivity and its relationship with respect to the level of wages, we must not forget the long-term low rate of Czech crown, the difference between the official rate and its purchasing power parity. Its undervaluation may not be the only consequence of price reductions, but also their cause. A typical evidence of this influence is the example of the Czech transformation method and, after all, the recent steps of ČNB, which led to devaluation of the Czech currency in the years 2013–2017.

According to the authors of economic transformation in the early 90's, the transformation cushions – cheap labor and significantly undervalued export allowing us to sell our production far below the real value – should provide the Czech Republic with a transitional transformation advantage, that was supposed to secure the rise in competitiveness and consequently the rapid growth of the Czech economy and also the rapid approximation of our standard of living to the most advanced countries of the European Union.

This, of course, was an illusion that might be true in textbooks, but not in real life. Therefore, these assumptions have not yet materialized, and their heritage persists in the economy so far, and for the next generations it will be one of the most difficult obstacles to overcome. The critics of the transformation has warned of this risk.

In the global or European market, our products have become cheap, and this is their alleged competitive advantage, and they are compared with products from countries with substantially lower living standards. In addition, we lost markets and got into the position of a subordinate economy, i.e. economy dependent on supplies of components and subdeliveries to other economies.

Productivity versus prices

Labor productivity in a less economically developed country, such as the Czech Republic, is lagging behind mainly due to significantly low prices of products, especially because of uneven product valuation. Therefore, the path of price devaluation in the current

[35] This survey was conducted in the context of the study "Social and Economic Implications of the Czech Republic joining the European Union" dated 2001, followed by another survey (Sofres Factum) in 2002, which was prepared for the follow-up study "Social and Economic Contexts of the Czech Republic joining the EU". These were, according to our information, the last representative surveys in the corporate sphere on this very serious topic.

conditions in the markets of developed counties is extremely costly. In the long run, this path deepens the gap in the lagging of the prices achieved – rather motivating businesses to the easier way of price pandering than to improving the quality and complexity of products.[36]

The ČNB exchange rate commitment, lasting from 7 November 2013 to 1 April 2018, and its influence on wage convergence, is further discussed in the following chapters. However, in the context of this chapter, it should be stressed that currency devaluation may mean a current increase in competitiveness of some companies through price pandering in the market. These are the companies that stand outside the network of multinational companies and are not involved in long-term contracts. Above all, this implies a massive redistribution of GDP from the Czech Republic.

The reasoning that devaluation will boost exports is largely copying general theses from textbooks. However, in the current economy, prices for exported products are fixed for a longer period of time and are essentially firm. Not endlessly flexible, as found in textbooks, because the market is monopolized. It is virtually impossible to increase their sales in the foreign markets, because an accurate delivery schedule is usually established. In addition, at the current commodity structure of main export commodities, mainly consisting in deliveries of components – the selling price of the Czech supplier is based on the accurate calculation of costs, the need for working time on the customer side. The foreign purchase has exactly calculated how much the component can be and the supplier is not allowed to increase the price. Therefore, the idea that devaluation can considerably stimulate the growth of export (in terms of selling bigger quantities) is rather questionable. As indicated above, prices of deliveries at the intra-group level are managed completely independently from the development of prices in domestic market – primarily according to the group's needs – and prices for other deliveries are arranged as long-term and for fixed prices, under the mutually agreed pricing rules and terms. We must not forget that exporters, who had a chance to decrease the prices thanks to devaluation at the moment when such devaluation was reflected in their costs, cannot virtually return with their prices back to initial levels.

[36] Multinational companies that have invested in the Czech Republic typically convert production of their least profitable products to the Czech Republic, which inevitably leads to lower productivity than in Western Europe. They also often reduce the price of these products, when production is moved to Central or Eastern Europe, which again leads to seemingly lower productivity, even when workers perform the same tasks as their colleagues in Western Europe. See Chapter 7 below for more information.

That is why this path is malignant in its consequences, as after some time it invokes pressure for further devaluation.

The low labor productivity in the Czech Republic is nothing more than quantitative indicators of the success (failure) of the economic model of the Czech Republic enforced in the previous years. In fact it is shocking that someone has the audacity to blame employees for this low-cost economy model which has been promoted in the long term, and even talk about what they deserve or not deserve in their wages. In this regard we should remind the recent statement by Václav Klaus, saying that Czechs do not deserve higher wages.

Nominal labor productivity in the Czech Republic – productivity in its truest but also most brutal expression today reaches about 37% of Germany. Labor costs derived from this productivity amount to 33% of Germany. This is the most authentic picture of the consequences of thirty years of "successful" transformation and reforming of the Czech economy. This is not the consequence of low performance of Czech employees. This is the demonstration of abilities and skills of the Czech Republic management structures – from the government to companies. Unfortunately these structures – unlike the ordinary employees – are not rewarded according to the labor productivity achieved and no one even think they should be. Such a requirement would be, "of course, a clear populism"!

4. New model of cheap labor in the Czech Republic – contexts and implications

Although today, after nearly thirty years of experience with the low-cost economy model, the effort to further prolong it looks like a prank, the opposite is true. Even today, there is a strong effort to maintain "cheap labor" as long as possible in the business sphere. To "ride" on the wave of cheap labor costs and low-priced Czech crown currency for a little bit longer. Don't people mind that the negative consequences of low wages of Czech employees are practically seen at every turn?

However, the focal point of the new policy of cheap labor is dangerously shifting. From the methods of direct containment (reduction) of wage growth and total labor costs, which was typical in the pervious decades,[37] to the pressure on maximum openness to the inflow of cheap labor force, especially from the countries outside the EU. Employees from the poorest EU member states are well suited for this purpose. In the first case, it is mainly Ukraine, while in the second case Romania and Bulgaria are mainly involved.

The current model of cheap labor is becoming more and more dangerous. Its influence and especially its consequences impact, unlike the previous models of "simple" wage retention, a much broader spectrum of social life and provoke new problems which were unknown in previous models. These especially include security risks associated with significant territorial concentration of migrants, their demographically different structure compared to the majority society (a significantly high proportion of young migrants and men), activities of criminal groups associated with migrations and even health risks (bringing some diseases that were already wiped out in the Czech Republic).

Economic or political risks are not negligible too, as their increase is in direct proportion to more intensified economic migration. Currently, besides the strengthening of illegal migration[38],

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[37] These processes are comprehensively described for example in the following documents: Fassmann M., Ungerman J., Vize změny hospodářské politiky ČR (The Vision for Economic Policy Change), Revue Pohledy 2/2015 (December 2015), Praha, p. 48, ISBN 978-8086846-61-3, Náklady práce a mzdy (Labor Expenses and Wages) (p. 35–42 and also Fassmann M., Snižování tzv. nemzdových nákladů práce – mýty, fakta, souvislosti (Reducing the So-called Non-wage Labor Costs – Myths, Facts, Contexts), Revue Pohledy 1/2016 (February 2016), Praha, p. 41, ISBN 978-8086846-63-7.

[38] The vocational literature often states that there is a direct proportional relationship between legal and illegal migration. Especially in countries, where official migrants live for a long time and where ethnic enclaves are formed. These enclaves create a favorable infrastructure for illegal migrants – a convenient language and cultural environment

these risks may include the outflow of a significant proportion of wages abroad (remittance) which would lead to a decline in Czech demand. However, even in the near future, some more serious issues can be raised, mainly linked to the intensifying of competition of these very flexible employees in the Czech market in case of the economy slowdown.

However, the current model of cheap labor does not only follow the immediate objective of import of a very cheap workforce. From a strategic perspective, the second role is much more important. This second role consists in the liquidation of excess supply of job vacancies and avoidance of pressure on wage growth in the Czech Republic.

New cheap work

Therefore, we cannot assess "cheapness" of labor only from the point of view of comparing the current wages in a particular position between a foreign and domestic employee. It is important to assess the role of employing foreigners in the overall context of the labor market. If we would manage to bring a sufficient amount of foreign labor into our labor market, which fills the current gap between the supply and demand in the labor market, this will automatically mean a considerable slowdown in wage convergence.

It could seem that our fears in this field are exaggerated and that the increase in migration is only a short-term process associated with an immediate unbalance in the Czech labor market. However, the issue of the very fast-growing labor migration in the Czech Republic cannot be seen in such a simple perspective. **It is not written anywhere that the slowdown of the economy and loss of jobs will "automatically" result in decrease in the inflow of labor migrants.**

As shown in the following graph No. 10, this "return home" did not happen even in the crisis period from 2009 to 2013. During these five years, the Czech economy declined three times, in 2009 by -4.5%, in 2012 by -1% and in 2013 by anther 0.9%. Even in 2013, the Czech economy was still -2.2 % below the level of the year 2008!

The number of registered jobless increased from 324 thousand in 2008 to 564 thousand in 2013. However, the number of foreign employees in the Czech labor market declined only very slightly in the same period. Such a decline and the following stagnation meant that in the most

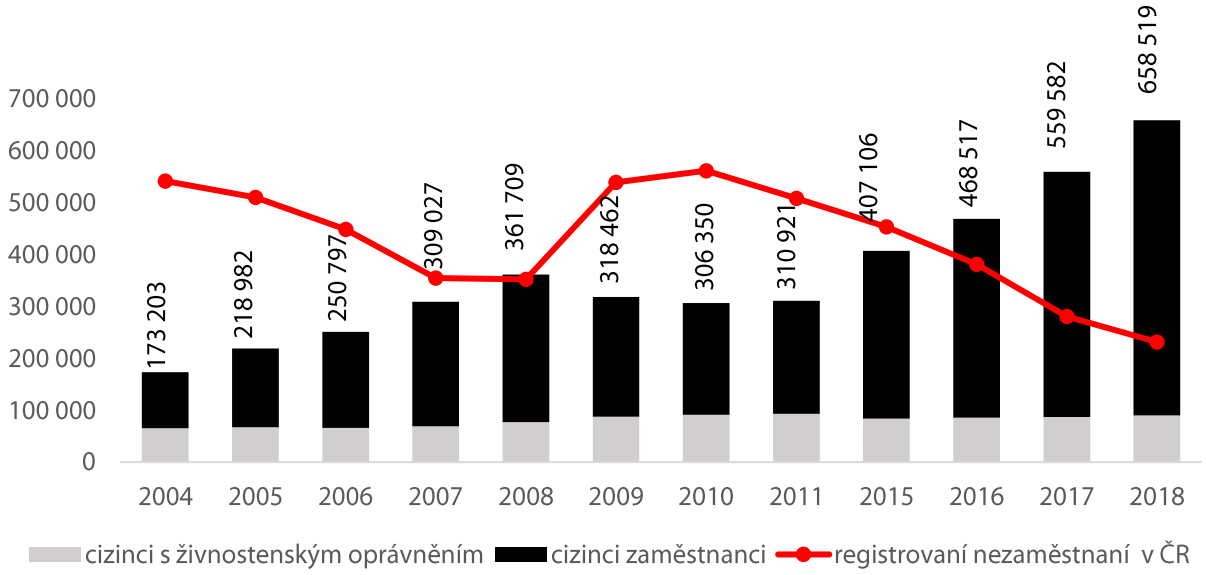
(where it is relatively easy to disappear) and often also the economic background. Quite often, it is a legally established migrant who rent housing to illegal migrants or who even become their direct employer. A summarized view is presented for example by Fassmann M., Stínová ekonomika a práce na černo (Shadow economy and illegal work), Praha, Briggs and Co (October 2007), EAN-978-80-86846-21-7 p. 215–2017.

critical years 2009-2011, the number of foreign employees only stagnated at the level of the year 2007.

It turned out that Czech labor market only responded to the significant decline of the Czech economy, accompanied by a considerable increase in the registered unemployment of Czech employees, by stagnation with regard to foreigners. Thus, the Czech labor market has given priority to foreigners before the domestic workers. This only confirms high competitiveness of these workers, combining the advantage of their significantly low compensation and very high spatial and time flexibility, with a significant benevolence of the Czech state authorities with regard to their inflow.

The number of foreigners in the Czech labor market has been growing

Graph No. 10: Total number of foreigners in the Czech labor market



registrovaní nezaměstnaní v ČR = registered unemployed people in the Czech Republic, cizinci zaměstnanci = foreign employees, cizinci se živnostenským oprávněním = foreigners with trade license

Source: ČSÚ and MPSV (data for the period 2012–2014 are not available, for the period 2015–2018 we only present a qualified estimation of the number of registration at the Labor Office).

Note: Among the employees (persons registered in the Labor Office of the Czech Republic) are also partners of business corporations, members of cooperatives or members of statutory bodies of business corporations and cooperatives who, in addition to the management of companies, were engaged in so-called common tasks.

As for the accession of **foreign employees to the domestic labor market, the Czech Republic is actually the most liberal of all the Central and Eastern Europe (CEE) member countries.** Our very liberal approach is even set as an example abroad. Recently, for example in Slovakia. In the Czech Republic, the reality of unprecedently high and still growing number of

foreigners in the labor market is covered by a medial smoke screen of "insufficiency, lack of flexibility, bureaucratic restrictions of entrepreneurship".

The following data confirm **the exceptional position of the Czech Republic amongst all CEE countries.** At the end of 2018, there were more than **658 thousand of foreign workers** in the Czech labor market, of which almost 569 thousand in the position of employees, the rest in the position of self-employed persons operating in the territory of the Czech Republic. Last year, the share of foreigners in total employment reached 12.5%, which is the highest value amongst CEE countries.

As we can clearly see from the previous graph, the number of foreigners in the Czech labor market has been growing very quickly. Recently, it has been even accelerating. While in 2016 the annual increase of foreigners in the Czech labor market amounted to 61 thousand, in 2017 it was already 91 thousand and last year even 99 thousand. These additions were concentrated in the significant increases of employees – foreigners. **Thus the total number of foreigners in the Czech labor market reached 658,519 in 2018.**

The number of employees from the EU as well as outside the EU grows

Table No. 1: Development of the number of employees - foreigners

	2009	2010	2011	2015	2016	2017	2018
EU 28	**139 374**	**144 126**	**154 733**	**245 041**	**283 844**	**330 154**	**366 190**
Slovakia	98 192	100 727	106 425	150 317	161 559	177 059	191 818
Romania	3 780	4 815	6 372	22 861	31 522	39 504	44 099
Poland	20 278	19 049	19 718	24 982	31 355	39 083	44 896
Bulgaria	4 578	5 667	7 007	19 782	25 784	31 528	34 543
Hungary	601	656	709	6 145	10 766	15 230	18 051
Outside EU	**91 335**	**71 241**	**63 129**	**78 203**	**99 045**	**142 200**	**202 486**
Ukraine	57 478	42 139	35 250	41 847	54 571	81 695	121 086
Russia	3 612	3 658	3 931	6 703	8 290	11 080	14 597
Vietnam	3 670	3 132	2 776	5 098	6 565	9 805	12 558
Mongolia	4 205	3 548	2 827	2 482	3 178	4 395	5 640

Source: ditto

Out of the total number of **foreigners – employees** in 2018, 366 thousand fall to the European union countries (192 thousand Slovakia, 45 thousand Poland, 44 thousand Romania and 34.5 thousand Bulgaria). 202 thousand foreign employees were from non-EU countries, vast majority of them from Ukraine (121 thousand).

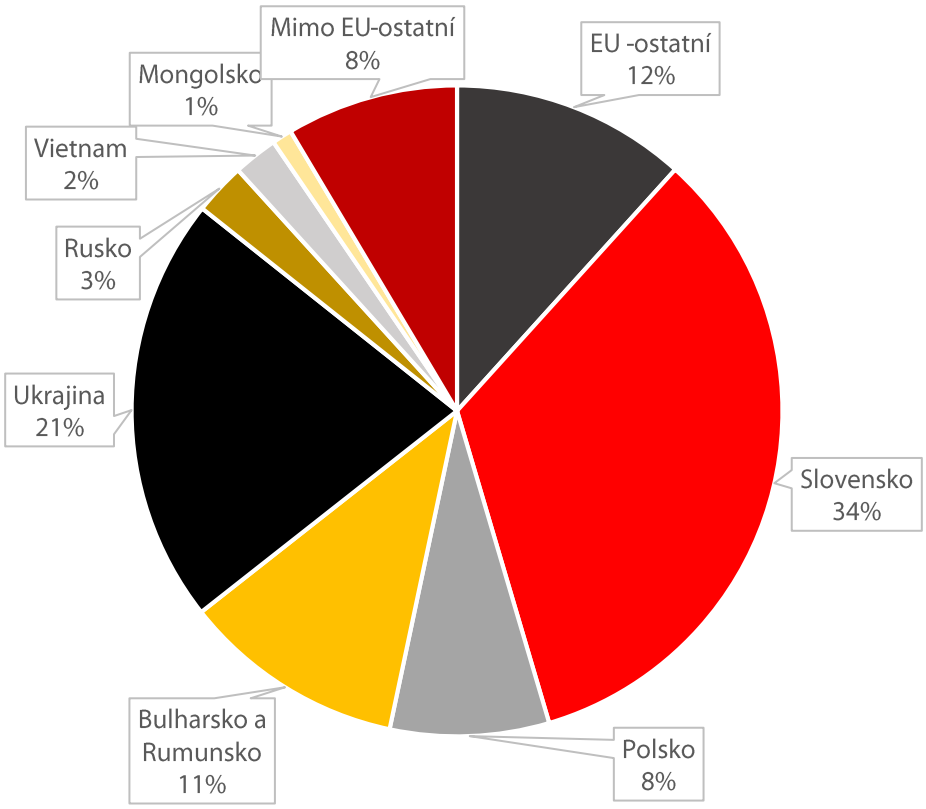
The above numbers greatly exceed the numbers of foreigners in other countries of the Central and Eastern Europe. For example in Poland, which is often given as an example of a country with a considerable number of foreign citizens in the labor market, especially the Ukrainians, the actual numbers are in fact significantly restrained. In 2018, there were 587 thousand of foreign workers in the Polish labor market (employees and self-employed) legally registered in the national system of social security ZUS.[39] About ¾ of them were the Ukrainians. However, the Polish labor market is roughly three time as big as the Czech labor market, which means that foreign workers represent only 3.6% of the total employment in Poland. Significantly lower numbers of foreigners work also in Hungary and Slovakia. In September 2018, according to official data, there were 64,400 foreign workers – employees in the Slovak labor market, i.e. 2.3% of total employment. This means that in the Czech Republic the employment rate of foreigners reaches multiples of the values of other V4 countries.

[39] ZUS – Zakład Ubezpieczeń Społecznych, https://www.polskieradio24.pl/42/275/Artykul/2261512,Rynek-pracy-po-raz-pierwszy-spadla-liczba-ubezpieczonych-w-ZUS-pracownikow-z-Ukrainy.

According to Polish regulations, the insurance is compulsory for entrepreneurs and persons cooperating with them, employees and persons working under the agreement to complete a job (in some cases even under the agreement to perform work).

Most foreign workers come from Slovakia and Ukraine

Graph No. 11: Structure of foreign employees in the Czech Republic in 2018



Polsko = Poland, Slovensko = Slovakia, EU – ostatní = EU – other, Mimo EU – ostatní = Non-EU – other, Mongolsko = Mongolia, Vietnam = Vietnam, Rusko = Russia, Ukrajina = Ukraine, Bulharsko a Rumunsko = Bulgaria and Romania

Source: MPSV, own calculations

But that – it seems – is not enough. Various business structures, to promote the further influx of foreigners into the labor market, always stress the need to cover shortage of skilled labor in a number of disciplines. **However, in the Czech labor market, there is "surprisingly" mainly demand for low-skilled workers.** And they are of course the main concern of the Czech entrepreneurs.

According to some statements of the Czech Economic Chamber, another approx. half million people should be placed in the Czech labor market. **In this case, the total number of foreigners in the Czech labor market would reach almost 1.2 million people and thus the foreigners would have accounted for almost 20% of total employment.**

On the other hand, these business structures are looking utterly hostile to further increases of wages (especially minimum wage) and salaries. It is therefore perfectly clear what kind of competitiveness these groups are talking about.

Whether the Czech Republic really goes this way is not quite clear today, but unfortunately not excluded. This is basically a very comfortable "solution". Nothing needs to be invented or changed. The continuation of this way – even if it is still comfortable – would be a complete confirmation of poverty of the Czech economic strategy and its indeterminateness. **Such requirements are absolutely significant acknowledgement of the very strong extensive nature of economic growth in the Czech Republic.** It is worth remembering that the Czech Republic has already experienced the period of "general labor shortage" in the past. It was in the 80's of the last century (as a part of Czechoslovakia). Even that time, despite the steadily decreasing performance and factual prospects of the economic model, people were missing everywhere and labor force had to be imported to save the Czechoslovak economy over half of the world (Vietnam, Cuba). However, at that time everyone knew how short-sighted and meaningless such behavior is.

The low-cost economy model is increasingly counterproductive and, in its consequences, even destructive with regard to the Czech economy. By effectively postponing the inevitable (and of course also demanding) technical, technological and organizational modernization of the Czech economy, it safely destroys any chance of the Czech Republic for rapid convergence with the most advanced EU countries. Moreover, this model has been distorting the structure of economy in the long term, as it promotes productions based on cheap labor and low qualification, thus leading to further technical and technological lagging.

Price competition, which relies on low wages and labor costs, only increases the economic inefficiency because it promotes an outdated structure of production. By increasing the degree of undervaluation of the rewards of their employees, companies can avoid more radical measures such as structural reconstruction of production, reorganization of corporate leadership and replacement of outdated management by modern technology.

In a market environment where competition relies on the process of product development, the strategy of low wages, whose main objective is to maintain the profitability of ever more obsolete equipment, production lines, technological processes or unsatisfactory management methods, can only bring a temporary relief. It would therefore be good to emphasize that there is a lower limit for wages and labor costs in any labor market. By contrast, in the long run, the limit for

cost reductions due to technical, technological or organizational improvements is extremely low. If companies invest poorly into new equipment, it may happen that the product will soon become so outdated that it cannot be sold for any price. In such an environment, businesses and economies are going down the road, pursuing more short-term targets and their survival depends solely on cost reductions. The result is a shift of the structure to low-sophisticated productions of assembly type, which respond very quickly to the development of economic boom or change of external conditions.

The Czech Republic is now realistically standing – whether we realize it or not – before the decision whether to continue and pursue a policy of cheap labor: low-priced exchange rate of Czech crown, policy of low wages, low social standards and low wages, or take the road of modern development.

The question is, whether there is a real chance at the moment to fundamentally change the direction of economy policy being currently enforced? Is it possible to realistically consider a new government economic strategy in a situation where "cards are dealt", when the Czech economy has been increasingly profiling itself as a subordinated economy, as a dependent low-cost space of advanced economies, as a Central European developing country?

Which ways could lead us to the top in some modern and emerging industries and disciplines, where equal prices and high labor productivity can also be achieved?

Without any doubts, it is difficult to say whether the suggested change in the economic policy of the Czech Republic, which is discussed hereinafter, will be successful or not. We cannot say for sure. However, what we can say for sure, is how our position in the European economy will evolve if we continue the path of cheap labor policy. This is the path of technological lagging and descent to lower levels of processing, with lower value added, lower valuation of products, lower labor productivity and of course lower wages. The path of permanent locking of the Czech Republic in the middle income trap.[40]

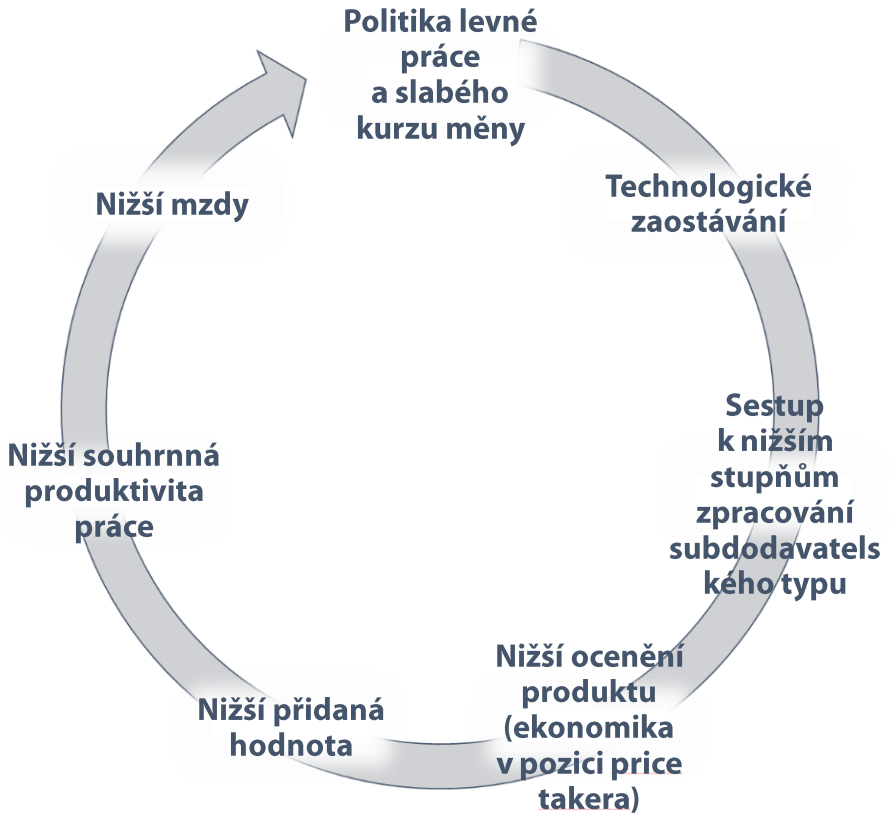
[40] Given the position that the Czech Republic occupies in the world context, we will rather use this more precise term for this phenomenon, which we have called "poverty trap" in the Vision.

Due to the lack of accuracy of volume indices based on purchasing power parities, OECD ranks countries based on GDP per capita to 6 groups: 1. high income, at 125% and more in relation to the average; 2. high-middle income at 100–124%; 3. middle income at 75–99%; 4. low-middle income) at 50–74%; 5. low income at 25–49%; 6. very low income at less than 25%. There are no economies with very low income amongst EU countries. In Europe, these economies include Albania, Bosnia and Herzegovina, Moldavia and Ukraine.

Fig. No. 3: Modern policy of promoting the economic upswing

Politika moderní podpory národní ekonomiky = Policy of modern support of national economy; Podpora technologického vzestupu = Promotion of technological advancement, Vzestup k vyšším stupňům zpracování posílení finality výroby = Advance to higher levels of processing / improvement of production finality; Dynamický růst ocenění produktu (ekonomika v pozici price makera) = Dynamic growth of product valuation (economy in the price-maker position); Vyšší přidaná hodnota = Higher value added; Vyšší souhrnná produktivita práce = Higher overall labor productivity; Vyšší mzdy = Higher wages

Fig. No. 4: Low-cost economy policy – permanent entrapment in the middle income trap



Politika levné práce a slabého kurzu měny = Policy of cheap labor and low-priced exchange rate of national currency; Technologické zaostávání = Technological lagging; Sestup k nižším stupňům zpracování subdodavatelského typu = Descent to lower levels of processing of a subcontracting type; Nižší ocenění produktu (ekonomika v pozici price takera) = Lower product valuation (economy in the price-taker position); Nižší přidaná hodnota = Lower value added; Nižší souhrnná produktivita práce = Lower overall labor productivity; Nižší mzdy = Lower wages

5. Low wages and long working time – Two faces of the lagging economy of the Czech Republic

The economic development of modern western societies can be characterized in a long-term perspective by two elements – a growing product per capita and a significant reduction of working time needed to generate it. The product growth per capita, as the most comprehensive indicator of the economic dimension of societal development, characterizes the shortening of working time, respectively prolongation of free time, a social dimension of the societal development.[41]

Working time shortening has two causes. The objective cause of the working time shorting process is the effect of technological progress. This is manifested by intensive increase in labor productivity, based on increased technical level of basic funds, improved utilization of raw materials, new forms of work organization and relative reduction of demands on the equipment of production by working force.

A subjective cause of working time shortening is a long-term pressure of employee representatives (especially trade unions, but also social-democratic parties) on shortening the working hours without lowering the rewards. A unique look at the development of working time in advanced countries in the period 1870–2017 is shown in the following table No. 2[42]

Here, above all, it is shown that during 145 years of observation, the working time in developed European countries has fallen roughly to a half. However, the reduction of the working time was not smooth. You can notice certain moments in the history of working time shortening, which are clearly associated with technological changes that have significantly accelerated the

[41] However, it cannot be said that a sufficient attention has always been paid to this quantity. The "economic" success is mostly assessed by a unilateral prism of GDP or national income growth, without taking into account the instruments by which or the price at which the economic growth has been achieved.

[42] The table is based on the long-term time series included in the following OECD studies: Maddison A. Monitoring the World Economy 1820–1992, OECD 1995 and Maddison A. The World Economy, OECD 2001. Recent years were complemented by Eurostat data.

[*)] **Angus Maddison** (1926–2010) was a British economist, professor at the Faculty of Economics, University of Groningen (Netherlands). He specialized in quantitative macroeconomic history, including measurement and analysis of economic growth and development. He was considered the most important global scholar of his time in this field.

process of gradual shortening of working time. Our generation was affected by two such turning points.

The first turning point, which started at the turn of the fifties and sixties of the last century, was connected with a transition from extensive to intensive type of economy in the developed western countries (3rd industrial revolution). The second turning point, beginning in the 90's of the last century, relates to the rise of digital economy (4th industrial revolution).

Working time history in selected European countries

Table No. 2: Annual working time in hours per employee in the developed European countries and in the Czech Republic in the period 1870–2017

	1870	1913	1950	1973	1995	2005	2010	2015	2017
Belgium	2964	2605	2283	1872	:	1565	1546	1545	1549
Czech Republic	:	:	:	:	**1858**	**1817**	**1800**	**1756**	**1784**
Denmark	2945	2553	2283	1742	1419	1451	1422	1407	1405
France	2945	2588	1926	1771	1591	1527	1528	1509	1522
Italy	2886	2536	1997	1612	1856	1812	1777	1718	1719
Germany	2841	2584	2316	1804	1528	1411	1390	1368	1360
Netherlands	2964	2605	2208	1751	1479	1434	1421	1424	1435
Austria	2935	2580	1976	1778	1 774	1 752	1 666	1 599	1617
UK	2984	2624	1958	1688	1726	1672	1630	1657	1671
Sweden	2945	2588	1951	1571	1640	1605	1635	1610	1609

Source: A. Maddison, The World Economy, OECD 2001, Eurostat database, own calculation.

If we focus on individual countries, we would see that the rate of the working time reduction was not same in all of them. Global trends were not promoted straightforwardly. Besides economic factors (which represent a necessary precondition for working time shortening), the specific rate of working time shortening in individual countries depends on many additional external and internal factors of each particular country.

The actual rate of working time shortening and its distribution over time (and thus the potential increase of "free time" reserve for employees) is not a simple result of purely economic and technological parameters of economy. It is also determined by historical, cultural, social, institutional and other characteristics of each particular country and region. Of course, we cannot leave out the effect of "subjective factor" – the power of national trade union centers in the enforcement of working time shortening.

We are lagging behind by 50 years

Let us now look at the situation of the Czech Republic. It, of course, did not exist in 1870. However, we will not commit big mistake by assigning it – as a direct successor of the Czech Kingdom – for the period before the First World War the average values of the former Austria, - 2,935 hours for the year 1870 and 2,50 hours for the year 1913.

Such a constructed overview brings two news to the Czech Republic. As it usually is, one good and one bad. The positive news is that in the Czech Republic, in the long term, the global trend of working time shortening, which is typical for advanced European countries, has been gradually enforced. The negative news is that this trend is being enforced considerably slower and the Czech Republic is lagging behind these countries quite significantly – currently by approx. 50 years. In the Czech Republic, the working time is currently at the level achieved by advanced western countries around the year 1970.

How much more time do Czechs work?

Table No. 3: Current differences in working hours between the Czech Republic and the advanced EU countries in the years 2015 and 2017

	Hours per year saved compared to Czech		Days per year saved compared to Czech		Years needed to save a year of work compared to Czech		Extra years of Czech's work over the entire working life	
	2015	2017	2015	2017	2015	2017	2015	2017
German	388	424	48,5	59,4	5,2	4,2	9	**11**
Dane	349	370	43,6	51,8	5,7	4,8	8	**10**
Dutchman	332	349	41,5	48,9	6,0	5,1	8	**9**
Frenchman	247	262	30,9	36,7	8,0	6,8	6	**7**
Belgian	211	235	26,4	32,9	9,5	7,6	5	**6**
Austrian	157	167	19,6	23,4	12,8	10,7	4	**4**
Swede	146	175	18,3	24,5	13,7	10,2	3	**5**

Source: Eurostat database, own calculation

Remark: Conversions in columns 3-6 were made in the conditions of the Czech Republic, i.e. working days or years are meant as "Czech" working days and years. "Working life" in columns 7-8 means the period from 18 to 65 years of age.

It is nothing surprising. Other EU member states from Central and Eastern Europe are also at similar level. For both these countries and the Czech Republic, the use of greater range of working time (compared to developed countries) is quite common. This is a typical characteristic of less advanced economics. The countries of our type – because of their technical and technological lagging behind the most advanced countries – are forced to increase their

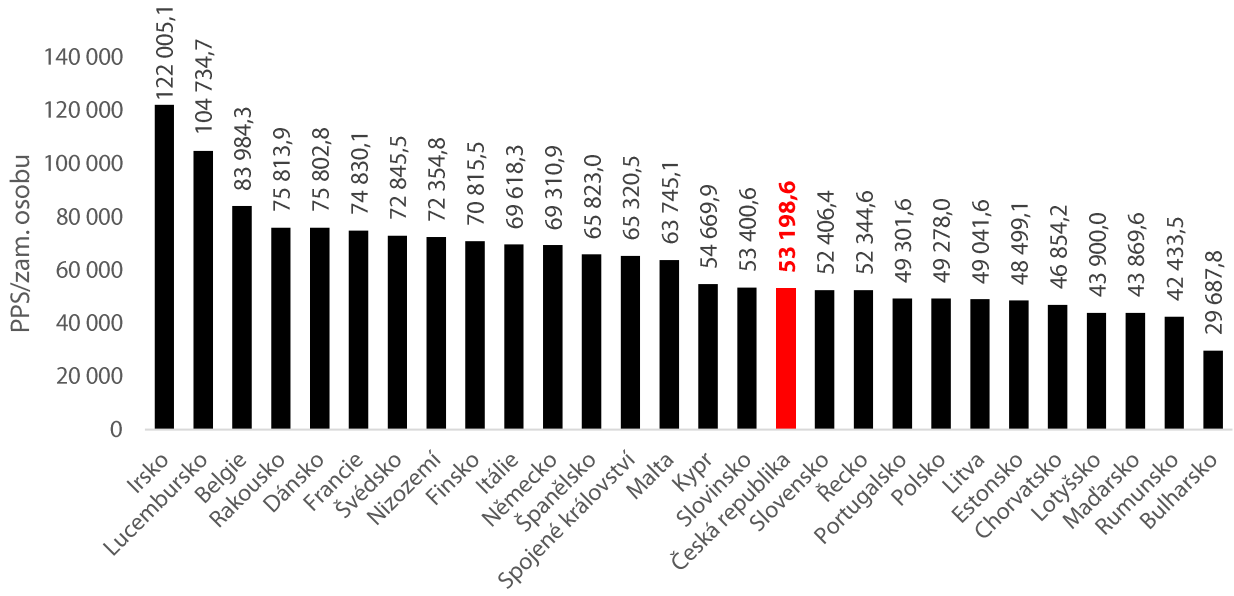
performance in an extensive way: by means of higher employment per unit of product generated and also by extending the time worked.

As we have already demonstrated in our previous "Vision" study, the infamous "first place" amongst CEE countries in this respect is occupied by the Czech Republic. With regard to the indicator of labor productivity (measured as GDP in the purchasing power parity per hour worked), the Czech Republic is lagging in the long term behind both EU 28 as a whole as well as the most advanced member countries. The Czech economy, in aggregate output, is not able to maintain the relation of product made towards other countries – both the advanced and those with lower economic level. The hour worked in the Czech economy creates relatively still less value than in other countries, so if the Czech economy wants to maintain its relation towards these countries, it must spend greater number of hours to achieve that.

If we examine the relation between the indicators of labor productivity (measured as GDP in the purchasing power parity per hour worked) of the Czech Republic and the advanced European countries, the difference between them is still very significant.

Low productivity is being redeemed by time of employees

Graph No. 12: GDP per employed person in the purchasing power parity in 2017

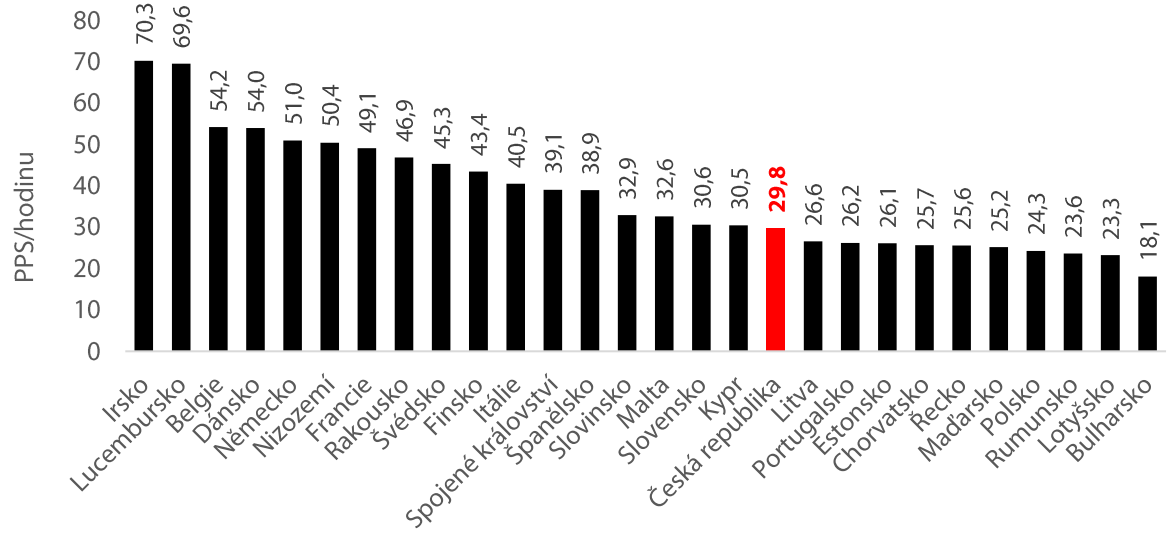


PPS/zam. osobu = PPS / employed person; Irsko = Ireland, Lucembursko = Luxembourg, Belgie = Belgium, Rakousko = Austria, Dánsko = Denmark, Francie = France, Švédsko = Sweden, Nizozemí = Netherlands, Finsko = Finland, Itálie = Italy, Německo = Germany, Španělsko = Spain, Spojené království = UK, Malta = Malta, Kypr = Cyprus, Slovinsko = Slovenia, Česká republika = Czech Republic, Slovensko = Slovakia, Řecko = Greece, Portugalsko = Portugal, Polsko =

Poland, Litva = Lithuania, Estonsko = Estonia, Chorvatsko = Croatia, Lotyšsko = Latvia, Maďarsko = Hungary, Rumunsko = Romania, Bulharsko = Bulgaria
Source: own calculations, Eurostat (2. 3. 2019).

Productivity expressed per hour worked

Graph No. 13: GDP per hour worked in the purchasing power parity in 2017



PPS/hodinu = PPS / hour; Irsko = Ireland, Lucembursko = Luxembourg, Belgie = Belgium, Dánsko = Denmark, Německo = Germany, Nizozemí = Netherlands, Francie = France, Rakousko = Austria, Švédsko = Sweden, Finsko = Finland, Itálie = Italy, Spojené … = UK, Španělsko = Spain, Slovinsko = Slovenia, Malta = Malta, Slovensko = Slovakia, Kypr = Cyprus, Česká republika = Czech Republic, Litva = Lithuania, Portugalsko = Portugal, Estonsko = Estonia, Chorvatsko = Croatia, Řecko = Greece, Maďarsko = Hungary, Polsko = Poland, Rumunsko = Romania, Lotyšsko = Latvia, Bulharsko = Bulgaria
Source: own calculations, Eurostat (2. 3. 2019).

At EU 28 and Euro 18 level, the difference is about 10 percentage points. The difference between the Czech Republic and Austria is 6 percentage points, but in case of Germany it is as much as incredible 18.4 percentage points (hourly productivity ratio between the Czech Republic and Germany is approx. 58.4%, while the productivity per employee is 76.8%).[43]

It is clear that the differences between the indicators are due to differences in the range of time worked in each particular country. The Czech Republic, with its low reported productivity[44]

[43] When expressing GDP in current prices, these differences are considerably smaller – with regard to relation of the Czech Republic and Germany, in 2017 the difference between GDP per employee and GDP per hour worked was 11.5 percentage points (at relation of productivity per employee it was 48.4% and productivity per hour worked it was 36.9%).

[44] In this context, of course, we talk about the officially reported labor productivity. Analysis of causes of low reported labor productivity is presented in the second chapter.

and low wages derived therefrom, ensures (compared to vast majority of developed countries, including our neighbors) GDP growth by an extensively higher number of hours worked.

But there are also some other interesting facts that illustrate the position of the Czech Republic in the field of labor productivity, or better to say the situation in the labor market. In the period 2008–2012, significantly affected by economic crisis, all the EU advanced countries used reducing of the number of hours worked as a relatively important tool for supporting the employment, because if the number of hours worked per employee is reduced, more persons can be employed.

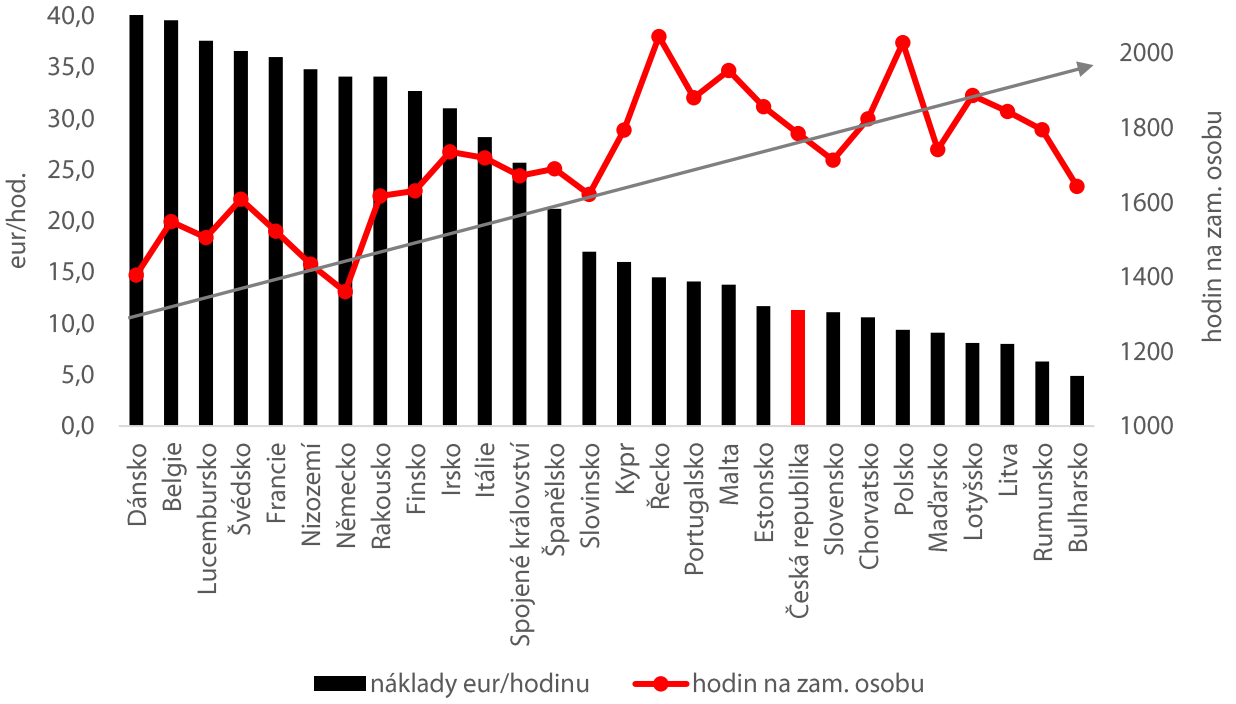
In only few countries, during the period of crises subject to monitoring, the number of hours worked, i.e. the preference of earnings before employment, increased. These were especially Baltic EU member states. From CEE 5 countries, only the Czech Republic joined them. Also this somehow atypical behavior of the Czech Republic – the further increase of hours worked per employee, at the level already high – was only another, in the economic crisis in fact very desperate, manifestation of a very low wage level in the Czech Republic.[45]

This example is just a confirmation of the known truth that **the indicators of working time length and wage levels are not independent variables.** In fact, they are only two sides of one coin, which is the labor productivity. If labor productivity is high and wages derived from this productivity are high too, then also free time is of high value for the employee. Physical limitations of this factor lead to pressure on shortening the working time. And vice versa. Low labor productivity and low wages derived from it reduces the employee's price of his free time. This leads to a pressure on extending the working time. In both cases, the maintaining or even increasing of number of hours worked serves as a cushion softening the still extreme relation of the remaining two indicators (productivity and wages) officially reported in the Czech Republic towards the most advanced EU countries. This obvious dependence is very well described by the following comparison of 28 EU countries – see graph No. 14.

The farther to east, the less money and the more time worked

Graph No. 14: Labor costs and time worked in EU countries in 2017

[45] Eurostat, Labor costs in the EU No. 56/2015, 30. March 2015.



eur/hod. = euros/hour, hodin na zam. osobu = hours per person employed, náklady eur/hodinu = costs in euros/hour, hodin na zam. osobu = hours per person employed, Dánsko = Denmark, Lucembursko = Luxembourg, Francie = France, Německo = Germany, Finsko = Finland, Itálie = Italy, Španělsko = Spain, Kypr = Cyprus, Portugalsko = Portugal, Estonsko = Estonia, Slovensko = Slovakia, Polsko = Poland, Lotyšsko = Latvia, Rumunsko = Romania
Source: Eurostat database, own modelling.

It is therefore quite evident that the effort to shorten the working time in the Czech Republic, of course without reducing the wages, currently faces the problem of very low officially reported labor productivity on the one hand, and very low level of wages on the other hand. **Indeed, very high number of working hours in less developed countries suppresses social impact on very low labor costs to certain extent.**

The causes of this condition are, of course, much deeper. They relate directly to the structure of economy, in particular the way of product valuation and labor productivity (see the second chapter for more details).

The current economic growth, with the structure of the Czech economy aimed at production with a lower level of processing, is manifested in extensive pressure on the increase of employment rate and extension of working time. It is therefore undisputed that any possible effort to reduce the working time in the current reality of the Czech Republic would immediately get into contradiction with a lack of labor in a number of fields, with the increase of pressure on the inflow of labor from abroad and the effort to keep the wages as low as possible. On the other hand, the pressure for further extension of working time is very

likely. Nowadays it is evident that in a number of concrete examples, the effort to further extend working time gets into conflict with physiological boundaries of tolerance.

Unfortunately, the pressure on further extension of working time is definitely not a fiction in the Czech Republic. As presented in tables No. 2 and 3 in this chapter, there is currently a relatively massive increase in the number of hours worked per person employed and thus, at the same time, a significantly different trend as compared to the advanced EU countries.

In the economy of the Czech Republic, there are apparently some contradictory tendencies. We actually find ourselves at a point of break. Are we going to head to reducing the working time, as experienced or currently experiencing by all the advanced European countries, or on the contrary, are we going to maintain long working hours. This is clearly not a question of whether we want or don't want to. In fact, it reflects much deeper and more serious questions about the necessary change in the direction of the economic policy of the Czech Republic. It is nothing less serious than the decision whether the Czech Republic is going to continue with enforcing the policy of cheap labor – low-priced Czech crown exchange rate, policy of low wages, low social standards and low taxes, or whether the Czech Republic is going to choose the way of efficiency improvements, rapid growth, utilization of the results of science and research and improved competitiveness. The choice of the direction of economic policy and shortening or extension of working time are in fact "connected vessels" and one cannot be separated from the other.

Collective bargaining shortens working time and increases wages

Table No. 4: The effect of collective bargaining on shortening of working time and increase of wages in the period 2013–2017

	Average gross monthly wage (CZK)				Average working hours (hours/month)			
Year	Collect. agreement YES	Collect. agreement NO	Monthly difference	Annual difference	Collect. agreement YES	Collect. agreement NO	Monthly difference	Annual difference
2013	29 383	26 636	2 747	**32 962**	146	150	-4	**-45**
2014	29 900	27 239	2 662	**31 938**	146	150	-4	**-42**
2015	31 231	28 241	2 990	**35 882**	145	149	-3	**-39**
2016	32 252	29 274	2 979	**35 743**	145	149	-3	**-39**
2017	34 387	31 568	2 820	**33 834**	144	148	-4	**-46**

Source: Trexima.

And one more important remark at the conclusion of this chapter. A certain objective predisposition of the Czech economy in relation to a relatively long working time does not mean

that there is nothing we can do about it. Not only it is possible, but has already started. We mean the pressure of trade unions and collective bargaining that greatly facilitate and promote working time shortening in the Czech Republic. In 2018, in the companies where collective bargaining is taking place (compared with companies where no collective bargaining is taking place), the annual income was higher in average by CZK 50 thousand and working time shorter – 38 hours a week.

6. Economic convergence between the Czech Republic and developed EU members – theoretical bases and estimations of possible development

What does convergence mean

If we are talking about the need to eliminate the "cheap labor", or more widely about the termination of the economic model of the Czech Republic, which is based on cheapness and geographic proximity to Germany, it is necessary to pay attention to the topic of convergence. Given the anchorage of the Czech Republic economy in the European area, whether in terms of business flows or ownership of companies operating in the territory of the Czech Republic, it is necessary to evaluate the evolution of the convergence within the whole EU.

The current results of monitoring of the process of convergence in the European Union is presented in the Eurofond report aimed at convergence, issued at the end of the last year.[46] It is the very first summary report on this topic, which also deals with the methodological definition of the term "convergence". Although we can find the term "economic convergence" in basic EU treaties, it is not clearly defined. The report notes that the convergence debate is important both for the necessary reform of the European monetary union and for the EU social pillar. Moreover, the convergence is necessary for cohesion and political legitimacy of EU as such.[47]

While in the past, from the simplified perspective, the convergence was perceived as a category of economic growth, after 2008 the situation has changed. The so-called criteria of nominal convergence, used in connection with the introduction of euro and membership in euro area, have not proved sufficient according to Eurofond report.[48] Convergence must be therefore seen in the EU area also in the social dimension (see also the European pillar of social rights).

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[46] Mascherini M., ,Bisesello M., Dubois H., Eiffe F., Monitoring convergence in the European Union. Upward convergence in the EU: concepts, measurements and indicators, European Foundation for the Improvement of Living and Working Conditions, Luxembourg 2018 ISBN:978-92-897-1797-7, p. 65.

[47] While cohesion can be seen as a condition, convergence is a dynamic process that should lead to cohesion.

[48] So finally it is "officially" recognized what appeared in our analyses already 15-20 years ago. At that time we pointed to the problem that the so-called criteria of nominal convergence, ensuring the stability of the common currency, are in fact intended for the most advanced countries only, while for the new member countries the essential should be the real convergence, i.e. real approximation between the old and new EU member countries. In more detail e.g. Fassmann M., Vintrová et al., Sociální a ekonomické souvislosti integrace České republiky do Evropské unie (Social and economic contexts of the Czech Republic joining the European Union), release 1., Praha, Government Council for Economic and

The original ideas of the European integration counted with economic convergence hand in hand with social convergence. However, as underlined by the European pillar of social rights, it is necessary to assess the convergence more widely also in the area of social rights and wage development. The economic and social categories are interconnected.

The basis of the convergence term consists in "convergere", which means to have the same direction. Key questions for convergence include "what will converge" and where. For the Czech Republic it is particularly important that the Eurofond report deals with the topic of "upward convergence", which means the convergence in upward direction, i.e. when less developed countries are chasing more advanced countries. It is not confined to the traditional perceptions through GDP per capita, but also includes wages and other social categories.

In general, different attributes are used in connection with the term "convergence". Nominal convergence concerns the economic and monetary union criteria, while real convergence concerns economic and social variables in real numbers, which typically include GDP per capita or productivity.[49]

The upward convergence is defined by the European Commission in two concepts: it is either a growth or improvement of performance aimed at certain political goal, or reduction of disparities. "The growth alone does not imply convergence. The country can improve its performance in a certain indicator, but at the same time the disparities between the countries may widen."[50]

In general, convergence can be defined as reducing the distance between two trends. But it is important to analyze the upward convergence. The term "convergence" alone can include "approximation of countries in a certain indicator", however, their performance may deteriorate. As for upward convergence, it is therefore necessary to measure both the improvement and the convergence in performance.

Social Strategy, 2002, p. 375, ISBN 80-238-8699-1, p. 60–91, Vintrová R., Reálná konvergence – předpoklad plynulé integrace do Evropské unie (Real Convergence – Assumption of Fluent Integration into European Union). Politická ekonomie 2003, Issue 1, p. 79–91 etc.

[49] The Eurofond report also outlines the legal, structural and cyclical convergence (alignment of the cycle amongst countries). Various concepts of convergence lead to the preference of different methodologies of measurement. The so-called beta convergence is frequently used at chasing the leaders in a certain indicator, sigma convergence measures the reduction of performance deviations, gamma measures the ranking of countries relative to a specific goal, delta convergence measures the distance of given country from a certain model etc.

[50] Eurofond, p. 16.

Of course, time horizon is important. For example, data for a single economic cycle are insufficient to assess convergence. Likewise, it is not sufficient to monitor only one indicator. The report assessed convergence across wide range of indicators. For example, wages were measured by compensations to employees per hour, with resources coming from national accounts. During the given time period (2005-2017), all countries showed improvements, but at the same time the gaps between the countries were growing. The upward divergence (i.e. widening of gap towards the average EU) in the given period was registered in Austria, Belgium, Denmark, Finland and Luxembourg. Other countries diverged downwards, namely Greece, Croatia, Hungary, Poland and Cyprus.

The political goals were not met in the category of working poverty for EU as a whole. Its considerably increase was registered especially in Germany and Hungary. As for the "popular" indicator of economic convergence, measured most often by real GDP per capita in PPP, according to Eurofond it can be stated that this indicator has been growing since 1995, but so has been the variability between the countries. More extensive divergencies were in the euro area. **One of the key conclusions of the report is that the social convergence does not appear automatically with the economic convergence, which means that the assumptions of the "founding fathers" of the European integration have not proved in practice.**

The emphasis on the issue of convergence has been proved also by the speech of the former EU commissioner, the Hungarian economist Laszlo Andor[51], who believes that the dynamic period of growth of the countries of Central and Eastern Europe since the end of the 90's of the last century is a compensation for a large loss of income at the beginning of the 90's. He points out that the gap between the East and the West, in terms of GDP per capita, narrowed only very slightly since the half of the 90's. With regard to the separation of the old and the new member countries, Andor also refers to a weak social dialogue, which negatively affects the economic productivity and social cohesion.

From a theoretical point of view, **the issue of wage convergence** (in consideration of neo-classical models) generally affects the conditions necessary for comparing the prices of production factors. In a dynamic approach, we can talk about the convergence of prices of factors (however,

[51] Andor, L.: Cohesion and convergence in Europe. European Commission, 2014. http://europa.eu/rapid/press-release_SPEECH-14-722_en.htm

this is not automatically the upward convergence).[52] There are two basic factors: free trade[53] and mobility of production factors.

The Swedish economist Bertil Ohlin (see also Heckscher–Ohlin theorem) stated that the free movement of goods in international trade may partially replace the free movement of factors (i.e. including labor). This process should result in partial levelling of the prices of production factors.

The basis of this "straightening" process is the relocation of resources on both production and labor markets. Free trade is therefore one of the tools to change the structure of economy, which, however, may not be automatically desirable and may carry high social costs. The Heckscher–Ohlin theorem is based on the theory of comparative benefits and represents its generalization to all production factors. The mobility of the labor factor under the neo-classical theory assumes that the labor factor moves from sectors/areas with low wages to sectors/areas with higher wages, thus balancing the income from labor, i.e. balancing the wage level.

There is a single market in EU, which postulates the free movement of factors, including labor. **Despite strong links between free trade of goods and services, there are considerable wage gaps in the EU.** The neo-classical explanation of the insufficient wage convergence within EU is aimed at barriers of a different type: language, cultural differences etc., which contribute to the fact that the mobility of labor factor is not sufficient within the EU.

The importance of convergence of real wages is underlined by Williamson,[54] who stated that real wages are a suitable benchmark for estimation of long-term convergence. **Wage convergence will be more fundamental than convergence at the output per employee.** It is because the convergence of the labor productivity does not reveal the real sources of this convergence.

The study by Naz, Ahmad and Naveeda[55] discovered that the convergence is visible between regions in one country, and less between the border regions. **Average wages in**

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[52] Naz, A., Ahmad, N., Naveed, A.: Wage convergence across European regions: do international borders matter? Journal of Economic Integration, Vol. 32. No1, March 2017, p. 35–64.

[53] Of course, the problem of levelling the prices of assets on the assumption of free trade concerns the limitation of a single price law, including the difference between marketable and non-marketable assets.

[54] Williamson, Jeffrey G., 1995, "The Evolution of Global Labor Markets since 1830: Background Evidence and Hypotheses", *Explorations in Economic History*, 32(2), p. 141–196.

[55] Naz, A., Ahmad, N., Naveed, A.: Wage convergence across European regions: do international borders matter? Journal of Economic Integration, Vol. 32. No. 1, March 2017, p. 35–64.

European regions do not converge. Borders still have a great importance, which means that labor markets are, despite mobility and free trade, separated.

Goecke and Hüther[56] concluded that within the regional convergence, the processing industry and the focus of EU subsidies play an important role. They both increase the likelihood that the region will converge. Geographically, by applying these two factors, they hold an opinion that GDP per capita (applied indicator of convergence) is decreasing from north to south and from west to east. De facto, they claim that **EU has two peripheries – eastern, which includes the Czech Republic, and southern.**[57] The processing industry and its size, of course, must be perceived in terms of its historical development, which brings us to the issue of „path dependency", i.e. how the model of Czech economy was set up and developed after the year 1989.

The same is confirmed in researches by Borsi and Metiu.[58] They concluded that, as regards to **real income, the overall convergence within the EU does not take place. They rather see "convergence clusters" which, however, create a clear separate line between the old and the new EU members. Since the 90's, the division South – East and North – West has been obvious. This means that the "multi-speed Europe" has been around a long time. The convergence is given geographically, but with separation between the new and the old countries. Central and Eastern European countries are generally on a lower trajectory.**[59]

CEPS[60] recalls that in the EU, convergence was deemed the basic economic mechanism and conditions for achieving socio-economic cohesion. Even CEPS confirms the importance of geographical view. The convergence process is led by the countries of Central and Eastern Europe, while southern countries prosper below the average, which means they are diverging downwards

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[56]Goecke, H., Hüther, M.: Regional convergence in Europe. Inter economics, 2016/3. p. 165–171. https://archive.intereconomics.eu/year/2016/3/regional-convergence-in-europe/

[57] However, when comparing the income values (e.g. wages or labor costs), it is shown that even between these peripheries there are relatively significant differences. In some of our studies, we have therefore identified the new EU CEE member states as "Central European developing countries" to differentiate them, and we also use this designation in this study (see chapter 6).

[58] Borsi, M., T., Metiu, N.: The evolution of economic convergence in the European Union. Deutsche Bank, Discussion Paper, 28/2013.

[59] Until 2010, Czech Republic belonged within this division into the 3rd convergence group, which covered the countries of Central and Eastern Europe with faster convergence plus countries that, on the contrary, diverge. This mix of countries include Italy, Spain, Greece, Czech Republic, Lithuania, Latvia, Slovakia.

[60] CEPS: Income convergence in the EU: a tale of two speeds. 2018. https://www.ceps.eu/publications/income-convergence-eu-tale-two-speeds

and their relative position deteriorates. **In the case of Central and Eastern European countries, the authors expressly highlight the significant regional disparities within the countries. Typically, capital cities accelerate the convergence process, while the rest of the country is lagging behind.**

The World Bank study[61] recognizes the historical role of the EU as a "convergence machine", but sticks at the "opening scissors" between the EU regions, especially with regard to the position of southern countries. The scissors in productivity are opening between both the countries and in the countries. While the **World Bank praises the convergence of the Central and Eastern Europe countries of the EU as a whole, it draws attention to the importance of technological changes and also the corresponding changes in knowledge that could jeopardize this convergence.**

The World Bank presents the decline in overall factor productivity in all EU regions, but this decline in dynamism is in particular serious in the southern wing countries. The Czech Republic belongs to the category "CEE Continental", which also faces a significant decrease in overall factor productivity.

As many studies show, the geographic location is important for the convergence process. The World Bank[62] further confirmed that the spatial mobility of labor in the EU is very low and "does not serve as the main adaptation channel for labor relocation". Labor markets integration is very low and so is the mobility of labor. Only a small part of the population from the EU28 countries is mobile "across the borders of different countries". The intra-EU mobility cannot be compared to the US or Australian. The World Bank concludes that the intra-EU mobility is rather similar to the Canadian, between Quebec and other provinces, which underlines the importance of language barriers. Nevertheless, labor mobility and total numbers cover up that its main focus is on the Central and Eastern Europe countries as the sending countries. **They cover not only the differences between individual countries, but also between qualifications. For example, departing of Czech physicians abroad creates pressure on the demands of domestic**

[61] Bodewig, C., Ridao-Cano, C.: Growing United. Upgrading Europe´s convergence machine. World Bank report on the European Union. 2018.

[62] Bodewig, C., Ridao-Cano, C.: Growing United. Upgrading Europe´s convergence machine. World Bank report on the European Union. 2018.

physicians on "leveling" the wages, which can serve as a "rock-beating" in the whole Czech economy for further wage increases in other professions.

The situation of the **Czech Republic in wage convergence** is specific as it is geographically located next to Germany, the main draught horse of the European economic integration. It does not therefore belong to countries of geographic periphery, such as Greece. At the same time, it is the country with a significant share of processing industry in GDP. However, significant wage differences persist, without the Czech Republic being amongst countries from which the workforce is leaving in large numbers, such as Hungary. **The wage curtain leads right along our western (and partly also southern) borders.**

But the question is what such position of "westernmost country of the east" can bring to the economy of the Czech Republic. The intensive bond with Germany can be perceived as the interest of our western neighbor in a stable socio-economic situation in the Czech Republic, but in no case does it imply an interest in wage convergence upwards. Maintaining the wage (respectively cost) differences so that the geographically close production in the Czech Republic continues to be attractive, can support the policy of "middle income trap", which will, however, inevitably come under the pressure along with technological changes such as digitalization and development of automation.[63] **It is the change of mobility, vehemently touching the future of automotive industry, which can prove without a mercy that "capital has its home" and the Czech Republic can turn into a country where old technologies will be running down.**

From the above mentioned facts and based on empirical experience in the Czech Republic, the following conclusions can be drawn:

Firstly – Geographic location is important. The EU consists of two peripheries – eastern and southern. While the southern periphery diverges downwards, the eastern periphery is insufficiently converging upwards.

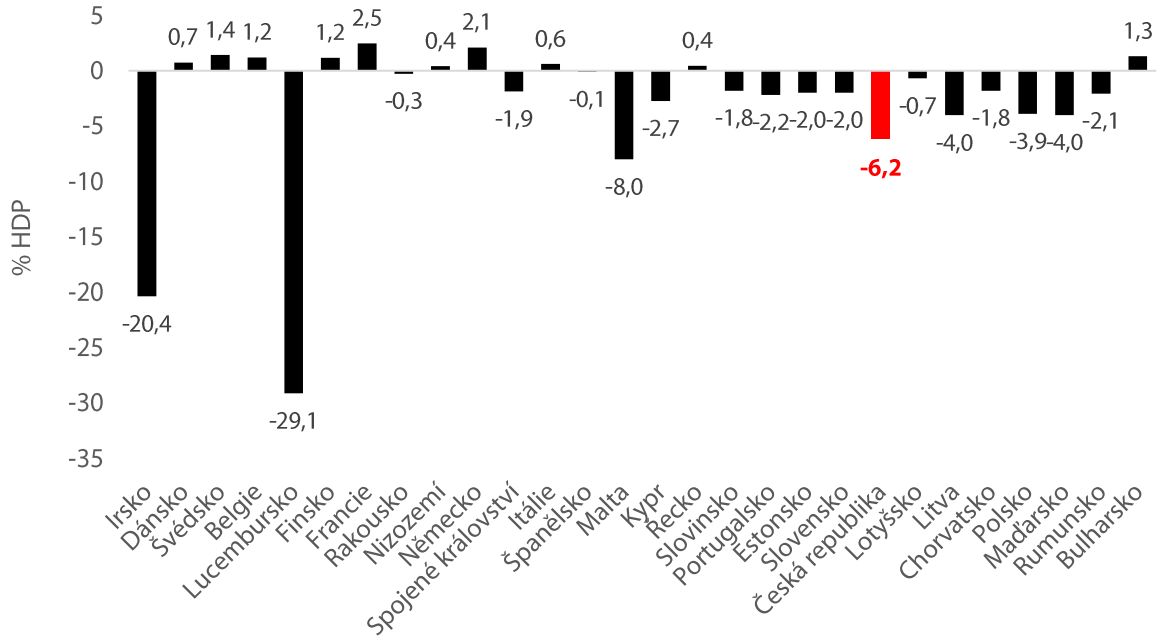
Economic convergence, traditionally measured according to real gross domestic product (GDP per capita), may not be sufficient convergence indicator as it may not be reflected in a sufficient wage convergence upwards. The Czech Republic in particular belongs to countries where the gap between the economic level measured by GDP and the level of wages is one of the largest in Europe. The overestimated GDP plays its role here, as massive and long-term

[63] Similarly, as the World Bank points out, see above.

outflows of profits from the economy make a significant difference between gross domestic product (GDP) and gross domestic income (GDI).

Foreign direct investments are significant in the economy

Graph No. 15: Difference between GDI and GDP in % GDP in 2017



% HDP = % GDP, Irsko = Ireland, Dánsko = Denmark, Švédsko = Sweden, Belgie = Belgium, Lucembursko = Luxembourg, Finsko = Finland, Francie = France, Rakousko = Austria, Nizozemí = Netherlands, Německo = Germany, Spojené království = United kingdom, Itálie = Italy, Španělsko = Spain, Malta = Malta, Kypr = Cyprus, Řecko = Greece, Slovinsko = Slovenia, Portugalsko = Portugal, Estonsko = Estonia, Slovensko = Slovakia, Česká republika = Czech Republic, Lotyšsko = Latvia, Litva = Lithuania, Chorvatsko = Croatia, Polsko = Poland, Maďarsko = Hungary, Rumunsko = Romania, Bulharsko = Bulgaria
Source: Eurostat, AMECO, own calculations (8. 3. 2019).

The current ČSÚ data for 2018 dated 2.4.2019 reveal that the balance of primary incomes (constituting the difference between GDP and GDI) was negative in the range of CZK 270.8 billion.[64] The profits of foreign owners of corporations reached CZK 414 billion (7.8% GDP), while in dividends it was distributed CZK 294 billion and reinvested over CZK 120 billion. According to ČSÚ, this reflects high profitability of direct foreign investments in the Czech Republic (respectively all

[64] Profits from foreign investors exceeded CZK 414 billion. Profits of foreign owners of corporations reached 7.8% GDP. In the form of dividends, foreign owners distributed almost CZK 294 billion and reinvested over CZK 120 billion. This situation reflects high profitability of foreign direct investments in the Czech Republic. On the other hand, the outflow of incomes from profits was partially offset by inflow of incomes from abroad, especially in the form of interests and incomes from employment. The negative balance of primary incomes with foreign countries has improved on a year-to-year basis by CZK 40 billion and reached CZK 270.8 billion.

investments, see chapter 1 for more details). These resources are lacking in the economy – both for consumption and investments. Profit outflows are in particular linked to the maturing cycle of direct foreign investments. Last year, the GDI to GDP ratio was below 95%.

Ireland is the extreme case of differences between GDP and GDI. Indeed, Irish statisticians have opted for GDI, which better reflects the true realities of the country, which serves as an attractive tax residence for global corporations. The motive for creating a "more realistic indicator" was given by the fact that in 2015 the Irish economy reported 26% GDP growth because of internal restructuring of global companies registered in Ireland. Ireland is a country where foreign direct investments create enormous distortions. In 2016, Ireland GDP amounted to EUR 275 billion, but only EUR 190 billion for the adjusted GDI. Similarly, the current account balance, not to mention the public debt, must be perceived. As for GDP per capital, Ireland would be richer than USA. But taking into account the modified GDI, Ireland would be poorer. The use of the indicator which "eliminates" the effects of globalization gives somewhat more sober picture of the Irish economy and real standard of living.[65]

Secondly – The insufficient wage convergence upwards is perceived as a Europe-wide problem, which has attracted attention after the year 2008 and, after the trends of insufficient convergence manifested at political level. As stated in the Eurofond report, the EU legitimacy is in danger.

Thirdly – The neo-classical approach postulating the balancing of incomes from factors, on the condition of mobility of goods and services trade in the EU, has not proved to be effective. The boundaries are significant, labor markets are separated. Wage differences cannot be explained even by the action of barriers of other types, such as cultural and language differences.[66]

Estimates of possible development

[65] Boland. V.: Ireland "deglobalized" data calculate a smaller economy. Financial Times, 18.7.2017. https://www.ft.com/content/dd3a6f1c-6aea-11e7-bfeb-33fe0c5b7eaa

[66] A separate topic is the relevance of the neo-classical Solow model, which, based on a number of assumptions concerning the development of savings, demographic development etc., assumes the convergence to a steady state for all countries. The results of the application of this theory are not convincing, as theories of endogenous growth are also evolved with emphasis on technologies, institutions and human capital. One of the key differences compared to the Solow model is not the declining, but rising capital gains.

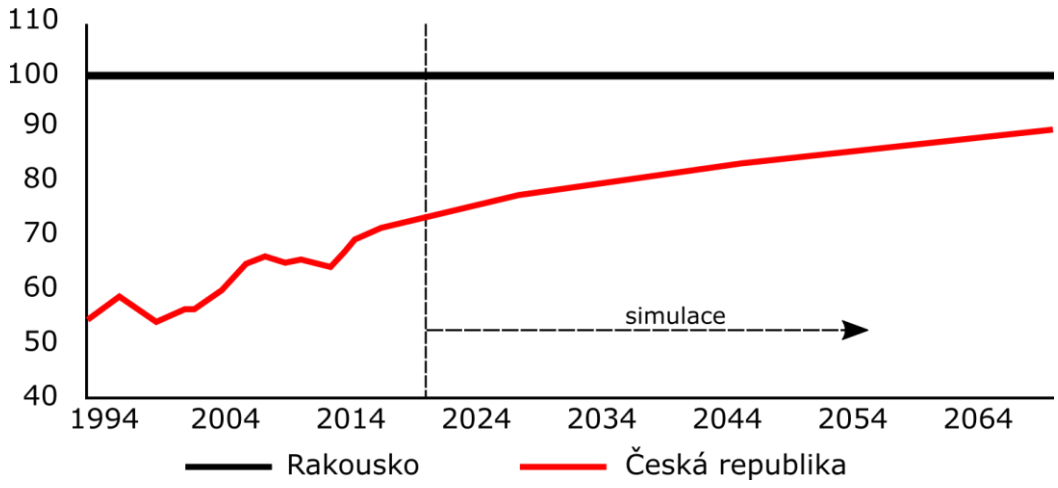
Recently, some of the older conceptual documents by ČMKOS were confronted with several new forecasts, or more precisely reflections on the convergence of the Czech Republic towards advanced countries over the longer term. In this context we must mention the new Fiscal outlook of the Czech Republic prepared by the Ministry of Finance, or the Report on long-term sustainability of public finances presented by the National Budget Council. In response to relatively significant economic growth in the last few years, we even see some very optimistic reflections saying that the Czech economy is able to catch up with the German economy in 15 years.

In view of the recent past, marked by convergence stagnation rather than long-term systematic approaching, similar declarations may seem somewhat exaggerated. However, they require a more detailed assessment.

Any model of the future always stands here on more convincing and there on rather shaky bases. It must deal with a number of problems and bridge a wide range of conditions and questions of both factual and methodological character, associated with the unknown future. The identification and formulation of key questions and problems associated with the convergence of the Czech Republic was the most interesting part of the work for us at the beginning of our modelling. Indeed, a properly asked question is the key to the solution.

Convergence is very slow

Graph No. 16: Convergence of the Czech Republic performance towards Austria according to the National Budget Council (GDP per capita in the purchasing power parity, Austria = 100%)



Rakousko = Austria, Česká republika = Czech Republic, simulace = simulation
Source: OECD and NRR calculations

Basically, it is about finding answers to two fundamental questions: "How to monitor and measure convergence" and "How to achieve the convergence". In this chapter, we will discuss the

first "technical" group of questions. The answers to the second question are discussed in detail in the following chapter.[67]

The general question of how to monitor and measure convergence can be divided into the following four questions:

Question 1 – What entity should the Czech Republic be compared with? This initial question is not as simple as it may seem at first glance. The correct choice of the entity subject to comparison may clarify the phenomenon under survey, while the incorrect choice may darken the issue. The selection of the country or a group of countries for the comparison purposes should be closely related to the issue examined, however, at the end it is always an arbitrary decision of the analyst which depends on his objectives and experience. Of course, wrong decision with regard to selection may result in either unexpectedly or intentionally confusing result.

A variety of options are offered. We can choose the European union as a whole, we can choose its individual member states. We can choose the most advanced countries or conversely, the most lagging countries. We can choose countries of similar size and similar structure of economy, similar history, similar development etc. Each of this parameters has its pros and cons. In our estimates, we chose Austria and Germany. The reason for this choice was the fact they are our immediate neighbors, they are quite well known in the Czech Republic and they are part of our common history. Therefore, citizens will be able to imagine easily and quite specifically how it might look in the Czech Republic, when it reaches the level of these countries. Of course, a different view is also possible. We must even admit that our approach is rather extraordinary. Quite often, in various comparisons, the whole EU or some part of it is used as a "standard measure", e.g. EU15, euro area countries etc.

[67] Answers to questions relating to wage convergence were covered in chapter 2 ("Can wage grow faster in the long term than labor productivity, resp. will the added value in the Czech Republic be subject to a fundamental restructuring during the convergence? What will be the consequences?). The link between the convergence and adoption of euro currency is covered in chapter 6 (How can the adoption of common currency affect the convergence of the Czech Republic towards the advanced European countries?). And finally the questions related to the acceleration of convergence and vision of the change of the economic policy are covered in chapter 7 (Should the convergence be for the Czech Republic the "goal of all goals" or just a by-product – a statistical sum – of what is somehow arising from other politics? What chance does the Czech Republic, with its economy and property structure significantly profiled as a "dependent country", have to catch up with the most advanced EU countries, respectively at least the most developed neighbors? Is there a space in the Czech Republic for autonomous economic policy? How should this policy look like?)

Question 2 – What is the indicator of convergence? It is, of course, meant at the national economy level. The number of indicators is immediately related to the interpretation of results. The more indicators we use for a different factors, the harder it is to find some common platform for their aggregate interpretation and, of course, the harder it is to draw conclusions. While we are aware of this problem, we have chosen the analysis of five basic macroeconomic indicators. In our opinion, these indicators relatively concisely characterize economic and social development of the country, and what is even more important for the interpretation, they are interconnected. The indicators namely include the economy performance indicator (GDP per capita), two indicators of labor productivity (GDP per employee and GDP per hour worked) and two wage indicators (labor costs per employee and labor costs per hour worked).

Question 3 – Should the convergence indicators be expressed in nominal or real units? What particular units? Does it even matter? Is it appropriate to use the purchasing power parity? For example, the NRR convergence model above is expressed in the purchasing power parity, which looks very spectacular and clear. However, as we know, the comparison of values in the purchasing power parity is in fact meaningful only in a spatial comparison at given time, and not when comparing development. Given these problems, we have chosen the simplest valuation (and possibly the truest) in euros and current prices for our considerations.

Question 4 – What method should be used for estimation of the future? Of course, this is a very problematic question, especially in our conditions. Quite often, the trend extrapolation method is used. This method is the most common and even the aforementioned document by the National Budget Council used it and therefore we also use this method in the material submitted. However, as far as we know, there is currently no vocational workplace in the Czech Republic, that would be able to provide more comprehensive view of our future on the basis of a combination of various more sophisticated prognostic methods.

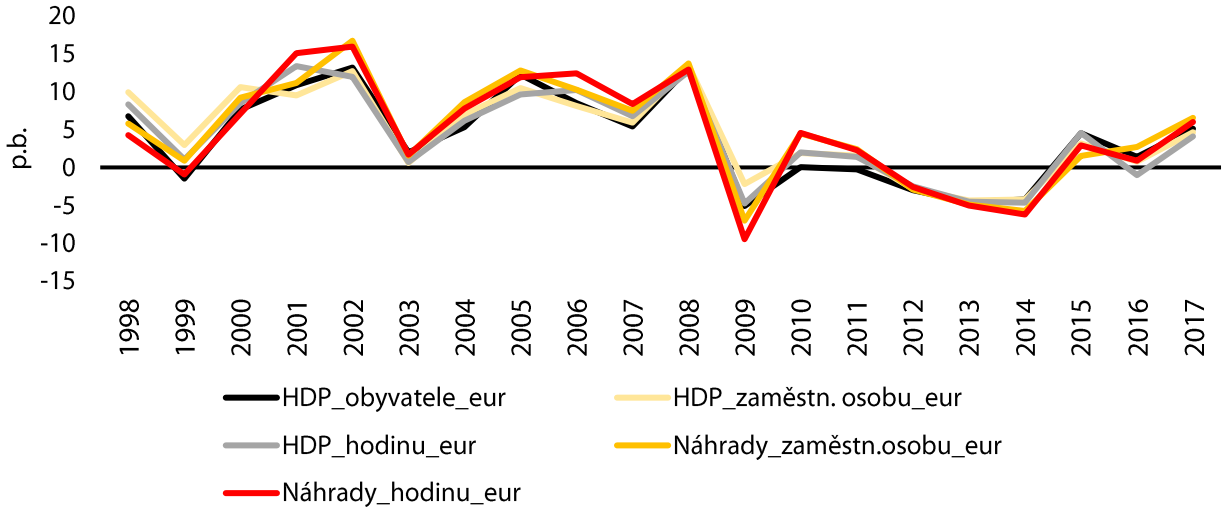
Based on the above mentioned starting points, we have constructed the following graphs and table. The graphs characterize the convergence of five monitored indicators in the period 1998-2017 towards Germany and Austria.[68] The values of individual indicators indicate the difference between the development of the given indicator in the Czech Republic compared to its development in the monitored country. The resulting difference is expressed in percentage points.

[68] This interval, which unfortunately does not cover the entire transformation period, was chosen because of the absence of internationally comparable data.

When, for example, the indicator ranges in positive values, then the Czech Republic converged towards Germany (resp. Austria) and if in the negative values, then the Czech Republic diverged.

Are we getting closer to Germany?

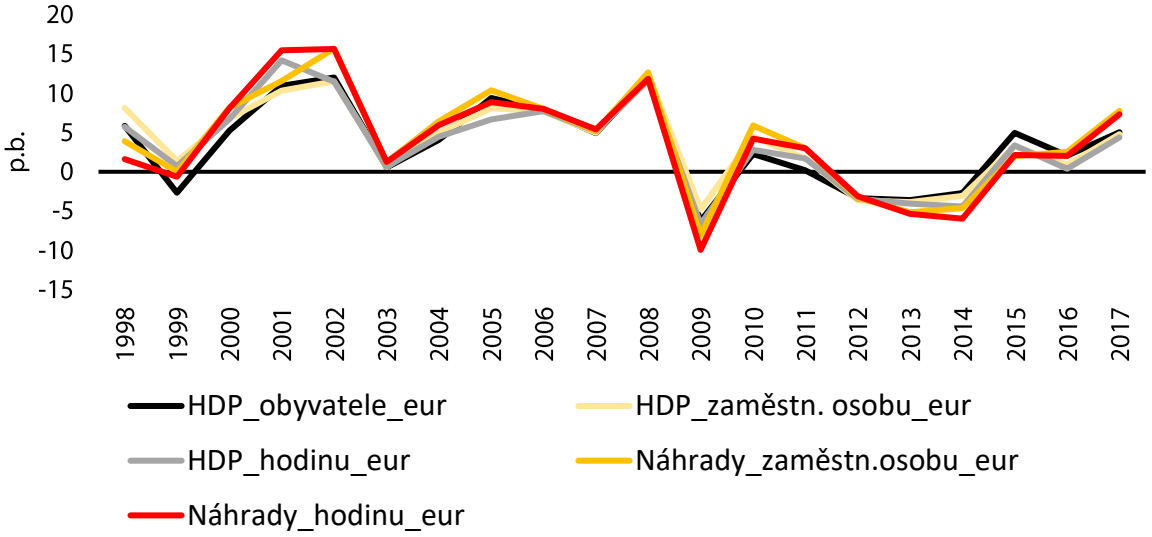
Graph No. 17: Convergence of five indicators between the Czech Republic and Germany in the period 1998-2017 (euro, current prices)



HDP_obyvatele_eur = GDP per capita in euros, HDP_hodinu_eur = GDP per hour in euros, Náhrady_hodinu_eur = Compensations per hour in euros, HDP_zaměstn.osobu_eur = GDP per person employed in euros, Náhrady_zaměstn.osobu_eur = Compensations per person employed in euros

Are we getting closer to Austria?

Graph No. 17: Convergence of five indicators between the Czech Republic and Austria in the period 1998-2017 (euros, current prices)



In individual scenarios we are variously approaching, and even diverging

Table No. 5: Convergence of selected indicators of the Czech Republic towards Germany and Austria depending on the selected development trends in the period 1998–2017

	years until the levelling of the monitored indicator at average rate achieved over the given period			
	1998-2017	2004-2017	2009-2017	2014-2017
Czech Republic / Germany				
GDP per capita in euros	22	31	never	49
GDP per person employed in euros	17	25	never	71
GDP per hour in euros	25	37	never	148
Compensations per person employed in euros	21	28	never	71
Compensations per hour in euros	29	39	never	152
Czech Republic / Austria				
GDP per capita in euros	26	34	never	37
GDP per person employed in euros	23	33	never	60
GDP per hour in euros	29	48	never	109
Compensations per person employed in euros	25	35	never	55
Compensations per hour in euros	31	48	never	86

Source: own calculations

The calculation table, which is based on the graphs, estimates on the basis of various variants of development of the five indicators achieved in different periods of the years 1998-2017, in how many years, at the extrapolation of trend achieved in the given period of development, we would be able to catch up with the level of Germany or Austria.

Average value of the trend achieved in four monitored phases was assigned to each indicator, namely: throughout the entire period of monitoring, i.e. 1998-2017, during the period of the Czech Republic membership in the EU (2004-2017), during the period from the onset of the global economic crisis until now (2009-2017) and in the period from the beginning of the recovery of economic growth in our country until now (2014-2017).

Although the aforementioned graphs and data give us a number of not only unexpected, but also unconventional perspectives of the Czech Republic convergence towards advanced European countries, they cannot be interpreted literally. It must always be remembered that this is nothing more than just a simple "projection of the past into the future". Therefore, it is only a certain mathematical exercise that can serve as a warning at maximum.[69] Therefore, here are few notes.

[69] We will return to this table in the following chapter, when we will be modelling, based on the data from the table, impacts of the change in the nominal CZK/EUR exchange rate on the speed of convergence.

Firstly – the publication itself, covering multiple variants of extrapolations of various indicators of convergence and the related, in some cases significantly different, trends, shows how tricky the method we used is and how carefully should the explicit judgements be treated.

The graphs and the calculation table show the considerable influence of the ***choice of the convergence indicator*** on the final result (vertical view). In particular, there is a very significant difference between individual convergence indicators when using the time interval for the entire reference period 1998–2017.

But that is far from all. The fundamental differences between individual variants clearly indicate the ***fatal impact of the choice of the convergence*** on the projection result (horizontal view). The interpretations of results should be treated very carefully and conditionally (with irresponsible approach, practically everything can be proved in this way). If, for example, we look at the increase in employee compensations in 2017, it is clear that when it is stretched, 15 years would be in fact enough to equalize the wage level between the Czech Republic and Germany!

Secondly – for both groups of graphs, it is possible to monitor the course of the previous twenty-year period – a similar development – until the year 2008 a relatively significant convergence, and by contrast a relatively protracted convergence in 2009 (with a sign of re-convergence at the end of the period). From another perspective, however, even this simple illustration can demonstrate how the selection of the interval may distort the view of the past. The point is that this view significantly disguises the consequences of economic transformation at the beginning of the 90's. If included, the economic convergence of the Czech Republic towards the advanced European countries would not be as impressive as these graphs suggest.[70]

Thirdly – it is clear that the aforementioned calculation table represents virtually only a mirror of the trends used. It is therefore absolutely necessary to know very well when analyzing the trends what is hidden behind these trends in the particular time periods. So let's have a look at them at least briefly.

At first glance, the most favorable variant of the future development appears to be the extrapolation of the development over the entire reference period 1998–2017. This is due to the fact that this time interval contains two strong convergence periods in the years 1998–2009, influenced by significant growth of the quantities compared (and, conversely, does not contain the

[70] See the Vision 2015, p. 17 and others.

substantial period of the beginning of the 90's). This is the period after the first decline at the beginning of the economic transformation and the period linked to the preparation and accession to the EU. This variant of future development is essentially the least probable. It is heavily influenced by two unique factors that will never be repeated.

For the same reason, we have to say goodbye to the second variant of development, obtained by extrapolation of the trend from the period 2004–2017. Also this variant is heavily influenced by the preparations for accession of the Czech Republic to the EU.

The third variant is divergent. So, basically, we only have the fourth variant left, which is based on the extrapolation of indicators trends from the period 2014–2018. This is a fairly interesting variant. It shows that despite the relatively high (from the Czech Republic perspective) growth rates of the basic indicators, the convergence is rather tough. For example, to equalize the wage levels with our closest advanced neighbors, i.e. with Germany and Austria, there is roughly a hundred years journey ahead of us. In this regard we should add that neither Germany nor Austria belong among the countries with the highest level of labor costs in the EU. Within the European Union, Germany is – based on the hourly labor costs - currently ranked seventh, and Austria even eighth.[71] We should also remind that this was the period of a considerable influx of financial means from EU funds, with a significant increase in wages that stimulated GDP growth.

[71] In front of them there is Denmark with hourly labor costs higher than Germany by 26%, Luxemburg (+17%), Belgium (+15%), Sweden (+6%), Netherland (+4%) and France (+3.5%).

7. Effect of exchange rate and adoption of the euro

The employment and growth – these are the basic goals of the economic policy, specifically accentuated in lagging countries, catching up with more economically advanced countries. In fact, all new EU members from the Central and Eastern Europe CEE (11) are in the position of lagging countries. Their economical level measured by gross domestic product per capita in the purchasing power parity is in average less than 60 % of the level of "old" EU member countries (15). It is a simple arithmetic mean of CEE countries (11).[72] If we were to consider the population, this ratio would be – because of the significant weight of countries with lower economic performance (i.e. especially Poland, Romania and Bulgaria) – even lower. Therefore, we can collectively characterize these countries as less advanced "catching-up" economies.

It is completely evident that the new member countries (as well as some old less advanced member countries from so-called southern wing of the EU) do not form a homogeneous entity with the developed euro area countries. The priority of the economic policy of the new member countries should be therefore rapid economic growth, allowing the economic level (usually measured by GDP per capita in the purchasing power parity) to approach closer to the advanced countries.[73] This process of approaching is known as real convergence. In the broader context, this process follows up on the overcoming of technological lagging and requires flexible adaptation of production structure.

The process of real convergence of CEE countries has been in fact lasting for more than a quarter century. According to the results so far, it is evident that the process will take dozens of years more, even at the expected advance of the economic growth in the converging countries. Unfortunately, this may not be and is not a rule, even after these countries join the euro area.

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[72] In this context, we are talking about all 11 countries from the 6th, 7th and 8th wave of the EU expansion. Namely, these countries include the Czech Republic, Slovakia, Hungary, Poland, Slovenia, Estonia, Lithuania and Latvia, as well as Romania, Bulgaria and Croatia. Five of these countries, i.e. Slovakia, Slovenia and the Baltic countries have been already the member of the euro area.

[73] Of course, the change in the numerator is a priority for this ratio indicator, i.e. economic performance, and not in the denominator – i.e. decline in population. This phenomenon mainly relates to the Baltic countries. Since 1990 until now, the population of these countries fell by more than 23% in aggregate (1.8 million people). In 1989, Lithuania had the population of 3.7 million, while in 2017 the population was 2.8 million, i.e. the population fell by more than a quarter in 28 years. Similar figures are reported by the neighboring Latvia, where the population of 2.5 million in 1990 decreased to 1.9 million in 2018. The lowest decline in population was reported by Estonia – about 17% (over 260 thousand people).

"In fact, the fastest growing are neither the most lagging nor the most advanced countries, but a small group of countries with relatively low (but not the lowest) income. The convergence is underway, and poorer countries are growing faster than the rich ones in accordance with the neo-classical theory only at constant factors (demographic, economic, political and institutional). However, all these factors are affected by various changes, influenced by broader political and social contexts. In economic practice, a whole complex of factors, including institutional arrangement and incentives, leading to a productive cooperation, must be taken into account to clarify the speed of real convergence."[74]

Even the Czech economy goes down the road of real convergence, facing a variety of problems and transient fluctuations, and even a temporary divergence. It is a remarkable fact that the Czech economy restructuring, related to its entry into the common market of the European Union, has significantly stimulated the process of convergence. However, the process stopped during the economic crisis, after a sharp decrease in investments in the Czech Republic from global corporations, and the Czech economy started to move away from the advanced countries (diverge). The restoration of the real convergence was challenging. The real convergence of the Czech Republic has been restarted as late as in 2014, practically from the formation of the government coalition of ČSSD-ANO-KDU/ČSL and the subsequent increase in wages, introduction of higher minimum wages and higher wages in the public sector.

The consequence of this development was the fact that the gap in wage levels did not narrow. In some years, the gap in wage levels and the gap in the level of total incomes of households even widened, which is, after all, a synthetic indicator of the overall standard of living of the population.[75]

However, the adoption of common currency constitutes a quantitatively higher level of economic interconnection between the EU countries. Countries that are the members of the euro area must give up their own currencies, lose their exchange rate autonomy, and therefore cannot implement their own monetary policy and must subordinate to the common monetary

[74] Vintrová, R.: Reálná konvergence – předpoklad plynulé integrace do Evropské unie (Real Convergence – A Precondition for Seamless Integration into the EU). Politická ekonomie, 2003, No. 1, p. 79–91, p. 83.

[75] For more detailed analysis of the convergence process see Fassmann M., Ungerman J.: Vize změny hospodářské politiky ČR (The Vision of Change of the Economic Policy of the Czech Republic), ČMKOS, 2015.

policy of the European Central Bank. In addition, they must permanently comply with the so-called Stability and Growth Pact (SGP), limiting the possibilities of their fiscal policies.[76]

The countries preparing to join the euro area must meet strict conditions, **the so-called nominal convergence**, i.e. in particular they must fulfil – in the long term and in a sustainable way – the so-called Maastricht criteria.[77] Also they must be able to fulfill all the other institutional and financial conditions associated with the euro currency adoption.[78]

The basic parameters of nominal convergence were formulated at the time when the monetary union was established for the conditions of advanced stabilized economies, which constituted its basic group of members and which already had the process of convergence completed. For most of them, the convergence, i.e. approximation of economic performance between the countries, has not been a major problem.

That is why these rules reflect, in particular, the conditions of these developed countries and are still evolving and even tightening under the influence of the economic crisis from the period 2008–2009. **However, the fulfillment of these rules does not address the question of the deadline for adopting the euro currency, which would be favorable for each particular economy. The condition of achieving a certain degree of real convergence is not formally established anywhere in the euro area entry rules. However, it is undoubtedly an important factor in the background of all considerations. This assessment is left to the governments of the joining countries.**

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[76] Stability and Growth Pact (SGP) is an agreement between the euro area members regarding the coordination of their budgetary policies, so that possible high deficits of state budgets or high public debts neither jeopardize the stability of the euro currency nor increase the inflation rate in the euro area. The pact is directly linked to the fulfillment of the Maastricht criterion on the sustainability of public finances. Even in the area of this key instrument to ensure the stability of euro currency, there has been a significant tightening of the conditions for compliance with budgetary discipline in the course of the economic crisis and its impacts, with emphasis on preventive measures. For more details see Dědek, O., Doba eura, úspěchy a nezdary společné měny (The Euro Era, Successes and Failures of Common Currency), Issue 1., Linde, Praha 2014, p. 336. Monography. ISBN 978-80-7201-933-5, p. 284–288.

[77] These are the four so-called Maastricht criteria – price stability criterion, stability of long-term interest rates criterion, sustainability of public finances criterion (public deficit criterion + public debt criterion) and exchange rate convergence criterion.

[78] Currently, the entry into the euro area is conditional on compulsory participation in the European Stability Mechanism and the Banking Union. The participation of new countries in these institutions entails additional expenditures and commitments in the order of hundreds of billion CZK (see more details in Fassmann M., Ungerman J., Přínosy a náklady přistoupení ČR k eurozóně, p. 45–49).

Analyses of government and union institutions usually concentrate on the ability of individual countries to meet the Maastricht convergence criteria. The real "economic maturity" in relation to economic growth and the convergence of economic level and thus also the overall standard of living of population towards the developed countries is not more thoroughly considered. It is somehow "automatically" assumed that the obvious advantages of common currency, which especially include the elimination of exchange rate risks, outweigh the disadvantages, consisting in the loss of the independent monetary policy and the adjustment exchange rate mechanism.

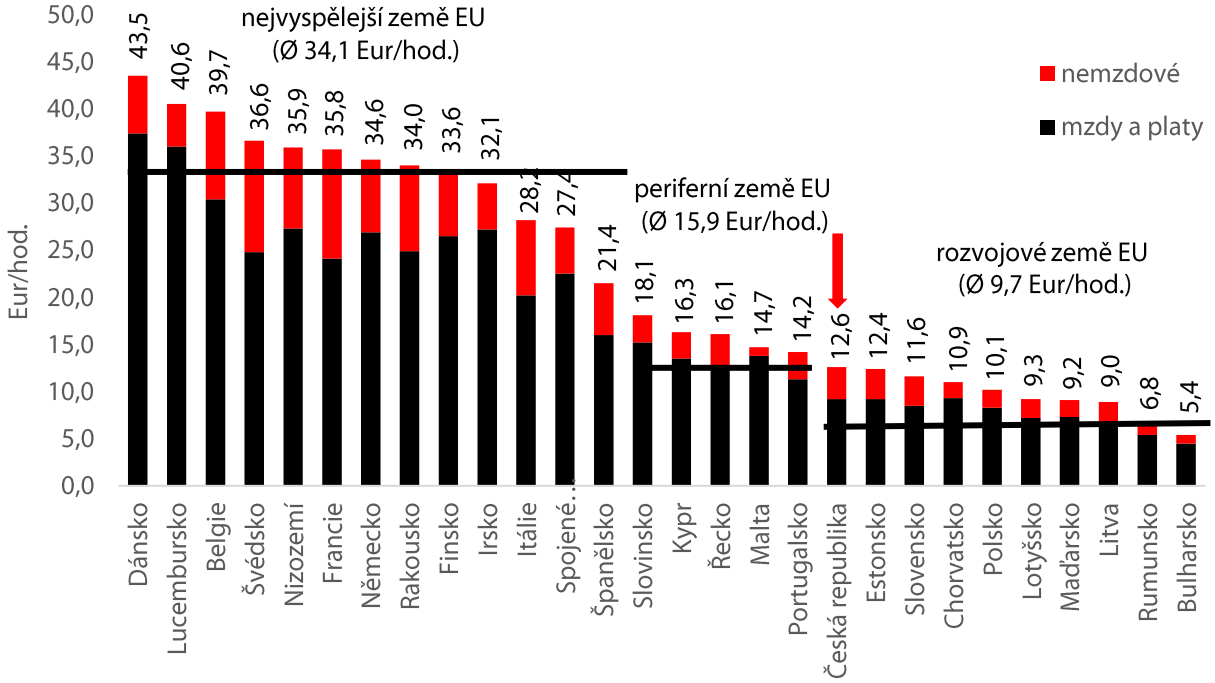
However, the merger of countries of unequal economic level into a monetary union can raise some risks. It is a sad fact that this long-term problem has been discussed at the EU level only recently, after the economic crisis and the shock of Brexit. At the same time it is surprising that the issue of indebtedness of "southern" countries of the euro area is not linked to the fact that these countries lost their ability to react flexibly through their economic policy to changes in conditions of their economies.

Economic balancing, i.e. achieving the highest degree of real convergence of economic level and hence the income level and overall standard of living of the population towards the integration core of the most developed countries of the European union, is therefore a prerequisite for a trouble-free integration. So where the countries of the Central and Eastern Europe, and thus the Czech economy, actually are?

Perhaps the most eloquent characteristic, which is also the closest to the general perception, of the Czech Republic position in the EU and the success of its convergence efforts so far, is presented in the following graph of the international comparison of labor costs per hour worked.

Czech labor costs are at the level of EU developing countries

Graph No. 19: International comparison of labor costs of EU countries in 2018



Eur/hod. = euros per hour, nejvyspělejší země EU = most developed EU countries, periferní země EU = EU periphery countries, rozvojové země EU = EU developing countries, nemzdové = non-wage
Dánsko = Denmark, Lucembursko = Luxembourg, Belgie = Belgium, Švédsko = Sweden, Nizozemí = Netherlands, Francie = France, Německo = Germany, Rakousko = Austria, Finsko = Finland, Irsko = Ireland, Itálie = Italy, Spojené… = UK, Španělsko = Spain, Slovinsko = Slovenia, Kypr = Cyprus, Řecko = Greece, Malta = Malta, Portugalsko = Portugal, Česká… = Czech Republic, Estonsko = Estonia, Slovensko = Slovakia, Chorvatsko = Croatia, Polsko = Poland, Lotyšsko = Latvia, Maďarsko = Hungary, Litva = Lithuania, Rumunsko = Romania, Bulharsko = Bulgaria
Source: Labor costs in the EU, Eurostat/newsrelease 62/2019 – 11 April 2019.

At first sight, this graph shows **a significant inhomogeneity of the European Union** – the gap between the poorest and the richest EU countries. For example, the ratio between the "richest" and the "poorest" EU country, i.e. Denmark and Bulgaria, is 12:1! In half of the EU member countries, the value of labor costs per hour worked – and we emphasize that it is primarily a wage level and, ultimately, the real potential of the standard of living – does not even reach a half of labor costs paid in the most developed countries. Currently, this applies to approx. 126 mil. persons, i.e. about quarter of the EU population. In member countries, where the level of labor costs per hour worked is equal or lower that one third of labor costs reached in the most developed countries, about 90 million of the EU population is concerned.

According to the amount of labor costs reached, we can divide EU countries into three clearly profiling groups, to "the most advanced EU countries" with average amount of labor costs of EUR 34 per hour worked, European periphery countries with average labor costs amounting to

EUR 16 per hour and European developing countries with average labor costs under EUR 10 per hour.

The Czech Republic is clearly on the dividing line between the two latter groups. It reaches the highest level of hourly labor costs amongst developing countries and the lowest level amongst periphery countries (Slovenia, Cyprus, Greece, Malta, Portugal).

The significant growth rates of the economy, wages and salaries, achieved in the recent years, and elimination of so-called exchange rate commitment and the related strengthening of the Czech crown caused a significant increase of labor costs. In the period 2017-2018 the Czech labor costs expressed in euro increased by 22%. The Czech Republic achieved the second highest growth rate in this indicator across the EU. The first place was clinched by Romania which reached 30% growth in the given period, however at the considerably lower base (level of labor costs in Romania amounts to slightly more than 50% of the Czech level). Further considerable growths were recorded by Latvia and Lithuania (20-21%). In the given period, Slovakia reached 14% growth rate, while the EU as a whole reached the average growth of 5.5% and the euro area reached 4.3%.

The rapid growth of the Czech Republic resulted in its significant shift in an international comparison. In the last two years, the Czech Republic has overcome in the level of hourly labor costs both Slovakia (2017) and Estonia (2018), thus taking the lead in the last third group. **In other words, the Czech Republic returned to the place it occupied absolutely convincingly before the start of the so-called exchange rate commitment (i.e. devaluation of the Czech crown)!**

Despite this very positive development, it is necessary to note the distance of the Czech Republic from the border country of the second group – Portugal. The gap is still 11% in the level of labor costs (and 23% in the level of wages). The distance from the border country of the first group, i.e. Spain, still amounts to almost 60% in the level of hourly labor costs. **But this is not the only problem.** Equally serious is the fact that these basically extreme differences are eliminated only very slowly. **This problem, which is one of the key problems of the European integration as well as the euro area, can be very well demonstrated on the example of the Czech Republic.**

How are we (not) catching up with Germany and Austria

Table No. 6: The convergence of selected indicators of the Czech Republic towards Germany and Austria depending on the selected development trends of the period 1998-2017 and three variants of CZK exchange rate strengthening

	the number of years until the given indicator reaches the level of the given country at the average rate achieved in the given period and considering the specific variants of the Czech crown exchange rate strengthening															
	1998-2017				**2004-2017**				**2009-2017**				**2014-2017**			
	actual	**incr. 10 %**	**incr. 20 %**	**incr. 30 %**	**actual**	**incr. 10 %**	**incr. 20 %**	**incr. 30 %**	**actual**	**incr. 10 %**	**incr. 20 %**	**incr. 30 %**	**actual**	**incr. 10 %**	**incr. 20 %**	**incr. 30 %**
Czech Republic / Germany																
GDP per capita in euros	22	19	17	14	31	27	24	20	diverg.	diverg.	diverg.	diverg.	49	43	37	32
GDP per person employed in euros	17	15	13	11	25	22	19	16	diverg.	diverg.	diverg.	diverg.	71	62	53	45
GDP per hour in euros	25	23	21	19	37	34	31	28	diverg.	diverg.	diverg.	diverg.	148	133	121	109
Compensations per person employed in euros	21	19	17	15	28	25	23	20	diverg.	diverg.	diverg.	diverg.	82	**73**	**66**	**59**
Compensations per hour in euros	29	27	24	23	39	36	33	31	diverg.	diverg.	diverg.	diverg.	151	**139**	**128**	**118**
Czech Republic / Austria																
GDP per capita in euros	26	23	20	18	34	30	27	24	diverg.	diverg.	diverg.	diverg.	37	33	29	26
GDP per person employed in euros	23	21	18	16	33	30	26	23	diverg.	diverg.	diverg.	diverg.	60	54	47	42
GDP per hour in euros	29	26	23	21	48	43	39	35	diverg.	diverg.	diverg.	diverg.	109	98	88	79
Compensations per person employed in euros	25	23	21	19	35	32	28	26	diverg.	diverg.	diverg.	diverg.	55	**49**	**45**	**40**
Compensations per hour in euros	31	28	26	23	48	44	40	37	diverg.	diverg.	diverg.	diverg.	85	**78**	**71**	**65**

For this purpose we used as a help the already known calculation table from the previous chapter. We gradually projected the Czech crown exchange rate strengthening by 10 to 30% into the trends based on the development in individual time intervals. The results of this comparison are so lapidary that perhaps they do not need other extensive comments.

Indeed, the increase in the rate by 10-30% at the extrapolation of the trend of the period 2014–2017 does not actually offer a time-intelligible perspective to equalize the labor costs with our developed neighbors in one human life.[79]

Even the current newborns are unlikely to experience the equalization of wage levels with our developed neighbors, which – even at current rates – would take at least 80 years. In other words, this perspective is so distant that its realization is very unlikely.

The Czech Republic convergence towards the most advanced EU countries does not have a meaningful starting point in the area of labor costs at the current direction and structure of Czech economy. The strengthening of the Czech crown exchange rate may of course help the wage convergence, but from the perspective of such long periods of time not fundamentally.

In our opinion, these model calculations clearly indicate that the Czech economy apparently finds itself in the middle-income trap.

Based on this simple example it is clear that in addition to the debate on the fundamental change of the economic policy of the Czech Republic (which we address in chapter 7), one of the important questions for new EU member states is **mutual relationship in the euro area and the real convergence.**

Thus, one of the key questions of the state economic policy is whether the fulfillment of the Maastricht criteria and other conditions of our membership in the euro area will facilitate the real convergence of the economic performance on the basis of growth in competitiveness of companies, growth of labor productivity, incomes (including wages and salaries), public and private consumption, and

[79] Unfortunately, this thesis is also valid at potential – but in fact only theoretical – strengthening of the Czech crown exchange rate by 30%. However, such a significant strengthening is very unlikely, as the nominal rate would fall below the parity level, which is virtually impossible in countries of our type.

ultimately, of the standard of living of population between the old and the new members, or whether it rather decelerates these adaptation processes.

Previous studies on the adoption of euro currency in the Czech Republic always calculated with the projection that joining the euro area will accelerate growth. This belief was based on the assumption of reduction in the volatility of the exchange rate upon euro adoption and its influence on foreign trade growth. However, it is important to add that all these estimates come from the previous decade, especially from the period before the outbreak of the global financial crisis.

Economic performance depends on a wide range of variety of factors, among which membership in the euro area barely plays a predominant role. As a general rule, we can conclude that the membership in the euro area may not have a major positive effect on the economic performance, and the effect seemed to be rather negative after the crisis in the years 2008-9, when the euro area as a whole was doing worse than the EU in average and the EU as a whole was doing worse then the main competitors. During this period, the euro area rules led to a reduction in public spending and left the investments still below the pre-crisis level. The European trade union organizations and others therefore argue for changing the criteria to allow investments into production activities (including research, education and infrastructure) that would seem necessary for facilitation of convergence of the Eastern and Central Europe countries.

The impacts of the euro area membership can be explored by comparing the countries that are "outside" and those that have already entered the euro area. However, these examples need to be used very cautiously and with the good knowledge of all the conditions (and especially differences) the countries faced when joining the euro area. This is not only a good knowledge of the given country, but also the overall economic, and especially political context on the euro area side. This also applies to the countries of the Central and Eastern Europe. The conditions and, above all, motives leading many CEE countries to adopt or seek to adopt the euro currency are not and have never been identical in these countries. Countries differ not only by the economic level achieved, but for example by the level of price convergence, monetary and exchange rate policy and, last but not least (and sometimes first of all), the political motives.

In this context, we must, in our opinion, perceive a very interesting study by Slovak analysts Branislav Žúdel and Libor Melioris, which deals with the contribution of Slovakia's entry to the euro area to the economic growth.[80]

In their assessment of the impact of the Slovakia's entry to the euro area on the economic growth, they used the so-called synthetic control method. This method consisted in a comparison of the real development of GDP in Slovakia with the development of a control sample from CEE countries. The control sample was assembled from countries that have not yet adopted the euro and whose development was similar to that in Slovakia before adopting the euro. The development of this control sample in the model simulated the development of "Slovakia without the euro".[81]

The result of their modelling was that, between 2006 and 2011, GDP per capita rose by 10% overall due to the adoption of the euro, with 2/3 of this increase realized already before 2008 (i.e. before joining the euro area), which corresponds to the annual average rate of 1.58% during the five-year period.

We can repeat that the membership in the euro area is only of the many factors influencing the economy performance. GDP growth rate (also GDP per capita) of Slovakia since joining the euro area is slightly higher than the Czech Republic's growth rate. However, Eurostat figures also show that Slovakia was growing faster both before entering the euro area and after it. The rate was 15% higher in the period 2000-2009, but only 8% higher in the period 2009-2018. It is also notable that faster Slovak growth was linked with larger budget deficit, greater public debt and larger current account deficit. The paradox is that Slovakia has chosen a different procedure for economic policy and, as an euro area member, violated the rules on the budget deficit, while the Czech Republic, as a non-member of the euro area, promoted the policy (unnecessary) of stricter budgetary discipline, suppressing the growth potential.

[80] We are discussing this study here in more detail mainly because a part of these patterns is often used to prove the significant impact of the Slovakia's entry to the euro area on strong acceleration of its economic growth.

[81] This "artificial Slovakia" was practically created as a weighted average of growth in the Czech Republic and Romania, with the weight of the Czech Republic being 66% and Romania 33%. Žúdel B., Melioris L. Fiveyears in a balloon: Estimating the effects of euro adoption in Slovakia using the synthetic control method, OECD, Economic Department Working Papers No. 1317, 7 July 2016, ECO/WKP (2016) 41 (p. 20).

Moreover, it must be added that Žúdel's and Melioris's estimates of course have their difficulties. In particular, they cover only a very short comparative period and the actual effect of economic growth is concentrated in the period before the adoption of the euro (mainly before the beginning of the economic crisis). The authors themselves draw attention to the obvious fact that the growth effect of the Slovakia's accession to the euro area is virtually unprecedented in other countries that have adopted the euro. In addition, they show that if Slovakia postponed its entry to the euro area by 1 year and retained its own floating currency during the crisis, its economic growth could have been faster by 2%.[82]

For the sake of completeness of the discussion on the topic of economic growth, it is necessary to indicate the conclusions of the interesting analysis by Miroslav Singer, former ČNB governor, who demonstrated, based on the comparison of year-over-year rates of GDP growth in the euro area and in the EU countries outside the euro area in the years 1999 to 2014, that before the economic crisis and after the economic crises, EU countries outside the euro area were growing faster than the euro area itself. The only period in which both groups of countries were developing similarly was the period 2008-2010, i.e. the period of economic crisis. The average annual GDP growth in the period 1999-2014 amounted in EMU to 1.3%, while in countries outside EMU to 2.2%.[83]

It must be admitted that it is a very short period which divides those CEE countries that did not join the euro area. Given the economic crisis, which has misaligned the economic parameters of individual countries, it is very difficult to confirm the relevance of older assumptions on the acceleration of growth after CEE countries enter into the euro area.

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[82] This distinctive and de facto unique growth leap of Slovakia can be, in our view, explained to a large extent by the fact that Slovakia's growth opportunities have been constrained in the long term by the political environment after the separation of Czechoslovakia. Slovakia had a bad image, which was manifested in all areas by slower economic growth, higher inflation rate, high interest rates and extremely undervalued SKK to EUR exchange rate. Only major changes in the political scene, economic reforms and adoption of the euro have given Slovakia, especially in the eyes of foreign investors, sufficient credibility. However, Slovakia's long held growth had one important aspect in addition to the growth itself – a very low price level compared to the developed EU countries (or a very high difference between the nominal exchange rate of the Slovak crown and the purchasing power parity). This fact has significantly influenced the Slovakia's transition to the euro.

[83] Singer, M., Česká republika a euro očima ČNB. Vystoupení guvernéra ČNB: Přijetí společné evropské měny v ČR – přínosy a rizika (Czech Republic and the euro with the eyes of ČNB: Adoption of a common European currency in the Czech Republic – Benefits and risks). Národní konvent, Praha 29. 1. 2016 (Panel II – Makroekonomický pohled na přijetí společné evropské měny / Macroeconomic view of the adoption of common European currency), http://www.narodnikonvent.eu/1487/konference-7.

Without a rather complex modelling that eliminates the effects of other specific factors (including the economic crisis), it is virtually impossible to seriously assess the impact of the euro adoption on the economic growth after the entry of the new member states. Unfortunately, even a distinctly atypical example of Slovakia – and apparently only a short-acting factor of acceleration of the growth rate – does not seem to give a clear answer to the question whether and to what extent would the act of the Czech Republic joining the euro area accelerate the economic growth of the Czech Republic.

Older studies from the past decade have anticipated a number of effects related to the possible acceleration of the economic growth. It was mainly operated with effects stemming from the reduction of transaction costs, interest rates or exchange rate volatility. For the Czech Republic, due to its situation, theoretically the third factor was mainly eligible, associated with the expected significant increase in the share of the euro area countries in our export and import, and also more distinct impact on the acceleration of the economic growth in the Czech Republic after adoption of the euro. However, since the Czech Republic entry into the EU until now, the increase of the share of EU countries (and then the euro area countries) in the foreign trade of the Czech Republic has increased so dramatically, that any further substantial increase is not very likely. It is becoming increasingly evident that we will not make do with various estimations which are ten to fifteen years old. It is necessary to integrate a time factor in these considerations, which, albeit tragically outdated, have the capacity to be repeated. Only then the reality will be shown in a somewhat different light.

Virtually every minute, through mutual trade, operation of multinational corporations and banks, a flood of harmonizing regulations, rules and recommendations of the unified internal market, we can witness the intermingling, interconnection and harmonization of economies of both the old and the new member countries. In the EU member countries – the euro area non-members – there are "spontaneous" processes running that have been attributed to the euro effects in the older studies. Or in other words, 10-15 years ago, the projected significant effects of the euro adoption were, simply by the effects of time and natural increasing interconnection of the Czech economy with the EU economies, especially the German economy, factually consumed by the Czech Republic even without the euro adoption.

Moreover, as it increasingly shows, we can hardly expect that the microeconomic benefits may outweigh the considerable macroeconomic losses supported by restrictive nature of the euro area architecture which, in the situation of asymmetric shock, does not offer a different starting point to the given member country than correcting external imbalances by slowing down or declining GDP, including wages. Thus, de factor, by economic divergence.

Therefore, the question of acceleration of the economic growth after the euro adoption in the Czech Republic – given its speculative nature – will not be further addressed in our following analysis. From the perspective of the necessary convergence of the Czech Republic, on the contrary, it appears that the participation of the Czech Republic in the euro area would rather hinder this process. Neither of the CEE countries which joined the euro area, has yet reached the economic growth rates in the long term, which were reached before adoption of the euro. (Their GDP growth rates are now maintained at around one third to one half of the original rates.)[84]

[84] We recall that the problem of accession of the Czech Republic to the euro area is analyzed in detail in the study by Fassmann, M., Ungerman, J., Přínosy a náklady přistoupení ČR k eurozone (Benefits and Costs of the Accession of the Czech Republic to the Euro Area), Revue Pohledy 1/2018 (February 2018), Praha, p.71, ISBN 978-8086846-66-8.

8. How to transform the Czech Republic into a country for the future

8.1. Vision of Change of the Economic Policy of the Czech Republic – background

The Czech Republic has exhausted the potential of the present model of growth based on low wages, undervalued exchange rate of the currency, limited role of the state and high dependency on foreign multinational companies. This is shown by the everyday reality of the Czech Republic and proved by a number of international studies.

The European Bank for Reconstruction and Development came to the conclusion **that the former socialist countries as a whole are in the "middle-income trap".** It says that the renewal of the upward convergence will depend on the creation of a new model of growth based on domestic innovations and technological advances.[85]

In the opinion of influential international agencies and governments of more successful countries in the world, there is no doubt regarding the key role of innovations and technological advances for the achievement of a high economic level. The Czech Republic and CEE countries generally lag behind their West European neighbors in these activities.

Moreover, the Czech Republic reaches a high level especially where this largely results from the activities of foreign companies. However, this de facto does not create an economy that could become a source of innovations.

For their activities in the Czech Republic and other CEE countries, multinational companies use innovations developed somewhere else and drain considerable profits from the country. Achievement of full convergence in economic levels would require that innovations are developed and benefits arising from them remain in the country. This relates especially to domestic-owned businesses. So we do not only need higher research expenditures, although their increase is important as well. It is necessary to replace the

[85] EBRD (European Bank for Reconstruction and Development) (2018), EBRD Transition Report 2017–18: Sustaining Growth, London, EBRD, p. 7.

model of dependent development based on low relative wages with a model of development based on internal innovative capabilities of national economies.

In fact, we do not only need to define a new economic policy of the Czech Republic but, above all, to convince business entities of its correctness and to select appropriate tools for this purpose, as a matter of course. This, regrettably, is not as trivial as it might appear at first sight. As described above (see Chapter 3), there are very strong efforts in the Czech business sphere to build on the "successes of the economic transformation". One more time to get in on the cheap labor costs or the low exchange rate of the Czech currency (preferably both!) despite the fact that the negative consequences of this policy have already been seen everywhere – and is not only the matter of low wages of Czech employees.

That is why, before outlining the Vision of Change of the Economic Policy from the view of Czech trade unions – ČMKOS, we must pay attention to the three key factors that will undoubtedly have a significant effect on the change of the economic policy in the Czech Republic. The first (long-term) factor is the matter of the educational level of the Czech Republic, the second factor is the current nature of the Czech economy as a subordinated economy, and the third factor is the control of key positions in the Czech economy by multinational companies.

Educational level of the Czech Republic

A difficult problem for small Central European economies is to find a specific production profile and such a field of activities in which they could make use of their strengths in new conditions. The Czech economy has a labor force with a long industrial tradition and quite high qualification and education levels; however, this potential already has been shrinking on a permanent basis.

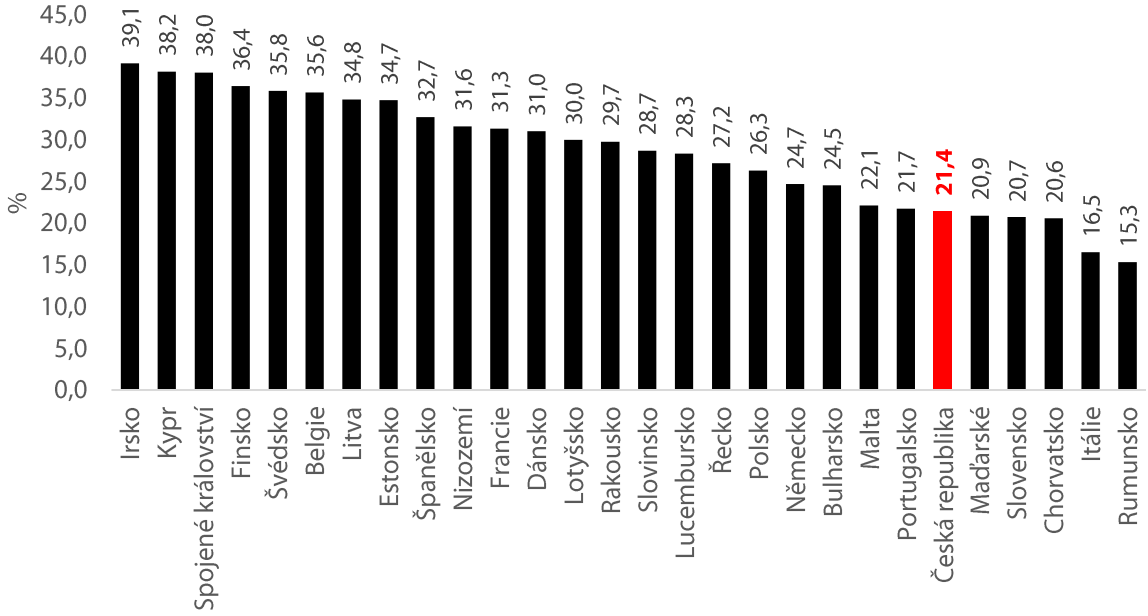
The assessment of the existing preconditions may be based, to a certain extent, on the educational structure of the population, which shows a trend of broad upper secondary education with an extraordinarily low (on an international level) proportion of population with the lowest education. The percentage and dynamics of employment in professions demanding in terms of qualification are also well above average.

In tertiary education, however, the Czech Republic lags behind the most developed countries, as shown in graph No. 20. The situation in younger age categories has been rapidly improving in this respect in recent years; however, the proportion of graduates in technical subjects remains low, which will undermine the innovation abilities of the economy in the long term.

Therefore it must be pointed out that a majority of newly created capacities of tertiary education is focused on liberal arts, so the lack of technical professions will not be immediately overcome.

Do we have enough people tertiary-educated people?

Graph No. 20: Percentage of persons with tertiary education in the population aged 15–64 years in 2017

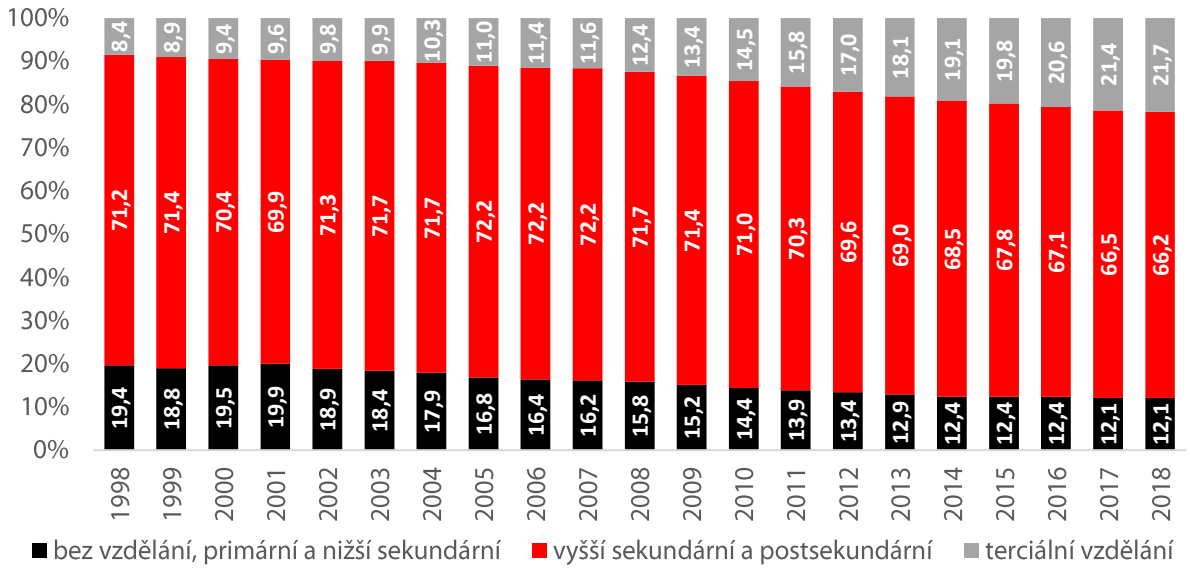


Irsko = Ireland, Kypr = Cyprus, Spojené království = United Kingdom, Finsko = Finland, Švédsko = Sweden, Belgie = Belgium, Litva = Lithuania, Estonsko = Estonia, Španělsko = Spain, Nizozemí = Netherlands, Francie = France, Dánsko = Denmark, Lotyšsko = Latvia, Rakousko = Austria, Slovinsko = Slovenia, Lucembursko = Luxembourg, Řecko = Greece, Polsko = Poland, Německo = Germany, Bulharsko = Bulgaria, Malta = Malta, Portugalsko = Portugal, Česká republika = Czech Republic, Maďarsko = Hungary, Slovensko = Slovakia, Chorvatsko = Croatia, Itálie = Italy, Rumunsko = Romania

Source: Eurostat (May 19, 2019).

Educational structure of the Czech population

Graph No. 21: Population of the Czech Republic aged 15–64 years by education



bez vzdělání, primární a nižší sekundární = without education, primary and lower secondary education, vyšší sekundární a postsekundární = upper secondary and post-secondary education

Source: Eurostat (May 19, 2019).

Population without education or with only primary or lower secondary education: *approximately 12% of the population aged 15–64 years in the Czech Republic, while the EU 28 or Euro 19 average is almost 26% or almost thirty per cent (e.g. even in a developed country like Germany the proportion of such people is approximately 20%). The value of this indicator (12.1% in 2017) is the second lowest of all EU countries after Lithuania (12.0%).*

By contrast, the proportion of population at the same age category with the completed upper secondary or post-secondary education in the Czech Republic in 2017 was the highest of the EU countries, namely 66.5%, while the EU average was much lower, namely 45.8%.

On the other hand, the proportion of population with ***completed tertiary education*** *is only 21.4% in the Czech Republic, while the EU average is 27.7%. In this respect, we must take into account the non-negligible growth of this indicator in the last 10 years when the value has grown by approximately 10 percentage points (see graph No. 21).*

The favorable qualification structure of the population is not sufficiently utilized in the event of orientation on a simple or only moderately technically demanding mass manufacture of intermediate products. It is only possible to compete with the newly industrializing young economies with their unmatched advantage of considerably lower unit labor costs if we specialize in such original products and services that have been unavailable or distant to them so far. It is also a matter of flexible adaptation to individual needs of demanding customers. It is a matter of switchover to a competitive advantage based on quality.

Finland and Denmark, which have established themselves in the world market with their innovated products and services in knowledge-intensive fields, show a possibility and viability of such an orientation. Both the aforesaid countries have currently been at the top of the list of countries with the proportion of population achieving the highest degree of education.

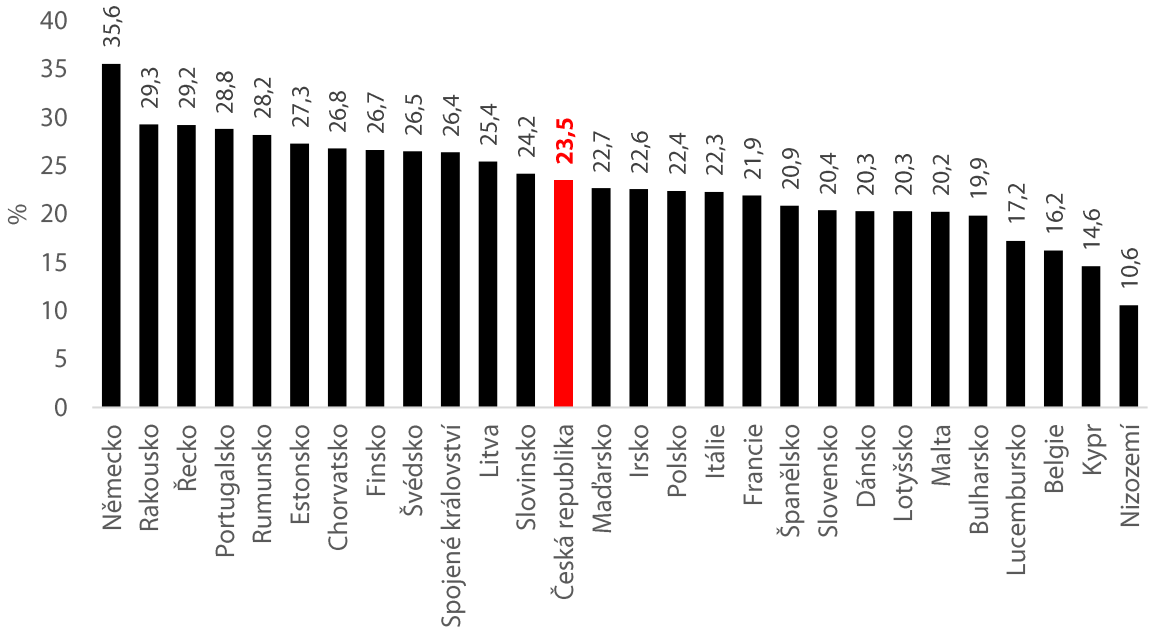
In EU 28, Finland and Denmark are countries with an above-average proportion of population with tertiary education at the productive age. In 2017, this proportion was 36% and 31% in Finland and Denmark, respectively, while the EU average was 27.7%.

Germany also has a higher proportion of people with tertiary education than the Czech Republic, namely by approximately 3 percentage points. However, it is interesting that Germany has the highest proportion of graduates in technical subjects of the total number of people with tertiary education.

The examples of Finland and Denmark but also Germany show the importance of tertiary education particularly in technical fields.

As to the proportion of technically educated people, we reach the EU average

Graph No. 22: Proportion of tertiary education graduates in technical subjects in the total number of graduates in 2017



Německo = Germany, Rakousko = Austria, Řecko = Greece, Portugalsko = Portugal, Rumunsko = Romania, Estonsko = Estonia, Chorvatsko = Croatia, Finsko = Finland, Švédsko = Sweden, Spojené království = United Kingdom, Litva = Lithuania, Slovinsko = Slovenia, Česká republika = Czech Republic, Maďarsko = Hungary, Irsko = Ireland, Polsko = Poland, Itálie = Italy, Francie = France, Španělsko = Spain, Slovensko = Slovakia, Dánsko = Denmark, Lotyšsko = Latvia, Malta = Malta, Bulharsko = Bulgaria, Lucembursko = Luxembourgh, Belgie = Belgium, Kypr = Cyprus, Nizozemí = Netherlands
Source: Eurostat (19. 5. 2019).

Technical education includes (according to ISCEDF13): biological sciences, chemistry, physics, mathematics, statistics, information and communication technologies, engineering, manufacture and building industry.

However, overcoming this situation and finding ways to quickly close the gap in the economic level between developing and developed countries also require one important element. As shown by the experience of European countries, it is the cooperation of the main political forces and concurrence of the nationwide efforts to change the existing situation and seize the emerging opportunities. This was achieved in certain small economies that managed to seize an opportunity and their hidden advantages in a difficult situation and reached the "Irish miracle" or "Finnish modernization". (That is a question whether such nationwide consensus may also be reached in the Czech Republic one day.)

The Czech model of dependency and its brief genesis

Transformation of the Czechoslovak or rather Czech economy must be viewed in the context of development of the world economy and dominant economic approaches at that time. First it must be stated that Czechoslovakia was getting integrated into the capitalistic world economy at the stage of globalization (contrary to China which managed to "catch" the beginning of this process). So it was integrating into the world which had already been divided in terms of division of labor and in which the key role was played by multinational corporations. Ideologically speaking, it was the peak period of neoliberalism which was transformed, for emerging economies, into the canon called "Washington Consensus"[86].

Although the Washington Consensus was applied in emerging economies with a varied intensity, it influenced the overall economic debate and set the course of economic policies. It based the integration of emerging economies on cheapness and on the belief in a "beneficial and self-stabilizing" market mechanism. It completely ignored the power relations (which are, as a matter of fact, always present in economy) that, in the era of globalization, meant the importance of multinational companies or parent companies that decided on the distribution of the manufacturing process. The decision-making left up to the "market" necessarily meant, given the absence of a clear industrial and development policy, development of vacuum that was filled with a strong actor – which also happened in the Czech Republic. By the end of 1990s at the latest it was clear that the "management" of the Czech economy was taken over by foreign actors not interested in upgrading natural comparative advantages of the Czech Republic (geographical proximity to Germany[87] plus experience in industrial manufacture) together with the orientation "gained" in early 1990s which was reflected in the undervalued currency and in low wages.

[86] For brief information about the Washington Consensus see e.g. https://cs.wikipedia.org/wiki/Washingtonský_konsenzus

[87] The Czech Republic has been de facto integrated into the German economic area and has been in the German "orbit" to date. In this respect we can find certain similarities with the transformation process in the former GDR. The transformation process of GDR was fully in the hands of "West Germany", which has still been causing certain bitterness in East Germany, which is also manifested politically. Although the process of "reunification" (ergo economic integration and restructuring of the East German economy) was accompanied by financial support (Solidaritätszuschlag), the income gap between the East and West Germany is visible even after almost thirty years. Not to mention that more than 1.2 million inhabitants of East Germany left for West Germany from 1991 to 2014. https://www.zeit.de/wirtschaft/2015-09/umzug-ostdeutschland-westdeutschland-abwanderung-ausgeglichen

The initial setting of the economic transformation (i.e. the exchange rate cushions based on deep devaluation of the Czech currency, and weakening of trade unions and mechanisms of wage negotiations – officially passed off as a policy that was to prevent the wage-price spiral) has long-term consequences. This trajectory has been followed by the Czech Republic to date, and the current development shows how difficult it is to switch to a higher economic model. The model of cheapness and geographic proximity to Germany led to a strong influence of multinational companies on the Czech economy, which de facto defined the economic structure of the country not only in terms of ownership but especially in terms of added value in the economy. The Czech Republic is profiled as a "dependent economy", i.e. an economy in a dominantly subcontractor position. This position is reflected in a number of important macro categories: added value in the economy, product division between compensation of employees and gross operating surplus, and is very clearly visible in outflow of profits from the economy. The proportion between the outflow of profits from the economy and the reinvested profits shows that as early as in 2006 this model has fully "ripen". The growing outflows (the figures officially stated by the Czech National Bank (ČNB) are at the low end, because we must also take into account the use of intracompany prices) signalize that the model based on attracting foreign investments associated with a lower-middle added value has been completely exhausted and hinders further development and growth of the standard of living. Not to even mention again the failed privatization, problems in the banking sector that had to be solved through the state budget (and the subsequent sale of banks to foreign banking groups). It was the banking sector that participated most in the direct transformation costs. After the privatization, the state had neither the state property nor sufficient resources that could be used for an active industrial policy and modernization of the state.[88] Convergence and structural matters were not at the forefront of the economic policy. On the contrary, an utterly accounting view of the macroeconomic situation dominated for a long time, with the priority often placed on indicators such as the state budget balance. The economic strategy, if there was anything like that at all, concentrated on two fields in the past:

[88] For more details see Fassmann, M., Ungerman, J., Vize ČMKOS pro Českou republiku (ČMKOS Vision for the Czech Republic), Pohledy 2012.

- First, the "reforms" of public finances in a neoliberal guise, that concentrated on lowering taxes (and insurance contributions) for the richest income groups (up to entire cancellation of the system of progressive taxation of natural persons). Due to these repetitive "reforms", a very specific tax structure not dissimilar to the structure in developing countries has developed in the Czech Republic. The tax burden is associated primarily with VAT, i.e. a degressive tax, there are not almost any property taxes and in recent years it can be seen that the taxes paid by natural persons are even higher that those paid by legal entities. So it raises a serious question whether such a tax system (with emphasis on social insurance contributions) allows an active role of the state and a sufficient maneuvering room for an economic policy and for securing an adequate level of public services.
- Second, **maintaining the model of cheap labor and dependent economy** as described in detail in preceding parts. This also includes the macro-economically absolutely useless policy of ČNB, i.e. asymmetric foreign exchange liability, which lasted from November 2013 to April 2017 and considerably deformed the exchange rate between the Czech currency and euro. Lately, this policy has been reoriented in considerable support of the inflow of a very cheap labor force from abroad.

Multinational corporations in key positions of the Czech economy

It will be very demanding to overcome the dependency on contract work with a lower added value, which is used by multinational corporations, because there are no strong foundations for the development of domestic companies. The economically key role of multinational corporations is associated with unsatisfactory performance of domestic-owned processing industry companies. Only a few of them managed to stack up to the international competition after the economy opened up in early 1990s. The result is a very small number of larger companies in private domestic ownership.

In the list of ten largest companies in various countries[89] there are – based on a synthetic indicator of economic results – six foreign-owned manufacturing businesses

[89] Coface (2017) Coface CEE Top 500 Ranking, http://www.cofacecentraleurope.com/News-Publications/Publications/Coface-CEE-Top-500-Companies-2017-edition

(four of them in car industry), a foreign-owned retail business, two state-owned businesses and one foreign-owned public utility. The greatest domestic-owned private manufacturing company is, based on the sales, the conglomerate Agrofert, which is neither a leading source of innovations nor a leading exporter of innovative products.

The low presence of private domestic companies is a consequence of a weak and insufficiently developed environment after the period of state socialism and after the selected transformation strategy. This led to a weak legal framework, weak structure of domestic businesses and limited state support for entrepreneurial activities and economic development.

Hazards associated with the central position of multinational companies in the Czech economy are summarized in the following points.

1. Multinational corporations cover a very high proportion of economic performance of the Czech Republic. The proportion of direct investments in GDP was 78.3% in 2017, which is a very high level in comparison with developed countries of Western Europe. This level is high as compared to Western European countries.[90] The key export sectors of the Czech Republic, i.e. industry (82.5%), especially car industry (97.8%), are particularly strongly dependent on multinational companies.

2. Foreign businesses were the main driving force of economic growth from 1996. The years of high inflows of foreign direct investments are basically identical to the years of the highest rates of GDP growth and, consequently, the fastest convergence. In 2008 the rate of inflow of foreign direct investments slowed down and remained low for subsequent years. This indicates that in the future the rate of economic growth of the Czech Republic will be insufficient without a new driving force. (For temporary time, this role was played by the inflow from EU funds.)

3. Foreign companies are able to bring research and development but they keep them in their countries much more. Foreign companies only carry out a smaller part of their research in CEE countries. However, it is still more than the volume of research carried out by domestic businesses. This is another proof of a weak position of domestic companies. It

[90] Country Fact Sheets 2019. *UNCTAD* [online]. [cit. 2019-07-24]. Available at: http://unctad.org/en/Pages/DIAE/World%20Investment%20Report/Country-Fact-Sheets.aspx

must be pointed out that, contrary to foreign businesses, domestic companies cannot rely on the research and development carried out in their home countries. Therefore they necessarily lag behind in technology and productivity.[91]

How much do companies invest in science and research?

Table No. 7: Science and research expenditures by field and ownership in 2017 (CZK millions)

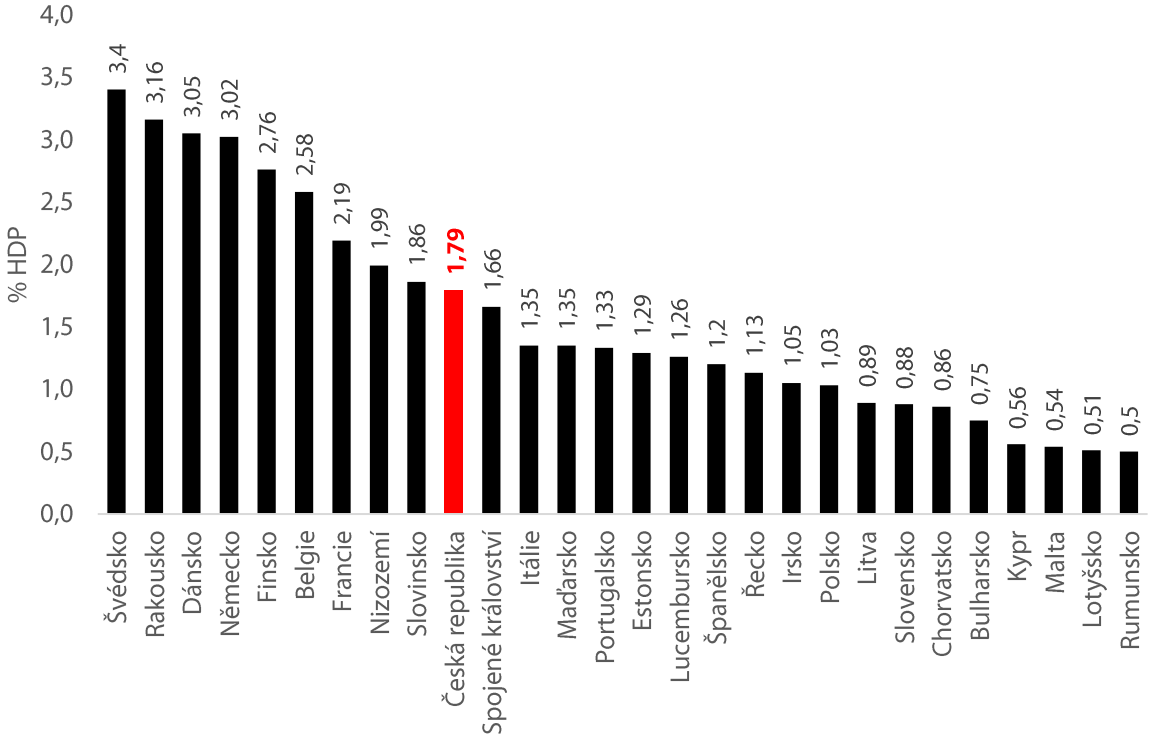
	R&D expenditures (mil. CZK)	From that, business ownership		
		public	private domestic	private foreign
TOTAL PROCESSING INDUSTRY	*30 519*	*170*	*8 645*	*21 703*
Food and drink industries	301	2	179	119
Textile, clothing and shoe industries	303	-	144	160
Wood processing, paper and furniture industries	147	-	109	38
Petrochemical and chemical industries	1 110	127	535	448
Pharmaceutical industry	1 113	-	151	962
Rubber and plastic industries	957	-	484	473
Glass, ceramic, china and building material industries	588	-	254	334
Metallurgy industry	202	-	148	54
Production of metal structures and metal-working products	1 331	4	768	560
Manufacture of computers, electronic and optic instruments and devices	2 568	-	946	1 622
Manufacture of electric devices	4 147	-	850	3 297
Manufacture of machinery and equipment n.e.c.	4 244	27	1 803	2 414
Car industry	10 373	-	510	9 863
Manufacture of other transport means and equipment	1 969	-	951	1 018
Other processing industry	1 165	10	812	343

Source: Czech Statistical Office (ČSÚ), 2019.

[91] The dominant position of foreign multinational corporations was also confirmed, somehow unconsciously, by the government's choice of companies to act as consultants of the government's "Innovation Strategy of the Czech Republic 2019–2030" in 2018. The Government Council for Research, Development and Innovations consulted 17 companies, including 10 significant multinational companies (that would otherwise have no particular interest in the development of the Czech economy). By contrast, only three Czech manufacturing companies were participating in the consultations, and the largest of them (LIKO-S) had only 227 employees.

Our science and research investments still do not reach the top EU level

Graph No. 23: Research and development expenditures in the European Union in 2017 (% of GDP)



% HDP = % GDP, Švédsko = Sweden, Rakousko = Austria, Dánsko = Denmark, Německo = Germany, Finsko = Finland, Belgie = Belgium, Francie = France, Nizozemí = Netherlands, Slovinsko = Slovenia, Česká republika = Czech Republic, Spojené království = UK, Itálie = Italy, Maďarsko = Hungary, Portugalsko = Portugal, Estonsko = Estonia, Lucembursko = Luxembourg, Španělsko = Spain, Řecko = Greece, Irsko = Ireland, Polsko = Poland, Litva = Lithuania, Slovensko = Slovakia, Chorvatsko = Croatia, Bulharsko = Bulgaria, Kypr = Cypus, Malta = Malta, Lotyšsko = Latvia, Rumunsko = Romania
Source: Eurostat (May 16, 2019).

4. The benefits of direct foreign investments decrease over time, while the costs grow. At the beginning, the investments had a positive effect on the balance of payments, but this effect was depleted in the course of time. The net inflows of funds from direct investments amounted to 4.6% of GDP in the period from 1993 to 2008. From 2009 to 2017 they dropped to 1.6% of GDP. This helped to make up the current account deficits in the amount of 3.4% of GDP in the first of the aforesaid periods and 0.8 % in the latter. For CEE countries, however, in 2005 the repatriated profits and other outflows associated with direct foreign investments were higher than the new investments plus profit reinvestments, and the difference continued increasing. The situation differs in various sectors. Public utilities and banking businesses, which were acquired mostly through privatization without necessity of any new considerable investments and often enjoying

monopoly positions, had a high profitability and a very good return of the original investment.[92]

Activities in the Czech Republic are of peripheral importance for multinational companies in the context of global strategies. Although they transfer some modern production methods and products to Eastern Europe, most of research and development (consequently also products and activities that require a close contact with research and development) remain in higher-income countries. **A noteworthy feature of the aforesaid possible strategies is absence of full migration of a multinational company or at least migration of the most sophisticated innovation activities. Without such migration or without development of domestic large businesses, CEE countries will be unable to catch up with the Western European economic level**. However, there are substantial barriers preventing any process like that. They may be summarized in three points:

1. Multinational companies have already had substantial facilities in higher-income countries (buildings, machinery and equipment, time-proven and qualified labor force, various networks and contacts), so the shift to another country would result in high financial costs. Moving might also cause huge political costs.

2. For companies with plants in several countries, it makes the most sense to keep activities with guaranteed profitability in higher-income countries. For example, smaller and less profitable cars are made in CEE, while the largest, the most expensive and the most profitable cars are usually made in countries with higher wages. So the productivity seems to be lower in CEE because of the lower prices of products, although the production technologies and work tasks of employees are very similar in all cases.

3. Transfer of research facilities is particularly difficult. They constitute a significant part of expenditure in processing industry. For example, in German businesses they exceed 9% of the added value. The barriers to movement to CEE countries include the need to attract qualified employees, and such employees are unlikely to be attracted by the low level of wages and social services in the Czech Republic. Due to the provisions on the free

[92] Chmelař, A., Pícl, M., Bittner, J., Volčík, S. & A. Nechuta (2016), Analýza odlivu zisků: Důsledky pro českou ekonomiku a návrhy opatření, Prague, Office of the Government of the Czech Republic, p. 3.

movement of persons, such employees will likely feel tempted to move to higher-income countries, which is another significant factor that discourages multinational companies from transferring their research to the Czech Republic.

This causes even greater difficulties to every domestic company intending to develop its own research facility. As for multinational corporations, the problem does not concern only the research but also the introduction of such new products and new production methods that require close links to the research, so that the manufacturer can carry out tests and adapt to problems. That is why the pressure on multinational corporations to keep the most advanced activities in countries with higher wages is strong, as shown in the study of behavior of German businesses.[93]

8.2. Vision of Change of the Economic Policy of the Czech Republic – suggestions

The middle income trap in which the Czech Republic appears to have already been caught is a phenomenon with poor prospects. On the other hand, the economic history and present offers examples of countries that managed to advance in their development and open room for a long-term improvement of the standard of living of their citizens. In terms of economic theory, we know the industrial policies of the USA at the beginning of their existence, which were followed by the German economist Friedrich List in his theory.

Looking at the experience in the 20th century, we can find the greatest concentrations of successful examples in Asia – from Singapore (which was the first country associated with "state capitalism") through Japan, South Korea and, last but not least, China. Different development models can also be seen in Ireland and Finland.

Automatic adoption of economic policies is not possible – not only because of the "path dependency". However, the foreign experience shows that there are ways not to accept a dependent position in the world economy, and may at least inspire the creators of foreign policies. A key element for any successful strategy is a sufficient maneuvering room for the economic policy.

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[93] Krzywdzinski, M. (2017), "Automation, skill requirements and labor use strategies: high-wage and low-wage approaches to high-tech manufacturing in the automotive industry, New Technology", Work and Employment, vol. 32, no 3, p. 247–67, p. 261.

The new economic policy should, above all, lead to an economy able to create and use innovation activities. This is considered to be the key objective. The World Economic Forum comes to this conclusion: "Innovation has become an imperative for all advanced economies and a priority for a growing number of emerging countries. And yet the vast majority of them are struggling to make innovation a meaningful engine of growth. The results show that there are only a few innovation powerhouses in the world, including Germany, the United States and Switzerland. In the vast majority of countries, innovation capacity remains extremely limited, very localized and/or restricted to very few sectors."[94]

How can the Czech Republic be transformed into an innovation center, a country for the future?

1. Wage as a comparative advantage?

One of the possibilities is to continue with low wages on the grounds that wages should only be increased after improving the productivity. This matter has already been discussed in detail in the first two chapters of the study. So it is only worth summarizing that low wages attract activities with low productivity and create barriers to productivity improvement. This strategy will never lead to full convergence.

On the other hand, considering the extraordinarily high profitability of companies in the Czech Republic, there is certain room for a growth of wages that is faster than the growth of labor productivity (see Chapter 1). Higher wages would also contribute to the development of an innovation-based economy by facilitating retention of the most qualified employees.[95] However, growing levels of wages would become counterproductive if they reached such a level that the multinational companies shifted a considerable part of their activities to countries with even lower wages (despite all the costs associated with such a shift). So it is not possible to achieve wage convergence without taking other measures

[94] World Economic Forum (2018) The Global Competitiveness Report 2018, Geneva, http://www3.weforum.org/docs/GCR2018/05FullReport/TheGlobalCompetitivenessReport2018.pdf

[95] It would also bring benefits to increase the public expenditure on the improvement of social conditions, so that e.g. parents, especially women, could combine family and work life more easily. OECD and other commentators point out at the wastage of the potential in the form of low employment of women at the productive age, which can be attributed to the low level of services for families with children.

that would either encourage multinational companies to place higher-level activities in the Czech Republic or support development of innovative domestic companies.

2. East Asian model

The experience gained in countries outside Europe indicates that fast modernization of economies is possible through policies completely different from those applied in CEE countries. It is not possible to exactly replicate this experience, but there are important lessons. What is the key difference is the active role of the state. However, it does not mean restoration of central planning. It means helping public and private businesses in various ways to be able to seize opportunities for their development. The Japanese economy was growing fast until 1991 when it was close to the Austrian level of GDP per capita, but afterwards it relatively stagnated. **An important element of the catching-up was the active role of the state, including provision of information about promising markets and technologies, consultancy, investment support and protective customs duties, so that the sectors with the best prospects could develop.**[96]

This example was followed by South Korea. Using the Austrian GDP as a point of reference, the South Korean GDP per capita increased from 43% in 1990 to 72% in 2016. (The Czech Republic moved from 65% of the Austrian level in 1990 to 68% in 2016.) The government's strategy was to help selected sectors, especially motor vehicles and electronics, through selective protectionism, provision of information and consultancy to key businesses, support for necessary education and professional training and support for the research base for basic and applied research. **None of these countries was dependent in its development on incoming multinational companies.**

Taiwan started from a lower relative level (GDP per capita at 42% of the Austrian level in 1990, and 46% in 2014). The state also played an active role and supported development of modern sectors. **Domestic companies operating in certain sectors, especially**

[96] Tsuru, S. (1993), Japanese Capitalism: Creative Defeat and Beyond, Cambridge: Cambridge University Press.

electronics, replaced foreign companies probably because the foreign businesses were unwilling to pay growing wages.[97]

China grew even faster. GDP per capita increased from 5% of the Austrian GDP per capita in 1990 to 30% in 2016, rising faster after 2008. **Contributory factors were low wages in basic production processes and selective protectionism and support of businesses that were classified as strategic ones.**

These strategies cannot be replicated in the Czech Republic due to the extent of presence of foreign multinational companies in the economy, because protectionism within EU is impossible, and also due to the restrictions following from the EU competition policy. However, significant elements of a greater role of the state are accepted and applied in other EU member states and may also become part of a solution for the Czech Republic.

3. German industrial strategy

A considerable change in the economic thinking, which offers a chance for the "upgrade" of the Czech economy, is shown in the **German industrial strategy**.[98] What is important is the finding that although Germany is still a power in a number of "traditional technologies", it lags behind in modern technologies, in particular in artificial intelligence and digital technologies. In addition to the naïve reliance on the "market forces", one of the causes of this lagging is also incorrect setting of priorities. In the past ten years, Germany ordered, as a clear priority, the Eurozone countries (including Germany) to reduce the debt-to-GDP ratio. It resulted in a restrictive policy embedded e.g. in the Fiscal Compact,[99] which considerably reduces the maneuvering room of the fiscal policy. The economic results of the Eurozone, which is the slowest-growing interconnected area in the world, show that this policy was chosen wrongly.

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[97] Amsden, A. (2003) Beyond Late Development: Taiwan's Upgrading Policies: Upgrading Policies in Taiwan, The MIT Press.

[98] Nationale Industriestrategie 2030. *Bundesministerium für Wirtschaft und Energie (BMWi)* [online]. [cit. 2019-07-24]. Available at: https://www.bmwi.de/Redaktion/DE/Downloads/M-O/nationale-industriestrategie.pdf?__blob=publicationFile&v=12

[99] The Fiscal Compact is actually a stricter version of the Stability and Growth Pact. In general, it binds governments to have a balanced or surplus budget, and envisages establishment of an independent institution to monitor development of public funds.

The strategy recognizes the European dimension and the necessity to analyze the strengths and weaknesses of all EU economies. Unlike a number of other documents, the German industrial strategy counts on a growing role of industry for gross value added. In view of the fact that the German Ministry of Industry admits the "need to catch up" (Nachholbedarf) and defines USA and China (and, to a smaller extent, Japan) as the main competitors in modern technologies, there appears room for an active economic policy which could help to modernize the Czech economy.

The strategy admits that the economy switch to a higher level does not take place by itself[100] but is, as a matter of course, controlled and directed by the state, although it has a specific form in each country. China is mentioned as an example of a very successful industrial policy.[101]

For the Czech Republic it is important that the strategy is inclined to strengthen the role of the state in the development of new technologies in which EU as a whole lags behind. First, it defines the fields in which Germany/EU still has a chance, which are mobility, remote learning and healthcare industry. Timing is also of key importance, because right now it is possible to get ahead of others, and it might not be possible to catch up or even overtake them in future periods. The strategy warns that the countries that "miss the boat" will become only a "workshop producing products". In a way, it postulates that even Germany could end up similarly to the Czech Republic when compared with competitors such as the USA and China.

According to the new Germany strategy, in a modern industrial policy it is necessary to maintain the industrial and technological sovereignty (or to restore it in the Czech Republic). For this purpose it is necessary to create a political framework allowing development of national and European champions. Large and key companies must be given support and protection from the state (even through nationalization), foreign mergers must be closely watched, and key sectors must not get into the hands of foreign entities. In key

[100] Quotation from page 8 of the document: "Industrial policy strategies are experiencing renaissance in many parts of the world. Hardly a successful country exists that relies exclusively and without exception on market forces to manage the tasks at hand."

[101] Quotation from page 8 of the document German Industrial Strategy: "A particularly successful country in terms of industrial policy is the People's Republic of China that decided its "Made in China 2025" Agenda in 2015 … This strategy, that combines market economy principles with pro-active and flanking policy, has so far proved most successful."

sectors, state consortia may be formed (e.g. car batteries) and the European competition law must be amended so that it allows formation of companies sufficiently large for global competition (which clearly refers to the blocked merger of Siemens and Alstom).

All the aforesaid proposals are important to the Czech Republic not only in terms of timing (we must not wait, we must act), but also because they may lead to strengthening the role of the state in the EU as part of the industrial policy. It is necessary that the Czech Republic takes up these proposals and, above all, that the economy modernization initiative is not limited to a couple of countries, e.g. Germany and France. The Czech Republic must not become a museum of "traditional" fields.

Consequences of the EU competition policy

The objective of the competition policy is to prevent unfair competition or rather to prevent any company from acquiring an unfair advantage. This includes restriction of state aid for particular companies. However, exceptions are allowed where the state aid contributes to sustainable growth or social cohesion. Exceptions include certain forms of aid to banks at the time of a financial crisis, subsidies in support of investments and modernization in lower-income regions (in the Czech Republic, the entire country, except for Prague, may receive maximum aid), in support of development of traffic and research infrastructure, help to small and startup businesses, improvement of internet access, in support of digitization and a number of social objectives. The EU recognizes the benefits of the development role of the state, which is also supported by the EU institutions, including ESIF subsidies and EIB loans. However, grants for particular companies that are not associated with the recognized development or social objectives are not acceptable. ***Therefore, the Chinese strategy of support for "strategic businesses" would not be compatible with the EU rules in the field of competition. Protection of domestic companies through customs rates and international trade barriers, as used in the development strategies of East Asia, is not allowed in an EU member state against the others. So the EU restricts the freedom of the Czech Republic to develop its own economic policy in certain respects, but may also open certain opportunities on certain conditions, as stated below.***

4. Innovation strategies of EU member states – entrepreneurial state

Innovations do not arise spontaneously from a market economy. As recognized by the World Economic Forum,[102] "a country's capacity to innovate depends on the quality of a vast and complex ecosystem". OECD came to a similar conclusion several years ago. According to EOCD, this process is complicated. That is why governments adopt "national strategic plans" although they used to be rather skeptical of active industrial policies in the past. A "coordinated, coherent, whole-of-government approach" is required.[103] Innovations depend not only on individual entrepreneurs or companies but also on "innovation systems" that require coordination among numerous actors. An important actor as well as an important coordinator and stimulator of other actors is the state, as proven by Mazzucato with the term "entrepreneurial state".

The term "entrepreneurial state" encapsulates the risk-taking role adopted by the state in the few countries that have managed to achieve innovation-led growth. It is through mission-oriented policy initiatives and investments across the entire innovation process – from basic research to activation of necessary relations and early-stage seed financing of companies – that the state is able to have a greater impact on economic development.[104]

It also includes basic research, which is the most risky part of the innovation process. It has the lowest prospects of a quick return on investment, so it is not carried out by private companies, unless being supported by the state. OECD recognizes the importance of public investments in science and basic research.

"Many high-technology commercial successes and fundamental innovations with deep and positive social impacts had their roots in public research and came from findings that were impossible to foresee. Fundamental innovations such as the World Wide Web and the Web browser emerged, not from competitive market processes, but largely from

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[102] World Economic Forum (2018), The Global Competitiveness Report 2018, Geneva, http://www3.weforum.org/docs/GCR2018/05FullReport/TheGlobalCompetitivenessReport2018.pdf

[103] OECD (2007) innovation and growth: rationale for an innovation strategy, https://www.oecd.org/sti/inno/39374789.pdf p. 3.

[104] Mazzucato, M. (2017) 'Mission-oriented Innovation Policy: Challenges and Opportunities', UCL Institute for Innovation and Public Purpose (IIPP) Working Paper Series, (IIPP 2017-01). https://www.ucl.ac.uk/bartlett/public-purpose/sites/public-purpose/files/moip-challenges-and-opportunities-working-paper-2017-1.pdf (Mazzucato, 2017, p. 30)

government-funded research conducted in universities, industry and government laboratories. Much of the R&D was conducted as part of government programs, in some cases after the market has abandoned the research."[105]

A particular example is iPhone, which was largely developed in a state-funded research.[106] Elon Musk allegedly received guaranteed loans from the US Department of Energy, with the LA Times estimating that his three companies (Tesla, Space X and Solar City) have together received around $5 billion in public support. This is more than the total annual expenditure on research and development in the Czech Republic.

"Entrepreneurial state" is also important for funding innovations in high-tech fields where the initial risks are high. Experience across higher-income countries shows that most of innovation companies with a high growth received high-risk funding from public resources at an early stage. A private risk capital plays a role but avoids risk and is aimed at a quicker return. Public authorities act as an "investor of first resort"… "absorbing the high degree of uncertainty during early stages of innovation".[107]

There are also other two important areas. According to large and small businesses, a great problem – and according to many of them, the greatest problem – is "to hire highly qualified and motivated employees" including, without limitation, managing employees and employees in technical fields. The solution is partly in the hands of the state in the form of public education and training. The second problem is the need to have networks and various contacts to receive advice and financial aid, which that may contribute to the development of links between research and business.[108] Development and investment

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[105] OECD (2007) innovation and growth: rationale for an innovation strategy, https://www.oecd.org/sti/inno/39374789.pdf p. 19.

[106] Mazzucato, M. (2017) 'Mission-oriented Innovation Policy: Challenges and Opportunities', UCL Institute for Innovation and Public Purpose (IIPP) Working Paper Series, (IIPP 2017-01). p. 47. https://www.ucl.ac.uk/bartlett/public-purpose/sites/public-purpose/files/moip-challenges-and-opportunities-working-paper-2017-1.pdf

[107] Mazzucato, M. (2017) 'Mission-oriented Innovation Policy: Challenges and Opportunities', UCL Institute for Innovation and Public Purpose (IIPP) Working Paper Series, (IIPP 2017-01). https://www.ucl.ac.uk/bartlett/public-purpose/sites/public-purpose/files/moip-challenges-and-opportunities-working-paper-2017-1.pdf p. 23.

[108] National Commission on Entrepreneurship (2002) Entrepreneurship: A Candidate's Guide, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1260382 p. 23, 13.

banks and regional development agencies play roles like that in a number of Wester European countries. In the Czech Republic, they have, however, only marginal presence. By comparison, in Denmark, regional development agencies are strongly present in all regions and the largest of them have considerable financial resources and, some of them, even over 200 employees.

State involvement in the support of innovations requires setting certain objectives. The policy of Austria is focused on several strategic objectives aimed at reaching a leading position in the field of innovations. It is focused on the areas with an already existing research base in universities and research institutes and uses the base for the development of further conditions for innovations.

Another strategy would be to offer companies a blanket aid through tax credits. This may be beneficial for very general objectives such as computer use, but it does not substitute active support of the innovation process. Comparison made in 2005 shows that the rate of tax subsidies for R&D in large firms as well as small and medium enterprises was quite high in some countries without apparent positive results. It was negative in Germany, Denmark, Sweden and Finland.[109] So tax subsidies apparently do not substitute a complex policy and their effect is ambiguous.

These points indicate weaknesses of the Czech Republic. The incoming foreign companies do not need a strong scientific and development base for their activities in the Czech Republic, because they conduct research and development somewhere else. However, the weakness of such a base means that they will not transfer higher-level activities to the Czech Republic and that the Czech companies cannot develop their own innovations. Comparisons show that, in addition to the level of research activities, there are also problems such as labor shortage, poor access to funds, absence of support and consultancy services and lack of ideas and information. The Czech Republic cannot rely on free market. On the contrary, compared to Western Europe, the Czech Republic needs greater support, because the basic conditions for the development of an innovation economy are underdeveloped.[110]

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[109] OECD (2007) innovation and growth: rationale for an innovation strategy, https://www.oecd.org/sti/inno/39374789.pdf Str. 21.

[110] Malerba, F. (2010), Knowledge-intensive entrepreneurship and innovation systems: evidence from Europe, London, Routledge, str. 308.

5. EU membership

As long as the EU promotes policies supporting growth, convergence and cohesion, it is the most promising foundation of the Czech economic development. The EU provides the Czech Republic with direct benefits through funds from the European structural and investment funds. They came at the time when direct investments were decreasing, which contributed to the strengthening of GDP and balance of payments. In the period 2007–2013 the inflow was 2.46% of GDP. In the period 2014–2020 it will be 1.96% of GDP. In the next budget period it is likely to drop sharply. The support for research, development and education for the period 2014–2020 will amount to 0.35% of the Czech GDP, while the support for the research and innovation infrastructure will be 0.1% of the Czech GDP (Ministry of Education, Youth and Sports, 2015, p. 120). **However, the key question is whether this inflow helped to create a new model of growth that may contribute to convergence.**

According to the evaluation by the EU, the results of past programs from the period 2007–2013 show defects resulting from the weakness of the Czech environment. The EU was important for maintenance of public investments in general (34.3% of the total number). The most significant financial aid to small and medium enterprises was, in terms of the volume of funds, a business and innovation program, and there were also less significant national funding resources.

Its influence on the support for innovations was limited by the weakness of existing small and medium enterprises – widespread occurrence of "branch plant syndrome" (it means that SMEs that are parts of national and multinational value chains are oriented solely on assembling standard goods). **According to a detailed analysis of Czech experience, innovation was very limited. The analysis drew attention to several causes, including highly fragmented regional innovation systems and insufficient coordination of the innovation policy**.

Financial aid was aimed at machinery rather than research and innovations. Almost half of the businesses receiving support were foreign multinational companies. But in fact, support for larger businesses was not the objective of the

program.[111] **In other words, the funds from the EU de facto supported the existing model of dependent development and did not create a foundation for a new model of innovation-based growth.**

However, it is a question to what extent the developed EU countries are interested in the growth of their competitors. The interest of foreign companies is to make use of the advantages in the form of a cheap labor force and geographic proximity or certain stabilization of the region, but they are hardly interested in the modernization of less developed countries. Although the EU is to support convergence, the current policy of the EU and Eurozone, in particular, shows that after the Great Recession de facto two peripheries (eastern and southern) were reinforced, and a number of policies within the Eurozone significantly reduces the maneuvering room for an expansive fiscal policy. The room freed up is then seized by foreign investors (see Italy and the memorandum with China about the new Silk Road).

The Czech Republic may also make use of loans from the European Investment Bank (EIB) to fund investments associated with development objectives, including the traffic infrastructure, renewable energy sources, education, research, health care and certain social policy fields. These loans are particularly favorable due to the extremely long terms for repayment (sometimes even 50 years), because funding by EIB is a process that usually results in a higher volume of private co-funding, which increases the total investments up to three times the original loan from EIB. Loans in the Czech Republic in the period 2013–2017 amounted to 0.44% of GDP. (Compared to 0.24% in Germany and 0.49% in Austria. However, it means that the volume of loans per capita was considerably higher in Austria and slightly higher in Germany.)[112]

The loans to Germany included loans to certain businesses for specific research projects, including energy storage, telecommunications, medicines and software. The loans

[111] European Commission (2016b), Ex post evaluation of Cohesion Policy programmes 2007-2013, focusing on the European Regional Development Fund (ERDF) and the Cohesion Fund (CF) Task 3 Country Report Czech Republic, https://ec.europa.eu/regional_policy/sources/docgener/evaluation/pdf/expost2013/wp1_cz_report_en.pdf

[112] EIB (2018b), European Investment Bank Statistical Report 2017, http://www.eib.org/attachments/general/reports/st2017en.pdf

to the Czech Republic were, however, intended especially to support general development of small and medium businesses.

So the EU contribution to the Czech development is limited by the weak development of Czech entrepreneurship, Czech public sector and institutional environment. It does not substitute an "entrepreneurial state" but may be a useful addition.

6. New economy policy

A legitimate question nowadays is what the determining element of the Czech economy is to be. We must take into consideration the global interconnection of production and trade, the historical and cultural context of the economy and the existing potential of the knowledge base of the labor force. We cannot omit the political reality, which influences how the economic measures of the state will be developed and applied in conceptual and strategical terms. **The state has played and will play – as apparent from the aforesaid examples of other economies above – a fundamental role.**

For the political decision as to what we want to excel in and what course we want to follow, it is necessary to set the priority concerning the product the Czech economy wishes to finalize and export into the world. **Regrettably, the current governmental strategic documents[113] were unable to explicitly set the course of economy specialization and are restricted to a descriptive analysis of production sectors with a potential or to recommendations for the development of a large number of economy sectors, thus avoiding the matter of narrow specialization.**

The development of domestic economy is also largely determined by objective external opportunities. In addition to the megatrends such as ageing, climate change, digitization, robotization and automation, the Czech economy is, as a matter of fact, influenced by the strategic thinking of its greatest trading partner – Germany. It is also necessary to think in the context of objectives of the European Union, which has first-hand experience of lagging behind the economies of Far East in the fields of innovation and development of new technologies.

[113] The National Research and Innovation Strategy for Smart Specialization of the Czech Republic (RIS3), policy Industry 4.0 and the latest strategy titled The Country for the Future.

The Czech Republic should have the ambition to participate in the global economic competition with the use of its high added value, which will secure a sustainable growth of the living standards.

Prerequisites for a qualitative leap in industrial production

In order to identify products with a strong potential for economy specialization, we need to take a look at those sectors that have already been producing (mid)high-tech products and to examine their ownership structure, available infrastructure, geographical distribution, capability to invest own funds into science and research,[114] added value growth and the development of acquired knowledge in production, in particular.

The knowledge base of the Czech economy is based on the following sectors: advanced materials, nanotechnology, microelectronics and nanoelectronics, advanced production technologies, photonics, industrial biotechnologies, aviation, optics, technological services, knowledge for digital economy, cultural and creative fields and social-science knowledge for non-technical innovation.[115] For a high value-added production, this base is a good foundation and can be used in the current development trends of machine autonomy, IoT,[116] artificial intelligence, new intelligent surfaces, etc.

Moreover, a window for deepening knowledge has currently been opening up, as the financial schemes of the European Union are becoming more oriented to the development of soft skills and new technologies. One of the key tools will be the financially extensive program Horizon Europe[117] intended to fund science and research with the budget amounting to €100 billion (European Commission, 2019). An opportunity for a higher value-added production may arise e.g. from the intention to build and fund "centers of excellence"[118] in member states including the Czech Republic which makes active efforts

[114] The indicator BERD (business expenditure on R&D).

[115] (RIS3, p. 15)

[116] Internet of Things alias cooperative systems of machines

[117] The program follows Horizon 2020.

[118] It is a scientific research unit that is independent in terms of budget and management. It is to be a top-class research center educating a new generation of scientists.

to have an artificial intelligence center of excellence, which would be associated with the development of the required infrastructure including regional structures (regional hubs).

The geographical position of the Czech Republic is also of importance. Given a relatively good accessibility from all corners of Europe, this advantage could be utilized for the organization of expert colloquia and conferences, which constitute a good means for diffusion of innovations. The position of the Czech Republic on the map may also influence whether or not foreign scientists and experts who would bring new methods and procedures will live here. However, the Czech Republic has been making use of its position mainly for transit and logistics, which is also confirmed by the fact that it is one of the cheapest EU countries for freight transport (Centrum ekonomických a tržních analýz (Center of Economic and Market Analyses), 2019).

The potential of higher value-added production

Looking back at the past post-crisis years, we may notice approximately six (mid)high-tech sectors in the Czech economy that took different approaches to investments and innovations and experienced different development of their added value and profit. These six sectors produces mainly cars, (industrial) machinery, chemical products, computers, electric equipment and electronics and other means of transport, including space industry products that have been standing out especially recently.

As a matter of course, the significance of these sectors in the economy differs. The percentage of added value varies largely, with the highest one in the automotive sector (4.76%) and the lowest one in the production of other means of transport (0.55%). Slightly lower variability between the aforesaid sectors can be seen in business expenditures on science and research, where the leaders were the producers of electric equipment (15.91% growth from 2009 to 2015), while the producers of computers and electronics were at the bottom of the list (0.58% growth from 2009 to 2015[119]).

The common denominator for high-tech sectors is that innovations take place prevailingly in two types of businesses: in large foreign and small/medium domestic-owned ones (ČSÚ, 2019), which is an important fact for the country's economic policy in its effort to

[119] According to our calculations based on OECD and Eurostat data.

support domestic businesses. What technologically demanding products do we produce in the Czech Republic? What trends can be seen?

Cars

Unsurprisingly, the main sector of the Czech industry is the automotive industry. The largest company in the Czech car market is ŠKODA Auto, a.s., a Volkswagen Group company, which has, as the only one, its entire facilities in the Czech Republic, i.e. including science and research and own specialized training.

The world trends in the field of individual mobility are driving autonomy and environmental sustainability. Škoda reflects these trends in its strategy for the period until 2025, which focuses on digitization of processes both in the manufacture and in the product itself. Škoda's innovative series of cars are called VISION. By now the company has introduced two (or rather three) concepts: first, VISION E, which is aimed at a fully-electric car (based on lithium batteries with remote charging) with level 3 autonomous driving[120]; second, VISION X and VISION RS, which are hybrid drive models that use new environmentally friendly materials (Škoda.cz, 2019).

Škoda has chosen a strategy of low-emission and low-carbon products. The time will show the competitiveness of the company, but e.g. in the field of autonomous mobility there has already been quite stiff competition. Škoda must decide what its comparative advantage will be. Another challenge is the consistency of the attitude of Škoda Auto to environmental sustainability. The Czech Republic is still dependent on the energy from coal, which means that the energy resource for the production in Škoda factories will depend on the same energy and, unlike the product, the production process is not a low-carbon one.

Mechatronics

The manufacture of machinery and equipment has a long tradition in the Czech Republic. It is especially the production of industrial machinery. In terms of innovations it is interesting that the science and research expenditures paid from the domestic capital (CZK 1,803 billion in 2018) does not differ much from such expenditures paid from the foreign

[120] At this autonomy level the driver is still required for driving the car but can decide only in critical situations and does not have to fully monitor situation on the road.

capital (CZK 2,414 billion). This sector also has an additional interesting feature, namely the regional coverage of the Czech Republic, which is relatively uniform.

The regional segmentation and a high number of small and medium enterprises in the sector gave rise to industrial clusters (Mechatronika (Mechatronics) in West Bohemia, Klastr přesného strojírenství (Precision Engineering Cluster) in the Highlands, Klastr aditivní výroby (Additive Manufacture Cluster) and Národní strojírenský klastr (National Engineering Cluster) in the Moravian-Silesian Region plus a few interdisciplinary clusters) aimed to minimize the costs of infrastructure and information transmission for businesses, including engagement of academic institutions, universities and public administration.

Clusters do not have a narrow specialization but, in general, the production is often focused on precision engineering using e.g. technologically advanced lasers or 3D print.

A window of opportunity for this sector is also opened up by artificial intelligence and biotechnology, offering the possibility of specialization in robotics with self-learning and automated decision-making systems. A challenge for this sector will be the sustainability and greater involvement of iron and steel industry. For example, in the Moravian-Silesian Region the iron and steel works have already been part of the National Engineering Cluster.

Computers, electronics and electrical engineering

The field of electronics and electrical engineering is dominated by foreign-owned companies that mostly manufacture intermediate products (with a higher added value, though) in this country. The sector shows both a high share in the export of the Czech Republic (approximately 14%) and a high share of import for export (63%) (RIS3, p. 22). In recent years the corporate expenditures on science and research have stagnated in this sector.

Until now the sector excelled in the manufacture of electric motors, generators, accumulators and batteries. Nowadays the manufacture of optical-fiber and electric cables and lighting fixtures has been gaining in importance. As for complete products, this sector exports computer processors and data units (MIT data, 2017). Some production is also finalized by domestic companies. For example, there is quite advanced production of

drones in Olomouc (Robodrone). However, small and medium enterprises like that are not visible in the overall data due to the economic significance.

Data storage and components for computer processes play a key role in collaborative robotics that is a great challenge for this sector in terms of innovations. However, we must take into consideration the motivation of business owners and their (un)willingness to develop the production in qualitative terms or relocate further parts of manufacture necessary for product finalization to the Czech Republic.

Chemical products

Another – almost traditional by now – sector of production is chemical industry. Although the proportion of the sector's gross value added in the total value added is small, chemical industry has a privileged position in the Czech Republic because of the prevailing domestic ownership (out of the total of approximately 1,200 companies, only around thirty of them are under foreign control). What is also notable is the proportion between large and small/medium businesses, with the large ones absolutely dominating the entire sector.

Nevertheless, research and development are driven by medium businesses with up to 250 employees (CZK 447 million). Large companies innovate less by 297 million (ČSÚ, 2019) and the entire sector is mainly profit-oriented (in the period 2014–2017 the average profit rate was approximately 50.73%). (Own calculations based on Eurostat data, 2019.)

In geographical terms, chemical industry is concentrated in Ústí Region and in Central Bohemia. It mostly specializes in basic processing of materials (crude oil, in particular), petrochemistry or pharmaceutics. However, the Czech chemistry also provides new innovative end products that testify to the current knowledge base of the economy. One of such companies is FN Nano that produces nanotechnology-based heavy-duty coatings of building facades. These coatings reduce the ecological load, because their active substance cleans air from smog and prevents development of mildew as well as wear and tear.

Great challenges of chemical industry are associated mainly with advanced materials, e.g. nanomaterials, materials for 3D print, for healthcare purposes, energy storage, etc. **From**

the perspective of businesses, reasonable investments in new production methods and intellectual property must be made as soon as possible.

Other means of transport

The smallest of the high-tech sectors in the Czech Republic (representing only 0.3% of the added value of the entire industry) is active in the production of rail vehicles and aeronautical parts. By now, the added value of the sector has been created mainly by the production of rail vehicles, but the production for aerospace purposes has been dynamically developing and is likely to dominate in years to come. The Czech Republic is even becoming one of the top countries in the world with specialization in aerospace industry.

The aerospace industry in the Czech Republic has also been strengthening due to the planned EU Aerospace Program, which chose Prague as the place of its seat (also because GSA[121] headquarters and ESA BIC[122] operates in Prague).

The Czech aerospace industry excels especially in software solutions but also produces physical components. For example, it is the production of subsystems for satellites or test modules for a mission to Phobos (a moon of Mars) in Frantech Aerospace. There are more small and medium enterprises like that operating within ESA[123] and having quite a wide production range.

The main challenge of this sector is the strengthening of its relevance. Although this sector is able to produce, due to its current knowledge base, high value-added products, it has still been a marginal part of the Czech economy. However, this is quickly changing and the sector may also gain in importance due to the objectives of the European Union.

Challenges for the Czech economy and state

Using several examples, we tried to outline the potential of the Czech Republic for an "economic leap". The window of opportunity for a change will not remain open forever, so

[121] European Global Navigation Satellite Systems Agency.
[122] ESA Business Incubation Centre is an innovation hub for start-ups.
[123] European Space Agency.

the decision must be taken as soon as possible. High value-added production has already been present here, we only need to take, in terms of the economic policy, a fundamental decision concerning a narrower specialization.

This means that several large infrastructure projects will have to be implemented by the state. For example, we need to solve the energy issue. Fossil fuels are not a suitable energy resource with regard to the environmental sustainability, but they supply the industry with the power that cannot be substituted overnight. The solution for the Czech Republic must involve development of nuclear energy generation combined with other environmentally friendly projects (e.g. the discussed pumped-storage power plant Lipno-Danube).

Development of new technologies requires a sufficient information transmission network, i.e. a high-quality 5G network or a developed optical-fiber network throughout the country. What will also be important is the software solution, in which the Czech Republic has already been experienced (especially in the field of cybernetic security). However, we encounter a considerable lack of programmers on the labor market, so we need to focus on a more intensive development of this competence.

The state administration cannot afford to miss the boat. It is still unable to digitize, interconnect and facilitate services for citizens and entrepreneurs. The private sector is getting ahead of the public sector at such a speed that the gap between them could not be closed unless the public sector changes its approach.

An important moment is the investment in the academic sphere. The state has already been playing an important role in research, because company investments in innovations are relatively low, especially concerning basic research. A potential contribution of the Academy of Sciences is shown by recent examples. An institute (Institute of Organic Chemistry and Biochemistry) earns around CZK 2 billion per year by licensing antiviral patents. These are direct benefits of basis research. Strengthening the patent policy could lead to even higher profits. Establishment of a state fund for the support of patenting, which would help to protect the Czech know-how, could be an interesting solution.

Interconnection of technical universities has been taking place relatively successfully, which is also proved by their activities in clusters. However, even here it is necessary to strengthen their role and hire more experts from foreign countries for the universities, which

would largely depend on increasing the level of wages and social services. A high level of qualification must be secured as early as from pre-school and primary education. It is important to work with the potential of each child, which means to make every effort to prevent certain forms of discrimination and social exclusion. What will also be important is the support for high-quality life-long learning, which will secure smooth movement of people to various professional qualifications and the associated growth of their productivity.

In order to secure good operation of public services, we need to accept the fact that the state will have to invest considerable funds and make sure that its funds are not drained abroad or to provide room for tax optimization. Certain funds may be drawn from the financial schemes of the European Union, but we cannot afford to spend such funds inefficiently any more. The efficient spending of public funds requires creation of financial structures – regional banks that will facilitate development in various regions, thus helping to reduce differences between regions.

Not to waste the chance of the Czech Republic for an economic leap

The Czech Republic is not in vacuum. A key question not only for the Czech Republic but also for all CEE countries is how to fundamentally change their economic policies to achieve a considerably faster convergence of their economies. In our opinion, the **Czech Republic, as a medium-developed country with a long industrial tradition,** must take the chance arising from the maximum utilization of new directions and possibilities of development of science, engineering, digital technologies and new management systems and to skip the entire development stage, thus getting to the level of the most developed countries much faster (like Finland or Denmark that managed to achieve this level in the past). It is a matter of "rearmament" – a change of the structure of economy and the role of the state in these processes.

As a matter of course, this change of the economic policy will not be achieved without close cooperation both with the EU bodies as a whole and with individual countries. In our opinion, it is necessary to internally combine two processes that have been relatively separated so far. Problems are also encountered by the most developed EU countries. They have been facing ever-stronger global competition by China, Japan, United States and other countries of Southeast Asia in the field of the state-of-the-art technologies, artificial intelligence, digitization, new telecommunication technologies, biotechnologies,

autonomous driving, robotics, etc. and have been looking for ways how to stand up to this global trend.[124] In our opinion, it is absolutely necessary to engage countries more closely and comprehensively in these global challenges, involve them in the complex solution, and not to leave them behind to "deliver packaging for something or fix a handle". We believe that all of us will profit from this procedure.

In these processes the European Union or rather the European Commission must play the indispensable role of a coordinator and initiator of such processes. In our opinion, it faces a number of tasks that have already become topical. Without intending to provide an exhaustive list of such tasks, we deem the following ones to be the most important at this stage:

- To carry out an independent, complex and objective analysis of strengths and weaknesses of all economies in the European Union. (We need to know where we are standing, so that we are able to manage the future together.)
- To initiate a detailed discussion on the position and role of the common budget of the EU in this field.
- In order to strengthen innovative technologies and the protection of strategic fields, it is important to fundamentally redefine the matter of the state position and its role in the economy as well as the competition rules (e.g. possibilities of state interference in the economy, state interventions or transfer of key companies into the state ownership in the event of a danger of hostile takeover by competitors, temporary support from the state in the field of innovations, easing the rules in the field of mergers in sectors where the size is a precondition of business success, etc.).
- Higher efficiency of measures taken against dumping and abuse of a dominant position.[125]

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[124] Great inspiration may be drawn from the new strategy of the German industry Nationale Industriestrategie 2030, Bundesministerium fur Wirtschaftund Energie (BMWi), Berlin, February 2019, Available at: https://www.bmwi.de/Redaktion/DE/Downloads/M-O/nationale-industriestrategie.pdf?__blob=publicationFile&v=12

[125] The final part is based on the official document of ČMKOS "Příspěvek ČMKOS ke stanovení priorit České republiky pro summit v Sibiu", which was drawn up by ČMKOS at request of the Office of the Government of the Czech Republic and was subsequently presented on March 29, 2019 at the round table of the National Convention on EU. Regrettably, the recommendations of the National Convention dated April 17, 2019 do not contain anything of that (www.narodnikonvent.cz).

However, the reflections on the economic policy must include increasing the living standards. Even if a high value-added production develops quickly, it does not itself secure higher wages and better working conditions of employees. Therefore, it will be still important to support social dialog and collective negotiation. That is why it will be necessary to strengthen the role of employees in the operation of companies, thus to strengthen economic democracy.

9. Summary and recommendations for the economic policy of the Czech Republic

Unsustainability of the Czech economic model

The thirty years of development of the Czech Republic have clearly shown that the long-term strategy of the Czech Republic cannot be built on low wages, low extent of labor and social protection, low taxes and a weak Czech crown. This is the way to staying permanently behind developed countries and has serious socio-economic and socio-political consequences for the current situation in the country and our readiness to face future challenges.

A very cheap labor force heavily restricts the necessary replacement of human labor by advanced technologies (automation, robotization, new technologies) and also shapes the economic structure in the long term towards more cheap labor and hence low qualification. Lagging behind in technologies is then the inevitable consequence.

This extensive concept of economic development leads to demand for more and more employees with low qualification and low productivity. Therefore, it currently leads to more labor import from more distant and cheaper destinations.

The current system has formed two groups of businesses.[126] In the first group we will find businesses with foreign owners – those belonging to international corporations. These companies are usually large and profit from their involvement in international trade, work with high natural labor productivity and pay such wages that are usually above the national average. But these wages are still about one third of those paid in their parent companies.

The second group of companies usually includes smaller firms with Czech owners that work either for the domestic market or as a sub-contractor for a bigger enterprise abroad. They often work for the first group mentioned as well. These companies are usually subordinate to bigger foreign businesses, i.e. their performance level is determined by this relationship. This is why they pay substantially lower wages – sometimes even one half less when compared with their parent companies in developed countries. Their possibilities of

[126] This is of course a very rough division and businesses of different forms lie between these two groups.

technological advancement of their production and innovations are limited, because the delivery prices are low and do not allows them to make adequate profit.

Price competition based in cheap labor and low labor costs actually reduces economic effectiveness, because obsolete manufacturing structures are supported. As these companies do not pay adequate compensation to their employees, they can often avoid the necessary radical measures such as a structural production reorganization, reshuffling of management and replacement of out-of-date equipment with more recent systems.

In the market environment where competitors develop their products, the low-wage strategy can bring only a temporary relieve, because its aim is to keep profitability of equipment that is becoming more and more obsolete. It must be pointed out that there is a bottom limit for wages and labor costs on any labor market. On the other hand, the limit for a drop in costs resulting from technological progress is very low in the long term.

There is theory saying that if companies make insufficient investments in new systems and equipment, they can gradually reach the point when their product is so obsolete that it cannot be sold for any price. In this environment, businesses and the economy are on a downward spiral, constantly following shorter and shorter goals, and their survival depends more and more on cost saving. The result is that their structure moves towards unsophisticated assembly-like manufacturing which, among other things, responds to the current economic trend or a change in external conditions very rapidly.

Exactly these processes can be observed in the Czech Republic that is currently facing a clear choice: continue promoting a cheap labor policy, weak currency, low social standards and low taxes, or set on the way of modern development. It may not look like that, but this fundamental question is now really "on the table" and does not apply only to the Czech Republic. According to the European Bank for Reconstruction and Development, the former socialist countries are finding themselves in the "middle income trap" and the reconstruction of their upward conversion with developed countries will depend on the emergence of a new growth model based on domestic innovations and technological advances.[127] In other words, it will depend on changes that will bring these countries from a lower-ranking place of economies that are supplementary and subordinate to more

[127] EBRD (European Bank for Reconstruction and Development) (2018), EBRD Transition Report 2017–18: Sustaining Growth, London, EBRD, P 7.

developed European countries being on the top to modern and developing industries where equal prices and high labor productivity can be reached.

First key condition of successful transformation of the Czech economic model: national agreement and cooperation on fundamental economic and social changes.

It is clear that with this trend, structure and development trajectory of these countries, this task is everything but easy. What makes it even more difficult is the fact that even the most advanced EU economies are facing – from the perspective of a globalized economy – the same challenge, even though on a substantially different level. The question even is whether this long-term trend can be reversed within a short period of time after the 30 years of promoting a low-cost economy and policy. Can the **policy of economic change be formulated, prepared and pushed through** in a situation when "the cards have long been dealt" and when it is much more convenient to keep riding on the current growth wave for some time and deal with the problems only when it becomes inevitable.

It may only be then when it is the right time for fulfilling the **fundamental, key condition for any change of this scale**. **A national agreement and cooperation between mainstream political parties, social partners and a part of the population on fundamental economic and social changes is the pre-condition for this.** This was the case in some smaller economies that managed – in a difficult situation – to take their chance and saw the "Irish miracle" or "Finnish modernization".

The "let's wait" attitude is not acceptable for us – there is nothing to wait for! We must learn lessons from our own history. There are things we can connect to. The ground for prosperity (often non-critically) of the admired first Czechoslovak Republic had existed since the Austrian monarchy.

Back then, Czech entrepreneurs and industry owners understood that if they wanted to break free from the subordinate role and become a strong nation who is recognized and equal with leading nations of the then monarchy, they had to succeed in terms of the economy. They understood that they must create a strong national economy and can have one only when they offer the world something what others cannot.

It was here when top Czechoslovak enterprises were born. Just out of curiosity – this involved the reputable weapon factories and large electrical engineering production able to generate investments. But there was also robust consumption – we were the world shoe-making power, etc. The success of such people as V. Lanna[128] , J. Hlávka[129] and later F. Křižík[130], E. Kolben[131], T. Baťa[132], etc. comes from this time. These individuals were doing what we today call the real economy, and contemporary top politicians and economists such as A. Rašín[133], či K. Engliš[134] and J. Preiss[135] could cooperate with them. They were also essential for what we today call the building of the economic environment and the related strong banking industry supporting the domestic industry.

We must therefore start a discussion between the representatives of Czech businesses, industry associations, trade unions and parties interested in the future of the Czech society and economy about what is the place of the Czech state and its economy in European and the world economy. There has not been any such discussion in the Czech society yet, or there was but it only slightly touched these topics.

Individual documents called "partial policies" that some government institutes have written from time to time until today cannot fulfil this role. They represent the interest of the respective institutes to "defend" their competencies and are often ideologically "biased", as they fail to respect the opinions of social partners and a wider consensus across the society. Therefore, we believe it is extremely important to start a debate about such topics and find the trajectory for the direction of the Czech economy for the next decade.

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[128] Entrepreneur in navigation (navigation on river Vltava – horse-drawn railway), industry (steelworks, porcelain factories) and the building sector (he was building bridges, railways) and a patron of the arts. (for details see e.g. https://c-budejovice.cz/vojtech-lanna-osud).

[129] Architect, builder and patron. He also made his contribution to the setting-up of the Czech Academy of Sciences. (for details see e.g. http://www.obec-luzany.cz/informace-o-obci-luzany/slavni-rodaci-a-osobnosti/josef-hlavka/)

[130] Inventor and industry owner He invented, among other things, the arch lamp and built tram lines in Prague. (for details see e.g. https://cs.wikipedia.org/wiki/František_Křižík)

[131] Entrepreneur, electrical engineer. Founder of ČKD. (for details see e.g. https://cs.wikipedia.org/wiki/Emil_Kolben)

[132] Entrepreneur, founder of the Baťa shoe company. (for details see e.g. https://cs.wikipedia.org/wiki/Tomáš_Baťa)

[133] First Czechoslovak finance minister, lawyer. (for details see e.g. https://cs.wikipedia.org/wiki/Alois_Rašín)

[134] Finance minister and governor of the Czechoslovak National Bank. (for details see e.g. https://www.historie.cnb.cz/cs/statutarni_organy/englis_karel)

[135] Director of the Živnobanka bank, the biggest bank of that time. (for details see e.g. https://cs.wikipedia.org/wiki/Jaroslav_Preiss)

On the other hand, we should realize that the world around us has changed dramatically since the war. Economic groupings have emerged that now they set the rules for all their members and, as the case usually is, these rules are more flexible for some. We must get to see this if we want to live in a real world.

Finding such a strategy that would allow a more rapid economic development is not easy nowadays. There are rules for the size of the public finance deficit, there are rules for the so-called state aid, we cannot protect ourselves from dumping pries through customs duties and many different restrictions apply.

Creating a policy for accelerated economic growth is more difficult than ever before. But we are still facing this task. If we do not stand up the challenge, we will stay in the developing countries category – the "poor relative" of the EU.

The second key condition for successful Czech economic model transformation is fight against corruption.

This is a step that should happen before any specific considerations about the concept of the new economic policy of the state. The Czech-Moravian Confederation of Trade Unions has always stressed the need for fighting corruption and other negative social phenomena.

Corruption is actually only the tip of the iceberg, one of the tentacles of the multi-layered system of negative social-economic phenomena. Therefore, fight against organized crime, tax evasion, money laundering and illegal labor is as important as fight against corruption. It cannot be guaranteed without these steps (that must be taken before any other measures in the economic and social area) that the economic policy measures can be effectively and efficiently implemented.

These phenomena undermine market principles, equality of rules and, as a consequence, the decision-making of market entities. Massive tax evasion including "semi-legal" or "legal" tax optimization[136] erode the tax system integrity by diverting money from

[136] The relocation of the registered office (for tax reasons) outside the Czech Republic – also for companies whose owners stress that they are Czech companies – is unfortunately part of this business. What a pity that the pride of being a Czech company, with registered office in the Czech Republic and paying all taxes in the Czech Republic and so contributing to the economic development, has evaporated among some Czech business owners.

the official into unofficial economy, and destroy the state economy and especially the financial system. Achieving and maintaining macroeconomic stability is hard in these conditions.

Creeping corruption, expansion of tax evasion, general stealing, never-ending corruption scandals reaching top political layers, non-compliance with agreements – all this disrupts stability, effectiveness and primarily the trustworthiness of institutes, the legal system and the system of the whole society.

On top of fighting corruption, it is absolutely essential to prepare an action plan and integrated it into the action plan of the fight against tax evasion, money laundering, illegal labor and other negative economic phenomena. This means, among other things, that instruments and processes already adopted in the last period such as the control report, electronic sales records and property declarations[137] must be consequently maintained and deepened, plus new ways must be sought to fight these negative phenomena.

Unfortunately, efforts are apparent among a portion of the Czech political spectrum to avoid such measures and/or downsize them to a form that would not bring sufficient efficiency. The need for fighting corruption is therefore as urgent as it has always been.

Fight against usury and usurers

Regarding the short-term measures, fight against usury and usurers is an indispensable part of this plan, one of the key measures in the fight against poverty and a clear priority. We are convinced that usury can be significantly restricted through a simple regulation: capping interest rates including all fees[138]. This limit could be for example five times the official consumer prices inflation index and/or rate set by the respective regulator,

[137] It is interesting to see how much attention has been paid to the control reports (and the revelations made thanks to them) or how much attention is still being paid to fully conventional instruments such as the electronic sales records. But no attention is paid to the property declaration act at all. This act may look pre-emptive, but in our opinion it failed in revealing how some persons became rich in the past in a "strange" way.

[138] This is not only the APR (Annual Percentage Rate) of a loan. It contains the actual interest rate but also other costs connected with the loan and billed to the customer. We must however add that the RPSV regulation is not sufficient for capping the rate. Even APR does not bring sanctions for breaching the contract – it is usually the late interest and contractual penalty (so popular among usurer companies).

e.g. the Ministry of Finance of the Czech Republic in cooperation with the Czech National Bank.[139]

Interest rates are capped in 13 EU countries. In Germany the Supreme Court set the limit at the level of maximum the double of the interest rate adopted on the market). In Poland it is maximum four times the Lombard rate. The market rate multiplied by 1.33 is the ceiling in France. In Switzerland it is 15%, in Hungary it is 35%, etc. Maximum rates are also defined in the USA and parts of Australia.

More measures in the fight against usury: passing a law to state all data relating to the agreement, including possible sanctions, in one easy-to-read table in loan agreements, and to state a warning against irresponsible indebtedness that may lead to personal bankruptcy (following the model of the tobacco industry).

TV spots for consumer loans must be also stopped. TV spots directly contradict consumer's interests and evoke the feeling that falling in debt to buy consumables is normal or even a good thing that brings a solution in case of financial difficulties. Supporting financial literary lessons already during the first grade at primary schools, revoking arbitration clauses in consumer loans and clauses allowing a directly enforceable record by a notary or court executor. This applies to direct protection against the practices of some executions connected – in this way or other ways – with different financial entities dealing with loans through intermediaries.

Three policy issues of the Czech Republic

Let's come back to the question how the policy of the economic transformation of the Czech Republic can be formulated. We cannot hide that this question has many layers and brings many problems.

Regarding the policy, the Czech Republic stands quite well. Almost 300 different strategic documents or policy documents have been passed on the national level so far, i.e.

[139] The Office for the Fight against Usury, founded in 1919, was one of the first offices established during the first Czechoslovak Republic. It was the response to the difficult post-war situation when usurers were profiting from the general lack of things after the war. With the post-war inflation and money depreciation, usury was happening in the natural form (mostly food, coal, metals, etc.).

also the government and state administration should follow them[140]. These are policies with the most diverse focus: from energy policy, raw materials policy to policies involving specific topics such as Cultural Contents Digitalization Strategy, National Policy of Financial Education, Czech Biodiversity Protection Strategy, etc. The 2030 Strategic Framework of the Czech Republic can be seen as a summary policy. In our opinion, however, this does not sufficiently meet our expectations of an economic or society-wide policy. We would expect that really fundamental objectives or key national interests of the Czech Republic are defined.

Recent attempts to set a policy for the whole national economy have mostly failed at the very beginning. It was only one year or two since them being passed or prepared that the situation of the Czech economy was different than what the policy had been forecasting, or the government changed and went a different way.[141]

But the reasons why such policies could not have been created so far are down-to-earth. When we compare this with the period before the emergence of the sovereign state, all political representatives were only following one goal: the sovereign state. It was only after its creation that political insider fights started, because everybody had a different idea about the state.

And the situation is actually the same today. If we fail to reach an elementary agreement in certain major goals, then we will still produce documents – policies that will stay on paper only. If we link our future to the suppression of tax evasion through e.g. the electronic sales records, there will be a big group of people explaining that this is not needed, etc. But regarding tax evasion, we must remember that tax evasion, amounting to tens of billions of Czech crowns, in the case of light heating oil (all permitted by the state) was at the origin of the sovereign Czech state.

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[140] According to the Policies Database falling under the Ministry for Regional Development, there are 1249 policies in effect, of which 282 are on the national level, 51 on the international level, 207 on the regional level, etc. (as of 22 July 2019). On top of that, some policies may not be covered by the database. (for details see https://www.databaze-strategie.cz/cz/cr/strategie).

[141] The last attempt was made in 2005-2006. Even this attempt was very problematic and definitely not comprehensive. It was even not properly debated. The reason may be that it was shortly before elections, the authors just did not was to discuss it too much, they were convinced about their truth or that this attempt simply did not address the society or the professional public.

Similarly, we can say that capping interest rates on consumer loans will cause an instant response across the banking sector that controls the media and they will be explaining that it is not even realistic and that loans in the dark economy will be on the rise.

Therefore, any attempt to create a more complex economic policy is conditioned by broader political support and support among citizens.

Any attempt to formulate any global solution to current and future problems of the Czech Republic and the direction of its economic policy is tied to overcoming three strategic problems that have emerged in the Czech economy due to the current economic model and that will substantially affect the implementation of essential changes in the economic policy of the Czech Republic:

The first strategic problem of the Czech economy is the ever weakening labor force potential in sectors with long industrial tradition and a relatively high qualification and education level. The majority of the new, emerging education capacity is primarily in human sciences. However, high-level technical education must be supported as well, because we could then handle the lack of technical professions.

The second strategic problem of the Czech economy is its dependency. The Czech economy transformed from a finalizing economy into a dependent economy, i.e. one in the position of a sub-contractor, which translates into many important categories such as the **added value in the economy, distribution of product between wages (compensation to employees) and profit (gross operating surplus) and can be seen very well in the outflow of profits from the country.**

The third strategic problem of the Czech economy is the very high participation of national corporations in key position of the Czech economy. The low representation of private domestic companies is the result of a weak, under-developed environment in the period following state socialism and the transformation strategy chosen. This lead to a weak legal framework, weak structure of domestic enterprises and limited state support of entrepreneurial activities and economic development. As a consequence, the Czech economy is not homogeneous. A large amount of "entities with different speeds" operate in the economy, which significantly limits the possibility to formulate joint economic policy measures.

Outline of the economic policy of the Czech Republic

I. Strengthen the role of the state and define key infrastructure projects

Past unsuccessful attempts to define global economic policies of the Czech Republic can make us believe that it is much easier to define economic change based on large-scale projects. This is not only because the economy could be more dependent on changes in the political landscape, even though attempts to modify it depending on the changes in the conditions of economic development cannot be ruled out. **Large-scale projects could be the backbone for other considerations. Corporate and regional strategies can arise from large-scale projects.**

Why are there no large-scale projects? Maybe because we are not able to define them. Maybe we cannot build them. Maybe we do not realize how important they are. It looks like our politicians or entrepreneurs do not realize such big challenges and big plans for the development of every economy. When president Kennedy declared the conquest of the Moon as the national policy, it was a huge challenge for the whole economy. But we can state a more modest goal: construction of high-speed rail lines with a connecting European system of quick trains in western Europe. This was a revolution in an industry that was almost "written off".

Accelerated construction of the motorway network in the Czech Republic could be one such project. But this is not a project that would significantly boost economic performance. It is a project on which we can demonstrate our inability to build and finish things.

What looks more promising is the establishment of a robust ***information transmission network, i.e. a form of high-speed internet*** that is and will be (to a growing extent) the limiting factor of further development. A software solution where the Czech Republic is experienced (primarily in cyber-security) will be essential as well.

The energy sector is equally important. Development of nuclear energy and the related energy sector is essential for the Czech Republic.

What could connect to this is the ***development of water transport in the Czech Republic***. Construction of weirs on river Labe would make it possible to develop navigation

on rivers Labe and Vltava and open up the Prague-Dresden and/or Hamburg route for tourism. The Danube-Oder canal would create another transport route of European significance and develop tourism, and positively affect the deteriorating situation in water supplies to such important regions as Moravia and Silesia.

This project would be partly linked to another key infrastructure project: ***water retention and management*** (as part of our fight with drought).

The long-debated ***high-speed trains network*** connecting our main centers with the European system of fast railway transport would certainly be a big challenge for domestic building companies and producers of the related systems and equipment.

II. Support schools, research and development

Big infrastructural projects are not the only thing. Attention must be paid to the development of long-term growth factors as well. Practical steps towards the development of innovation capacity and technological absorption capacity must be taken a wide range of activities. They involve investments in knowledge and adaptability of the human factor (life-long education, higher share of tertiary education, general computer literacy, language skills). They involve improvements in the transfer of knowledge from research into economic practice, easier access to risk capital and improved mobility on the labor market for individual professions. The pre-condition for this is, among other things, tight cooperation between universities, technical universities and businesses, strengthening of the traditionally well-developed technical education and introduction of a dual education system with higher participation of apprentices.

What we see as essential here:

- ***Increase significantly support of technical schools*** – from apprentice schools to secondary technical schools to universities. A lack of quality university graduates from a technically oriented school starts to be a major obstacle in their development, as Czech companies can now see. Major support of apprentice schools – a lack of qualified professional workers is a barrier for further development of services, etc. But what we mean is support of technical education and apprentice schools in the modern form and focus on the acquisition of skills needed for state-of-the-art technologies. What we do not mean is an obsolete type of education unfortunately still prevails in some places. The right way to go is

to extend dual education as we know it from other countries such as Germany, Austria, Denmark or Sweden. We believe that restructuring our schooling system to integrate more support of the real economy is extremely urgent. On the other hand, greater support of a modern education system should not lead to the suppression of education in social sciences – on all education levels. We will reach a period of technological breakthrough and need people with technical education who understand broader social impacts of their action. But we also need people educated in humanities who will accompany this change (e.g. by writing and implementing complex economic policies);

- ***Increase substantially support of research and development*** with the aim of raising our share in the export of technologies and the role of Czech businesses as final assemblers – general contractors for big assemblies (power plants, food-making systems, chemistry). This primarily involves an increase in such export to developing markets, i.e. to markets where Czech businesses were already present: to BRICS and SNG countries (economic diplomacy must play a role here); spend money on science and research where it really brings benefits;

- ***Set up a state export company to support export of Czech businesses to these markets***. This company shall ensure comprehensive export with state guarantee – this is very important for countries with state-controlled economies;

- ***Raise the share of research and development*** by coordinating the development of technical science parks and innovation hubs – spend a lot of money on research and development. The recent management methods shall be changed and be made more efficient.

III. Support of other key activities

- ***Change the existing support of Czech agriculture*** with the aim of raising the share of domestic foodstuffs in Czech consumption to 80–90%: this applies to meat, vegetables, fruits and milk. The question of self-sufficiency in food production will be essential for the safety of any country. The development of agriculture must be understood as a development impulse for rural areas and job creation in villages. In this respect, cooperatives (unions of producers) must be supported as a counterweight to monopolies

and retail chains. Regionalization of production must be supported as well (use of local resources);

- *Support of SMEs* – transform the existing way the Czech-Moravian Guarantee and Development Bank works or create a new bank providing real support to start-ups and SMEs;

- ***Support tourism*** by providing a coordinated approach (resort, region, municipality) and substantially improve the quality of services (e.g. agrotourism, incoming).

- *Support the development of rental housing* – construction of at least 50 000 apartments to be rented to tenants at a reduced rent by e.g. buying the land with a discount or for a reduced price and the rent will be set only based on costs and with the commitment of staying on the same level for 20 or 30 years (similar systems work in western Europe, e.g. in France).

These proposed measures are certainly not final. Their list can be substantially extended. We believe that these measures make sense primarily because we would turn our attention to real problems of the real economy and to the essence of current problems that the Czech economy is facing.

IV. Restoring order and justice in public finances

The need for restructuring the public finances and the tax system of the Czech Republic goes hand in hand with the tasks described above. Below we outline this change:

On the revenue side: These measures can be summarized into the requirement to change the structure of the tax system and strengthen direct taxes, property taxes and introduce tax progression. But debating how deep these changes shall go (e.g. tax rates) makes no sense at the moment – or at least until the "zero stage" of tax reform has been implemented.

This initial "zero stage", which only restores order in the tax system and brings tax justice for all tax payers, ***should primarily involve***:

- ***equality for tax entities*** (e.g. solve the problem of taxation between self-employed people and employees on the payroll),

- ***proper assessment and possible elimination of the many, most diverse exemptions***, discounts and rebates in different tax circles about which nobody knows why they exist and what social function they fulfil or should fulfil. Judge whether they really express a society-wide interest or the narrow interest of lobbyists.

- ***solve problems connected with the misuse of internal corporate (transfer) prices*** and provision of services within corporations for tax optimization,

- ***prepare and implement a comprehensive scheme of the fight against the shadow economy***, illegal labor and related tax evasion. A systematic campaign against tax evasion and other negative economic phenomena must start. Strengthen the fight against illegal labor and other illegal activities (schwarzsystem), threatening the stability of public finances (mostly through insurance trusts).

On the expenses side a detailed audit of all spending items in all areas of the public finances must be performed and spending must be cut based on this audit and selected priorities – however no flat spending cuts, but selected items only.

Before any changes in spending are made, the budget spending strings must be well mapped out to see the "leaks" through which we are losing public funding, so much needed for projects and expenses. Such leaks should have been fixed long time ago. It will be very surprising to find out what is actually hiding behind inconspicuous titles in the budget and who is actually connected to them. On the side of public expenses this is therefore nothing more than the restoration of elementary rules of efficiency – or even the restoration of order as such in some areas. The tax payer has the right to know what his/her money is spent on.

V. Change in the economic policy model in EU context

The Czech Republic is not in a vacuum. The fundamental question for the Czech Republic and all CEE countries is how to transform their economic policies and so achieve a higher level of convergence of their economies. In our opinion **the Czech Republic, a moderately developed country with a long industrial tradition**, must take its chance and utilize the new direction and possibilities in science, technology, digital technologies and new control systems and skip a whole development stage. This will take the Czech Republic to the level of the most developed countries much faster (as Finland or Denmark managed

to do in the past). This question of "rearming" involves changes in the economic structure and the role of the state in these processes.

This change in economic policy of course cannot be done without narrow cooperation with EU bodies as a whole and with individual countries. We believe that processes, which have been so far rather separated, must be merged. Even the more developed EU countries are not enjoying a trouble-free life. They have been facing growing global competition from China, Japan, the USA and other countries from south-eastern Asia in the area of the most advanced technologies, artificial intelligence, digitalization, new telecommunications systems, biotechnology, autonomous driving, robotics, etc. and are looking for a way how to face up to this global trend.[142] In our opinion, it is essential to engage these new countries more tightly and on a comprehensive basis in these global challenges, involve them in a comprehensive solution. Do not leave them behind, do not let them "just supply a packaging or mount a handle". We are convinced that everybody will profit from this approach.

We believe that the EU and the European Commission is irreplaceable in initiating the role of a coordinator and driving force of these processes. It is facing, we believe, many tasks that have become very pressing. Without having the ambition to list them all, we only mention those that we consider most important:

- Perform an independent, comprehensive and unscrupulous analysis of the strengths and weaknesses of all economies in the EU. (We need to know how we stand, so that we can handle our future.)
- Start a detailed discussion about the position and task of the joint EU budget in this area.
- Redefine the position of the state and its role in the economy in the interest of boosting innovation and protecting important strategic areas. This applies to the rules of economic competition, e.g. the possibility of state interventions into the economy, transfer of ownership of key businesses on the state by preventing a

[142] Very inspiring is the new German policy Nationale Industriestrategie 2030, Bundesministerium für Wirtschaft und Energie (BMWi), Berlin, February 2019, available at: https://www.bmwi.de/Redaktion/DE/Downloads/M-O/nationale-industriestrategie.pdf?__blob=publicationFile&v=12

hostile takeover by a competitor, temporary state aid in innovation, relaxation of rules for mergers in fields where the size is the pre-condition for business success, etc.

- More efficient anti-dumping measures and measures against the misuse of the dominant position.[143]

The whole consideration of the economic policy must be accompanied by rising living standards. Even when manufacturing with high added value is quickly developing, it does not automatically guarantee higher wages and better working conditions for employees. Therefore, it will still be important to support social dialogue and collective bargaining. This means that the role of employees in how the society works must be strengthened, which will also boost economic democracy.

[143] The final part is based on the document of the Czech-Moravian Confederation of Trade Union "Contribution of the Czech-Moravian Confederation of Trade Unions to the definition of priorities of the Czech Republic for the Sibiu summit" prepared by the Czech-Moravian Confederation of Trade Unions based on a request of the Czech government office and presented on 29 March 2019 at a round table of the National Convent on the EU. Unfortunately, the recommendations of the National Convent of 17 April 2019 include none of these (www.narodnikonvent.cz).

Glossary

balance of payments – a monetary expression of economic transactions between a country and its foreign partners in a certain period of time

capital – general term which in economy expresses production means of entrepreneurs, but also money, wealth; in a broader sense basically any thing that can be capitalized

cluster – targeted local concentration of interconnected companies and institutions in a particular field

cold progression – occurs when the rates of individual tax brackets have been stagnant for a long time; this means that, as employees salaries grow, the tax burden grow as well, because employees with higher salaries get into higher tax brackets

comparative advantage – describes in general situation where one of the entities in an economic relation (e.g. one country) is more productive in some activity than all other entities

convergence – the act of converging and especially moving toward union or uniformity; in economy this term is used for a process in which economies of two (or more) different countries become more similar to each other; the opposite term is *divergence*

current account balance – captures the difference between the import and export of goods, services, primary (incomes from ownership of production factors) and secondary incomes

decision-making sphere – a decisive steering group of peoples; in the text it especially means political representation and influential employers

devaluation – deliberate downward adjustment to the value of a country's currency

diffusion of innovations – i.e. how, when, why and how fast new ideas and technologies are spreading

economic (un)balance – (un)balancing of overall demand and supply in the economy

employee compensations – the term from the national accounting, which essentially expresses the volume of wages (including social contributions);

ERDI (Exchange Rate Deviation Index) – indicator of the ratio between the market value of currency and its expression in the purchasing power parity

European pillar of social rights – a relatively fresh social "constitution" of the European Union, defining the socio-economic principals and objectives of the European integration

exchange rate commitment – a national bank instrument that stimulates values by means of link to a specific target value of the exchange rate; in 2013, ČNB determined this commitment to CZK 27/€, in 2017, the commitment expired

extensive economic model – the functioning of economy based on a high volume (of machines, employees and therefore the whole production), or quantity; as a result, it leads to a low cost and cheap labor policy, as it reduces investments into technologies and innovations; the opposite is intensive model that is based on quality

finishing economy – manufactures end products; this has a significant impact on higher added value in production, which is then manifested by higher prices of products and thus higher wages for employees; hierarchically subordinated economies are the (sub)contracting countries which produce key components for the final product, but for considerably lower prices; a typical example of the finishing economy is Germany, an example of the supplying economy is Czech Republic or Hungary

geographic peripheries – countries that are not close to the centers of development; in the European context, these are mainly the countries of the Eastern and Southern Europe

inflation – consumer prices growth

knowledge base – a set of knowledge and skills that are historically maintained and further developed in the given region

labor costs – everything that counts as a cost per employee (mostly expressed per 1 hour of work); includes the amount of wages and salaries as well as non-wage costs (wage compensations, social benefits, statutory security payments, personnel expenses, taxes, subsidies and others)

middle-income trap – a situation where a given country has become quite rich, however, has exhausted its existing competitive advantages (especially in the form of cheap labor) and cannot find another growth model

natural productivity – productivity expressed in specific outputs of work per a certain period of time (e.g. in pieces); it is not converted to classical macroeconomic figures – such as standard productivity (which is most often expressed as gross domestic product per employee or hour worked) – as there are certain limitations associated with these figures in terms of their informativeness

nominal convergence – convergence of indicators which are important for the adoption of the euro; these are the levels of state debt, growth of consumer prices and the balance of public budgets; on the contrary, *real convergence* follows the indicators of the standard of living and therefore it is more interesting from employees' perspective

purchasing power parity – a special economic unit that recalculates the value of the currency so that it can be compared with currencies of other countries; in international comparisons, it is therefore more popular to express indicators (e.g. wages) by the purchasing power parity that, for example, by simple conversion to the euro, which does not take into account the purchasing power of the domestic currency in local economy

real wages (or the real expression of indicators) – level of wages adjusted for the price change; by adjusting we can compare wages over time and monitor their purchasing power; on the contrary, nominal wages are normally paid wages

social transfers – in simple terms, all social benefits and social services provided by the given state

tax optimization – finding all possible gaps in tax laws and tax deductions; the company is thus looking for maximum possible way how to reduce taxes, although it is often unethical, or in extreme cases even illegal

tax shield – legal instruments for companies to reduce their tax base (e.g. writing off tax losses incurred in the previous period)

tertiary education – a third-stage (university) or post-secondary education; lower levels are *secondary* (high school) and *primary* (elementary) education

transformation – the process of transition from the centrally managed economy to a free-market economy, mainly implemented in the 90's

valorization – appreciation resp. increase in the value or price; it is often used for pensions (valorization of pensions = raising pensions)

The Washington Consensus – a set of 10 economic policy prescriptions written in 1989 by the economist John Williamson as a help to developing states; a reform package of rules recognized by the Washington institutions, such as the International Monetary Fund, World Bank and the U.S. Department of the Treasury; it includes the requirements for sustainability of state budgets, privatization of public services, deregulation, opening economies within trade and investments and strengthening the market forces within the domestic economy – it can be understood as a kind of neoliberal policy manual