
UNCERTAINTY IN A TRANSITIONAL ECONOMY: THE CASE OF THE CZECH REPUBLIC IN THE 1990S

Marek SOUKUP,

MA in Economics, PhD student,
Masaryk University in Brno,
Czech Republic,
e-mail: 405170@mail.muni.cz;

Ivan V. ROZMAINSKY,

Cand. Sci. (Econ.), Associate Professor,
National Research University Higher School of Economics,
Faculty of Liberal Arts and Sciences (Smolny College),
Saint Petersburg State University,
St. Petersburg, Russia,
e-mail: irozmain@yandex.ru

The paper is concerned with the role of uncertainty in an economy undergoing an economic transition. We aim especially at the uncertainty of the Keynesian type. First, a framework for classifying different views on uncertainty is constructed based on literature dedicated to various types of uncertainty. We define risk, as it is commonly adopted in the mainstream economics and uncertainty, outlined by Knight and Keynes and worked up by the Post Keynesians, although for mainstream approach these two concepts are synonymous. This framework is subsequently applied on two cases of decision-making, which appeared during the transition process in the Czech Republic. We show that some important phenomena in Czechia in the 1990s took place under conditions of fundamental or ontological uncertainty. In particular, it was the voucher privatization and Tosovsky dilemma that fit the definition formulated before. Further, potential recommendations for economic policy emerging from the presence of uncertainty are outlined, and their aptness for the Czech transition process is evaluated. We demonstrate that certain outcomes could have been significantly better had the Czech government taken the aspect of uncertainty into account. Hence, we give real-life reasons for fundamental uncertainty being taken seriously and incorporated into economic theory or at least economic policy.

Keywords: Post Keynesian economics; uncertainty; risk; Czechia; economy in transition; institutions

JEL classifications: B41, P20, D01

НЕОПРЕДЕЛЕННОСТЬ В ПЕРЕХОДНОЙ ЭКОНОМИКЕ: СЛУЧАЙ ЧЕШСКОЙ РЕСПУБЛИКИ В 1990-Х ГОДАХ

Марек СОУКУП,

магистр, PhD студент,
Масариков Университет в Брно,
Чешская Республика,
e-mail: 405170@mail.muni.cz;

Иван В. РОЗМАЙНСКИЙ,

кандидат экономических наук, доцент,
Национальный исследовательский университет – Высшая школа экономики;
факультет свободных искусств и наук
Санкт-Петербургского государственного университета,
г. Санкт-Петербург, Россия,
e-mail: irozmain@yandex.ru

В статье рассмотрена роль неопределенности в экономике, переживающей переходный период; особое внимание уделено неопределенности кейнсианского типа. Во-первых, в работе построена структура классификации различных представлений о неопределенности. Мы проводим различие между риском, трактуя его согласно экономической теории мейнстрима, и неопределенностью, описанной Найтом и Кейнсом и разработанной посткейнсианцам, хотя для мейнстримного подхода эти два понятия синонимичны. Данная структура последовательно применена в двух кейсах принятия решений, имевшим место в ходе транзитивных процессов в Чешской Республике. Мы показываем, что некоторые важные феномены, произошедшие в Чехии в 1990-х годах, сопровождались фундаментальной или онтологической неопределенностью. Мы выбрали два из них и подробно описали их. К таким феноменам мы относим ваучерную приватизацию и дилемму Тошовского – именно они имели место в ситуации, идеально отвечающей условиям фундаментальной неопределенности. Кроме того, в статье изложены потенциальные рекомендации в области экономической политики, проистекающие в связи с неопределенностью. Авторы пытаются оценить пригодность данных рекомендаций в условиях переходного процесса в Чехии. Мы продемонстрировали, что результаты могли бы быть лучше, если бы аспекты, связанные с неопределенностью, были приняты во внимание чешским правительством. На этих основаниях в статье даются реалистичные обоснования для того, чтобы фундаментальная неопределенность воспринималась серьезно и была принята во внимание в экономической теории или, по меньшей мере, при проведении экономической политики.

Ключевые слова: посткейнсианская экономическая теория; неопределенность; риск; Чехия; переходная экономика; институты

1. INTRODUCTION

This paper elaborates on the role of uncertainty in an economy undergoing an economic transformation. The goal is to find out how this concept of uncertainty can help the economists to understand the process of transition and how this phenomenon affects

economic policies that can be recommended. The economy and the period chosen to be considered is the Czech Republic during the last decade of the previous century.

The paper consists of five parts, each of which serves to fulfill a partial task. The goal of the first part is to create a classification framework to categorize different concepts of uncertainty. We denote the categories obtained from literature by risk (the von Neumann–Morgenstern or “mainstream” attitude) and ontological or fundamental uncertainty or just uncertainty (Keynesian attitude).

In the second part, we show that some cases of decision making in the Czech Republic took place in the conditions of uncertainty. We give a background to the situation, specify the agent and her decision problem and then classify the case as fundamentally uncertain.

The third section summarizes Keynesianism and Post Keynesianism regarding their attitude towards policy and transition economies. The Post Keynesian school builds its theories and recommendations on the notion of uncertainty.

In the next section we look for arguments similar to Post Keynesian in the Czech debate about economic transition. The aptness of the Post Keynesian attitude for the Czech economy is debated. It turns out that the Post Keynesian macroeconomic recommendations were generally not so relevant for the Czech economy in the 1990s. However, drawing on the microeconomic consequences of the presence of Keynesian uncertainty in crucial decisions can shed light on the subject matter. We argue that if the policy makers had taken these behavioral implications into account, they could have avoided some of the serious mistakes they committed during the transition process. The last section summarizes the paper.

2. RISK AND UNCERTAINTY

2.1. Uncertainty as probability: mainstream approach

In order to elaborate on the role of uncertainty in a transitional economy, we are obliged to define properly what exactly is meant by the term. For uncertainty being a complicated concept the definition of which not all the economists agree on, we start with a summary of two different approaches to it.

The most widespread attitude in current economic theory (on the history of increasing prevalence of this approach see Hodgson, 2011) sees uncertainty as a probability distribution over possible outcome. The agent therefore does not make his choice solely between the outcomes themselves, but she has a preference relation over gambles, where a gamble represents a set of outcomes, to which a known probability is assigned. Jehle and Reny offer an example of a car purchase: “*When buying a car, for example, the consumer must consider the future price of petrol, expenditure on repairs, and the resale value of the car several years later – none of which is known with certainty at the time of the decision*” (Jehle & Reny, 2011, pp. 97, 98).

To model a situation under conditions of uncertainty, we must specify the outcomes, find the probabilities assigned to them and count the agent’s expected utility. The agent naturally chooses the gamble with the highest expected utility. In the example mentioned above, it would be necessary to estimate the possible future prices and describe them by a probability distribution.

The key feature of this notion of uncertainty is that although the appearance of some of the outcomes may not be known for sure, we can still replace this incomplete information by the knowledge of the probability distribution. This fact allows an economist to use the von Neumann–Morgenstern expected utility functions and the mathematical–statistical apparatus of economic analysis. Actually, the theory going in this direction tries to adapt the situations to these methods, because “[i]t is, indeed, most pleasant to be able to remain in the familiar realm of the probability calculus” (Mas-Colell et al., 1995, p. 206).

Definition: mainstream treatment of uncertainty as probability: incomplete information about outcomes, where the appearance of these outcomes can be represented by a random variable with certain probability distribution.

2.2. Uncertainty as an impossibility to use probabilities: Keynes's approach

This work is mainly concerned with another concept of uncertainty, the one used in the contributions of John Maynard Keynes from University of Cambridge and Frank Knight from University of Chicago. Keynes will be given precedence in this work. The reason is that his attitude towards uncertainty was adopted, developed and used by his followers called Post Keynesians, among which were such economists as Kaldor, Davidson and Minsky. On the other hand, Knight's students, e.g. Friedman and Stigler, did not follow their teacher's track.

Keynes himself comments on the previously described uncertainty definition the following way: "... at any given time facts and expectations were assumed to be given in a definite and calculable form; and risks... were supposed to be capable of an exact actuarial computation. The calculus of probability... was supposed to be capable of reducing uncertainty to the same calculable status as that of certainty itself;..." (Keynes, 1937, pp. 212, 213).

According to Keynes, however, such an attitude rules out the very nature of uncertainty, as an economic agent is supposed to be capable of an immediate calculation of her expected utility. In the environment in which the agent operates, the absence of knowledge of what the consequences of our decisions will be is compensated by the knowledge of their probability distribution. Thus, such a world is no less certain from the point of view of decision making.

What does Keynes mean, when he speaks about uncertainty, then? He writes: "*The sense in which I am using the term is that in which the prospect of a European war is uncertain, or the price of copper and the rate of interest twenty years hence, or the obsolescence of a new invention, or the position of private wealth owners in the social system in 1970. About these matters there is no scientific basis on which to form any calculable probability whatever. We simply do not know*" (Keynes, 1937, p. 214). The way this notion differs from the previous one is obvious – here we even miss the possibility to specify any probabilities completely.

Definition: Keynesian treatment of uncertainty as phenomenon different from risk; incomplete or absent information about outcomes, where is no way to credibly assign probabilities to the outcomes.

The other of the two 'fathers' of theory of fundamental uncertainty, Frank Knight, distinguishes between them as follows: "... *Uncertainty must be taken in a sense radically distinct from the familiar notion of Risk, from which it has never been properly separated. The essential fact is that 'risk' means in some cases a quantity susceptible of measurement... It will appear that a measurable uncertainty, or 'risk' proper, as we shall use the term, is so far different from an immeasurable one that it is not in effect an uncertainty at all*" (Knight, 1921, 15).

We can find several other interpretations of the distinction between *uncertainty as probability* (sometimes called risk) and *Keynesian uncertainty* (also fundamental uncertainty). For example: "... *risk as one in which an individual with a decision to make is able to assign numerical probabilities to all outcomes that could possibly follow from that decision. If probabilities cannot be assigned, a situation of uncertainty is then said to obtain*" (Glickman, 2003, p. 366).

2.3. Distinction

The difference between the mainstream and Keynesian treatments of uncertainty is clear regarding their sheer definitions. However, how to distinguish between them in real analysis is a question yet to be answered. In which situations can one assign probabilities and when it is impossible?

Compare the two examples illustrating the two concepts previously defined. Jehle and Reny speak about a car purchase, where the future prices "several years later" are unknown. However, when we compare it with the examples used by Keynes in his descrip-

tion, we see that they are almost identical. Despite their obvious similarity, the theoretical and methodological consequences for economics differ significantly.

As is well known, the mainstream theory, which sees uncertainty as risk, considers all situations to be calculable. Or, in cases of unquantifiable uncertainty, the problem is not subject to economic analysis: *"In cases of uncertainty, economic reasoning will be of no value."* (Lucas, 1977, p. 15) and *"... no theory can be formulated for this case"* (Arrow, 1951, p. 417). Hence the Keynesian concept is ruled out from economic science by definition according to the pioneers of the current economic theory. On the other hand, the authors following Keynes say that in some cases the probability is not calculable, but do not offer rarely any practical examples. The only distinction supported by examples offers Keynes himself – against the cases of European war and prices in the far future, he sets roulette as a situation possible to describe by probability. Weather is somewhere in between. Here, although the probability is not objectively given, it can be estimated credibly to some extent.

So, given a particular situation, how can we decide whether we are confronted with risk or uncertainty? In other words, how to decide whether the probability assignment can be considered credible and when it cannot? The distinction is clear in theory – in one case we can assign probabilities, in the other one it is not possible. But this is too insufficient a criterion to distinguish between the two in practice. The question is, how do we know that we do not know? What causes the absence of the information? For better understanding of uncertainty, we concentrate on its causes in due course.

3. THE CASE OF THE CZECH REPUBLIC

3.1. Structure of the procedure

In this section, the previous discussion summarized into the classification framework will be applied to real instances of choices that economic subjects faced during the Czech transition process. The procedure is structured as follows:

1. *Context* – First, the chosen case is put into context. Economic and/or political background is described and supportive argument for its choice and importance provided.
2. *The decision-maker* – In this part, the agent is characterized. We put no *ex ante* restriction on the nature of the agent. It can be a real politician or economic subject such as a firm as well as an average voter in the form of a representative agent.
3. *The decision problem* – The agent's options (actions), their outcomes and consequences are formulated. Note that we have no ambition of assigning payoffs to these outcomes – we are interested in the problem itself, not the ultimate decision made. Naturally, the influences on Czech economy are given precedence as outcomes to be assessed in this process.
4. *Probabilities* – Crucial part of the procedure. Based on accessible relevant sources, we try to gather the information available to the decision-maker in the particular case. This step is especially fragile as it is impossible to estimate what the agent knows, particularly if the agent is a politician or, for example, a central banker.
5. *Classification* – Based on the previous step, the decision problem is classified into the category of uncertainty. We explain why we think the mainstream approach is inadequate and why the broader notion of uncertainty must be applied in that case.
6. *Further development* – The consequences of the decision are outlined with a short assessment.

3.2. Voucher privatization

3.2.1. The context

In the beginning of the 1990s the government of Czechoslovakia decided to play the role of a market maker and a giant owner willing to get rid of its property in favor of its citizens for free. The next natural question to be answered was how to do it effectively. Of course, the government did not use a single method for all the property, but definitely the one most focused on. The major tool of privatization was given the name of a voucher method.

The core of the voucher method consisted in introducing a parallel currency. A citizen could buy a voucher book for 35 Czechoslovak crowns and a stamp for 1000 Czech crowns (the average wage in 1990 did not exceed 3500 crowns (Investia.cz). The book contained 11 000 investment points. A holder of the book became a DIK (držitel investičního kuponu – a holder of investment voucher). The vouchers were defined as non-transferable security and served only as technical transition mechanism – DIKs were not allowed to buy or sell the vouchers, unlike in Russia, where this possibility existed. The points served as a currency to bid for demanded shares. The Ministry of Privatization published lists of enterprises to be included into privatization waves and their rounds.

Two waves took place in the end: The first one began in June 1991 in Czechoslovakia, when the government published the list of businesses to be privatized in the first wave, and the second in 1994 in Czech Republic after the dissolution of the Federation. The DIKs then used their points to demand shares, the prices of which were published at the beginning of the round.

Although direct sales of the vouchers were prohibited, DIKs could entrust their vouchers to investment privatization funds which operated with the investment points on behalf of DIKs. These funds acted in the process of privatization at the same level as individuals.

3.2.2. The decision-maker

There were three conditions allowing a person to take part in the voucher privatization process: citizenship, age of 18 and Czechoslovak/Czech residence. The decision-maker in this problem is such a person who registered oneself in the privatization. For the first wave, there were 5 948 500 such people in Czech Republic (and 2 592 500 in Slovak Republic) (Ježek, 2007).

3.2.3. The decision problem

The task for the agent was to decide which shares to buy for his or her investment points, or alternatively, which fund to choose to entrust them to. The difficulty of such a task can be illustrated by sheer numbers: There were more than 1600 businesses to privatize and more than 400 investment funds of various sizes¹. Every enterprise to be privatized can be considered a gamble – the investor could hardly know what the performance of the chosen firm and a subsequent return on the shares will be. A choice for an investment fund was a gamble too, although possibly less risky. Nevertheless, one can hardly speak about any certainty in this situation. A prominent Czech economist, Robert Holman, commented on the decision problem the following way: *“Voucher privatization was a lottery, but very profitable one... However, no one knew if it is better to buy the shares of northern screw-factory or to entrust the voucher to Harvard Funds”*².

3.2.4. Probabilities

The core of the difficulty of the problem here lies in the vast number of possibilities and continuous nature of the prospective outcomes. Even if one was able to take all the variants into account, their value could have hardly been estimated. The carrier of information in every market are prices, but in this case, there was no market and no prices at all. The market was intended to be created exactly by this procedure.

3.2.5. Classification

The decision about where to place the investment points can be with a small doubt considered as uncertain. The main reason is that at the time of the decision (speaking about the first wave of privatization), the information about the value of outcomes could not have existed as the voucher privatization stood for one of the methods that were supposed to create the system of prices.

¹ In-Server (2013). The enterprises of the voucher privatization (<https://www.in-server.cz/rubriky/nekotovane-akcie/spolecnosti-z-kuponove-privatizace/> – accessed on 22 Oct. 2017). (In Czech.)

² <http://www.cepin.cz/cze/clanek.php?ID=490>

3.2.6. Further development

The 74% share of DIKs who entrusted their vouchers to the funds testifies the high uncertainty accompanying the individual investment. The funds themselves, however, did not provide an always-perfect alternative. On the one hand, they helped to solve the problem of absentee ownership and led to the concentration of capital, so that the Czech capital market fitted into the European continental model of few large owners of shares. On the other hand, they became a “bone of contention” among the architects of the reform.

Tomáš Ježek blames Václav Klaus and Dušan Tříška for not issuing a law which would separate the chairman of the fund’s property from the contributors’ one. Absence of this law, in Ježek’s interpretation, led to the situation when the chairman of a particular fund did not act as a manager, but as an owner with the right to treat someone else’s property at will. Václav Klaus, after winning the election in 1992³, stayed in office until 1997, when his government collapsed after a series of scandals. The following clerical government of prime minister Josef Tošovský finally implemented the law in question.

The law’s absence led to the phenomenon of tunneling – a transfer of sources from one business to another, usually with the same or allied management. This term even attracted the attention of the most famous economists, for example, Johnson et al (2000). Ježek asserts that from the start of the transition until 1997, a property of 50 billion Czech crowns was stolen (or tunnelled) from the funds. Klaus and Tříška, however, reject the critique and highlight the accomplished goals of the privatization (concentration of capital, creating market environment).

3.3. Tosovsky dilemma

3.3.1. The context

At the beginning of 1997, the privatization was almost over. Out of 6356 privatization projects with capital of 928 billion CZK, 5877 (904 billion) were already processed⁴. However, the state still directly controlled a majority of its banking sector. Despite a seemingly favorable situation – the GDP growth in 1995 exceeded 6% and 4% in 1996 – there were other problems looming at the horizon. The Czech economy suffered from macroeconomic instability – in previous years, the demand outpaced supply, which led to a deficit on the current account of balance of payments. This deficit reached –6% of GDP in 1996 and –8,6% GDP in the first quarter of 1997 (see Figure 1).



Figure 1. Current account to GDP

Data source: World Bank

³ Czech Statistical Bureau (2018). Results of Elections and Referendums (https://www.volby.cz/index_en.htm – accessed 22 Oct. 2017). (In Czech.)

⁴ In this section, annual reports of Czech National Bank from the years 1997 and 1996 are used as primary sources as well as the annual reports on balance of payments: Czech National Bank (2017). Annual reports of Czech National Bank (https://www.cnb.cz/cs/o_cnb/hospodareni/vyrocní_zpravy/index.html) (In Czech.)

In that time, the Czech National Bank operated in a regime of fixed exchange rates, where the crown was kept in a fluctuation area based on a basket entailing two currencies – American dollar and German mark – in certain proportion. This goal of the central bank, a fixed exchange rate, was implemented in the early years of transition in order to prevent the threat of high inflation. Despite the fact that the central bank succeeded relatively to adjacent countries, the rate of inflation around 10% caused an inflation differential and real appreciation of Crown ⁵.

Moreover, in order to attract investments, the central bank was keeping the interest rates high (6–7%) which, combined with the non-existence of exchange rate risk, caused an inflow of capital. This capital was more and more taking a form of “hot money” – short-term investments. Enabling the convertibility of crown on foreign markets and entering OECD as the first post-communist country even bolstered the inflow of foreign investments. All these circumstances threatened the central bank’s objective – to keep the currency fixed.

3.3.2. The decision-maker

Here we choose the Czech National Bank (the central bank) as a decision maker. The government also contributes to creation of economic policy, but in that time, its readiness for action was lowered by elections, subsequent weakness (minority government) and later crisis and collapse. Also, the problem had a monetary (currency) nature – that is why the decision problem got a name ‘Tosovsky dilemma’ according to the chairman of the central bank, Josef Tošovský.

3.3.3. The decision problem

The task of the central bank was to keep the exchange rate within the fluctuation area of +/-0,5%. To repeat the circumstances under which the decision was to be made – the economy faced a massive inflow of foreign capital, which created an inflationary pressure and endangered the stability of the economy. The central bank had several possibilities at its disposal. First, changing the interest rate. Second, change the minimal reserves ratio. Unlike today when the reserve requirements are negligible (Eurozone 1%, Czech Republic 2%) and virtually untouchable, in 1997 this tool was still flexible. It could also use other tools like sterilization measures – issuing bonds instead of domestic currency to prevent the enlargement of monetary basis.

There also existed a very different and perhaps more radical solution to the problem – changing the goal itself. The primary objective of the central bank was to keep the fixed exchange rate, however, now it wanted to fight high inflation. Therefore, it could abolish the current objective and replace it by targeting some monetary aggregate or direct targeting of inflation in a floating exchange rate regime.

Without exaggeration, we can say that each of the possibilities stands for a gamble. In such a complex environment, one can hardly consider an outcome to have a precise effect. As a measure of the outcome, an impact on inflation is taken.

3.3.4. Probabilities

It is of course impossible to assess correctly *ex post* what the central bank had known and what it had not. On the other hand, the decision of the central bank was one of the most critical in the Czech independent era. Therefore, we will try to crack the nut, but it is necessary to take the result as an indicative one.

⁵ The real exchange rate is defined as follows: $R = \frac{\bar{E}P}{P^*}$; $\uparrow P > \uparrow P^* \rightarrow \uparrow R$, where R is a real exchange rate, P the domestic price level, P^* the foreign price level and \bar{E} fixed nominal exchange rate. It follows that a growth of domestic price level outpacing the foreign one leads to a real appreciation of currency.

Židek (2006, p. 77) describes the situation: “The possibilities of the central bank to change this state were limited. If the central bank increased the interest rates, then this step would appear in the form of inflow of foreign capital (as a result of an increased interest differential), which would further cause the growth of monetary basis and prices. On the other hand, a decrease in the interest rate (as a step taken in order to lower the attractiveness of the domestic environment for foreign investors) is basically a manifestation of expansive monetary policy with an impact on prices”. The main standard tool of the central bank seemed ineffective.

Former board-member of the central bank Oldřich Dědek (2000) adds that according to their analysis, they knew that changing the central bank’s goal would undermine the credibility of the domestic market and lead to a swift outflow of capital. Therefore, the consequences of certain decisions could be estimated. In connection to Tosovsky dilemma, Židek (2006) speaks about “inflation trap” – given the circumstances, the accomplishment of the central bank’s goal contradicted any standard measurements it could have taken.

Another problematic feature of the state was the nature of the inflowing capital. This took a form of “hot money” – short-term financial investments. The central bank was aware of the fragility of the situation – even a slight decrease in the market credibility and uncertainty among the investors could result in withdrawing the investments and creating a pressure on the central bank’s reserves of foreign exchange. Not only changing the bank’s goal could be such a cause, though. In globalized markets, the shake could come from anywhere (and in the end, it really came).

3.3.5. Classification

The circumstances of this decision can be classified as uncertain. The reason will be clear from the following section describing the events of 1997.

3.3.6. Further development

In 1996, the central bank was using less efficient tools like sterilization measurements. However, these did not meet a large success and the inflation kept growing. Further, the bank widened the fluctuation area from +/- 0,5% to +/- 7,5% in order to increase the exchange rate risk. It also increased the minimal reserves. All these measurements belong to the category of decisions made under risk.

Nevertheless, the most significant break was truly uncertain and unpredictable. In the second quarter of 1997, the financial crisis in Southeast Asia outburst and the confidence of investors tumbled worldwide. Czech crown assets were being sold in a wide extent, and exchanged for foreign ones. In May 27, 1997, the Czech National Bank was forced to relinquish its goal, abolish the fixed exchange rate regime and set a new goal in the form of direct inflation targeting in the floating regime without any fluctuation area.

The forces which made the central bank to adopt the final solution and solved the “Tosovsky dilemma” could not have been predicted or anticipated in 1996. That is why we consider the environment in which the decision was made to be fundamentally uncertain.

4. KEYNESIAN UNCERTAINTY AND TRANSITION

4.1. Post Keynesian approach to transition

4.1.1. Against shock therapy

In the end of the 1980s Czechia became an economy in transition. There was a radical “institutional transformation”: the economy moved from the planned socialism to some model of capitalism. Such transition itself generated serious problems of economic coordination. The *institutional hiatus* emerged: “the old command system had collapsed before the new coordinating mechanisms of the market economy could be put in its place and generate effective responses” (Kozul-Wright & Rayment, 1997, p. 643]. Such phenomena as “transition uncertainty” (Marangos, 2002, p. 575) took place. But transition to capitalist system could be various.

In the debates on economic transition, the major fault line between both economists and politicians is the one between “gradualists and shock-therapists”. Advocates of these two attitudes argue about the length of the time period in which particular reforms should be employed: Shock-therapists back a quick implementation of all the crucial reforms at once, while gradualists want to introduce one after another. In this section, several contributions of Post-Keynesian authors commenting on the transformation process in Eastern Europe and the former USSR are summarized. Previously we saw what uncertainty in Post Keynesian view means, what are its sources and consequences. We also saw how to reduce the negative outcomes. Now we look which policies Post Keynesians formulate for economies in transition, especially with regard to the concept of uncertainty.

The following statement clearly illustrates the Post Keynesian approach: “*Large shocks – whether intentional or not – invariably have a large and negative effects on output and investment, even in the most developed of market economies, usually because they generate high levels of uncertainty*” (Kozul-Wright & Rayment, 1997, p. 645).

Here the Post Keynesian approach creates possibilities to introduce the concept of institution. By restricting the possibilities of an individual, an institution opens more possibilities for the market and society by reducing uncertainty, because they play a role of an information carrier: “*Institutions do perform an informational function (in addition to influencing the very perception the people have of reality) ... At the same time, as institutions cannot completely eliminate fundamental uncertainty, knowledge is a limited guide to action ...*” (Dequech, 2001, p. 923). Thus, institutions create a common ground for knowledge in society and markets. It follows that the participants have an anchor with the help of which they can create their expectations. As their expectations share a common base, their compatibility increases. Such is the role of institutions in society – a bridge between uncertainty and expectations.

The essential principle of comparative analysis of various economic systems – inspired by Post Keynesianism – is to analyze how institutions of these systems try to reduce uncertainty. “*How we try to cope with uncertainty defines the system under which we live. Capitalism has one way of doing it, socialism another*” (Rousseas, 1998, p. 17).

As institutions stand for the most efficient tool against uncertainty, the worst situation for an economy is to allow an *institutional hiatus* – a time period in which institutions are weak or even absent.

That is why a shock therapy (or “big bang”) approach cannot be successful from the Post Keynesian view. The point is that it takes a while to establish new institutions, abandoning the old order all at once fills the economy with uncertainty, which causes serious troubles, such as low level of investments (impossibility to evaluate investment projects), therefore the threat of unemployment (worsened by a non-existence of a new social system), incurs social costs and so on. In short, a shock therapy approach causes an institutional gap and “... *this ‘institutional hiatus’ was a major reason, in our judgement, for the unexpected severity of the slump in output in the transition economies*” (Kozul-Wright & Rayment, 1997, p. 645). *The shock therapy policy’s implementation implied not shift but break in the institutional base of the economic system. As a result, “the destruction of the old was hardly matched by the creation of market-oriented institutions of economic control”* (Murrell, 1993, p. 137).

More specifically, it has been said that contracts and property rights are the most important institutions. The complexity of the process of changing the ownership structure is another (not only) Post Keynesian argument for gradualist strategy: “*The big bang advocates are, however, torn between the need for rapid privatisation and the lack of objective criteria for converting the property rights*” (Tsang, 1996, 184). Privatizing the state-owned property only would not be such a serious problem if there were no implicit contracts between workers and firms in the former socialist economy. Provision of cheap housing or workers’ rights to the state enterprises can serve as examples: “*The most difficult issue is*

the worker's implicit rights to the state enterprises, both in terms of ownership and management" (Tsang, 1996, p. 187). To reveal these implicit contracts, evaluate them and incorporate them into the ownership reform is too complicated a process to be ran in a short term. Even worse, if these contracts were ripped, it would contribute to the 'institutional hiatus' and uncertainty, which we want to avoid.

Some authors (Marangos, 2002; Dzarasov, 2010) go even further to assert that the existing contracts were sufficient and privatization should go as one of the last steps of transformation as changes in ownership structure without "... *competition, the incentive structure and... regulatory policies*" (Marangos, 2002, p. 585). They also directly reject the "neoclassical attitude" represented by the Washington consensus (summarized as "liberalization and privatization plus financial stabilization" (Dzarasov, 2010, p. 21)). They accuse it of applying methods that met success in the West on a very different environment, defined by other traditions, history, culture and so on. Speaking about Russia in particular: "*The fact of the matter is that in our (Russian) culture, there are no traditions of civilized market and private enterprise, and this lays an imprint on the way we appraise the institutions that exist in our country... Artificially imposing a market model on a different culture with different traditions and way of life was bound to lead to a mutant deviation from the original pattern*" (Dzarasov, 2010, pp. 20, 21).

The argument against shock therapy or big bang strategy can be summarized as follows. Based on the axiom that uncertainty is an undesirable feature of the highest priority and stable institutions are the best tool we have to avoid it, the transition from one institutional environment to another must be based on "overlapping" these institutions rather than abolishing the old structure and then building a new one. This gradual process should be led by an active role of government, which should serve as a guide for economic subjects who takes them through the transition.

Furthermore, some reforms – for example, price liberalization – require short period for its completion, other reforms like creation of clear legal framework for market economy require a longer one. Hence strict shock therapy policy was transformed into the process described as "reverse gradualism". Those reforms that must be implemented later, took place earlier (and vice versa). Such an inappropriate succession really complicated the transition to the market economy and also generated chaos and increased degree of uncertainty of the future. That is why, according to Post Keynesian perspective, shock therapy is adverse mode of transition (see also Tsang, 1996; Dow et al, 2008).

4.1.2. Recommended policies

What policies can be recommended from Post Keynesian point of view? The cornerstone of their attitude is a strong active government preventing the institutional gap from emerging and incurring costs. All the following steps are derived from this presupposition. For example, the foreign direct investments are not seen as the main source of capital. "*Rather, reform of the banking system will be the key. The creation of a genuine two-tier banking system has been recognized as an immediate task of the transition*" (Kozul-Wright & Rayment, 1997, p. 655). This banking system is then ready to play the role of a financial intermediary between savings and investments (for more about establishing the banking system see Dow et al, 2008.)

They do not recommend trying to get foreign capital at all cost, neither by FDI nor selling the state-owned enterprises to foreign investors, but mobilizing the inner resources. Of course, this is not an easy task as the former central-planned economies suffer from the lack of capital. However, it has been said that privatization is not the first task in the queue: "*In relation to whether restructuring should precede privatization, the answer was clear for the Post Keynesians. They believed it was the responsibility of the government to use discretionary measures to ensure viability of the enterprises before and after privatization*" (Marangos, 2002, p. 582). This restructuring consists mainly in transforming the

state-owned enterprises into employee-managed and partly employee-owned (although the state should keep a majority share). Such a structure accompanied by governmental support should ensure higher motivation and efficiency, and therefore generation of domestic capital, which could in turn flow to new creditors through the banking system.

The sketch of policies above respects implicit contracts and does not leave a space for “institutional hiatus” as the new institutions gradually overlap the old ones. Moreover, according to the Post Keynesian approach, they should ensure high employment and social security, so the social costs are minimized.

5. POST KEYNESIANISM AND THE TRANSFORMATION OF THE CZECH ECONOMY

Like in many other countries, also in the Czech Republic a debate on the nature of privatization took place. In this section, we introduce the contributions to the debate where traces of Post Keynesian recommendations and arguments can be found.

5.1. The nature of the transformation

The threat of institutional gap and the necessity for a good institutional design defended by Post Keynesians is too general as an argument sufficient to imply gradualism. It is obvious from the fact that this argument, especially the need for a law framework on economic activity, was stressed by both sides of the discussion on shock therapy versus gradualism: On the former side those were not only the leading policy makers Klaus, Tříška and Ježek, but also unsuccessful proposers of policies, like Jan Švejnar (Švejnar, 1990, p. 6). Among the latter were for example Valtr Komárek, Miloš Zeman or Petr Pithart.

The last named, Petr Pithart, shares a considerable portion of argumentation with Post Keynesians. Pithart, a lawyer by education, served as a prime minister of the Czech government between 1990 and 1992. He belonged to the main opponents of Václav Klaus (federal prime minister) and his vision of transition. Pithart argued that, in order to be successful, the voucher privatization “... would not have to be processed so rashly, meaning based on imperfect laws” (Inventura devadesátek, 2013). He was an advocate of gradual direct sales: “We chose roughly 40 big enterprises, which we wanted to sell to strategic partners chosen in advance. Unfortunately, we were not given enough time” (Ibid.)

Another sound critic of Klaus’ approach was Valtr Komárek ⁶. Komárek, a long-term member of the Communist Party of Czechoslovakia, who obtained economic training in Moscow and worked as an advisor of Che Guevara on Cuba among others. In the late period of communist dictatorship, he served as a founder and chairman of Prognostic Institute on the capacity of Klaus’ or Ježek’s supervisor.

We can find a strong similarity between Post Keynesians and the advocates of the welfare state and ‘third way’. For instance, Petr Pithart claims: “In order to understand why the privatization was no regulated enough, you have to understand in which period it emerged. The economic school of neoliberalism dominated the world at that time... A social state, balancing the most significant (income) differences, had been outdated. We should reconcile with the fact that welfare cannot grow anyhow else that at the expense of the scissors being opened forever and everywhere” (Ibid.). Similarly, Post Keynesians argue that “... the post-war reconstruction of Western Europe and the development of the mixed economy in the 1950s and 1960s are a more useful guide for the transition economies, at their present stage of development, than the free market doctrines of the 1980s” (Kozul-Wright & Rayment, 1997, p. 650).

5.2. Laws and policies – investment funds

5.2.1. The role of investment funds

The most frequently mentioned problem of the Czech institutional setting has until today been the law on investment privatization funds. During the voucher priva-

⁶ Czech Television (2010). The 13th chamber of Valtr Komarek (<http://www.ceskatelevize.cz/porady/1186000189-13-komnata/210562210800027-13-komnata-valtra-komarka> – accessed 22 Oct. 2017). (In Czech.)

tization, the holders could have chosen the shares to buy themselves or entrust their vouchers to a fund. As has been already mentioned, 74% of people took advantage of this opportunity. This number combined with the unexpectedly high participation of citizens in the voucher privatization (8,5 millions of people) made the investment funds a very strong player in the financial system and the process of transition. Unfortunately, the imperfection of the law framework manifested itself precisely in this key player.

The latter problems largely emerged from the fact that the funds were an improvised element in the process. At the dawn of the privatization process, the authors wanted to conceptualize the Czech financial system according to the Anglo-Saxon model characterized by direct investments and absentee ownership. After a severe critique based on the argument that such a setting will prevent restructuring and efficiency increase of the businesses, the legislators decided to alter the Law Act on Large Privatization and enabled setting up the funds. This happened in September 1991, when the voucher privatization found itself in the preparatory stage.

However, only one paragraph was dedicated to the investment funds in this law act. A separate act 248/1992 Sb. was passed on April 28 and came in to effect on May 29 1992 (Ježek, 2007). The so-called pre-round, during which the voucher-holders were deciding whether to entrust the vouchers or choose the businesses themselves took place in spring 1992. This meant that the pre-round was processed before the relevant law came into effect and the investment funds were being set up without a proper legislation.

Nevertheless, this was not the most serious problem connected to the funds. Another issue received a heavy criticism from more or less important opponents of the reforms like Pithart, but also from one of the authors himself, namely Tomáš Ježek. He points at the non-separation of the fund's manager property from the property of the contributors: *"... one crucial passage has been omitted in the federal law. According to this passage, the manager of the investment privatization fund decreases the equity of the fund by the amount he has deposited when opening the fund, in order that the capital was created only from the shares bought for the investment points"* (Ježek, 2007, pp. 175, 176).

According to Ježek and others, for example the Slovak minister of privatization Ivan Mikloš, the founder of the fund should only play the role of a hired manager and should not have any voting right in the stockholders meeting. They expected to be dangerous if the founder's property mingled with the property of contributors. Such a situation pushed the founder to the role of owner, not a manager. Hence, with a sufficient amount of his own share, the owner was able to wilfully and effectively manipulate not only with his own property, but also with the property of the shareholders.

This concern later appeared to be justified. Ježek comments: *"Out of the property valued 140 billion crowns in the funds in 1996, 50 billion were stolen... I deliberately use the word to steal and its verbal form, because it precisely describes what was happening and happened in the field of collective investing at the beginning of 90's. The word tunneling, which was immediately offered by the Czech language as a synonym might be funny, but dangerously figurative term for a theft. It is symptomatic for a kind of Czech way of thinking, that it quickly and inventively figured out a way to cloud a fact of theft. Undoubtedly in order for it to be able to take a typically benevolent and tolerant stance. No God's commandment prohibits tunneling indeed"* (Ježek, 2007, pp. 179, 180).

5.2.2. Investment funds and Post Keynesianism

In the case of investment funds, the Post Keynesian approach can be helpful to explain the core of the problem. Previously, we saw that in some cases, a decision

must be inevitably made in a fundamentally uncertain situation. We also know that in such a situation, the decision-makers struggle to run from this uncertainty. People try to avoid it also by clinging to other actors, even though their position is no less uncertain.

A wise policy maker should take this into account. He should expect that agents facing an uncertain situation will largely prefer a possibility which is even slightly and maybe seemingly uncertain. The situation in which both the policy makers and citizens found themselves before the privatization had begun was uncertain by definition. Keynes formulated several rules of behavior which people follow in situations of uncertainty. It follows for the policy maker that he should take these rules into account.

In the context of the Czech transition and its institutional design, it was highly irresponsible to start the process without a good legislature on the investment funds. Before initiating the voucher privatization, it had been clear that the people will be deciding under conditions of uncertainty and therefore, if given a less uncertain possibility, they will prefer this one. Hence the legislators had two possibilities – to prevent any possibility of collective investment and make the investors choose under full uncertainty or to give them a high-quality alternative. Instead, the Czech federal government offered a dangerous hybrid. The consequences are known to most Czechs and we do not think of them positively.

5.3. Evaluation

5.3.1. Some Limitations

From our point of view, the Post Keynesian approach can be questioned given its assumption of continuous existence of institutions. The main argument for slow pace of reforms is the institutional hiatus and the necessity to avoid it. The described approach argues that the new institutions must slowly overlap the existing ones. However, the policy makers do not always have a full control over the appearance of this hiatus. They may it in some countries, but definitely not in the Czech Republic. The disruption of the old system did not come neither overnight nor unexpectedly, but if there ever was respect to the old communist institutions, a major part of it disappeared during the spring of 1990. Therefore, the institutional hiatus and uncertainty would have appeared anyway and the task for the new state was to overcome it as soon as possible.

Second, the Post Keynesian approach assumes the government to be a single, even infallible body. The state power is supposed to lead the country through the period of transformation. However, the length of this period is not further specified which makes the difference between socialist and market economy unclear. What we see as a more serious problem is that, as a rule, this approach excludes, to some extent, the possibility of government failure from consideration. However, the political transition is as uncertain as the economic one – the early 1990's in Russia can serve as an example.

In Czechia, the leader of key politician conducting the reforms, Václav Klaus, served as the main policy-maker until 1997 (either as minister of finance or a prime minister), which helped the Czech transition process to keep track and pace. Nevertheless, even the Czech economy was not short of political uncertainty. For example, Tomáš Ježek considers the decision to hold the second elections only two years after the first ones as a crucial mistake: *“Not only me, but the whole Czech government was frustrated that we had to leave the unfinished work... To prepare the mortar and then have to leave the trowel before plastering and only look how the mortar hardens is depressing”* (Ježek, 2007, p. 198). The fact that key Policy-makers can be forced to leave their posts during the transition process is a sufficient argument not to consider the government be subject to uncertainty.

5.3.2. Post Keynesian contribution

The above limitations of the Post Keynesian approach do not intend to argue that this approach to transition is flawed. It is necessary to mention that Post Keynesian literature mostly takes the countries of former Soviet Union into consideration. This approach also formulates very general recommendations for all transforming countries. However, from our point of view, Czech Republic stands for an exception in this process – its economic performance reaches a high level, its citizens enjoy a high-quality life (relative to other post-communist countries) while it employed a shock therapy approach to a vast majority of transformation procedures such as price liberalization and privatization.

Post Keynesians do not deny these facts – for instance, they see Czechia as a “leading reformer” (Kozul-Wright & Rayment, 1997, p. 653) or a country which successfully built a trustworthy banking system (Dow et al, 2008, p. 15). Marangos (2002) acknowledges that Czech Republic also succeeded in keeping the unemployment rate on low levels during the early 1990’s (under 5%, see Figure 2). He adds that this was thanks to the active employee policy. Such a policy is nevertheless not recommended exclusively by Post Keynesians.

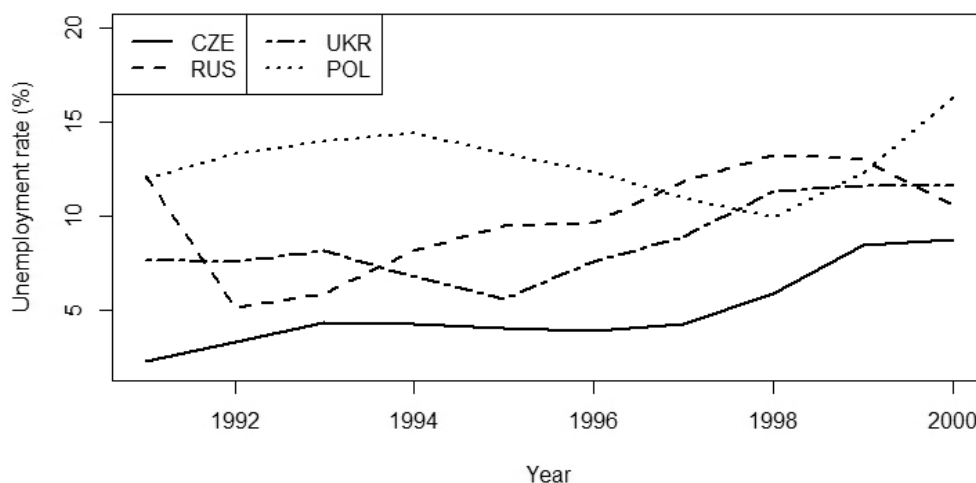


Figure 2. Unemployment

We can also note that shock therapy in Czechia did not collapse of fixed capital investment unlike Russia (see Figure 3). Productive investment crash in Russia can be treated as one of the proofs of the Post Keynesian view’s truthfulness.

During the 1990s Russia had suffered from fantastic collapse of productive investment. In 1998 real investment was equal to only 21% of pre-reform 1990 value (Dzarasov, 2011, p. 199). Such investment collapse was not only factor of the great fall of aggregate demand and GDP (In 1998 real GDP was equal to 57% of 1990 value), but also a phenomenon contributing to deindustrialization and technological degradation of the Russian economy. For example, the average age of industrial fixed capital has fallen from 11 years in 1990 to 21 years in 2004; and later data are not published at all. Some branches of highly technological manufacturing were partially or completely destroyed in the 1990s and later. It is Post Keynesian economics that explains thoroughly negative tendencies in the dynamics of productive investment on the macro level. According to the Post Keynesian approach, not relative prices but investment “... is the central point in the economy. Investment is dynamic, constantly in motion, and never resting in an “equilibrium” position” (Marangos, 2002, p. 575).

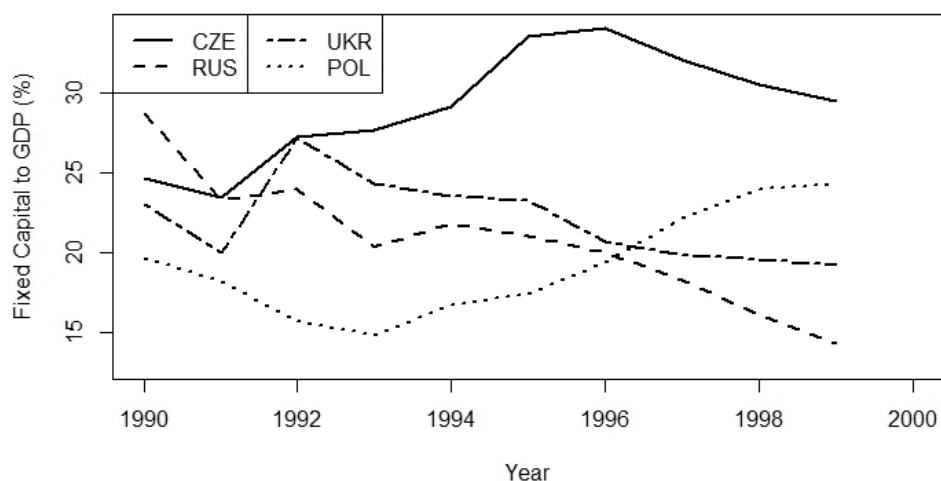


Figure 3. Fixed capital formation

Returning to Czechia: what we find contributive is the Post Keynesian view on reality and the way it may help policy makers to order their priorities. Although stressing the uncertain nature of certain situation does not suffice as an argument for employing gradualism and build a welfare state, in certain situations it can prove useful.

It is by no means possible to have a perfect law framework, especially in the early years of the state's existence. Thus, the argument for the necessity to wait until the law system is ready does not provide a concrete cue for how to conduct the transformation. However, one can prioritize the creation of some institutions over others. If the policy makers impose an inevitably uncertain situation on the citizens and provide them with a mean reducing the uncertainty, it automatically follows that this mean must be perfectly arranged.

In particular, given the voucher privatization stood for a key step in the transition process, this step was fundamentally uncertain by nature and the policy makers decided to allow the funds to take part, it was clear that the law regulating the funds must be given the highest priority. It would also be desirable to establish a control and regulatory body over the financial market. The fact that this body, a Commission for Securities, was established in 1998 only shows the extent of negligence. This problem nevertheless could have been avoided if the Keynesian rationale regarding fundamental uncertainty was applied in practice.

6. CONCLUSION

Lucas, Arrow and some other mainstream economists asserted that the Keynesian/Knightian attitude towards uncertainty is of no use for economics. The purpose of this paper was to test this hypothesis on a case of Czech transition process, which took place in the 1990's.

For example, Tosovsky dilemma and the decision of the central bank in 1997 were uncertain, although this classification is reasonable only *ex post*.

The most important case for this paper is the decision made by a Czech citizen in the so-called voucher privatization. This decision was without dispute made in conditions of uncertainty, and this fact had been known *ex ante*. Therefore, the cases of uncertain decision definitely exist.

The next question is whether there are any useful implications for economic policy resulting from the existence of uncertainty. In order to elaborate on this, we summarized the recommendations of Post Keynesians, a heterodox school of economic thought building on those parts of Keynes' theories which were not adopted by New Keynesians. Post

Keynesians argue that the presence of uncertainty is destructive for both economy and society and the transition policy of shock therapy causes high level of uncertainty in the economy. Therefore, they argue for gradualism with a strong role of state, which is considered to be the only player capable of decreasing the level of uncertainty.

Given that Czech Republic employed the strategy of shock therapy and it recognized as a highly successful country among the post-communist economies, the Post Keynesian recommendations are not universal. We argue that at least in the case of the Czech Republic, they were not universally applicable.

However, there is one implication resulting from the discussion on uncertainty for economic policy, although at the microeconomic level. It has been shown that in conditions of uncertainty, the agents behave irrationally, trying to avoid it and prefer choices that are less uncertain, even if only seemingly. Policy-makers should count with this fact.

In particular, Czech policy makers allowed investment funds to take part in the voucher privatization, but the law regulating them was improvised and highly imperfect. In accordance with the behavioral law, a vast majority of the people entrusted their assets to the funds, although this decision was no less uncertain than investing on their own. And the imperfection in the regulation consequently caused the most serious problems of the Czech transition process and gave rise to the term widely known as tunneling.

Therefore, the implication for economic policy resulting from this paper is that the policy makers should be aware of the degree of uncertainty under which the agents have to make their decisions. This allows them to predict their behavior and prioritize the policies to be implemented. The next step of the research can be an attempt to give answer to the question to what extent we can formalize all the theories and implications discussed in this paper. It could also be fruitful to apply our approach on other post-socialist countries.

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